

HARMONY,
COUNTERPOINT,
PARTIMENTO

A New Method
Inspired by Old Masters

Job IJzerman

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My interest in the field of partimento practice awakened when Robert Gjerdingen visited the Conservatorium van Amsterdam in 2007. For a large group of colleagues and students he introduced the eighteenth-century Neapolitan partimento tradition. His impressive book *Music in the Galant Style*, which was published in the same year, showed the mutual relationship between composition practice and historical partimento teaching. I was immediately convinced of its educational potential for the present generations of students. I am indebted to my students over the years, with whom I experimented with partimenti and partimento-like exercises.

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PREFACE

TO THE TEACHER

In the past ten years “partimento” has been of growing importance in the domain of music theory, as witnessed by the many recent publications and conference papers on this topic. Partimento stands for the eighteenth-century, mainly Neapolitan tradition of music education. A partimento is a figured or unfigured bass, which serves as an exercise for keyboard improvisation or composition. Through the realization of partimenti, young music apprentices at the Neapolitan conservatories acquired the musical vocabulary of the prevailing Galant Style.

During the course of the nineteenth century the partimento tradition gradually sank into oblivion. Until roughly ten years ago, it was almost entirely unknown to the music theory community. Its revival went hand in hand with the rise of schema theory. Schema theory is concerned with the replication (by the composer) and the recognition (by the audience) of musical patterns. These include all sorts of sequences, cadence formulas, and “stock phrases”, labeled Romanesca, Prinner, Quiescenza, and the like. Although originating from the eighteenth-century Galant repertoire, these schemata are still traceable in music of the late nineteenth century. Schema theory provides a mode of “historical” understanding. A modern performer or listener, who is acquainted with the vocabulary of the musical past, may feel a greater sense of participation. In conjunction with schema theory, partimento practice can help to re-acquire this stylistic understanding today.

Because of its concreteness, many theorists value partimento as an attractive and effective tool for teaching music theory. Classes in partimento are offered at various music institutions worldwide, usually as electives following a completed undergraduate harmony course. In recent years, methods for keyboard improvisation have been published, based on partimento and Galant schemata. However, a modern partimento and schema pedagogy still seems in its infancy.

The new method presented here, *Harmony, Counterpoint, Partimento* (from now on HCP), falls in line with these educational developments. The title implies an integrated approach: no distinct disciplines but all three in one. HCP is intended as a (four-semester) undergraduate course, and

offers an alternative to currently used textbooks on harmony. The following comparison between HCP and these harmony textbooks can be made:

1. HCP takes a primarily contrapuntal perspective. Harmonic intervals and chords are the result of the combination of voices in a two-, three-, or four-part texture. The concept of chord inversion, tacitly adopted from the start in almost all textbooks currently in use, is carefully introduced only in later chapters, principally as a consequence of invertible counterpoint. HCP treats the bass line (the thorough-bass) as the actual foundation of the harmony instead of the progression of chord fundamentals. For instance, it ranks a sixth chord on the fourth scale degree not as an inversion of an imaginary triad on the second scale degree, but as a chord in its own right.
2. In HCP, schemata are shown to be concrete and well-defined patterns, horizontally as well as vertically: horizontally, because the bass of, say, a Romanesca (following the famous Pachelbel bass) contains six successive stages, repeatedly a fourth down and a second up; vertically, because the bass line implies various but limited harmonic-contrapuntal realizations. In this sense, the realization of a Romanesca is a “holistic” procedure: the musical pattern is understood as a whole and only afterwards analyzed in smaller components. This principle of HCP is opposed to the “atomic” procedure of chord choice: each stage of a harmony exercise seems to bring up a number of options. Indeed, the advantages of the latter method are unmistakable. The splitting up of the harmonic language in its smallest units enables a thorough systematization. However, the prize that has to be paid is an abstraction level that seems too high for many music students, practice-oriented as they are. Due to its concreteness partimento and schema theory sidesteps such a thorough systematization. Consequently, HCP does not claim to provide a complete and closed system. Rather, like the old partimento methods, it offers the students tools that challenge them to apply the best suitable schemata and, through combination, to construct whole musical phrases.
3. One of the leading pedagogical principles behind the eighteenth-century partimento school is what we would call “hands-on learning” today. The theoretical requisites for realizing partimenti, the *Regole* that have been formulated by Neapolitan masters, such as Francesco Durante (1684–1755) and Fedele Fenaroli (1730–1818), are remarkably concise. Far from claiming to build a “scientific” system, the *Regole* facilitated the acquisition of hands-on experience, and guided the training of memory and recognition skills. In other words, skill training had priority above conceptual learning. HCP aims to re-apply this educative principle to the teaching of harmony and counterpoint today.

The use of partimenti in present-day music theory classes confronts us with several problems, since a mere employment of such exercises seems inappropriate. First, the easiest eighteenth-century partimenti that we know require a considerable set of musical skills, which a beginner may not have acquired yet. Second, most partimenti primarily imply realization at the keyboard. Since many non-keyboard students today lack sufficient keyboard skills, other ways needed to be found to link their realizations to aural perception. For this reason most exercises had to be designed in such a way that they can be sung or performed on melody instruments. Third, all

published partimento collections so far, even those originating around the turn of the nineteenth century such as those of Giacomo Tritto (1733–1824) or Giovanni Furno (1748–1837), exhibit a conservative attitude toward the harmonic language. None of these seem sufficiently suitable to the works of, say, Beethoven or Schubert. For example, none of these employ enharmonic relationships. Therefore, new partimenti had to be made to cover nineteenth-century harmonic practices. Fourth, whereas students at eighteenth-century conservatories may have viewed the prevailing Galant Style as the common musical language of their time, present-day students are exposed to a much more diverse repertoire. As a result they lack the fluency of the eighteenth-century “native musical speaker”. The required knowledge implicitly referred to in the partimenti should now carefully be built up and made explicit.

HCP covers the entire common-practice period. The repertoire examples span a period roughly from Corelli to Brahms. HCP follows schema theory usage by representing progressions in terms of bass motion through circled Arabic numerals from ① to ⑦ and figured-bass numerals. The latter are used in the historical way, yet with one difference: the addition of sharps, flats, and naturals is always adjusted to the momentary key. In addition, horizontal brackets underneath the staves indicate the schemata with terms such as Prinner, Rule of the Octave, double cadence, and the like. This terminology falls into three categories. First, some terms are historical, since they are in use from the earliest times (the Fauxbourdon, the Lamento, and the Folia) or refer to historical treatises. Joseph Riepel (1709–1782) coined the terms Fonte and Monte in his 1755 treatise *Grundregeln zur Tonordnung insgemein*. (Another term, the Ponte, does not occur in HCP.) Second, terms such as the Prinner, the Romanesca, and the Quiescenza are purely imaginative. Robert O. Gjerdingen coined most of them in his 2007 book *Music in the Galant Style*. These terms hint at historical musicians (the Prinner and the Fenaroli), historical models (the Romanesca), or musical affections (the Quiescenza). Third, terms like compound and double cadence, Fifth Down Fourth Up and Descending Thirds, and the Rule of the Octave are purely technical descriptions. They are in line with the terminology of eighteenth-century partimento practice. In his 2012 book *The Art of Partimento* Giorgio Sanguinetti lists many of these terms. (HCP abbreviates most of them: so Fifth Down Fourth Up actually means a bass falling by fifths and rising by fourths.) HCP does not provide a complete method of music theory education. It is intended as a component of a practice-oriented training of musicianship skills in conjunction with solfeggio, analysis, and, if possible, modal or tonal (imitative) counterpoint. HCP reconceives the didactical axioms “from simple to complex” and “from concrete to abstract”, in comparison with harmony textbooks. Simple and concrete in the context of HCP relates to experience, perception, and recognition. The relation between consonance and dissonance is explored from the very beginning and remains one of the most essential subjects throughout the entire method. HCP starts with two-part scale realizations in thirds and sixths. Gradually more advanced schemata are introduced, initially in two parts and subsequently in three and four parts. With respect to aural perception, four-part harmony is significantly more complex than harmony in three parts. Due to the two middle voices, four-part harmony loses the contrapuntal transparency of a three-part texture. This lack of transparency increases the level of abstraction, especially for those who tend to think in melodic terms rather than in chords. This is why HCP introduces four-part realization only at a later stage in the method, and not at the very beginning. This goes hand in hand with the introduction of established, but not intrinsically self-evident concepts like chord inversion, the diminished seventh

chord, the secondary dominant, and so on. HCP concludes with chapters about chromaticism and enharmonization.

Ideally, in line with historical partimento practice, HCP would look like a workbook, containing only the most essential instructions. As is asserted above, such a format is not entirely suitable, due to the remoteness of the historical period in question. A certain amount of stylistic information seems indispensable. Therefore, HCP contains two volumes: a textbook and a workbook. The textbook provides the necessary stylistic and technical information. Each section discusses one or more repertoire excerpts. It deduces the schemata from the excerpts and subsequently generalizes them by means of prototypes. Each section ends with practical instructions for the exercises. The workbook contains exercises, partimenti by Fenaroli, Durante, Sala, and others, and arrangements of eighteenth- and nineteenth-century compositions. This volume forms the core of the method. All acquired schemata are repeated over and over again in the exercises of the following sections as well. This is the strength of the old partimento pedagogy: by continuous repetition the musical habits become second nature to the students.

TO THE STUDENT

Most likely, the title *Harmony, Counterpoint, Partimento* sounds somewhat enigmatic to you. It contains three disciplines that all have their own histories and their own traditions. “Harmony” (Gk. *harmonia*) literally means assembly (of tones); the term originates from Greek Antiquity. In modern music theory the term implies the doctrine of chords and their mutual relation within a musical composition. From an extreme point of view a composition, whether a string quartet, a piano sonata, or a song, can be understood as a succession of chords. According to that view, the melody, performed by the first violinist, the piano right hand, or the singer, heavily depends on chord progression. The history of this doctrine goes back to the early 1600s, when composers started to notate basses as shorthand for keyboard (or plucked string) accompaniment. “Counterpoint” (Lat. *punctus contra punctum*) literally means note against note; the term originates from the late Middle Ages. Counterpoint is the doctrine of polyphony; it implies the simultaneity of two or more melodies, or more accurately, the mutual relation between these voices. From an equally extreme point of view chords are the mere result of the combination of voices in, for instance, a four-part choir. The history of counterpoint goes back far before the origins of the term itself, toward the end of the first millennium, when monks started to improvise accompaniments on Gregorian chant. We can only guess at the etymologic meaning of “partimento”. The term stands for an educational device for keyboard improvisation or written composition: mostly by means of given basses that had to be realized in two, three, or four parts. The partimento tradition originates from the late 1600s. Its golden era is situated in eighteenth-century Naples. *Harmony, Counterpoint, Partimento* (HCP) treats harmony and counterpoint as two sides of the same coin. The book uses the single term harmony almost throughout, to stand for both sides (just to avoid inconvenient terms such as harmonic counterpoint or contrapuntal harmony). In practice this means that, say, the viola part of a string quartet or the tenor of a four-part choir has its own melodic-rhythmic significance and is part of a harmonic whole at the same time. The textbook examines this cooperation

between horizontal and vertical aspects by means of many repertoire excerpts, varying from simple two-part pieces to complex symphonies. Partimento stands for the means of the method. The workbook contains many historical partimenti “made in Naples”, as well as exercises in line with these or based on real compositions. Each exercise deals with harmonic patterns that have been introduced and explained in the textbook. Some of these patterns are labeled by technical terms like “compound cadence” or “chromatic tetrachord”, and some others by imaginative names like “Monte Romanesca” or “Quiescenza”. Yet all of them are components of the musical vocabulary that largely covers the repertoire of the eighteenth and nineteenth centuries. The often-used term “schema” (pl. schemata) implies the absorption of such a pattern in the minds of the composer, the performer, or the listener. In other words, a schema enables the immediate recognition of a musical pattern and its self-evident application in different contexts, whether in an exercise, a composition, or a performance.

The latter remark brings us to the learning objectives of HCP. The method stimulates “hands-on” working rather than conceptual learning. The realization of the exercises includes singing or playing, improvising, and composing. Your practical relation with the material will provide a network of experiences that results in a deep understanding of tonal music and a reliable musical intuition. Your acquired knowledge of the musical vocabulary will bridge the historical distance between you and the music of the past. Besides this, the development of improvisational and notational skills will make you an all-round musician.

HCP does not start from an ultimate beginner’s level, though the required prior knowledge is limited. You need to know the major and minor scales and the key signatures up to seven sharps and flats. You need to know the intervals from the unison up to the tenth, and the interval qualities perfect, major, minor, diminished, and augmented. You need to know the complementary intervals, for instance the major second versus the minor seventh, the major third versus the minor sixth, and so forth. Finally, you need a basic knowledge of triads, including the chord types major, minor, diminished, and augmented on the one hand and their positions on the other. HCP consistently labels the latter as $\frac{5}{3}$, $\frac{6}{3}$, and $\frac{6}{4}$ chords. If you think your knowledge is not entirely sufficient, you can find information about the fundamentals of music theory in many excellent textbooks. More important, however, is practical experience to a certain degree, whether as a soloist, a player in a chamber music ensemble or an orchestra, or a choral singer. Important too is an appropriate level of reading ability: reading (somewhat) fluently in both violin and bass clef will contribute to a successful start of the method. Moreover, the method assumes a basic level of aural skills: from the very beginning the exercises challenge your musical imagination. Most important is a curiosity about the nature of music; in other words, that you want to know more about the music you appreciate so much and that you like to uncover its secrets, at least to a certain extent.

Finally, some practical remarks have to be made. HCP consistently treats the lower voice of a phrase as the foundation of the harmony. Put differently, all higher voices lean on the bass. A crucial feature of the bass tone is its location in the scale; therefore the bass tones are labeled by the circled numerals ① to ⑦. The higher voices are labeled by the circumflexed numerals $\hat{1}$ to $\hat{7}$. The addition of a sharp, a flat, or a natural implies the alteration of the tone in question; so $\hat{7}\#$ in A minor means the bass tone G#. Plain Arabic numerals indicate the chords. Intervals are “figured” by 1 (the unison) to 8 (the octave) or, more rarely, 9 (the ninth). As a rule, the intervals beyond the octave, the so-called compound intervals, are reduced to the intervals within the octave: so a

tenth is figured by 3 instead of 10. Compound numerals, for instance $\frac{5}{3}$ or $\frac{6}{3}$, stand for three- or four-part chords. Apart from some minor differences the system used here is in accordance with the historical figured-bass practice. Those who have already attended some harmony classes will probably miss the system of Roman numerals. HCP introduces these numerals only in Part II. They symbolize so-called chord families, which unify the chords in root ($\frac{5}{3}$) position and their related sixth ($\frac{6}{3}$) and six-four ($\frac{6}{4}$) chords. So the Roman numeral I in C major includes the chord C–E–G in all positions.

ABOUT THE COMPANION WEBSITE

www.oup.com/us/harmonycounterpointpartimento

Username: Music3

Password: Book3234

Oxford has created a password-protected Website to accompany *Harmony, Counterpoint, Partimento*. The website contains:

- the workbook (this is the same material as in the book, available online to print out for repeated use);
- realizations of all exercises;
- the Teachers Manual;
- mp3 files of all textbook examples.

The reader is encouraged to take advantage of these online components.

**HARMONY,
COUNTERPOINT,
PARTIMENTO**

P A R T I

**HARMONY IN TWO AND
THREE PARTS**

TWO-PART SCALE REALIZATION

INTRODUCTION

One of the most elementary topics in eighteenth-century music education is the harmonic realization of major and minor scales. This will be the starting point of *Harmony, Counterpoint, Partimento*. Chapter 1 deals with the relation between a scalar bass and its accompanying upper voice. This relation is determined by harmonic intervals that can be classified in consonances and dissonances; consonances can further be divided in perfect and imperfect consonances.

Consonances dominate two-part harmony. Generally speaking, major or minor thirds and sixths (the imperfect consonances) provide a sense of musical motion, while octaves and unisons, and to a lesser degree fifths (the perfect consonances), provide a sense of repose. Sections 1.1 and 1.2 will expand on these consonances.

Dissonances evoke a feeling of musical tension. They tend to proceed to the closest consonances, which we call a resolution. One might say that dissonances enrich the harmony of thirds and sixths. Section 1.3 deals mainly with the basic treatment of the major or minor seventh and second, and, to a lesser extent, of the dissonant perfect fourth. Section 1.4 explores an alternative treatment of these dissonances. Augmented and diminished intervals will be reserved for a later stage in the method: they will be introduced in Chapter 3.

The relation between dissonances and consonances is one of the most essential topics of harmony and counterpoint. Consequently, the techniques discussed in this chapter will be the basis of all further explorations.

1.1 PARALLEL THIRDS AND PARALLEL SIXTHS

Example 1.1 shows an excerpt of the Flute Sonata in D major by Georg Frideric Handel (1685–1759). The bass part is a so-called *basso continuo* (see the Terms to remember at the end of the

EXAMPLE 1.1 Handel: Flute Sonata in D major, HWV 378, fourth movement, bars 20–25

D major

3 3 3 3 3 3
① ⑦ ⑥ ⑤ ④ ③
major-scale realization in thirds

section), which is usually performed by a cello and a harpsichord. Bass parts in baroque music are often (but not always) figured with Arabic numerals that represent the harmonic intervals above the bass. The harpsichordist is required to fill the two-part framework with melodic lines and chords, with or without the help of these numerals. Here, the bass line is unfigured, apart from the numerals added by the author in bars 23–24.

In the excerpt of example 1.1 a harmonic complement is not necessary, since the two notated voices sound completely satisfactory in harmonic respect. The musical phrase starts and ends with octaves, which provide a sense of stability. Within the phrase the two voices constitute thirds (actually tenths) and sixths on each beat. These intervals provide a sense of musical motion. Despite the broken-chord figurations of the flute part, a plain melodic line is perceivable. The tones, indicated by the * signs, form the structural component of the flute part. The ornamental eighth notes in between are called diminutions. This structural melody accelerates in bars 23–24. In these bars the two voices move in parallel thirds (tenths), indicated by the numerals 3–3–3. The bass descends stepwise from scale degree ① to ③ in the D major scale. This scale realization in thirds provides a strong forward motion, just before the final repose of the phrase.

EXAMPLE 1.2 De Fesch: Sonata for two cellos in D major, Op. 8b No. 1, third movement (Menuetto), bars 17–24

D major

6 6 6 6 6 6
① ⑦ ⑥ ⑤ ④ ③ ② ③
scale harmonization in sixths

Example 1.2 shows an excerpt of a sonata for two cellos by the Dutch composer Willem de Fesch (1687–1761). As in example 1.1, thirds and sixths dominate the two-part harmony: thirds or sixths sound on each first beat until the close in the last two bars. In bars 20–22 the bass exhibits an almost complete descending D major scale. Here the two parts form parallel sixths, figured (by the author) with 6–6–6. The parallel sixths generate a strong forward motion, which announces the end of the phrase.

In terms of sonority thirds and sixths are similar. Both are imperfect consonances and create a compelling forward motion in parallel progressions. Example 1.3 illustrates the relation between parallel thirds and sixths.

EXAMPLE 1.3 Invertible counterpoint of parallel sixths (a) and parallel thirds (b)

The image shows two musical examples, (a) and (b), in D major. Example (a) is in bass clef and shows parallel sixths with figures '6' under each pair of notes. Example (b) is also in bass clef and shows parallel thirds with figures '3' under each pair of notes. A dashed line indicates that the upper voice of (a) is moved down an octave to become (b), and the lower voice of (a) is moved up an octave to also become (b). A box labeled 'D major' is positioned above the first few notes of example (a).

Example (a) represents the parallel sixths of bars 21–22 in example 1.2. In example (b) the upper voice of example (a) has been displaced to the lower octave. This inversion of the voices results in parallel thirds. In other words, the parallel sixths are inverted into parallel thirds. The other way around, transposing the lower part one octave higher, gives the same result. This procedure is called invertible counterpoint.

EXAMPLE 1.4 Parallel thirds (a) and parallel sixths (b) in major

The image shows two musical examples, (a) and (b), in C major. Example (a) is in treble clef and shows parallel thirds with figures '3' and circled numbers '1', '2', '3' under the notes. Example (b) is also in treble clef and shows parallel sixths with figures '8', '6', '6' and circled numbers '1', '2', '3' under the notes. Both examples end with a cadence: (a) is labeled 'imperfect cadence' and (b) is labeled 'perfect cadence'. A box labeled 'C major' is positioned above the first few notes of example (a).

Example 1.4 contains two prototypes of parallel motion. In both prototypes the bass performs an ascending and descending C major scale. In example (a) the upper voice accompanies the bass

in parallel thirds throughout. In example (b) the upper voice moves in parallel sixth. Furthermore, example (b) differs with respect to the start and the end. The parallel sixths prototype starts and ends with octaves. Starting or ending with a sixth on ① would be unsatisfactory: just try to experience this. Since this concerns the low as well as the high ①, the latter has been realized with a third.

Both prototypes of example 1.4 close by means of a ②–① bass motion. The stepwise descent to the tonic (i.e., scale degree ①) creates a sense of repose: it feels like coming home. This is called a cadence (from the Latin verb *cadere* = to fall). Example (a) ends with a third on ① by means of a 3–3 progression. This is called an imperfect cadence. In contrast, example (b) ends with a 6–8 progression. An octave on ① creates a stronger sense of repose than a third; therefore this cadence is called perfect.

EXAMPLE 1.5 Telemann: Methodical Sonata in G minor, TWV 41 No. 1, fourth movement (Allegro), bars 96–102

96 G minor

dim 7th

3 3 3# 3 3 3 3 3

③ ④ ⑤ ⑥# ⑦# ① ② ③

minor-scale realization in thirds

Example 1.5 shows an excerpt from one of the Methodical Sonatas for violin and basso continuo by Georg Philipp Telemann (1681–1767). It contains parallel thirds (tenths) in the minor mode. In bars 97–102 the bass moves within the G minor scale, from the low to the high ③. Each bass tone forms a third with the violin part; see the figured-bass numerals 3–3–3. The E \flat and the F \sharp in bars 98–99 are the raised scale degrees ⑥ and ⑦ of the (ascending) melodic minor scale. The (descending) natural minor scale makes use of the natural ⑥ and ⑦. The rule is simple: the raised ⑥ and ⑦ (in G minor E \flat and F \sharp) ascend, and the natural ⑦ and ⑥ (in G minor F \flat and E \flat) descend.

The leap by a diminished seventh in bars 97–98, from E \flat to F \sharp , is remarkable. This diminished seventh occurs in the violin part via an intermediate tone G. In theory, the natural ⑥ and the raised ⑦ form an augmented second in the harmonic minor scale. In any case, the diminished seventh responds to the aforementioned rule too: the E \flat (⑥) descends, and the F \sharp (the ⑦ \sharp) ascends.

EXAMPLE 1.6 Parallel thirds (a, b) and parallel sixths (c) in minor

a. A minor

$\hat{6}\sharp$ $\hat{7}\sharp$ $\hat{7}\flat$ $\hat{6}\flat$

3 3# 3# 3 3 3 3 3

① ⑥# ⑦# ① ⑦b ⑥b ② ①

imperfect cadence

EXAMPLE 1.6 Continued

Figure 1.6 shows two musical examples, (b) and (c), illustrating two-part scale realizations in minor. Example (b) is a realization in parallel thirds. The upper voice (treble clef) follows the harmonic scale, with a leap of a diminished seventh between $\hat{6}$ and $\hat{7}\sharp$. The lower voice (bass clef) follows the natural scale. The bass line is figured with 3 (1), 6 , $7\sharp$, $3\sharp$, $3\sharp$, $3\sharp$, $3\sharp$, 3 , 3 , and an imperfect cadence. Example (c) is a realization in parallel sixths. The upper voice (treble clef) starts and ends with an octave, and the high $\textcircled{1}$ is accompanied by a third. The bass line is figured with 8 (1), $6\sharp$, 6 , 3 (1), $6\sharp$, 8 , and a perfect cadence.

Example 1.6 exposes three prototypes of parallel thirds and parallel sixths in minor. Example (a) is a realization in parallel thirds; both voices ascend according to the melodic scale and descend according to the natural scale.

In example (b) the upper voice follows the harmonic scale, with a leap of a diminished seventh between $\hat{6}$ and $\hat{7}\sharp$.

Example (c) is a realization in parallel sixths. Note that this prototype starts and ends with an octave, and that the high $\textcircled{1}$ is accompanied by a third.

Terms to remember

- The term *basso continuo* refers to a bass line in Baroque music, most often played by a melodic bass instrument and a keyboard instrument. The bass can be figured or unfigured.
- Parallel thirds and parallel sixths are successions of thirds and sixths in similar direction, respectively.
- Invertible counterpoint is the inversion of two voices by means of an octave displacement of one of the voices: the upper voice becomes the lower voice and vice versa.
- As a rule, the raised $\textcircled{6}$ and $\textcircled{7}$ of the minor mode occur in an ascending direction; this is called *melodic minor*. The natural $\textcircled{6}$ and $\textcircled{7}$ occur in a descending direction; this is called *natural minor*. A succession of the natural $\textcircled{6}$ and the raised $\textcircled{7}$ often appears as a diminished seventh rather than an augmented second. This is called *harmonic minor*.

Instructions for the exercises

- Sing the upper voice in parallel thirds with the bass before notating this.
- This exercise requires a realization in parallel sixths. Note the deviations on the low and the high $\textcircled{1}$.

- c. Bar 1 shows a diminution pattern of the parallel thirds on the consecutive first beats. Continue the quarter-note movement by repeating (transposing) the given pattern.
- d. This exercise is in the minor mode. Use the melodic scale throughout.
- e. The bass moves mainly in parallel sixths. Use the melodic scale throughout.
- f. This exercise combines parallel thirds and parallel sixths. Create a correct voice leading on the bass step A–B.
- g. In this exercise the flat in bar 5 is ornamental. Indicate the structural scale degrees by circled numerals before realizing the upper voice. After realization you may wish to add some diminutions in the upper voice too, for instance by dividing the whole notes into two half notes.

Suggestion for further analysis

Mozart: Piano Concerto in A major, K 488, third movement (Allegro assai), bars 375 ff.

1.2 ALTERNATION OF THIRDS AND SIXTHS

EXAMPLE 1.7 Dowland: “Come again, sweet love doth now invite” from *The Firste Booke of Songes*, bars 8–11

G major

8 to see, to hear, to touch, to kiss, to die,

3 6 3 6 3 6 3 6 3 6 5 1

③ ④ ⑤ ⑥ ⑦ ①

Example 1.7 shows an excerpt of a four-part madrigal by the English composer John Dowland (c. 1563–1626). The text tells about a person who is grieving over his lost love. The musical setting reflects the summing up of “to see, to hear . . .” by a sequence in all voices. We will focus on the bass and the soprano exclusively; for this reason the alto and tenor have been notated in cue size.

The bass ascends stepwise from ③ until the high ① according to the G major scale. The leaping soprano accompanies the bass with thirds and sixths alternately; see the figured-bass numerals. This process ends at the end of the phrase, where the sustained fifth D ($\hat{5}$) accompanies the bass tone G (①). (Here the two middle voices fill the fifth G–D with the third B.) We will call this alternation of thirds and sixths a 3–6 progression.

EXAMPLE 1.8 Bach: French Suite No. 2 in C minor, BWV 813, Courante, bars 9–14

9 E \flat major

(3) 3 3 4 3 5 3 6 3 7 3 1

Example 1.8 is an excerpt from the Courante of the Second French Suite for keyboard by Johann Sebastian Bach (1685–1750). The bars exposed here are in E \flat major, and exhibit a continuous, sequential movement of broken chords in the right hand with a plain quarter-note movement in the left hand. The third leaps scarcely obscure a structural stepwise ascent that passes through the E \flat major scale from ③ until the high ①.

The upper voice performs a third on each structural bass tone; see the figured-bass numerals. An imaginary third B \flat (notated in cue size between brackets) might be conceived on the first beat of bar 9, analogous to the next bars. Somewhat hidden by the chord figurations a melodic pattern of an ascending fourth and a descending second is perceivable in each bar. The oblique lines in bars 9–10 indicate this structural melodic component. Example 1.9 illustrates the contrapuntal structure.

EXAMPLE 1.9 Reduction of bars 9–14

9 E \flat major

3 6 — 3 6 — 3 6 — 3 6 — 3 6 — 3

③ ④ ⑤ ⑥ ⑦ ①

3-6 progression

By removing all tones beyond the structural melody, the reduction reveals a harmonic-contrapuntal structure that is essentially an alternation of thirds and sixths; see the figured-bass numerals 3–6. The eighth notes in the example are interpreted as so-called passing tones (pt), and are indicated by the — signs in the figured bass. They fill the melodic gap of a third between two structural tones. Although they are essential with respect to melody (and therefore included in the reduction), the passing tones do not distract our attention from the harmonic 3–6 progressions. The flat in bar 9 has been bracketed, since this chromatic element may be conceived as ornamental.

Example 1.10 shows an excerpt from *The Four Seasons* by Antonio Vivaldi (1678–1741). The example includes only the solo violin and the bass. Although the omitted orchestral parts enrich the harmony significantly, the exposed voices form an essential component of the harmonic structure.

EXAMPLE 1.10 Vivaldi: “L’Inverno”, RV 297, from *Le Quattro Stagioni*, second movement (Largo), bars 3–5 (simplified representation)

E♭ major

① 3 ⑦ 6 ⑥ 6 ⑤ 6 ④ 6 ⑤

The bass descends stepwise according to the E♭ major scale from ① to ④, before it achieves its temporary goal on ⑤. The violin performs a sequence of scalar figurations in eighth and sixteenth notes. The eighth notes (*) form thirds and sixths on the bass alternately. Example 1.9 illustrates this harmonic movement.

EXAMPLE 1.11 Reduction of bars 3–5

E♭ major

① ⑦ ⑥ ⑥ ⑤ ④ ⑤

The reduction reveals a descending 3–6 progression with an alternation of ascending fourths and descending fifths. Note that the ascending 3–6 progression, illustrated in example 1.12, results in a more fluent melodic upper voice. Vivaldi’s ingenious diminutions, however, smoothly fill the melodic gaps caused by the fourth and fifth leaps.

EXAMPLE 1.12 Two prototypical 3–6 progressions

a. C major

① ② etc. ① ⑦ etc. ② ① perfect cadence

EXAMPLE 1.12 Continued

A minor

3 6 3 6 3 6 3# 6 3# 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6 3 6# 8
 ① ② ③ ④ ⑤ ⑥# ⑦# ① ⑦# ⑥# ⑤ ④ ③ ② ①
 perfect cadence

Example (a) shows the schema on the ascending and descending major scale. The ascending scale results in an alternation of rising fourths and falling thirds. The descending scale results in an alternation of falling fifths and rising fourths. The phrase ends with a resolution of the leading tone B to the tonic C, which implies a cadential 6–8 progression.

Example (b) shows the 3–6 progression based on the melodic and natural minor scale, so including the ascending ⑥# and ⑦# and the descending ⑦# and ⑥#. The ascending upper voice contains a ⑥# and ⑦# on ① and ②, and subsequently a ⑥# and ⑦# on ④ and ⑤. The reason behind the choice between raised and natural tones is somewhat arbitrary: sometimes the ear must decide between the two options. Here one might argue that the natural scale tones descend (F–D and G–E) and the raised tones ascend (F#–B and G#–C). The descending upper voice only contains the natural scale tones.

EXAMPLE 1.13 Beethoven: Piano Sonata in A \flat major, Op. 26, fourth movement (Allegro), bars 1–3

A \flat major

Example 1.13 presents the opening bars of the final movement of the A \flat major Piano Sonata by Ludwig van Beethoven (1770–1827). At first glance the opening phrase seems purely melodic; however, the melodic third and sixth leaps between the successive sixteenth notes can well be conceived as broken harmonic intervals. Thus the tone pairs strongly suggest a two-part harmony, based on an alternation of thirds and sixths. Example 1.14 clarifies this.

In the example the melodic intervals have been transformed into harmonic intervals. Moreover, all chromatic elements have been interpreted as ornamental and therefore removed. The two-part

EXAMPLE 1.14 Two-part representation of bars 1–3

Ab major

3 6 3 6 3 6 3 6 3 6 3

③ --- ② --- ① --- ⑦ --- ⑥ --- ⑤ --- ④ --- ③

Third Down Second Up

presentation reveals a 3–6 progression that is based on a leaping, sequential bass, which can be described as “falling by a third and rising by a step” (in short: Third Down Second Up). The Third Down Second Up succession results in a stepwise descent: see the circled numbers joined by the dashed lines, which indicate a scalar motion from ③ down to ⑤.

EXAMPLE 1.15 Vivaldi: Violin Sonata in G minor, Op. 2 No. 1, Corrente, bars 55–62

G minor

55

risposta nt pt

proposta nt pt

6 3 6 3 6 3 6 3

③ ④ ② ③ ① ② ⑦# ①

Example 1.15 is an excerpt from one of Vivaldi’s violin sonatas. Behind the flourishing diminutions of sixteenth notes and octave leaps a plain harmonic structure can be detected. The circled numerals underneath the staves mark the structural bass tones. They form the bass motion Second Up Third Down, which actually equals Third Down Second Up.

The upper voice accompanies the structural bass with sixths and thirds alternately; see the figured-bass numerals. In this respect the Vivaldi fragment is similar to the Beethoven fragment discussed above. Noteworthy, however, is the contrapuntal relation between the two voices. The violin imitates the bass one bar later from bar 56, and a fourth (plus an octave) higher. In other words, the two voices perform a canon, with the bass as initiator (the *proposta*), and the violin as follower (the *risposta*).

Although all sixteenth notes may be regarded as ornamental, a distinction can be made between the second and the fourth note of each group. In bar 56, for instance, the first B \flat is a neighbor tone (nt), which quits the structural tone stepwise and returns to it. The second B \flat is a passing tone (pt), which, as has previously been mentioned, fills the gap of a third between two structural tones.

The reduction of example 1.16 shows the essential harmonic-contrapuntal movement. The reduction omits the chromatic natural sign in bar 55, which may be regarded as ornamental. It retains the passing tones, since they are melodically indispensable. They do not influence the

EXAMPLE 1.16 Reduction of bars 55–62

55 G minor pt

Second Up Third Down

harmonic perception of sixths and thirds. The — signs in the figured bass stress this. Note that the Second Up Third Down (or vice versa) schema makes use of the natural minor scale. Only at the end is the F# needed in order to close the phrase.

EXAMPLE 1.17 Prototypes of Third Down Second Up in major (a) and minor (b)

C major

a. segment 1 segment 2 etc.

etc.

A minor

b. segment 1 segment 2 etc.

etc.

Example 1.17 shows the sequential nature of the Third Down Second Up schema. The initial segment, indicated by a horizontal bracket, recurs consistently one tone lower.

In example (a) in C major each segment consists of a 3–6 progression.

The same applies to example (b) in A minor. The two voices are based on the natural scale, apart from the penultimate bass tone G# that leads to A.

Terms to remember

- There are two types of 3–6 progressions. The first type concerns the alternation of thirds and sixths on a stepwise ascending or descending bass. The second type is the schema Third Down Second Up (or vice versa).

- A passing tone fills the gap of a third between two structural tones. The meaning of a passing tone is melodic rather than harmonic. A neighbor tone quits a structural tone stepwise and returns to it.
- A sequence is a repeated pattern or segment in an ascending or descending direction.
- The *proposta* and the *risposta* are the two voices of a canon: the *proposta* is the initial voice and the *risposta* the pursuing voice.

Instructions for the exercises

- The given patterns need to be continued. Indicate all figured-bass numerals underneath the bass staff.
- The given melodic pattern must be continued. Make careful decisions on the raised or natural $\hat{6}$ and $\hat{7}$.
- Try to create diminutions in the upper voice. Before doing so you may wish to realize the upper voice in half notes first. Due to the C# in bar 3 the D in bar 4 acts as a temporary repose. This is called a half-cadence.
- Continuation of the given pattern results in the schema Third Down Second Up.
- This exercise contains a canon; the given patterns must be continued.
- Continue the given diminutions. The exercise starts with a 3–6 progression on a scalar bass, and continues with the schema Second Up Third Down.
- This exercise is a *partimento* after Francesco Durante (1684–1755). The exercise is in an eighteenth-century Italian style (think of Vivaldi for instance). The unison pattern (proposed by the author) at the beginning, the middle, and the end is a common stylistic gesture. The alternation of these patterns (the *tutti*) with the dynamic episodes in between (the *solì*) refers to the concerto form. The modulations, indicated above the staves, will not cause many problems.

Suggestion for further analysis

Albinoni: Recorder Sonata in G major, second movement (*Allegro*), bars 25–31

1.3 SUSPENSIONS: SEVENTHS AND SECONDS

Example 1.18 is an excerpt from the Voluntary in G minor by the English composer John Stanley (1712–1786). The term *voluntary* refers to an improvised or freely composed organ piece. Eighteenth-century (English) voluntaries usually contain two movements, namely a

EXAMPLE 1.18 Stanley: Voluntary in G minor, Op. 5 No. 9, second movement (Allegro), bars 8–14

slow prelude followed by a movement in fugue style. The voluntary in question responds to this model: the second movement presented here is a strict fugue. The lower voice exposes the fugue subject in D minor. The subject opens with a motif moving within the tonic triad. After the eighth rest in bar 9 the subject continues with a sequence starting from the high D in bar 9. This descending sequence is divided into four segments, of which the last moves on toward a final close.

The circled numerals show the underlying foundation by the natural D minor scale, from the high to the low ①. The upper voice accompanies the bass with tied half notes mainly, indicated by the * signs. Like the bass, the upper voice closes on the tonic D in the last bar.

Example 1.19 provides a reduction from the start of the sequence halfway through bar 9.

EXAMPLE 1.19 Reduction of bars 9–14.

The figured-bass numerals underneath the staff show a regular alternation of sixths and sevenths. The last two bars differ in two respects. First, the harmonic rhythm accelerates to double speed: at the end the intervals change each quarter note. Second, a seventh is missing between the two consecutive sixths in the penultimate bar. The 6–7–6 progressions (briefly 7–6) relate closely to the parallel sixths (6–6–6) discussed in Section 1.1, see examples 1.4(b) and 1.6(c). For this reason example 1.19 can be regarded as a parallel sixths motion, enriched by inserted sevenths.

These dissonant sevenths deserve our attention with regard to the following issues:

- Each seventh occurs on a strong beat; this dissonance is called a suspension (s).
- Each seventh is tied with the preceding consonance; this is called the preparation (p). The tie is always in the upper voice.
- Each seventh descends stepwise to the next consonance; this is called the resolution (r). In the example the resolution becomes the preparation for the next suspension (r/p) at the same time, and so forth.
- A cadence that contains a suspension, as in example 1.19, is called compound. This means that the cadential ② (the penultimate bass tone) supports two sounds, namely the dissonant seventh and the consonant sixth. So the compound cadence contains the interval progression 7–6–8.

The term dissonance literally means two tones that “do not sound together”. In the musical repertoire from roughly the fifteenth to the nineteenth century, dissonances occur under certain restrictions. The nature and amount of these restrictions depend on the stylistic norms of the various historical periods. In any case, a general rule is that a dissonance requires a resolution and, to a lesser extent as we will later see, a preparation.

EXAMPLE 1.20 Parallel sixths (a), the 6–7–6 suspension pattern (b) and the compound cadence (c)

Example 1.20 consists of three parts in C major. Part (a) shows two parallel sixths (6-6). Part (b) shows a 6-7-6 suspension pattern with labels p, s, r. Part (c) shows a compound cadence with labels p, s, r and interval numbers 6, 7, 6, 8, 1.

Example 1.20 shows the relation between consonant sixths and dissonant sevenths.

Example (a) is a plain progression of parallel sixths.

Example (b) complicates and enriches the parallel progression, mainly by a rhythmic shift in the upper voice. Reading backward: the tone B (r) is delayed by the C (s), which enters as a consonance (p).

Example (c) is a prototypical compound cadence that concludes with a 7–6–8 interval progression.

EXAMPLE 1.21 Stanley: Voluntary in G major, Op. 5 No. 3, second movement (Allegro), bars 18–23

Example 1.21 shows the second movement of Stanley's Voluntary in G major, Op. 5 No. 3, bars 18–23. The notation shows two staves with various intervals and segments labeled. The key signature is G major. The notation includes a treble clef and a bass clef. The first staff starts at bar 18. The second staff starts at bar 19. The notation includes various intervals and segments labeled. The key signature is G major. The notation includes a treble clef and a bass clef. The first staff starts at bar 18. The second staff starts at bar 19. The notation includes various intervals and segments labeled.

EXAMPLE 1.21 Continued

The musical score for Example 1.21 Continued consists of two staves, treble and bass, in G major. The treble staff begins at measure 21 with a melodic line that descends stepwise, marked with asterisks (*) above it. A bracket labeled "segment 3" spans measures 21 and 22. The bass staff features a descending G major scale, with circled numerals ④, ③, ②, ①, and ⑤ below it. An octave displacement is indicated by a dashed line between the first and second circled numerals (① --- ①). The piece concludes with a leap from G to D, marked with circled numerals ① and ⑤.

The excerpt in example 1.21, once more from a voluntary by Stanley, resembles example 1.18 in some respects. Both excerpts consist of a voice in long, tied notes and a figurative voice in shorter values. A significant difference is the inverted relation of the voices. In example 1.18 the tied notes occur in the upper voice and the figurations in the bass; in example 1.21 this is just the other way around. The circled numerals indicate the structural bass, which covers the entire descending G major scale. Note the octave displacement on the third beat of bar 22. The bass ends with a ①–⑤ leap (G–D). The upper voice depicts a sequential segmentation like the lower voice of example 1.18. The structural melody of the upper voice descends stepwise; see the * signs. It spans even more than an octave, from the D (i.e., \hat{S} in G major) at the beginning to the A ($\hat{2}$) at the end.

Example 1.22 is a reduction of bars 19–23.

EXAMPLE 1.22 Reduction of bars 19–23

The musical score for Example 1.22 Reduction of bars 19–23 shows two staves in G major. The treble staff contains a melodic line with dynamics markings: p, s, r/p, s, etc. The bass staff features a figured bass with circled numerals ①, ⑦, ⑥, ⑤, ④, ③, ②, ①, and ⑤ below it. The piece concludes with a leap from G to D, marked with circled numerals ① and ⑤.

The aforementioned inversion of the voices results in an alternation of thirds and seconds, instead of sixths and sevenths. The figured bass numerals 3–2–3 indicate this. The 3–2–3 (briefly 2–3) progression closely relates to the parallel thirds (3–3–3) discussed in Section 1.1; see examples 1.4(a) and 1.6(a), (b). Thus example 1.21 can be regarded as a motion consisting of parallel thirds with inserted dissonant seconds.

What is said of the seventh can also be applied to the second. The dissonant second occurs as a suspension on each strong beat, and is prepared and resolved on the surrounding weak beats.

EXAMPLE 1.23 Parallel thirds (a), the 3–2–3 suspension pattern (b) and the compound cadence (c)

The musical score for Example 1.23 shows three parts (a, b, c) in C major. Part (a) shows parallel thirds with figured bass numerals 3 and 3. Part (b) shows the 3–2–3 suspension pattern with figured bass numerals 3, 2, and 3. Part (c) shows the compound cadence with figured bass numerals ①, ⑦, and ①.

Example 1.23 is the equivalent of example 1.20. The only difference is the inversion of the voices.

Example (a) shows the plain parallel thirds.

Example (b) embellishes the parallel thirds by the suspension pattern 3–2–3.

Example (c) presents the compound cadence ending with a 2–3–1 progression.

The 3–2–3 suspension relates to the 6–7–6 suspension by means of invertible counterpoint. Consequently, the treatment of the second is similar to that of the seventh, so the second requires a descending stepwise resolution. Note that the ties (the syncopations) in the 3–2–3 suspensions always occur in the bass, in contrast to the ties in the 6–7–6 suspension, which occur in the upper voice.

Example 1.24 juxtaposes the 7–6 and 2–3 progressions.

EXAMPLE 1.24 Prototypes of 7–6 (a) and 2–3 (b) scale realization

a. C major

b. A minor

Example 1.24 illustrates two prototypes of scale realizations by means of 7–6 and 2–3 progressions.

Example (a) is in C major. The rising bass step C–D at the beginning modifies the upper voice octave into a dissonant seventh on the first beat of bar 2. The tied notes result in the 7–6 suspension patterns, consisting of the preparation (p), the actual suspension (s), and the resolution (r). The resolution becomes the preparation for the next suspension at the same time. The prototype ends with a compound perfect cadence (7–6–8).

Example (b) is the exact inversion of example (a), yet in A minor. Here the rising step A–B in the upper voice modifies the tied A in the lower voice into a dissonant second. The tied notes in the bass result in 2–3 suspension patterns. Note that both voices move according to the natural minor scale; only the compound cadence (2–3–1) at the end requires a G#.

In sum, the 7–6 and 2–3 progressions occur in descending motion exclusively. The reason is that the dissonance always resolves stepwise down. Remember that the dissonance is always on

the strong beat, and its preparation and resolution on the surrounding weak beats. As a rule, in 7–6 progressions the ties (syncopations) are in the upper voice, and in 2–3 progressions in the lower voice.

EXAMPLE 1.25 Beethoven: Piano Sonata in C major, Op. 2 No. 3, first movement (Allegro con brio), bars 113–129

The musical score is divided into four systems, each with a key signature label in a box above the first staff:

- System 1 (bars 113-116):** Labeled "G minor". The bass staff has asterisks (*) under the notes in bars 113, 115, 116, 117, and 118.
- System 2 (bars 117-120):** Labeled "C minor". The bass staff has asterisks (*) under the notes in bars 117, 119, 120, 121, and 122.
- System 3 (bars 121-124):** Labeled "F minor". The bass staff has asterisks (*) under the notes in bars 121, 123, 124, 125, and 126.
- System 4 (bars 125-129):** Labeled "C minor". The bass staff has asterisks (*) under the notes in bars 125, 127, 128, 129, 130, and 131.

Dashed lines connect the first asterisk in the G minor system to the first asterisk in the C minor system, and another dashed line connects the first asterisk in the F minor system to the first asterisk in the C minor system.

Example 1.25 shows an excerpt from Beethoven's Piano Sonata in C major. The section presents the climax of the development, in which the sixteenth-note motif of the main theme is developed and combined with a new musical idea. This new idea consists of octaves, played by both hands, and syncopations in the right and left hand alternately.

The syncopated octaves determine the harmonic structure of nearly the whole section. If we ignore all rests and octave leaps for a while (for instance the octave leap D–D in the bass of bar 115), we will observe a continuously descending motion in the left hand. The structural bass starts on the D in bar 113 and proceeds stepwise to the C in bar 126; see the * signs. The bass line passes

through various keys: notice the modulations from G minor via C minor and F minor toward C minor.

The last three bars of the excerpt eventually lead to a close on the bass tone G (i.e., ⑤ in C minor) in bar 129. This close is the start of a new section at the same time, which is a harmonic and thematic bridge, a so-called re-transition, toward the recapitulation (not included in the example).

The reduction in example 1.26 illustrates the two-part harmonic process up to bar 126.

EXAMPLE 1.26 Reduction of example 1–19, bars 113–126

The image shows a musical score reduction for Example 1.26, consisting of two systems of music. Each system has a treble and bass staff. The first system (bars 113-120) is divided into two segments: 'segment 1' in G minor (bars 113-117) and 'segment 2' in C minor (bars 117-120). The second system (bars 121-126) is divided into 'segment 3, extended' in F minor (bars 121-124) and 'segment 4' in C minor (bars 124-126). Figured bass numerals are written below the bass staff, with circled numerals ① and ⑤ indicating double functions. Fingerings (p, s, r) are indicated above notes. Horizontal brackets above the staves delineate the segments.

The sustained chords in bars 113–114, 117–118, and 121–122 represent the latent harmonic foundation of the sixteenth-note motifs in the right hand of example 1.25. The reduction sheds light on the sequential structure of the section. The horizontal brackets above the staves indicate the sequential segments. The first segment in G minor is based on the pentachord ⑤–④–③–②–① (bass tones D–C–B \flat –A–G). Remarkable is the major third B \natural on ① in bar 117. This major third that replaces B \flat , the minor third of G minor, is called a Picardy third. The Picardy third enables a modulation to C minor; the end of the first segment in bar 117 is the beginning of the next segment at the same time. Consequently, the final ① of the G minor pentachord now becomes ⑤ of a new C minor pentachord. The vertically placed circled numerals ① and ⑤ underneath bar 117 symbolize the double function of this bass tone.

The second segment repeats the entire procedure, up to bar 121. Here the final ① of the C minor pentachord becomes ⑤ of the new F minor pentachord. The third segment, starting here, is extended by two bars; it contains a smooth modulation from F minor to C minor in bar 125. Here the bass tone F acts both as ① in F minor and ④ in C minor.

The figured-bass numerals show an alternation of 2–3 and 4–3 progressions in each segment. Like the harmonic seventh and second, the harmonic fourth is often treated as a dissonance that

needs both a preparation and a resolution. (Under certain conditions the fourth is treated as a consonance. More about this in Chapter 2.) In bars 115–116 all suspensions are indicated, together with their preparations and resolutions. In the remainder of the reduction only the suspensions are indicated. Note that the 4–3 suspensions (the tied notes) occur only in the upper voice and the 2–3 suspensions in the bass.

Terms to remember

- Seconds, sevenths, and (depending on the context) fourths are dissonances.
- The suspension is a pattern in which the actual dissonance occurs on the strong beat, preceded by a preparation and followed by a resolution. Both preparation and resolution are consonances on weak beats.
- The two-part compound cadence ends with a 7–6–8 or 2–3–1 progression. A cadence without suspension (6–8 or 3–1) is called a simple cadence.
- The term pentachord literally means a set of five tones. In this context the term denotes the lower scale degrees ① to ⑤, up or down.
- A modulation is a transition from one key to another. Usually the two keys share at least one common tone. This tone can for instance be ① in the old key and ⑤ in the new one.

Instructions for the exercises

- The figured bass will guide you in realizing the 7–6 suspension patterns. The ties are always in the upper voice.
- This exercise consists of 2–3 suspensions, with the ties in the bass. Use the natural minor scale throughout, until the cadence in the last two bars.
- The exercise combines 2–3 and 7–6 suspensions.
- Each tied note requires a 7–6 suspension. The remaining notes can be realized with harmonic sixths and octaves.
- This exercise is after a partimento by Durante. Each syncopated bass note (the tied notes and the half notes occurring on the second beats) requires a 3–2–3 suspension. Create 6–7–6 patterns around the bass notes indicated with *. The horizontal brackets imply compound cadences. You may wish to apply some octave displacements for the sake of variety.
- Bars 4–6 are a sequential transposition of bars 1–3. Both segments must be realized similarly. Determine the structural tones of the given melody in bars 7–9 and choose the proper schema. An embellished 7–6 progression starts from the fourth beat of bar 9.

Suggestion for further analysis

Handel: “And he shall purify” from *The Messiah*, HWV 56, bars 11–15 (or 11–20)

1.4 VARIANTS OF SUSPENSION PATTERNS

EXAMPLE 1.27 Handel: Flute Sonata in E minor, HWV 379, second movement (Andante), bars 5–16

E minor

5 segment 1 segment 2

9 segment 3 segment 4

13 segment 5

Example 1.27 shows an excerpt from a Handel flute sonata. After the opening phrase of four bars in the main key of E minor (not included in the example) a sequence starts that lasts until the first beat of bar 15. A weak half cadence in bars 15–16 ends the phrase. The horizontal brackets indicate the five segments.

Although the example seems to start in G major, given the preceding bars the key is unmistakably E minor. Thus the first scale degree is ③. From here the structural bass (on the first beats) follows the schema Fifth Down Fourth Up: from G down to C, up to F#, and so forth. The circled numerals indicate the bass leaps. Example 1.28 below makes clear that this alternation of falling fifths and rising fourths results in a stepwise descent ③–②–① to ⑤ in bars 5–15. The flute part shows a comparable melodic structure; see the * signs. If you ignore the octave displacement in bar 9, you can observe a stepwise descending motion from B in bar 5 to D# in bar 15. One might include the tones indicated by the bracketed * signs in the structural melody, yet their “weak” metric placement subordinates them to the “strong” tones on the first beats.

Example 1.28 presents a two-part reduction of the sequence.

EXAMPLE 1.28 Reduction of bars 5–16

E minor

5

segment 1 segment 2 segment 3 segment 4 segment 5

p s r/p s

3 7 3 7 3 7 3 7 3 7 3#

③ ⑥ ② ⑤ ① ④ ⑦ ③ ⑥ ② ⑤

7-3 progressions: Fifth Down Fourth Up

The reduction illustrates the structural melodies of the flute and the bass part. The figured-bass numerals show an alternation of thirds and sevenths. The tied notes in the upper voice are suspensions (s): they are surrounded by their preparations (p) and resolutions (r). As we have seen earlier, the resolution becomes the preparation for the next suspension (r/p). The suspensions cause metric accents on each even bar; consequently, the odd bars, containing the preparations and resolutions, are weak. This metric organization is unmistakable, even though it is not explicitly notated.

Unlike the 7–6 suspensions discussed in Section 1.3, the bass moves simultaneously with the resolution. This bass movement transforms the 7–6 pattern into 7–3. We will call this schema 7–3 progressions or Fifth Down Fourth Up. This description of the bass motion refers to the terminology of the eighteenth-century partimento school: it emphasizes the melodic quality of the bass. In present-day music theory the harmonic term Circle of Fifths is used more often. (The historical and modern terms betray a shift from a melodic to a harmonic perspective.)

EXAMPLE 1.29 Corelli: Violin Sonata in B \flat major, Op. 5 No. 2, fifth movement (Vivace), bars 54–61

B \flat major

54

segment 1 segment 2 segment 3

3 6 2 6 2 3 6 2 6 2 3 6 2 6

Example 1.29 shows an excerpt from a violin sonata by Arcangelo Corelli (1653–1713). In comparison with the authentic notation the figured-bass numerals have been somewhat simplified; furthermore the key signature of the example has two flats instead of the original one flat. The bass line consists of tied notes in a stepwise descending motion. On each first beat of bars 55–59 a dissonant second sounds, which resolves into consonant sixths and thirds on the second beats

alternately; see the figured-bass numerals 2–6 and 2–3. This variety is the result of the leaping, sequential violin part. The brackets above the staff indicate the segments. The reduction of example 1.30 omits the octave leaps in the violin part and simplifies the rhythm somewhat. This reveals a regular alternation of seconds and sixths. Recall that the tied bass notes imply seconds that need to be prepared and resolved.

EXAMPLE 1.30 Reduction of bars 54–59

B♭ major

54

2-6 progressions: Tied Bass

The 2–6 progression relates to the 7–3 progression discussed above (see example 1.28) by means of invertible counterpoint. The rising fourths and falling fifths appear in the upper voice of example 1.30. Conversely, the tied notes appear in the bass. Similar to the 7–3 progression the consonant voice, here the upper voice, moves simultaneously with the resolution. From now on we will label this schema Tied Bass, whether with 2–6 or 2–3 suspensions.

EXAMPLE 1.31 Prototypes of Fourth Up Fifth Down (a) and Tied Bass (b)

A minor

a.

7-3 progressions: Fourth Up Fifth Down

compound cadence

C major

b.

2-6 progressions: Tied Bass

compound cadence

Example 1.31 shows the prototypes of the 7–3 progressions (Fifth Up Fourth Down or vice versa) and the 2–6 progressions (Tied Bass), respectively.

Example (a) is in A minor; the 7–3 suspensions (the ties) appear in the upper voice.

Example (b) shows the Tied Bass with 2–6 suspensions in C major, with the ties in the bass.

At the end of both phrases the displacement of the ties from one voice to the other articulates the compound cadences.

EXAMPLE 1.32 *Solfèges d'Italie*, first volume, No. 15

C major

a. *proposta* *risposta*

4 3 2 6 7 3 2 6 7 3 7 3

2-6 and 7-3 progressions 7-3 progressions -----

8 c. d.

7 3 8 3 2 6 2 6 2 6 2 6 4 6

--> compound cadence 2-6 progressions

15 e.

7 3 7 3 7 3 7 3 7 3 2 3 8

7-3 progressions compound cadence

Example 1.32 is from a French collection of solfeggi, titled *Solfèges d'Italie* (ca. 1760). This collection consists of solfeggi by various celebrated Italian composers such as Leonardo Leo, Alessandro Scarlatti and Johann Adolf Hasse (a German but the composer of many Italian operas). A solfeggio is an accompanied exercise that has to be sung on solmization syllables (do–re–mi). Solfeggi and partimenti are closely related: a solfeggio can easily be compared to a realized partimento, with a different purpose of course. Shortly after the French Revolution the Paris Conservatory adopted the *Solfèges d'Italie* as its official solfeggio method.

The vocal line (the upper voice) is accompanied by a figured bass. The bass requires a keyboard realization; the numerals have been simplified somewhat. The solfeggio contains tied notes in both voices alternately. With regard to the occurrence of the ties no fewer than five schemata can be distinguished. The horizontal brackets underneath the staves, and the letters a, b, c, d, and e indicate these. Let us for a while skip schema a, and start with b in bars 5–9. The contrapuntal movement is based on 7–3 progressions, so with the ties in the upper voice and the Fourth Up

Fifth Down motion in the bass. The compound cadence, starting from the C in bar 7, closes the first phrase (a and b) of the solfeggio.

The second phrase starts with schema c in bars 9–14. The Tied Bass implies 2–6 progressions, if we ignore the augmented fourth F–B on the first beat of bar 14. (This alternative interval slightly suggests a cadence pattern that starts on B in bar 14 and ends on an imaginary C on the first beat of bar 16. In Chapter 3 we will expand on this cadence type, which is called a double cadence. The omission of a final C makes the cadence deceptive.) The rising fourths and falling fifths appear in the upper voice in bars 10–13.

In schema d from bar 14 the ties move to the upper voice. This results in a 7–3 progression again, similar to schema b. The solfeggio eventually ends with a compound cadence (e) with the tie in the bass.

Schema a is the most complex of all. The ties occur in both voices alternately. Moreover, the voices move in canon: the bass line of bars 2–6 imitates the upper voice of bars 1–5 a fourth (plus and octave) lower. This canon structure is the result of an alternation of 2–6 and 7–3 progressions. Note the rising fourth leaps and the subsequent suspensions. In Section 5.3 we will explore the three-part version of this schema, the so-called Monte Romanesca.

Finally, the compound cadence in bars 7–9 deserves our attention; see also example 1.33(a) below. The bass ends with ②–⑤–①, so with an inserted ⑤ in comparison to the plain ②–① bass of example 1.33(b). Consequently, the interval progression 7–3–8 replaces 7–6–8. The ⑤–① bass progression provides a strong feeling of repose; this is why almost all three- and four-part cadences are based on this bass leap. For further information see Chapter 3.

EXAMPLE 1.33 Compound cadences with 7–3–8 (a) and 7–6–8 (b)

C major

7 a. b.

③ ⑥ ② ⑤ ① ③ ② ⑥ ①

compound (leaping) cadence compound (stepwise) cadence

Terms to remember

- The consonance that accompanies a suspension may move simultaneously with the resolution. This results in a 7–3 progression (instead of 7–6) or a 2–6 progression (instead of 2–3).
- The seventh is always the tied note in the upper voice, and the second the tied note in the bass.
- In the compound cadence the bass pattern ②–⑤–① can replace the plain ②–① step.

Instructions for the exercises

- a. Recall that the tied notes in the upper voice imply sevenths. Tied notes in the bass imply seconds.
- b. This exercise starts with a schema that is called a Fenaroli. Both voices circle around the tonic. When repeated two or more times a canon will appear. There is more about the Fenaroli in Section 5.5. The subsequent Tied Bass requires 2–6 progressions.
- c. This exercise also starts with a Fenaroli. Take the pattern from the previous exercise. In the 2–6 and 7–3 schema dissonances occur on each first beat: either a second on a tied bass note or a seventh with a tied note in the upper voice. Use example 1.32 (schema a) as a reference.
- d. In his *Rules* (a concise manual) for the realization of his *partimenti* Durante includes short *partimenti* for practicing all sorts of voice-leading techniques. Among them are exercises with 7–3 and 2–6 progressions. This exercise refers to these short *partimenti*. Determine the structural bass tones. A few figured-bass numerals hint at a suitable upper voice. The * signs indicate sevenths or seconds. The rhythm of the upper voice is mainly in (tied) quarter notes. You may try to realize a faster upper voice on the slow bass patterns in bars 3, 5, and 6.
- e. The slurred notes (*legato*) are so-called *Seufzer* (“sighs”). The first note of each *Seufzer* requires a second, even if it is not explicitly tied to the preceding note. A tasteful choice between higher and lower octaves in the upper voice can provide an interesting and varied melody.

Suggestion for further analysis

Corelli (?): Flute Sonata in F major, Anh. 34, first movement

THREE-PART SCALE REALIZATION

INTRODUCTION

Chapter 1 showed that two voices can provide satisfactory harmonic realizations. Evidently, the addition of a third voice enriches the harmonic sound and significantly enhances the contrapuntal possibilities. The most elementary three-part chords are the triad ($\frac{5}{3}$ chord) and the sixth chord ($\frac{6}{3}$ chord). The $\frac{5}{3}$ chord contains a third and a fifth on its bass tone and the $\frac{6}{3}$ chord a third and a sixth. These chords can be complete or incomplete: for instance, in a $\frac{5}{3}$ chord the fifth may be omitted and the bass or the third doubled.

Generally speaking, harmony is a blending of “vertical” and “horizontal” features, concerning the succession of sounds and the movement of the voices, respectively. This chapter deals with these two features at the same time. As in Chapter 1, most textbook examples and workbook exercises are based on scalar bass motions. Section 2.1 exposes the simplest form of three-part harmony, namely the parallel progression of $\frac{6}{3}$ chords. This procedure is called Fauxbourdon. Section 2.2 examines its rhythmic-harmonic embellishment by means of syncopations. This results in the ascending alternation of $\frac{5}{3}$ and $\frac{6}{3}$ chords (the so-called Monte) and the descending alternation of $\frac{7}{3}$ and $\frac{6}{3}$ chords. The latter, the 7–6 Fauxbourdon, is the three-part variant of the previously discussed two-part 7–6 motion. Section 2.3 discusses the stepwise Romanesca, a schema that alternates $\frac{5}{3}$ and $\frac{6}{3}$ chords on a descending bass scale. Finally, Sections 2.4 and 2.5 introduce more advanced procedures of dissonance treatment: the three-part schemata Fifth Down Fourth Up and the Tied Bass. The former implies the succession of $\frac{7}{3}$ chords and the latter the alternation of $\frac{4}{2}$ and $\frac{6}{3}$ chords.

2.1 THE FAUXBOURDON

EXAMPLE 2.1 Josquin: “Ave Maria, gratia plena”, bars 31–39

31 phrase 1 A - ve cu - ius con - cept - - - i - o, a -

8 6 6 6 6 6 6 7 6 8
two-part compound cadence (Phrygian)

36 ve cu - ius con - cept - - - i - o,

6 6/3 6/3 6/3 6/3 6/3 6/3 7-6 8/5
three-part compound cadence (Phrygian)

Hail thou whose conception

Example 2.1 shows an excerpt of the four-part motet “Ave Maria, gratia plena” by Josquin des Prez (c. 1450–1521), one of the most celebrated composers of the Renaissance. The text throughout the entire motet is about the glorification of Maria. The excerpt consists of two phrases on the same text, bars 31–35 and 35–39, respectively. The first phrase is a two-part motion of parallel sixths, which ends with a compound cadence. Note the cadential half-tone step F–E in the lower voice, and the whole-tone step D–E in the upper voice. This particular cadence type is called a Phrygian cadence. The second phrase repeats the two melodies an octave lower. In the second half of bar 36 a third voice enters (see the arrow), which results in a parallel motion of $\frac{6}{3}$ chords. The figured-bass numerals underneath the staves indicate these chords. The three-part variant of the Phrygian compound cadence closes the phrase.

The parallel succession of $\frac{6}{3}$ chords is an old contrapuntal phenomenon. It originates from the early Renaissance, for instance in the three-part hymn settings by Guillaume Dufay (c. 1397–1473) from around the middle of the fifteenth century. These hymns contain two notated voices: an upper voice (the cantus) that is based on Gregorian plainchant (the so-called cantus firmus) and a lower voice (the tenor) that accompanies the upper voice, mainly in sixths and octaves. Optionally, singers could improvise a middle voice (the altus) by singing the cantus firmus a perfect fourth

lower, simultaneously with the cantus. This procedure, enigmatically called Fauxbourdon, results in a succession of $\frac{6}{3}$ and $\frac{8}{3}$ chords. Example 2.2 shows the first phrase (The banners of the King . . .) of one of those hymns, to be sung during Passiontide. The notes in cue size represent the improvised middle voice.

EXAMPLE 2.2 Dufay: “Vexilla regis proderunt”, bars 1–3

Ve - xil - - - - - la re - - - - - gis

$\frac{8}{3}$ $\frac{6}{3}$ $\frac{8}{3}$ $\frac{6}{3}$ 5 $\frac{6}{3}$ $\frac{6}{3}$ $\frac{8}{3}$ $\frac{6}{3}$ $\frac{7}{3}$ 6 $\frac{8}{3}$
compound cadence

In the course of time the term Fauxbourdon gradually became synonymous with a plain parallel succession of $\frac{6}{3}$ chords. Composers of all musical periods used this schema, although with caution: over-use could make the music predictable and therefore boring. Example 2.3, an excerpt from a piano sonata by Franz Schubert (1797–1828), illustrates the historical span of the schema. Of course, apart from the parallel $\frac{6}{3}$ chords, nothing of this recalls the fifteenth-century Fauxbourdon style any more.

EXAMPLE 2.3 Schubert: Piano Sonata in A minor, D 784, first movement (Allegro giusto), bars 26–33

26 A minor

$\frac{6}{3}$ $\frac{6}{3}$ $\frac{6}{3}$ $\frac{6}{3}$ etc.

30 D minor

$\frac{6}{3}$ $\frac{6}{3}$ $\frac{6}{3}$ $\frac{6}{3}$ etc.

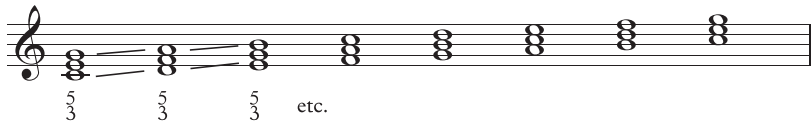
In bars 26–27 the excerpt starts with a repeat of the opening motif of the first movement in A minor. From the dotted rhythm of bar 27, still part of the thematic quote, a dazzling series of descending and ascending parallel sixth chords arises. Together they form a compound four-bar phrase with a weak close in bar 29. The phrase recurs in bars 30–33, now transposed to D minor.

At first glance the parallel $\frac{6}{3}$ chords seem to be in four parts; however, the octaves in the left hand are no more than a reinforcement of a single bass line. Because of this the actual harmonic texture is in three parts.

Three-part harmony basically consists of $\frac{5}{3}$ and $\frac{6}{3}$ chords. The usual figured-bass numerals are $\frac{5}{3}$ (in brief 5, 3 or no numeral at all) and $\frac{6}{3}$ (in brief 6), respectively.

One might assume that the above-mentioned parallel motion of $\frac{6}{3}$ chords is also applicable to a series of $\frac{5}{3}$ chords, as shown in example 2.4.

EXAMPLE 2.4 Wrong parallel motion of chords



However, successions like these are foreign to music from roughly the middle of the fifteenth until the end of the nineteenth century. The reason behind this long-lasting rejection of parallel $\frac{5}{3}$ chords is the inherent succession of perfect fifths; see the oblique lines in example 2.4. Theorists of all times have considered parallel fifths as contradictory to the contrapuntal ideal of independent voices.

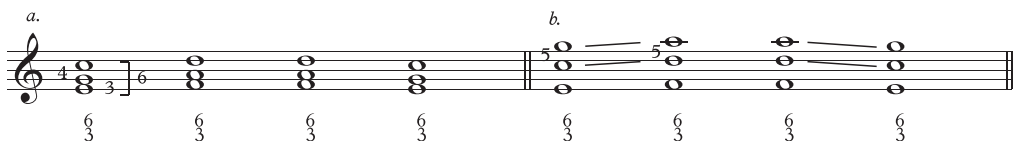
This also applies to the other perfect intervals, the unison and the octave. Generally speaking, the two tones of a perfect consonance (a unison, a fifth, or an octave) blend so strongly that they can scarcely be perceived as two distinct tones. As a result, the parallel succession of unisons, fifths, and octaves disturbs the (quasi-)independent movement of voices. Example 2.5 shows these forbidden parallel progressions.

EXAMPLE 2.5 Parallel unisons (a), parallel fifths (b), and parallel octaves (c)



As has been mentioned before, the octaves of the Schubert excerpt in example 2.3 present a single voice, and thus can not be considered as a parallel motion of two distinct voices. The same is true for the orchestral doubling of, say, the first violin group by the flute. While a parallel succession of $\frac{5}{3}$ chords is forbidden, a parallel movement of $\frac{6}{3}$ chords is possible throughout. There is one restriction, which is clarified in the example below.

EXAMPLE 2.6 Good (a) and wrong (b) parallel sixth chords



Example 2.6 shows two successions of parallel $\frac{6}{3}$ chords. In example (a) the first $\frac{6}{3}$ chord contains the third E–G and the sixth E–C. In addition, the two upper voices constitute the perfect fourth G–C. (This fourth is conceived as a perfect consonance because of its occurrence between the upper voices. Recall the dissonant status of the interval in relation to a bass tone, as discussed in Section 1.3.) The next chords show a similar interval construction. In example (b) the fourths of example (a) are inverted into fifths: in the first chord the G appears in the upper voice, a fifth above the C. The next chords consist of a similar interval construction. These specific chord positions generate parallel fifths, which are indicated by the oblique lines. Due to the above-mentioned rejection of parallel fifths the parallel $\frac{6}{3}$ chords of example (b) are wrong, at least within the realm of tonal music.

EXAMPLE 2.7 Prototypes of the Fauxbourdon in major (a) and minor (b)

a. C major

b. A minor

Example 2.7 shows two prototypes of the Fauxbourdon schema. Recall that a closure requires an octave rather than a sixth; consequently, $\frac{8}{3}$ chords instead of $\frac{6}{3}$ chords close the prototypes. An $\frac{8}{3}$ chord may be considered an incomplete $\frac{5}{3}$ chord. This means that the fifth does not actually sound, but is nevertheless implied. The third is an essential component and may not be omitted. In these incomplete chords, with an implicit fifth, the doubling of the bass tone is the most usual, but a doubling of the third, although less common, is also possible. The figured-bass numerals $\overset{(5)}{3}$ indicate these incomplete $\frac{5}{3}$ chords.

Example (a) is in C major. Incomplete $\frac{5}{3}$ chords occur both on the low and the high $\textcircled{1}$. The parallel motion of $\frac{6}{3}$ chords fills these anchor points.

Example (b) is in A minor. The bass performs the melodic and natural minor scale. In the ascending middle voice $F\flat$ and $G\flat$ may replace $F\sharp$ and $G\sharp$.

Terms to remember

- The Renaissance motet is a polyphonic vocal composition on a sacred (Latin) text, but not particularly intended for liturgical use.
- A Phrygian cadence is based on a half-tone bass step.
- Fauxbourdon is (in common language) the parallel progression of $\frac{6}{3}$ chords.
- Parallel unisons, fifths, and octaves are forbidden; therefore the parallel movement of $\frac{5}{3}$ chords has to be avoided.
- An $\frac{8}{3}$ chord can be considered as an incomplete $\frac{5}{3}$ chord, with an omitted (but implicitly present) fifth and usually a doubled bass tone. We will label these chords with $\overset{5}{\frac{3}{}}$.

Instructions for the exercises

- a. Create a Fauxbourdon by construing $\frac{6}{3}$ chords on all bass tones apart from ①. Both the low and high ① require a complete or incomplete $\frac{5}{3}$ chord.
- b. This exercise starts with a descending Fauxbourdon. Make cautious decisions on the use of ⑥ and ⑦. The two bass notes indicated with * imply a so-called voice exchange: the bass progression ③–① can be accompanied through a progression in contrary motion $\hat{1}-\hat{3}$ in the upper voice. This voice exchange causes a chord inversion from a $\frac{6}{3}$ chord on ③ to a $\frac{5}{3}$ chord on ①. Chapter 6 will further elaborate the concept of chord inversion.
- c. Continue the given diminutions in the bass and the middle voice.

Suggestion for further analysis

Berlioz: *Symphonie fantastique*, first movement (Largo–Allegro agitato e appassionato assai), bars 198–231

2.2 THE MONTE AND THE 7-6 FAUXBOURDON

Example 2.8 shows an excerpt from a *sonata da chiesa* (church sonata) for two violins and basso continuo by Corelli. Although the one flat key signature is not authentic, the composition is undoubtedly in D minor. The exposed phrase starts in the main key but immediately turns to the relative F major; the analysis below considers the entire phrase in F major.

The bass moves according to the F major scale from the initial D to the F on the first beat of bar 30. Up until this point the authentic figured-bass numerals indicate a consistent alternation of $\frac{5}{3}$ and $\frac{6}{3}$ chords. More explicitly they indicate the structural tones of the highest voice, which is the

EXAMPLE 2.8 Corelli: Trio Sonata in D minor, Op. 3 No. 5, second movement (Allegro), bars 25–31 (authentic figured-bass numerals)

25 F major

29 compound cadence

5 6 5 6 5 6 5 6 5 6 5 6

5 6 5 6 5 6 6 6 6 6 5 3

second violin. The * signs indicate this structural melody up to the first beat of bar 30. Example 2.9 illustrates the harmonic process.

EXAMPLE 2.9 Reduction of bars 25–30

F major

segment 1 segment 2 segment 3 etc.

26

$\frac{5}{3}$ $\frac{6}{3}$ $\frac{5}{3}$ $\frac{6}{3}$ $\frac{5}{3}$ $\frac{6}{3}$ etc. $\frac{5}{3}$

⑥ ⑦ ① ①

The middle voice accompanies the bass in parallel thirds (tenths). The structural upper voice alternates fifths and sixths in a syncopated rhythm. The three voices exhibit an alternation of $\frac{5}{3}$ and $\frac{6}{3}$ chords, which results in an ascending sequence throughout the entire example. The original score in example 2.8 even shows an additional $\frac{6}{3}$ chord on the second beat of bar 30. From here the phrase moves forward to the close in F major. Note the two violins that perform a compound cadence from the fourth beat of bar 30. The cadential role of the bass will be explored in Chapter 3.

The long-lasting ascent of the fragment (see example 2.9 once more) is noteworthy. The bass line spans more than an octave; each scale degree supports a sequential segment. The $\frac{6}{3}$ chords are indispensable elements in the harmonic movement, since they prevent a plain succession of $\frac{5}{3}$ chords. Recall that successions of that kind are wrong, due to the inherent parallel fifths; see Section 2.1, examples 2.4 and 2.5(b).

An alternation of fifths and sixths is the acceptable alternative for parallel fifths: it occurs frequently in style periods ranging from Renaissance to Romanticism. The ascending alternation of $\frac{5}{3}$ and $\frac{6}{3}$ chords (briefly 5–6) is called a Monte (Eng. “mountain”).

EXAMPLE 2.10 Haydn: Symphony in G major, No. 94, "Surprise," fourth movement (Allegro di molto), bars 17–26

G major

① ⑦ ----- ① ③ -----

22

① ⑤

Example 2.10 is an excerpt from the fourth movement of Symphony No. 94, the second of the London Symphonies by Joseph Haydn (1732–1809). The movement starts with the presentation of the Rondo theme with a ternary ABA structure. Bars 17–26 present the first phrase of the B part. Remarkable is the contrast between the descending and the ascending motion: the bass starts with a complete descending G major scale in bars 17–20 and continues by means of an ascending motion from ③ to ① in bars 20–23. The phrase ends with a sustained bass tone D that can be perceived as the dominant of G major, despite the C# in bar 23 that hints at D major. (Section 4.4 will further expand on this specific chromatic tone.)

Most significant here is the harmonic structure from the fourth beat of bar 20 up to the first beat of bar 23. Example 2.11 juxtaposes two different reductions of these bars.

EXAMPLE 2.11 Reduction of bars 21–23 with 5–6 (a) and 3–6 (b) progressions

G major

a. 21

b. 21

6 5 6 5 6 5 6 5 6 3 6 3 6 3 6 3 6 3

③ ④ ⑤ ⑥ ⑦ ① ③ ④ ⑤ ⑥ ⑦ ①

Example (a) shows the structural harmony performed by the lower strings. The upper voice of the reduction (the second violin) and the bass (the cello and the double bass) move in parallel tenths. The middle voice (the viola) exhibits a syncopated alternation of fifths and sixths over the bass; see the incomplete figured-bass numerals. The first violin is omitted in the reduction, since it only doubles the second violin and the viola alternately. This reduction closely relates to example 2.9 above: it differs mainly because of the inverted upper and middle voices.

On the other hand, example (b) sheds light on the first violin. This alternative perspective reveals an alternation of thirds and sixths between the two outer voices. The figured-bass numerals indicate this voice leading. The second sixteenth note of each pair must be considered as a passing tone. Recall Section 1.2 regarding the two-part 3–6 progression; see examples 1.7 and 1.9. In this reduction the second violin (the upper voice of example (a)) is interpreted as a mere doubling of the first violin and therefore omitted.

Apart from these contrasting analytical perspectives, both reductions reveal the Monte, which is an ascending alternation of $\frac{5}{3}$ and $\frac{6}{3}$ chords. Example 2.12 presents the prototypes of the Monte.

EXAMPLE 2.12 Prototypes of the Monte in major (a) and minor (b, c)

a. C major

b. A minor

c. A minor

Example (a) presents the Monte in the major mode. The syncopations caused by the alternation of fifths and sixths (5–6) appear in the upper voice. The middle voice moves in parallel thirds (tenths) with the bass.

In example (b) the syncopations occur in the middle voice. Compared to example (a) the middle and upper voices have been inverted. The minor mode requires some caution. The sixth and seventh scale degrees are raised in all voices throughout. Nevertheless, other choices are possible. For instance, $F\flat$ and $G\flat$ might replace $F\sharp$ and $G\sharp$ in bars 1–2. Just try this and note that in this case bars 1–3 sound in C major rather than in A minor.

Example (c) exposes the Monte with a succession of thirds and sixths (3–6) in the upper voice. The upper voice in bars 1–2 contains an $F\sharp$ and $G\sharp$ in order to avoid the augmented fourths $C-F\sharp$ and $D-G\sharp$. Evidently, the middle voice contains the natural tones too.

EXAMPLE 2.13 Mozart: Piano Sonata in G major, K 283, first movement (Allegro), bars 45–51

D major

45

6 7 6 7 6 7 6 7 6 7 6

① ⑦ ⑥ ⑤ ④ ③

7-6 Fauxbourdon

7-6 Fauxbourdon

49

7 6 7 6 7 6

⑤ ④ ③

Example 2.13 shows an excerpt of the G major Piano Sonata by Wolfgang Amadeus Mozart (1756–1791). It concerns the final phrase of the secondary-theme group in D major of the exposition. The excerpt, which is the response on a preceding imitative figure (not included in the example), opens with a stepwise descending bass line from ① to ③ in bars 45–46. The middle voice accompanies the bass by parallel thirds (tenths). The syncopated upper voice performs sixths and sevenths on the bass alternately; the sevenths on the beats and the sixths in between. The figured-bass numerals indicate this 6–7–6 progression. Each seventh is a suspension that is prepared and resolved by a sixth. Recall Section 1.3 regarding the 6–7–6 suspension pattern; see, for instance, example 1.20(b). The three voices together form progressions of $\frac{6}{3}$ and $\frac{7}{3}$ chords. This alternation of $\frac{6}{3}$ and $\frac{7}{3}$ chords can be regarded as an embellished Fauxbourdon. We will call this variant the 7–6 Fauxbourdon.

Example 2.14 provides a comparison between Mozart's 7–6 Fauxbourdon (example (b)) and its basic version (example (a)). The 7–6 Fauxbourdon occurs exclusively in a descending motion, due to the descending tendency of its dissonant sevenths.

EXAMPLE 2.14 The Fauxbourdon (a) and the 7–6 Fauxbourdon (b)

D major

a.

b.

6 6 6 6 6 6 6 7 6 7 6 7 6 7 6

Bar 47 of example 2.13 seems to lead to the end of the phrase, but instead of an expected close on the first beat of bar 48, the phrase recurs in a varied manner. From this bar sixteenth notes vary the plain 7–6 movement of bars 45–46, which means nothing more than an embellishment of the 7–6 Fauxbourdon. Bar 50 and the first beat of bar 51 provide the strong final cadence that has already been implied in bar 47. Chapter 3 will expand on various three-part cadence schemata.

EXAMPLE 2.15 Prototypes of the 7–6 Fauxbourdon in major (a) and minor (b)

a. C major

b. A minor

Example 2.15 shows two prototypes of the 7–6 Fauxbourdon. Both start with a 5–6 motion similar to the Monte. However, this rising step turns out to be the “upbeat” for the falling 7–6 Fauxbourdon. In the first bar of example (a) the middle-voice tone A prepares the subsequent suspension (the tied A). This dissonance resolves onto the G, which in turn prepares the next dissonance. The phrase closes with a three-part compound cadence. Its stereotypical 7–6–8 interval progression occurs between the bass and the middle voice. Example (b) shows a similar procedure, but with inverted upper voices. The minor-mode prototype makes use of the natural minor scale in all voices, apart from the cadential G#. Here the 7–6–8 progression is between the outer voices.

Terms to remember

- The Baroque sonata da chiesa (church sonata) is an instrumental composition that contains various movements, often in a contrapuntal style. The related sonata da camera (chamber sonata) usually offers a succession of dance movements.
- The Monte is a stepwise ascending sequence, in which $\frac{5}{3}$ and $\frac{6}{3}$ chords alternate.
- The 7–6 Fauxbourdon mirrors the Monte in a descending motion, with $\frac{7}{3}$ and $\frac{6}{3}$ chords alternating.

- The three-part compound cadence is a progression of $\frac{7}{3}-\frac{6}{3}-\frac{8}{3}$. The suspension (the tie) occurs in either the upper or the middle voice.

Instructions for the exercises

- The exercise consists of a Monte and a 7–6 Fauxbourdon. Note that the descending Fauxbourdon mirrors the ascending Monte.
- This exercise is similar to exercise (a). Make careful decisions about the raised or natural sixth and seventh scale degrees in all voices.
- This Monte contains 3–6 progressions in the upper voice. The last quarter note of each bar (*) is a passing tone. Continue the pattern given in bar 1. You may wish to shift the middle voice from the lower to the upper staff (with stems downward) from bar 3.
- This exercise is similar to exercises (a) and (b), apart from the inverted position of the upper voices.
- The diminutions are merely rhythmic. Continue the pattern given in bar 1. Bars 10–11 require a Phrygian cadence, based on the half tone step $\textcircled{6}-\textcircled{5}$ in the minor mode. After the comma the bass will continue the stepwise descent.

Suggestion for further analysis

Haydn: Symphony No. 104 in D major, first movement (Adagio–Allegro), bars 18–33

2.3 THE STEPWISE ROMANESCA

EXAMPLE 2.16 Beethoven: Piano Sonata in G major, Op. 79, third movement (Vivace), bars 1–4

G major

$\begin{matrix} \textcircled{5} & \textcircled{6} & \textcircled{5} & \textcircled{6} & \textcircled{5} & \textcircled{6} \\ \textcircled{3} & \textcircled{3} & \textcircled{3} & \textcircled{3} & \textcircled{3} & \textcircled{3} \\ \textcircled{1} & \textcircled{7} & \textcircled{6} & \textcircled{5} & \textcircled{4} & \textcircled{3} \end{matrix}$

Example 2.16 shows the opening phrase of the Rondo from Beethoven's Piano Sonata in G major. The bass starts with a descending G major scale from $\textcircled{1}$ to $\textcircled{3}$ and closes with a fifth leap $\textcircled{5}-\textcircled{1}$.

This leap is the basis of an imperfect cadence, given that the upper voice ends on $\hat{3}$. For further information see Chapter 3.

Most significant here is the descending scale realization in bars 1–3. First, the middle voice moves in parallel thirds. Second, the upper voice accompanies the bass with thirds and sixths alternating. This results in a consistent succession of $\frac{5}{3}$ and $\frac{6}{3}$ chords; note that each $\frac{5}{3}$ chord occurs on the strong beat and each $\frac{6}{3}$ chord on the weak beat. This metric succession of strong $\frac{5}{3}$ chords and weak $\frac{6}{3}$ chords is similar to the Monte; see for instance Section 2.2, example 2.11. Yet, opposed to the Monte the chords are based on a stepwise descending bass.

The diminutions of the upper voice (the sixteenth notes) cause a subtle metric conflict with the harmonic regularity of bars 1–3. The quarter note B in the upper voice of bar 2 provides a slight feeling of rhythmic repose, because of a lack of sixteenth notes. This little comma suggests a division of the phrase into 2 + 2 bars. Meanwhile, bars 1–3 expose a harmonic sequence: bars 2 and 3 are harmonic transpositions of bar 1, each time a third lower. This procedure suggests a division into 3 + 1 bars.

The sequence is called a stepwise Romanesca. The term Romanesca refers to a popular variation procedure originating from the middle of the sixteenth century. Its smoothness and elegance has inspired many eighteenth- and nineteenth-century composers to their finest musical themes.

EXAMPLE 2.17 Mozart: String Quartet in B \flat major, K 159, second movement (Allegro), bars 1–12 (simplified representation)

G minor

The score consists of two systems of music. The first system contains bars 1 through 5. The second system contains bars 6 through 12. The key signature is G minor (two flats). The time signature is 3/4. The score is a simplified representation, showing the upper voice (treble clef) and the bass line (bass clef). The bass line features a descending stepwise scale: G4, F4, E4, D4, C4, B3, A3, G3. Chords are indicated by circled numbers: 1 (G minor), 5 (D minor), 3 (B minor), 2 (A minor), 6 (F minor), 5 (E minor), 3 (C minor), 7 (G minor). The upper voice has a melodic line with sixteenth-note diminutions. The sequence is labeled 'stepwise Romanesca' at the bottom.

Example 2.17 shows an excerpt from Mozart's early B \flat major String Quartet. Quite unusually, the second movement is in an Allegro tempo, following an Andante first movement. The opening phrase starts with two motifs of two bars, which feature an ascending melodic line G–A–B \flat (i.e.,

$\hat{1}-\hat{2}-\hat{3}$ in the main key G minor) in bars 1–5. The bass supports this three-tones pattern by $\textcircled{1}-\textcircled{5}-\textcircled{1}$. (Chapter 4 will define these scale degrees as the framework of the major and minor tonality.)

From bar 5 a relaxing sequence responds to the energetic ascent: $\hat{3}-\hat{2}-\hat{1}-\hat{7}$ in bars 5–6 and $\hat{1}-\hat{7}-\hat{6}-\hat{5}$ in bars 7–8. The bass accompanies this descent in parallel thirds from $\textcircled{1}$ to $\textcircled{5}$ and from $\textcircled{6}$ to $\textcircled{3}$, respectively. The alternation of $\frac{5}{3}$ and $\frac{6}{3}$ chords forms a stepwise Romanesca, although somewhat blurred by the repeat of bars 6 and 7. A unison passage follows the schema and eventually leads to the half cadence on $\textcircled{5}$ in bar 12. Similarly to the Beethoven theme the sequence consists of strong $\frac{5}{3}$ chords and weak $\frac{6}{3}$ chords. Example 2.18 juxtaposes both sequences. The two sequences mainly differ concerning their mode: G major versus G minor. For sake of comparison both reductions are notated in the same meter.

EXAMPLE 2.18 Stepwise Romanesca in Beethoven, bars 1–3 (a) and Mozart, bars 5–8 (b)

Example 2.18 consists of two musical excerpts, (a) and (b), illustrating the stepwise Romanesca. Part (a) is in G major and shows three segments of parallel thirds in the bass and middle voices. Part (b) is in G minor and shows three segments of parallel thirds in the bass and upper voices. Fingerings and scale degrees are indicated below the notes.

Part	Segment	Chord 1	Chord 2	Chord 3	Chord 4
a. G major	segment 1	$\frac{5}{3}$	$\frac{6}{3}$	$\textcircled{1}$	$\textcircled{7}$
	segment 2	$\frac{5}{3}$	$\frac{6}{3}$	$\textcircled{6}$	$\textcircled{5}$
	segment 3	$\frac{5}{3}$	$\frac{6}{3}$	$\textcircled{4}$	$\textcircled{3}$
b. G minor	segment 1	$\frac{5}{3}$	$\frac{6}{3}$	$\textcircled{1}$	$\textcircled{7}$
	segment 2 (repeated)	$\frac{5}{3}$	$\frac{6}{3}$	$\textcircled{6}$	$\textcircled{5}$
	segment 3	$\frac{5}{3}$	$\frac{6}{3}$	$\textcircled{4}$	$\textcircled{3}$

In example (a) the parallel thirds occur between the bass and the middle voice and in example (b) between the bass and the upper voice. Due to the leaping upper voice example (a) consists of incomplete $\frac{5}{3}$ and complete $\frac{6}{3}$ chords. On the contrary, example (b) only contains complete chords because of the repeated tones in the middle voice.

EXAMPLE 2.19 Gounod: *Petite Symphonie*, fourth movement (Allegretto), bars 21–28

Example 2.19 shows a slightly simplified excerpt of a late nineteenth-century composition. It concerns the main theme of the Finale from the *Petite Symphonie* for wind instruments (1885) by the French composer Charles Gounod (1818–1893).

Segment	Chord 1	Chord 2	Chord 3	Chord 4
segment 1	$\frac{5}{3}$	$\frac{6}{3}$	$\textcircled{1}$	$\textcircled{7}$
segment 2	$\frac{5}{3}$	$\frac{6}{3}$	$\textcircled{6}$	$\textcircled{5}$
segment 3	$\frac{5}{3}$	$\frac{6}{3}$	$\textcircled{4}$	$\textcircled{3}$

Example 2.19 shows a slightly simplified excerpt of a late nineteenth-century composition. It concerns the main theme of the Finale from the *Petite Symphonie* for wind instruments (1885) by the French composer Charles Gounod (1818–1893).

Undoubtedly, the most prominent chord progression in bars 21–22 is based on the descending step ①–⑦, indicated underneath the staves. This progression is repeated sequentially. As a result, similar progressions can be heard on ⑥–⑤ in bars 23–24, and on ④–③ in bars 25–26. The remaining tones in these bars can be perceived as complementary or ornamental in one or the other way. So the first beat of bar 21 merely complements the incomplete triad on ①, bar 22 turns around the sixth chord on ⑦, and so forth.

The sequence resembles the Romanesca sequence shown in example 2.16, though the metric unevenness, caused by the alternation of structural chords on the second- and the first-beat chords, obscures the schema somewhat.

EXAMPLE 2.20 Reduction of bars 21–26 (a) and the leaping Romanesca (b)

The reduction in example 2.20(a) “restores” the harmonic-metric regularity and clarifies the stepwise Romanesca. Like Beethoven’s Rondo theme the middle voice accompanies the bass in parallel thirds. However, while Beethoven’s upper-voice melody smoothly proceeds in rising thirds and falling fifths, Gounod’s upper voice is more capricious, due to its succession of rising fifths and falling sevenths. (Leaps a fourth down and a second up would result in a more fluent melody; see the bracketed notes in cue size.)

Example (b) relates to example (a) by means of invertible counterpoint. The upper voice of example (a) serves as the bass line of example (b); conversely, the parallel thirds sound in the upper voices. This inverted variant is called the leaping Romanesca. Since this chapter only deals with the realization of scalar basses, we will preserve this leaping variant of the Romanesca for a later stage: Section 5.1 will further explore this schema.

EXAMPLE 2.21 Prototypes of the stepwise Romanesca in major (a, b) and minor (c)

EXAMPLE 2.21 Continued

A minor

c.

5/3 (1) 6/3 (7) etc. 7/3 (2) 6# (3) (5)/3 (1)

Example 2.21 shows three somewhat different realizations of the stepwise Romanesca. Each phrase closes with a compound cadence, which extends the bass line to a complete scale.

Example (a) is similar to the Beethoven fragment of example 2.16 because of its melodic leaps a third up and a fifth down. The middle voice accompanies the bass in parallel thirds (tenths).

In example (b) the parallel thirds occur in the upper voice, as in the Mozart excerpt of example 2.17. The middle voice completes the $\frac{5}{3}$ and $\frac{6}{3}$ chords.

Example (c) is in the minor mode. Evidently, the Romanesca bass makes use of the natural minor scale. The cadence requires the leading tone G#.

Terms to remember

- The stepwise Romanesca is based on a descending scale, usually moving from ① to ③. Its realization results in a succession of (complete or incomplete) $\frac{5}{3}$ and $\frac{6}{3}$ chords, which occur on strong and weak beats, respectively.
- The term refers to a variation technique that originates from the late sixteenth century.
- The stepwise Romanesca relates to the leaping Romanesca by means of invertible counterpoint. Section 5.1 will further explore this variant.

Instructions for the exercises

- The figured-bass numerals indicate a stepwise Romanesca. Create a sequence by transposing the chord progression of bar 1 a third lower in bars 2 and 3. Close the phrase by means of a compound cadence.
- This exercise combines three schemata. Apply the melodic scale in the Monte and the natural scale in the stepwise Romanesca. The 7–6 suspension in the compound cadence includes $\hat{7}\#$.
- Continue the given diminutions in both the Monte and the stepwise Romanesca.

Suggestion for further analysis

Mozart Piano Concerto in A major, K 488, third movement, bars 385 ff.

2.4 FIFTH DOWN FOURTH UP

EXAMPLE 2.22 Mozart: Piano Sonata in F major, K 332, first movement (Allegro), bars 56–67

Example 2.22 shows a phrase from the first movement of Mozart's Piano Sonata in F major, K 332. It is a component of the secondary theme group. Though this theme starts and ends in the dominant key C major, the phrase exposed here sounds in the parallel key C minor. The emphasis is on harmonic progressions rather than on melody.

In bar 60 the C minor tonic $\frac{3}{4}$ chord marks the beginning of a sequence; see the indication of the segments above the staves. The harmonic progressions of the sequence are determined by a bass that moves by rising fourths and falling fifths alternately: C–F–B \flat –E \flat –A \flat –D–G. One might expect a C in the bass in bar 66; instead the bass rises stepwise to A \flat . The phrase ends with a half cadence on G (i.e., $\textcircled{5}$ in C minor) that is prolonged four bars (not included in the example). Remarkable is the metric acceleration in bars 64–65 that suggests a temporary bar change from a $\frac{3}{4}$ to a $\frac{2}{4}$ bar: each chord sounds two beats instead of three. This kind of acceleration is called a hemiola. The forte dynamics accentuate this.

The bass tones marked with * signs support $\frac{7}{3}$ chords. The sevenths occur in the middle and the upper voice alternately: the E \flat in bar 61, the A \flat in bar 62, and so on. Each seventh acts as a suspension, prepared and resolved in the surrounding bars. Recall Section 1.4 regarding the 7–3 progression Fifth Down Fourth Up; see, among others, example 1.28.

Example 2.23 is a partial reduction of the Mozart fragment. As in example 1.28 the circled scale degrees are split into two analytical levels. The lower level $\textcircled{1}$ – $\textcircled{7}$ – $\textcircled{6}$ – $\textcircled{5}$, connected by dashed lines, presents a stepwise bass movement that can serve as the foundation of a 7–6 Fauxbourdon. The inserted scale degrees $\textcircled{4}$, $\textcircled{3}$, and $\textcircled{2}$ provide an alternative voice leading that enriches the harmonic

EXAMPLE 2.23 Reduction of bars 60–66

60 C minor

① ----- ⑦ ----- ⑥ ----- ⑤

Fourth Up Fifth Down

structure. In accordance with the corresponding two-part schema we will call this three-part variant Fifth Down Fourth Up or vice versa. In modern music theory this schema is often called the Circle of Fifths, herewith implicitly equating rising fourths and descending fifths. The three-part Fifth Down Fourth Up implies the occurrence of $\frac{7}{3}$ chords.

EXAMPLE 2.24 Vivaldi: Stabat Mater, RV 621, first movement, bars 34–42

F minor

34 dum pen - de - - - - - vi l - - - - -

alto

b.c.

segment 1

segment 2

5 7 7 7
① ④ ⑦ ③

segment 3

39 (de) - - - - - bat, dum pen - de - bat fi - li - us.

7
⑥

While her Son hung there

Example 2.24 shows an excerpt of Vivaldi's Stabat Mater in F minor. Vivaldi has composed this well-known sacred work for alto voice accompanied by two violins, viola and basso continuo.

The text beginning with the words “Stabat mater” (The mother stood) is a medieval poem, which expresses Maria’s sorrow about her crucified Son.

In bars 35–39 the bass line is a succession of descending fifths and ascending fourths: ①–④–⑦–③–⑥, just like the Mozart fragment of example 2.22. These scale degrees are the basis of a sequence that is divided in three segments. In bar 40 the bass quits the third segment halfway by stepping down to ⑤. Each chord on the first beats of bars 36–39 is a $\frac{7}{3}$ chord. The * signs in the score indicate the sevenths. The tied $A\flat$ in bar 36 occurs in the middle voice, the tied $D\flat$ in bar 37 in the upper voice, and so on. Different from the Mozart example the sevenths do not resolve immediately. Instead, the suspensions and resolutions are subject to flourishing diminutions of sixteenth and (dotted) eighth notes between the first beats of each bar. The imitations between the alto voice and the first violin are stylistically characteristic: the violin imitates the alto one bar later and a fourth higher. These embellishments of the Fifth Down Fourth Up schema are highly responsible for the beauty of the fragment.

EXAMPLE 2.25 7–6 Fauxbourdon and Fifth Down Fourth Up in major (a) and minor (b)

a. C major

$\frac{5}{3}$ $\frac{6}{3}$ $\frac{7}{3}$ $\frac{6}{3}$ etc.
① ————— 7-6 Fauxbourdon

$\frac{5}{3}$ $\frac{7}{3}$ $\frac{7}{3}$ $\frac{7}{3}$ etc.
① ④ ⑦ ③ ————— Fifth Down Fourth Up

b. A minor

$\frac{5}{3}$ $\frac{7}{3}$ $\frac{7}{3}$ $\frac{7}{3}$ etc. $\frac{7}{3\#}$
① ④ ⑦ ③

Example 2.25 shows two prototypes of this schema, in comparison with the related 7–6 Fauxbourdon.

Example (a) compares the 7–6 Fauxbourdon with the 7–7 progression Fifth Down Fourth Up. The falling fifths and rising fourths (or vice versa) can be regarded as a variant of the stepwise descent of the 7–6 Fauxbourdon. The syncopations occur in the middle voice; of course the upper and middle voices can be inverted. Example (b) presents the Fifth Down Fourth Up in the minor mode. All voices make use of the natural scale, apart from the G# at the end of the phrase.

Terms to remember

- A hemiola is a temporary substitution of a ternary by a binary meter: 3 + 3 beats becomes 2 + 2 + 2 beats.
- The 7–7 progression Fifth Down Fourth Up is a succession of $\frac{7}{3}$ chords on a bass moving by descending fifths and ascending fourths or vice versa.
- The three-part 7–7 progression is closely related to the two-part 7–3 progression on the one hand, and the 7–6 Fauxbourdon on the other.
- Often the Fifth Down Fourth Up is embellished by diminutions and imitations between the middle and upper voice.

Instructions for the exercises

- Continue the given pattern. The exercise closes with a variant of the compound cadence, due to the bass ②–⑤–① that replaces the plain ②–①.
- This exercise is comparable to the previous one. Use the natural scale throughout, apart from the $\hat{7}\#$ in the cadence.
- This exercise combines a Monte and a Fifth Down Fourth Up. The Monte can be realized in different ways; see Section 2.2.
- Continue the given diminutions.
- This exercise is modeled after the Gavotte of Corelli's Trio Sonata Op. 2 No. 8. The composition starts with a Fenaroli. (Recall the instructions at the end of Section 1.4; see also Section 5.5 for further explanation.) The Fenaroli recurs in bars 9–10 (in F# minor) and 17–18 (in B minor). Copy or transpose Corelli's realization given in bars 1–2 on the corresponding spots. The indications underneath the staves will guide you. Analyze the entire exercise before you start your realization.

Suggestion for further analysis

Bach: Partita No. 3 in A minor, BWV 827, Gigue, bars 10–13

2.5 THE TIED BASS

EXAMPLE 2.26 Corelli: Trio Sonata in C major, Op. 4 No. 1, Preludio, bars 1–4 (authentic figured-bass numerals)

Example 2.26 shows the opening phrase of one of Corelli's trio sonatas, all of them for two violins and basso continuo. The figured-bass numerals are authentic. The bass passes through a complete descending C major scale, only interrupted by the Fourth Up Fifth Down at the end of the phrase. Besides the cadence in bar 4 the bass exhibits a syncopated rhythm throughout. Recall what was said about Tied Bases in Section 1.3; see example 1.24(b). Thus, the bass syncopations imply a series of 2–3 suspensions. Indeed the slightly diminished middle voice fulfills this implication. Example 2.27 clarifies this.

EXAMPLE 2.27 Two-part (a) and three-part (b) reduction

The two voices of example (a) contain a consistent alternation of seconds and thirds until the end of bar 3. The tied bass notes on each first and third beat act as dissonances and require a correct treatment. As we have often seen before, each suspension (s) is prepared (p) and resolved (r); in turn the resolution becomes the preparation (r/p) for the next suspension, and so on. The suspension on the third beat of bar 3 resolves through an alternative 2–6 voice leading.

The phrase ends with a 7–3–8 progression. (For this specific voice-leading pattern recall Section 1.4 and example 1.31(b).)

Example (b) is the three-part reduction of the Corelli phrase, with an alternation of $\frac{4}{2}$ and $\frac{6}{3}$ chords. The progression $\frac{4}{2}$ – $\frac{6}{3}$ may be regarded as the three-part variant of the 2–3 progression. In correspondence with the two-part variant, we will call the three-part schema simply Tied Bass. At two points the reduction deviates from the original score. First, the $\frac{6}{3}$ chord A–C–F (*) in bar 2 of example (b) does not entirely match with the corresponding $\frac{6}{4}$ chord A–D–F in the actual score. Corelli's figured-bass numeral 6 (i.e., $\frac{6}{3}$) is striking. The figured bass clearly implies A–C–F; apparently Corelli regarded the sixteenth D as non-structural. Second, the $\frac{6}{3}$ chord (**) in bar 3 of example (b) is the regular resolution of the preceding $\frac{4}{2}$ chord. In the original the middle and upper voices appear in inverted position.

EXAMPLE 2.28 Mozart: String Quartet in B \flat major, K 458, fourth movement (Allegro assai), bars 165–177

The musical score for Example 2.28 consists of two systems of staves. The first system (bars 165-171) is in G minor. It features a cello part (vcl) and a viola part (vla). The second system (bars 172-177) is in B \flat major and features a first violin part (vl 1) and a second violin part (vl 2). Below the staves, chord symbols and figured bass are indicated. In the first system, the chords are $\frac{4}{2}$ (marked with a star), $\frac{6}{3}$ (marked with a star), $\frac{4}{2}$ (marked with a star), and $\frac{6}{3}$ (marked with a star). A dashed line with the number 2 indicates a two-measure rest. In the second system, the chords are $\frac{4}{2}$ (marked with a star), $\frac{6}{3}$ (marked with a star), $\frac{4}{2}$ (marked with a star), $\frac{6}{3}$ (marked with a star), $\frac{4}{2}$ (marked with a star), $\frac{6}{3}$ (marked with a star), $\frac{4}{2}$ (marked with a star), and $\frac{6}{3}$ (marked with a star).

Example 2.28 presents an excerpt of the fourth movement from one of Mozart's string quartets. It concerns a section in the development, in which the main motif of the movement is varied continuously. The section starts on $\textcircled{5}$ of the relative key G minor, and returns to the main key B \flat major via C minor. Eventually the section leads to the recapitulation (not included in the example).

The cello starts the section with a single tone D. Two bars later the viola enters with an E \flat that sharply conflicts with the cello. Instead of resolving immediately, the dissonant minor second sustains for almost three bars. In bar 169 the third voice (the second violin) enters with a G, which generates a $\frac{4}{2}$ chord. Only in the next bar the dissonance resolves into a $\frac{6}{3}$ chord. The A \flat causes a modulation to C minor. From here a Tied Bass starts, with its inherent alternation of $\frac{4}{2}$ and $\frac{6}{3}$ chords. In bar 172 the entry of the first violin provides a four-part harmonic texture. In Part II of this book we will deal with four-part harmony extensively. At this moment the statement that the added fourth voice does not essentially influence the harmonic procedure will suffice.

EXAMPLE 2.29 Three-part reduction of bars 165–177

165 167 169 171 176 177

G minor C minor B \flat major

5 6 4 6 4 etc. 6 7 6 (5)
 3# 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 3
 ⑤ ----- ② ① ⑦ ⑥ ⑤ ④ ④ ----- ④ ③

Example 2.29 clarifies the entire (three-part) harmonic process. The reduction compresses the original score somewhat, by shortening the sustained D in bars 165–169, and by omitting bar 176, which is non-structural with respect to harmony (even more with respect to rhetoric!). Thus the reduction presents a prototype of the Tied Bass, based on the consistent alternation of dissonant $\frac{4}{2}$ chords on strong beats and consonant $\frac{6}{3}$ chords on weak beats. By no means these metric “corrections” aim to obscure the irregularities of Mozart’s score. On the contrary, they shed light on these. Comparison of the concrete score with its prototypical representation reveals the particularities of the sustained dissonance in bars 167–169 and the interruption of the harmonic process in bar 176.

The modulations from G minor to C minor and from C minor to B \flat major arise from the introduction of the A \flat in bar 169 and the return of the A \natural in bar 177. The modulations modify the system of scale degrees thoroughly. The circled numerals immediately adjust to the new keys. In bar 169 we are forced to re-interpret the bass tone D as ② in C minor instead of ⑤ in G minor. Similarly, we will conceive the bass tone E \flat in bar 177 as ④ in B \flat major instead of ③ in C minor.

EXAMPLE 2.30 Prototypes of the Tied Bass in major (a) and minor (b)

a. C major

5 6 4 6 4 etc. 6 7 6 (5)
 3 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3
 ① ⑦ ③ ② ①

imperfect compound cadence

b. A minor

5 6 4 6 4 etc. 4# 6 7 7 (5)
 3 3 2 3 2 2# 3 3 3# 3 2 3 2 3 2 3 2 3 2 3
 ① ⑦ ③ ② ⑤ ①

perfect compound cadence

Example 2.30 shows two prototypical realizations of the Tied Bass.

In example (a) the upper voice accompanies the bass through a continuous 3–2–3 progression. The middle voice adds sixths and fourths on the bass, which results in an alternation of $\frac{6}{3}$ and $\frac{4}{2}$ chords.

In example (b) the middle and upper voices are inverted. Note the G# (*) at the end of the example. This twofold occurrence of a leading tone constitutes a so-called double cadence, a specific variant of the compound cadence. The same applies to the twofold leading tone B (*) in example (a). Section 3.3 will expand on this.

Terms to remember

- The Tied Bass implies an alternation of $\frac{4}{2}$ and $\frac{6}{3}$ chords, which is the three-part variant of the two-part 2–3 schema.
- As a rule each $\frac{4}{2}$ chord occurs on the Tied Bass tone on the strong beat. Each $\frac{6}{3}$ chord occurs on the weak beat.
- The double cadence is based on the twofold occurrence (and resolution) of the leading tone. See Section 3.3 for further information.

Instructions for the exercises

- Each tied bass note on the strong beat implies a $\frac{4}{2}$ chord, followed by a $\frac{6}{3}$ chord.
- This exercise combines two schemata. Label them before you realize the exercise.
- The upper voice is given. Start with the realization of the bass and continue with the middle voice. Apply the diminution of bar 2 throughout the whole Tied Bass.
- This exercise is a series of three interlocked schemata.
- This exercise is after a partimento by Fenaroli. The indications underneath the staves, together with some figured-bass numerals, will guide you. Each modulation (from B \flat major to F major and back) requires a re-orientation on the scale degree system. All eighth-notes figures are diminutions: they do not require harmonic realization. A so-called discant cadence opens the exercise and recurs several times. This term refers to the bass pattern that belongs more properly to the upper voice. Section 6.3 further explores this cadence schema.

Suggestion for further analysis

Bach: Prelude in F major, BWV 928, from *Zwölf kleine Präludien oder Übungen für Anfänger*, bars 6–8

THE THREE-PART CADENCE

INTRODUCTION

The term cadence (It. *cadenza*) has two meanings, either as a (quasi-)improvisational passage at the end of a concerto movement, or the close of a musical unit. This chapter addresses the latter meaning. In recent years the cadence in the sense of a close is much debated from two distinct perspectives, concerning its structural function on the one hand and its harmonic-melodic-metric quality on the other.

According to the first perspective the cadence is primarily defined according to its function in the musical form. So a cadence is synonymous with the close of a phrase, a section, or a whole composition. Conversely, and somewhat provocatively, if there is no phrase ending, there cannot be a cadence. Cadences are mainly valued according to their structural significance: as a rule, the final cadence of a composition stands on a higher hierarchic level than, say, the cadence of a phrase.

The second perspective is about the intrinsic qualities of the cadence. In this sense the cadence is a schema: a musically educated listener immediately recognizes its melodic, harmonic, and rhythmic components. The cadence may signal the end of a composition or section; however, it may be the start of a composition, too. This chapter takes this second perspective. Of course this does not mean that the formal function of the cadence, its context, and its hierarchic level are less important. Nevertheless, it seems wise to start with the description of the phenomenon rather than with its interpretation and evaluation.

The cadence schemata introduced in this chapter are in line with descriptions in eighteenth-century Italian music theory.

First, a cadence can be simple, compound, or double. As Chapters 1 and 2 have made clear, the simple cadence consists of consonances exclusively, while the compound cadence combines a dissonance and a consonance on the penultimate bass tone(s). The double cadence may be seen as a combination of the two. Second, a cadence can sound on the bass step ②–① or the bass leap ⑤–①. While the previous chapters have explored the stepwise cadence, this chapter will focus on the leaping variant. Third, the cadence can be perfect, imperfect, or deceptive. The terms perfect and imperfect address the close of the upper voice on $\hat{1}$ or $\hat{3}$, respectively. Deceptive means that the bass does not achieve its final accomplishment, thus requiring a continuation of the phrase.

Finally, a fourth category concerns the half cadence, which ends on ⑤. One might call this a close on the “penultimate”. Although this type rarely occurs in eighteenth-century partimenti, the concept cannot be ignored, given its frequency and structural significance in the musical repertoire.

Section 3.1 discusses the simple cadence and the half cadence. Section 3.2 deals with two variants of the compound cadence, and in its wake the deceptive cadence. Section 3.3 brings up the double cadence, a schema most proper to the music of the early eighteenth century (and before) and to church music. The last two sections deal with two particular variants, namely the Galant and the Neapolitan cadence.

3.1 THE SIMPLE CADENCE

EXAMPLE 3.1 Mozart: “Der Vogelfänger bin ich ja” from *Die Zauberflöte*, K 620, bars 27–35 (simplified representation)

G major

Der Vo - gel - fän - ger bin ich ja stets lu - stig hei - ßa hop - sa - sa! Ich

27

half cadence

simple cadence

D major

31 Vo - gel - fän - ger bin be - kannt bei Alt und Jung im gan - zen Land.

half cadence

simple cadence

*The birdcatcher I am indeed,
always happy heidi heh hey!
I, the birdcatcher, am well known
to old and young throughout the land.*

Papageno, a fairy-like nature creature, sings this famous aria from Mozart’s *The Magic Flute*. Example 3.1 is a simplified representation of the vocal entry, which shows a simple folk-like tune with a slight orchestral accompaniment. The excerpt contains two phrases of four bars; see the // signs. The commas in bars 28 and 32 show a more detailed phrasing in two groups of two bars.

Let us first examine the G major close in bar 30. The upper and middle voice of these bars exhibit the schema of a two-part simple cadence, namely B-A-G ($\hat{3}-\hat{2}-\hat{1}$) and G-F#-G ($\hat{1}-\hat{7}-\hat{1}$), respectively. These voices form the melodic components of the cadence. The bass supports this by means of a leaping motion $\textcircled{1}-\textcircled{5}-\textcircled{1}$ (G-D-G). Its quality is harmonic rather than melodic: the bass pattern divides the octave in a fourth and a fifth. The three voices together form a three-part simple cadence. Bar 34 exposes a similar pattern in D major: the bar is an almost exact transposition of bar 30, apart from the final bass tone that does not leap to the lower octave.

Both commas in bars 28 and 33 imply a close on $\textcircled{5}$ in G major, thus with an omission of the final cadential stage $\textcircled{1}$. As a result, the leading tone F# on the second beat of both bars remains unresolved. This close on the “penultimate chord” is called a half cadence.

Example 3.2 illustrates the cadence schemata.

EXAMPLE 3.2 Two-part simple cadence (a), three-part simple cadence (b), and half cadence (c)

Example 3.2 illustrates three types of cadences in G major. Part (a) shows two versions of a two-part simple cadence. Part (b) shows three versions of a three-part simple cadence. Part (c) shows a half cadence. Fingerings are indicated by circled numbers below the notes.

Example (a) shows two versions of the two-part cadence. The first refers to bar 30 of example 3.1 and the second is its inversion. Example (b) shows three versions of the three-part cadence in comparison with the two-part cadence of example (a): the added bass supports the melodic upper voices. In the third variant of example (b) the middle voice moves to the third B, in order to fill the octave. All cadences are perfect, because the upper voice closes on $\hat{1}$. The half cadence of example (c) exhibits the opposed order of scale degrees: $\textcircled{5}-\textcircled{1}-\textcircled{5}$ instead of $\textcircled{1}-\textcircled{5}-\textcircled{1}$.

The meter plays an important role in the cadence and the half cadence. All cadences exposed above possess a metric succession of strong-weak-strong. The strong final stage is crucial: without that we can scarcely speak of a cadence. (There are a few exceptions: see for instance the imperfect cadence in bars 3–4 of example 2.16, which ends on the weak second beat.) As we will see below the metric organization preceding the final chord can be altered.

EXAMPLE 3.3 Corelli: Trio Sonata in F, Op. 1 No. 1, fourth movement (Allegro), bars 69–72 (a) and 87–90 (b) (authentic figured-bass numerals)

Example 3.3 shows authentic figured-bass numerals for two sections. Part (a) is in D minor and shows an imperfect simple cadence. Part (b) is in F major and shows a perfect simple cadence. Asterisks mark specific notes in both sections.

Example 3.3 shows two excerpts of a trio sonata by Corelli. Both concern the close of a phrase, in D minor and F major, respectively. The two upper voices of bars 71 and 88–89 play around the structural tones, which are indicated by the * signs. As in the Mozart example above (example 3.1) the ①–⑤–① bass pattern is the foundation of both cadences. The inserted bass tone A in bar 88 of example (b) (scale degree ③) might seem less significant; however, the tone fulfills a syntactical function, because it avoids a wrong voice leading of the outer voices. Just ignore the A for a moment, and imagine a dotted half note F in bar 88: the imaginary bass leap F–C would cause a parallel fifth with the upper voice leap C–G. We will later see that ③ can replace ① as the starting point of a cadence.

Example 3.4 provides reductions of both cadences.

EXAMPLE 3.4 Reduction of bars 70–72 (a) and 88–90 (b)

The image shows two musical examples, (a) and (b), each consisting of a treble and bass staff. Example (a) is labeled 'D minor' and 'imperfect simple cadence'. It shows three measures. The bass line has notes D (scale degree ①), F# (scale degree ⑤), and D (scale degree ①). The upper voice has notes D, F#, and D. Example (b) is labeled 'F major' and 'perfect simple cadence'. It shows three measures. The bass line has notes F (scale degree ①), A (scale degree ③), and F (scale degree ①). The upper voice has notes F, A, and F. Fingerings are indicated by numbers 1-5 in circles above the notes.

The D minor cadence of example (a) is imperfect, due to its final $\hat{3}$ (F) in the upper voice. The leading tone C# resolves regularly to the tonic D; see the oblique line.

The F major cadence of example (b) is perfect, because of the final $\hat{1}$ in the upper voice. The leading-tone resolution E–F in the middle voice results in a plain octave. Note that the metric succession in example (a) is weak–strong–strong, and in example (b) strong–strong–strong.

EXAMPLE 3.5 Prototypes of the three-part simple cadence in major (a, b, c) and minor (d)

The image shows four musical examples, (a) through (d), each consisting of a treble and bass staff. Example (a) is labeled 'C major' and shows three measures with bass notes C (①), E (⑤), and C (①). Example (b) shows three measures with bass notes C (①), E (⑤), and C (①). Example (c) shows three measures with bass notes C (①), E (⑤), and C (①). Example (d) is labeled 'A minor' and shows three measures with bass notes A (①), C# (⑤), and A (①). Fingerings are indicated by numbers 1-5 in circles above the notes.

All cadences of example 3.5 are based on the leaping bass ①–⑤–①. A fifth up may replace a fourth down, and vice versa: compare the basses of examples (a), (b), and (c).

The cadence in example (a) is perfect; the final chord is a plain octave.

Example (b) mainly differs with respect to the final third in the upper voice, which makes the cadence imperfect.

Example (c) is a variant of the imperfect cadence.

Example (d) shows a perfect simple cadence in the minor mode. The middle voice ends on the third, which fills the octave between the outer voices.

The oblique lines indicate the rising leading-tone resolutions. In the minor mode the seventh scale degree must be raised: see the G \sharp in example (d). Note that most $\frac{5}{3}$ chords on $\textcircled{5}$ are complete. In this respect the imperfect cadence of example (c) is somewhat exceptional, yet throughout possible.

Terms to remember

- A three-part simple cadence is founded on the harmonic bass motion $\textcircled{1}-\textcircled{5}-\textcircled{1}$. The most usual melodic components are $\hat{1}-\hat{7}-\hat{1}$ in one voice, and $\hat{3}-\hat{2}-\hat{1}$ or $\hat{1}-\hat{2}-\hat{1}$ in the other. If the upper voice ends on $\hat{3}$, the cadence is imperfect.
- Each $\frac{5}{3}$ chord can be complete or incomplete, depending on the voice leading. Most often the $\frac{5}{3}$ chords on $\textcircled{1}$ are incomplete and those on $\textcircled{5}$ complete.
- As a rule the cadence ends on the (relatively) strong beat.
- A half cadence ends on the “penultimate” $\textcircled{5}$ on the (relatively) strong beat, and lacks a direct solution toward $\textcircled{1}$.

Instructions for the exercises

- The three-part simple cadence that closes the phrase is based on the bass pattern $\textcircled{1}-\textcircled{5}-\textcircled{1}$, like in the following exercises.
- Determine the appropriate schema and indicate this underneath the staff.
- The given chord progression in bar 1 determines the schema. Indicate this underneath the staff. Because of the consistent bass rhythm of a half note and a quarter note the simple cadence requires a descending octave leap $\textcircled{5}-\textcircled{5}$. This octave leap is a stereotypical feature of many cadences.
- The whole notes in the upper voice require a harmonic rhythm in half notes (i.e., a chord change each half bar).
- Similarly, the whole notes in the bass require a harmonic rhythm in half notes.

Suggestion for further analysis

Telemann: Trietto No. 1, TWV 42:g2, third movement (Presto), bars 11–27

3.2 THE COMPOUND CADENCE

Example 3.6 shows two excerpts of a three-part madrigal by the English Renaissance composer Thomas Morley (1558–1603). The first phrase (bars 1–8) ends with a cadence on A, and the

EXAMPLE 3.6 Morley: “Though Philomela lost her love” from *Canzonets or Little Short Songs to Three Voyces*, bars 1–8 (a) and 21–27(b)

a. A minor
 Though Phil - o - me - la lost her love, Fresh notes she warb - leth yeas a - gain.

$\begin{matrix} (5) & 5 & \bar{3} & 8 \\ 3 & 4 & 3\# & \\ \textcircled{1} & \textcircled{5} & & \textcircled{1} \end{matrix}$
 compound cadence

b. D minor
 21 He is a fool that lo - vers prove, and leaves to sing to live in pain.

$\begin{matrix} (5) & 5 & \bar{3} & (5) \\ 3 & 4 & 3\# & 3\# \\ \textcircled{1} & \textcircled{5} & & \textcircled{1} \end{matrix}$
 compound cadence

second (bars 21–27) with a cadence on D. Although not entirely proper to the modal system of the Renaissance, we may conceive the cadences in the keys A minor and D minor, respectively. The F# in bar 27 is a Picardy third, which is the major third in a chord that is minor by nature. Both cadences are founded on the bass pattern ①–⑤–①. The difference with the simple cadence discussed in Section 3.1 concerns the sound on the second beat of the penultimate bar of each phrase, bars 7 and 26. Example 3.7 demonstrates this.

EXAMPLE 3.7 Two-part (a, c) and three-part compound cadences (b, d)

a. A minor b. c. D minor d.

$\begin{matrix} 3 & 2 & 3 & 1 & & & 6 & 7 & 6\# & 8 & & & (5) & 5 & \bar{3} & (5) \\ \textcircled{1} & & \textcircled{7\#} & \textcircled{1} & & & \textcircled{3} & \textcircled{2} & & \textcircled{1} & & & \textcircled{1} & \textcircled{5} & & \textcircled{1} \end{matrix}$

Examples (a) and (b) correspond with bars 7–8 of the score, and examples (c) and (d) with bars 26–27.

Example (a) shows the two-part compound cadence in A minor, based on the interval progression 2–3–1. The suspension (s) occurs in the lower voice. Recall that the suspension dissonance is

always accented: in a $\frac{3}{4}$ bar this implies a metric accent on the second beat. Thus the metric succession in all examples is strong-strong-weak-strong. The metric signs above the staves indicate this.

Example (b) adds the cadential bass ①–⑤–① to the same pattern. Evidently, the existence of the bass modifies the figured-bass numerals: the suspension dissonance on ⑤ is indicated by $\frac{5}{4}$ and the subsequent resolution by $\frac{5}{3}$.

Example (c) shows the two-part compound cadence in D minor with a 7–6–8 interval progression. Here the suspension is in the upper voice.

Example (d) is the three-part variant of the compound cadence by the addition of the bass ①–⑤–①.

EXAMPLE 3.8 Prototypes of the three-part compound cadence in major (a, b) and minor (c)

Example 3.8 shows three prototypes of the three-part compound cadence. Example (a) is in C major, (b) is in A minor, and (c) is in A minor. Each example includes a treble and bass staff with figured bass numerals and metric signs (p, s, r) above the staves.

Example 3.8 shows three prototypes of the three-part compound cadence.

Note that the cadences of examples (a) and (c) are perfect, while the cadence in example (b) is imperfect. The partition of ⑤ in a dissonance and a consonance elongates the compound cadence in comparison with the simple cadence. While one beat suffices for the “simple” ⑤, two beats are needed for the “compound” ⑤.

EXAMPLE 3.9 Mozart: String Quartet in G major, K 387, fourth movement (Molto allegro), bars 108–119

Example 3.9 shows Mozart's String Quartet in G major, K 387, fourth movement (Molto allegro), bars 108–119. The notation includes treble and bass staves with figured bass numerals and labels for cadence types: stepwise Romanesca, imperfect compound cadence, deceptive compound cadence, and perfect compound cadence.

Example 3.9 shows an excerpt from the fourth movement of Mozart's String Quartet in G major, K 387. It is the first of a series of six quartets that Mozart dedicated to his older colleague Joseph Haydn. The excerpt concerns the closing group of a sonata-form exposition, in the dominant key D major. It starts with an incomplete quotation of the stepwise Romanesca. The stepwise descending bass ①–⑦–⑥ supports the chord progression $\frac{5}{3}-\frac{6}{3}-\frac{5}{3}$. The schema tightly connects to the subsequent compound cadence, which is imperfect due to the melodic close on $\hat{3}$. This Romanesca–cadence pair recurs in bars 112–115. From the second half of bar 115 the closing group ends with two cadences. Although all cadences resemble each other, no cadence is equal. Example 3.10 shows the reduction of the first and the last cadence.

EXAMPLE 3.10 Compound cadences in bars 109–111 (a) and 117–119 (b)

The cadence in example (a) is similar to the compound cadences exposed in example 3.8. Scale degree ⑤ supports the succession of a dissonant $\frac{5}{4}$ and a consonant $\frac{5}{3}$. Compared to example 3.8, the initial chord of example (a) differs somewhat: the (incomplete) $\frac{5}{3}$ chord on ③ replaces the $\frac{5}{3}$ chord on ①. Note that both chords consist of the same tones. Both chords are members of the same chord family, so to speak. We will expand on this issue in Chapter 6.

Example (b) differs mainly with respect to the bass. Scale degree ④ melodically connects ③ and ⑤, thus causing a more fluent melodic bass pattern in comparison with example (a). This ④ perfectly matches with the suspension that sounds in the two higher voices. The figured-bass numerals $\frac{6}{5}$ indicate this. The bass step ④–⑤ is simultaneous with the resolution of the suspension. The bass motion ending with ④–⑤–① appears to be highly stereotypical for cadences during the whole tonal era.

Example 3.11 shows the two remaining cadences of the Mozart excerpt. The cadences of example 3.11 are closely related to those of example 3.10: example (a) contains a $\frac{5}{4}$ chord on ⑤, and example (b) a $\frac{6}{5}$ chord on ④. The cadences differ mainly because of their final bass tone, namely ⑥ instead of ①. From a contrapuntal perspective ⑥ matches well with the higher voices: together they constitute a third (or tenth). However, the alternative bass tone changes the effect of the cadence dramatically. Bars 113–114 in example (a) and bars 115–116 in example (b) evoke the expectation of a close: just imagine a bass tone D instead of B at the end of each example. Yet these closes do not become manifest. Instead, the phrases remain open and require a continuation. This happens, as often, by means of a renewed cadence. Such a cadence ending on ⑤–⑥ is called deceptive. Like perfect or imperfect cadences the deceptive cadence can be simple or compound. In the

EXAMPLE 3.11 Deceptive cadences in bars 113–115 (a) and 115–117 (b)

a. D major 114

b. 116

deceptive compound cadence deceptive compound cadence

Mozart quartet in question two deceptive compound cadences occur before a perfect compound cadence eventually closes the phrase.

EXAMPLE 3.12 Prototypes of the compound cadence with $\frac{6}{5}$ (a, c) and the deceptive compound cadence (b, d)

a. C major b. c. A minor d.

perfect cadence deceptive cadence perfect cadence deceptive cadence

Example 3.12 provides various prototypes of the compound cadence with $\frac{6}{5}$ on $\textcircled{4}$. Example (a) shows the perfect compound cadence in C major. The suspension in the upper voice resolves simultaneously with the bass step $\textcircled{4}$ – $\textcircled{5}$.

Example (b) equals the previous example, apart from the final chord that makes the cadence deceptive. Note that the bass step $\textcircled{5}$ – $\textcircled{6}$ obliges to a stepwise descent in the middle voice, in order to avoid parallel fifths. The oblique lines indicate this voice leading. Examples (c) and (d) are similar to examples (a) and (b). They differ concerning the mode (A minor versus C major) and the inversion of the upper voices. Note the oblique lines that indicate the obliged voice leading in example (d).

Terms to remember

- The three-part compound cadence is based on a 2–3 or 7–6 suspension in the two upper voices.

- The suspension and its resolution can occur either on the compound ⑤ or on the bass step ④–⑤. The dissonant chords are figured with $\frac{5}{4}$ and $\frac{6}{5}$, respectively.
- The starting point of the cadence can be $\frac{5}{3}$ on ① or $\frac{6}{3}$ on ③.
- A deceptive cadence ends on ⑥ instead of ①. This cadence type does not fulfill the expectation of a close; instead it requires continuation.
- The bass motion ⑤–⑥ prohibits a $\hat{2}$ – $\hat{3}$ voice leading in one of the upper voices, which would result in parallel fifths. The voice leading $\hat{2}$ – $\hat{1}$ avoids the problem.

Instructions for the exercises

- This exercise combines a deceptive compound cadence with a perfect compound cadence. Each compound cadence, whether based on ⑤ or ④–⑤, contains a suspension.
- The exercise starts with a simple imperfect cadence, which implies the establishment of the key rather than a close. The passing tone in bar 4 (the bracketed D) does not require a harmonic realization.
- The bracketed eighth notes must be conceived as diminutions. Determine the structural upper voice before you realize the exercise.
- This exercise resembles the Mozart excerpt of example 3.9. You may wish to use the excerpt as a model for the realization.
- Determine the appropriate patterns before you realize this exercise. The last three bars combine a simple and a compound cadence. This combination results in the so-called double cadence; for further information, see Section 3.3.

Suggestions for further analysis

Corelli: Trio Sonata in A minor, Op. 4 No. 5, second movement (Allemanda), bars 1–28

3.3 THE DOUBLE CADENCE

EXAMPLE 3.13 Vivaldi: Gloria in D major, RV 589, Propter magnam gloriam tuam, bars 13–19

E minor

prop - ter ma - gnam glo - - - - -

13

①

EXAMPLE 3.13 Continued

16 (glo) - - - - ri - am tu - - - - am.

For Thy great glory.

[The example only includes the soprano text.]

Example 3.13 shows the final bars of the section “Propter magnam gloriam tuam” from Vivaldi’s Gloria, for four-part choir and orchestra. An extremely complex and chromatic phrase closes by a long-lasting final cadence, which starts from the second half of bar 15. The circled numbers underneath the staves indicate the cadential framework ①–⑤–① in E minor, the main key of the movement. Note the Picardy third G# in the final chord. A striking feature of the cadence concerns the repeats of the melodic pattern D#–E in bars 16–18. This fourfold leading-tone resolution on the sustained ⑤ provides the final cadence its majestic power.

EXAMPLE 3.14 Reduction of bars 15–20 (a) and its harmonic foundation (b)

E minor

Example 3.14 clarifies the essence of the cadence, by omitting the repeated patterns and by adjusting the rhythmic values to a more familiar $\frac{2}{2}$ time signature.

Before examining example (a), let us consider the variant of the cadence given in example b, which we can consider as the harmonic foundation of the cadence. It presents a combination of a simple cadence (although metrically deviating from the succession weak–strong–weak) and a compound cadence. These two joint cadences are called a double cadence. (Section 2.5 already anticipated on this schema by highlighting the twofold resolution of the leading tone; see example 2.30(b).)

In example (a) the sustained bass tone B replaces the leaping bass pattern B–E–B of example (b). This results in a $\frac{6}{4}$ chord on the second half of bar 17. Its fourth prepares the subsequent suspension (the tied note), and must therefore be conceived as a consonance. This needs to be stated here, because the $\frac{6}{4}$ chord usually acts as a dissonance. Section 3.4 will further explore this issue.

Because of its solemn character the double cadence is appropriate to sacred music primarily; yet the schema can be found in all sorts of secular genres either. Various instances can be found, so for instance in Beethoven’s “Moonlight” Sonata.

EXAMPLE 3.15 Beethoven: Piano Sonata in C# minor, Op. 27 No. 2, “Moonlight,” first movement (Adagio sostenuto), bars 1–5

C# minor

Example 3.15 exposes the opening bars of Beethoven’s “Moonlight” Sonata in C# minor, one of the most celebrated pieces of the late 1700s. The bass moves slowly downward from ① to ⑤ in bar 4, before it leaps back to ① in bar 5. We may understand these bars as an extended cadence, built on the framework ①—⑤—①. From this point of view bars 2–3 play an intermediate role. The $D\flat$ in bar 3 is noteworthy. This lowered second tone of the C# minor scale is called the Neapolitan second; Section 3.5 will provide further information.

We will now put these bars aside, in order to focus on the ⑤–① close. Example 3.16(a) is a reduction of bars 3–5. The fourth voice, notated in cue size, may be ignored.

EXAMPLE 3.16 Reduction of bars 3–5 (a) and its harmonic foundation (b)

C# minor

Example 3.16(a) resembles example 3.14(a), but it differs in two respects. First, the upper and middle voices appear in an inverted position: here the twofold leading-tone resolution and the suspension pattern (p–s–r) occur in the middle voice. Second, the double cadence starts with a $\frac{7}{3}$

chord instead of a $\frac{5}{3}$ chord. The seventh, prepared by the F# in bar 3, resolves stepwise down. The tied F# on the first beat of bar 4 forms a diminished fifth with the B#. The simultaneous resolutions of the seventh (the suspension) and the third (the leading tone in C# minor) result in the progression of a diminished fifth to a third; see the oblique lines. This resolution causes the chord progression $\frac{7}{3}-\frac{6}{4}$ on the sustained ⑤. A new suspension pattern in the middle voice (the syncopated C# and its resolution B# implies the chord progression $\frac{5}{4}-\frac{5}{3}$.

Example (b) shows the harmonic foundation of the double cadence. Like example 3.14(b) the alternative presentation shows the succession of a simple cadence and a compound cadence.

Finally, the chord on the first beat of bar 4 may be regarded as the incomplete version of the dominant seventh chord. The complete version adds a fifth to the chord in question, and is therefore figured by $\frac{7}{3}$. The above-discussed diminished fifth (or the inverted augmented fourth) is the most essential feature of the chord. Sections 6.4 and 6.5 will further examine this four-part dominant seventh chord.

EXAMPLE 3.17 Prototypes of the double cadence starting with $\frac{5}{3}$ (a, b) and $\frac{7}{3}$ (c, d, e)

The musical score for Example 3.17 consists of five examples (a-e) of double cadences. Each example is presented in two staves (treble and bass) with figured bass notation below. Example (a) is in C major and starts with a $\frac{5}{3}$ chord on the fifth degree. Example (b) is in A minor. Examples (c), (d), and (e) start with a $\frac{7}{3}$ chord. The figures include various chord symbols like $\frac{5}{3}$, $\frac{6}{4}$, $\frac{7}{3}$, and $\frac{8}{1}$, as well as suspension patterns marked with asterisks and dashed lines.

Example 3.17 shows various phrases that end with a double cadence.

The double cadence in example (a) in C major starts with a $\frac{5}{3}$ chord on ⑤; the suspension (the tied C) is in the upper voice.

The double cadence in example (b) in A minor starts with a $\frac{5}{3}$ chord on $\textcircled{5}$ too. Here the suspension (the tied A) is in the middle voice.

The 7–6 Fauxbourdon of example (c) leads organically to the double cadence that closes the phrase. The cadence starts with a $\frac{7}{3}$ chord on $\textcircled{5}$; the seventh, the tied F (*), is prepared by the preceding $\frac{6}{3}$ chord on $\textcircled{6}$.

Similarly, the schema Fifth Down Fourth Up in example (d) leads to the double cadence: the seventh, the tied D (*), is prepared by the preceding $\frac{7}{3}$ chord on $\textcircled{2}$.

In example (e) the Tied Bass precedes the double cadence; see again the tied D (*) of the $\frac{7}{3}$ chord on $\textcircled{5}$.

Terms to remember

- The double cadence contains four chords on a sustained $\textcircled{5}$. The double cadence can start with $\frac{5}{3}$ or $\frac{7}{3}$. The subsequent chords on $\textcircled{5}$ are $\frac{6}{4}$, $\frac{5}{4}$, and $\frac{5}{3}$.
- The optional $\frac{7}{3}$ chord can be regarded as an incomplete dominant seventh chord. Its main feature is the diminished fifth or augmented fourth between the third and the seventh.
- The character of the double cadence can be described as solemn or majestic; its appropriate appearance is in sacred music.

Instructions for the exercises

- This exercise closes by a double cadence starting with a $\frac{5}{3}$ chord. The passing tone G in bar 2 does not require a realization.
- The Monte leads organically to the double cadence. Does the double cadence start with $\frac{5}{3}$ or $\frac{7}{3}$?
- The given pattern in bar 1 must be continued. The same question as in the previous exercise: does the cadence start with $\frac{5}{3}$ or $\frac{7}{3}$?
- Which schema is suitable to bars 1–3? The double cadence that closes the exercise is in “double speed”. You may choose between $\frac{5}{3}$ and $\frac{7}{3}$ as the initial chord. Your choice influences the realization of the B (*) in bar 3.
- Continue the given diminution in the middle voice. Try to apply the diminutions in the double cadence too.

Suggestion for further analysis

Mozart: Requiem in D minor, K 626, Kyrie, bars 49–50

3.4 THE GALANT CADENCE

EXAMPLE 3.18 Haydn: Symphony No. 94 in G major, “Surprise,” second movement (Andante), bars 29–32 (a) and 45–48 (b)

a. C major

b. C major

Example 3.18 exposes two excerpts of the second movement of Haydn’s Surprise Symphony. The movement is a variation form, from which example (a) shows the final phrase of the theme. Bars 29–30 slightly refer to the opening bars: they share the broken C major chord. Bars 31–32 close the theme with a cadence on the bass ④–⑤–①. Section 3.2 has discussed this bass pattern as the foundation of the compound cadence (with $\frac{6}{5}$). As will be explained below the harmonic realization of the bass is different here. Remarkable are the parallel sixths (*) between the two upper voices in bars 31–32.

Example (b) shows the equivalent bars of the first variation. The upper voice of example (a) literally recurs in the highest middle voice (the second violins) of example (b). The variation adds a flourishing melody in sixteenth notes (the first violins). In bars 47–48 the first and second violins perform a series of parallel thirds (*) on the cadential bass ④–⑤–①. (The violas play the fourth part, notated in cue size. This part may be ignored here.)

Example 3.19 provides a three-part reduction of both phrases.

EXAMPLE 3.19 Reduction of bars 29–32 (a) and 45–48 (b)

a. C major

b. C major

As is mentioned above, the upper and middle voices in example (a) proceed by parallel sixths. (The G in bars 29–30 does not really sound and is therefore notated in cue size.) The ④–⑤ bass step and the higher voices are in contrary motion. The oblique line indicates this voice leading. The parallel sixths result in an incomplete $\frac{6}{3}$ chord on ④, which replaces the dissonant $\frac{6}{3}$ chord of the compound cadence discussed in Section 3.2.

Example (b) differs mainly because of the inversion of the upper voices. Here too the ④–⑤ bass step and the higher voices are in contrary motion; again the parallel thirds result in an incomplete $\frac{6}{3}$ chord on ④.

A complete $\frac{6}{3}$ chord on ④ (F–A–D) is possible: replace the doubled tone F by an A. However, a complete $\frac{6}{3}$ chord is at the expense of a fluent voice leading. A better option is to complete the sixth chord with a fourth voice, as happens in bar 47 of example 3.18(b). Section 6.2 will further expand on this four-part variant.

In contrast to the compound cadence with $\frac{6}{3}$ on ④, the schema belongs to the category of the simple cadence. This is because of the absence of a dissonance on scale degree ④ or ⑤. This cadence type is a favored schema in the eighteenth-century Galant style; therefore we will call this schema the Galant cadence. Its significance goes far beyond the borders of the style, given its frequent occurrence in nineteenth-century music too.

EXAMPLE 3.20 Haydn: Psalm 31, Hob. XXIII:2, bars 1–8

The musical score for Example 3.20 consists of two systems. The first system (bars 1-4) is in E-flat major and 3/2 time. The vocal line has lyrics: "Blessed be the name of Ja - cob's God, whose". The piano accompaniment features a stepwise Romanesca pattern in the first two bars, followed by a compound Galant cadence in the last two bars. Chord diagrams below the piano part show: (6/3) on ③, (6/3) on ④, (6/4) on ⑤, and (5/3) on ①. The second system (bars 5-8) is in B-flat major. The vocal line has lyrics: "love in hap - piest hour be - stow'd,". The piano accompaniment features a deceptive cadence in the first two bars, followed by a compound Galant cadence in the last two bars. Chord diagrams below the piano part show: (7/3) on ⑤, (5/3) on ⑥, (6/3) on ④, (6/4) on ⑤, and (5/3) on ①.

Haydn composed a series of six psalm settings during his last visit to London in 1794. One of these is Psalm 31, from which example 3.20 shows the first eight bars. The psalm opens with the schema pair of a stepwise Romanesca and a cadence, comparable with the Mozart string quartet in example 3.9. The cadence in question here is a variant of the Galant

cadence; the * signs indicate its parallel sixths in bars 2–4. Different from the Galant cadence of example 3.19(a), the parallel sixths move stepwise throughout. This results in two distinct chords on ⑤ in bar 3, namely a $\frac{6}{4}$ and a $\frac{5}{3}$ chord.

This $\frac{6}{4}$ chord on the second beat of bar 3 deserves our special attention. The E \flat , which is the fourth on ⑤, resolves as a dissonance to the following third D. The same applies to the G, which is the sixth of the chord. Although this interval is consonant by itself, it is conceived as a dissonance too. Anyway, the G steps down to the following F. The figured-bass numerals $\frac{6}{4}-\frac{5}{3}$ indicate this simultaneous resolution.

None of the dissonances can be regarded as suspensions, due to the absence of (tied) preparations. Rather, they can be described as accented passing tones (ap). They are “passing”, since both tones fill the melodic thirds between the first and the third beat of the bar. They are “accented” because of their resolution to the $\frac{5}{3}$ chord on the sustained ⑤.

The oblique lines in the score and the horizontal lines in the figured-bass numerals stress this obliged voice leading. The $\frac{6}{4}$ chord shows up as an essential component of the compound Galant cadence. It enables a smoother voice leading in comparison with the simple cadence of example 3.19: all parallel sixths move stepwise.

The second phrase of the psalm modulates to the dominant key B \flat major in bar 6. The $\frac{7}{3}$ chord on the first beat of that bar is an incomplete dominant seventh chord (see Section 3.2). The chord evokes the expectation of a B \flat major chord afterward. (The theoretical explanation will come later; for the time being, just try this B \flat chord.) Instead of a ⑤–① leap the bass performs the ⑤–⑥ step F–G via an ornamental chromatic tone F \sharp . This step causes a deceptive cadence of which the “deceptive” ⑥ (the substitution of ①) is the starting point for the following cadence. This final cadence is a compound Galant cadence similar to the cadence that closes the first phrase in E \flat major.

EXAMPLE 3.21 Prototypes of the compound Galant cadence in major (a, b) and minor (c)

The image shows three musical examples, labeled a, b, and c, each consisting of a treble clef staff and a bass clef staff. Example (a) is in C major and shows a sequence of chords: $\frac{5}{3}$ on ①, $\frac{6}{4}$ on ④, $\frac{6}{4} = \frac{5}{3}$ on ⑤, and $\frac{5}{3}$ on ①. Example (b) is in C major and shows: $\frac{6}{3}$ on ③, $\frac{6}{4}$ on ④, $\frac{6}{4} = \frac{5}{3}$ on ⑤, and an octave 8 on ①. Example (c) is in A minor and shows: $\frac{5}{3}$ on ⑥, $\frac{6}{4}$ on ④, $\frac{6}{4} = \frac{5}{3\sharp}$ on ⑤, and $\frac{5}{3}$ on ①. The bass clef staff in each example contains figured-bass numerals and circled numbers indicating the bass line.

Example 3.21 provides three prototypes of the compound Galant cadence, on three different bass patterns. All cadences share the final three bass tones ④–⑤–①. The first bass tone is variable: example (a) starts with a $\frac{5}{3}$ chord on ①, example (b) with $\frac{6}{3}$ on ③, and example (c) with $\frac{5}{3}$ on ⑥. All cadences exhibit the falling octave leap on ⑤ that supports the progression $\frac{6}{4}-\frac{5}{3}$. Even though the cadences in the Haydn psalm of example 3.20 do not contain this leap, the octave leap is a highly stereotypical element of the compound Galant cadence.

The theme of Mozart’s Variations in E \flat major is the contemporary popular tune “Je suis Lindor” by the French composer Antoine-Laurent Baudron (1743–1834). Example 3.22 shows the final

EXAMPLE 3.22 Mozart: Variations in E \flat major, K 354, bars 18–22

phrase of the theme. The analysis by the figured-bass numerals and the circled scale degrees clarify the harmonic structure of the final three bars, which is a compound Galant cadence. Remarkable is the flourishing upper-voice melody of the cadence that fills the octave from the high to the low E \flat . The middle voice accompanies the melody mainly by parallel thirds. The * signs indicate the harmonic framework, which is, maybe somewhat redundantly, illustrated in example 3.23.

EXAMPLE 3.23 Reduction of bars 20–22

The framework given in example 3.23 resembles example 3.21 (b) because of the parallel thirds and the octave bass leap on ⑤. Rather than being a variant of the Galant cadence, Mozart's theme shows a stereotypical ornamentation of the Galant cadence schema. Mozart obviously appreciated the flourishing gesture, given his ingenious diminutions of this cadence in the following variations, culminating in a real solo cadenza in the eighth variation (not shown here).

EXAMPLE 3.24 Mozart: Piano Sonata in A major, K 331, first movement (Andante grazioso), bars 1–8

EXAMPLE 3.24 Continued

5

$\begin{matrix} 5 & 6 & 6 & 5 & 5 \\ 3 & 3 & 4 & 3 & 3 \\ \textcircled{1} & \textcircled{4} & \textcircled{5} & & \textcircled{1} \end{matrix}$
 compound Galant cadence

One last example suffices to close the section about the Galant cadence. Example 3.24 shows the opening phrase of Mozart's Piano Sonata in A major (with the popular Turkish march). The phrase can be divided in two groups of four bars: bars 1–4 and bars 5–8. A compound Galant cadence closes the second group and thus the whole phrase. The four-part texture highlights the cadence somewhat. The parallel thirds between the two upper voices are stereotypical.

The first four-bar group has an open end: at the end of bar 4 a comma can be felt that separates the last chord of bar 4 from the first chord of bar 5. Indeed, the tonic in bar 5 is the beginning of the second group rather than the end of the first. Consequently, bar 4 is a half cadence (see Section 3.1, example 3.1), which ends with the progression $\frac{6}{4}$ – $\frac{5}{3}$ on ⑤. This half cadence contains all features of the Galant cadence: therefore we will label this a compound Galant half cadence. The sixteenth note E in bar 4 must be considered as a merely ornamental appoggiatura (i.e., an unprepared suspension) before the chord tone D.

Bars 1–4 relate to bars 5–8 as a question to an answer. This very common phrase construction is called a period, and contains an antecedent (the “question”) and a consequent (the “answer”). Generally speaking, besides the thematic similarities of both half phrases, the period is based on the harmonic interaction between its half cadence and its (complete) cadence.

Terms to remember

- The Galant cadence is based on the bass pattern ①–④–⑤–①; scale degrees ③ ($\frac{6}{3}$ chord) and ⑥ ($\frac{5}{3}$ chord) may replace the initial ①.
- Scale degree ④ supports a $\frac{6}{3}$ chord instead of $\frac{6}{4}$. The progression of parallel sixths or thirds in the two highest voices is stereotypical.
- The Galant cadence can be simple ($\frac{5}{3}$ on ⑤) or compound ($\frac{6}{4}$ – $\frac{5}{3}$ on ⑤). In the latter the sixth and the fourth of the $\frac{6}{4}$ chord are accented passing tones.
- Flourishing diminutions of the parallel thirds or sixths often embellish the Galant cadence.
- The Galant half cadence stops on the “penultimate” ⑤. Often it closes the antecedent of a period, after which a (complete) cadence closes the consequent.

Instructions for the exercises

- In this exercise you have to choose a suitable schema that precedes the cadence. The Galant cadence must contain parallel thirds or sixths in contrary motion with the bass step ④–⑤.
- This exercise consists of the succession of a deceptive and a perfect Galant cadence. Determine the correct melodic pattern from bar 4 in order to achieve the given final tone C.
- Determine the correct schema. The eighth notes in bars 1–3 are diminutions that do not require harmonic realizations. The last two bars show the melodic component of a “flourishing” Galant cadence. The eighth notes move in parallel thirds.
- This exercise refers to Minuet II from the Suite in A minor for recorder and orchestra by Telemann. Ignore the sixteenth-notes diminutions in your realization. Determine the precise variant of each Galant cadence: is the cadence simple or compound? Are the higher voices moving in parallel thirds or sixths? Does the cadence begin with ①, ③ or ⑥?

Suggestion for further analysis

Haydn: String Quartet in C major, Op. 33 No. 3, third movement (Adagio), bars 1–8

3.5 THE NEAPOLITAN CADENCE

EXAMPLE 3.25 Brahms: Clarinet Sonata in F minor, Op. 120, first movement bars, 1–5

F minor

Near the end of his life Johannes Brahms (1833–1897) composed two sonatas for piano and clarinet (or viola). Example 3.25 shows the unisono opening phrase of the Sonata in F minor. The clarinet enters in bar 5 (see the notes in cue size). From the high F in bar 1 the piano melody waves down toward the low F that follows the quarter rest in bar 5. The structural melody, indicated by the * signs, is a complete descending scale. Noteworthy is the G \flat in bar 4, which is the lowered second scale tone of the F minor scale. Example 3.26 presents this modified scale.

EXAMPLE 3.26 Structural melody of bars 1–5

F minor

The final F has been placed between brackets, since the tone is the beginning of a new phrase rather than the close of the first. The scale including the G \flat corresponds to the Phrygian mode with its characteristic half-tone step between ② and ①. The G \flat as a Phrygian element does not only occur in the opening phrase: the lowered tone also plays a prominent role in the entire main-theme group (not included in the example).

This mixture of the minor and the Phrygian modes originates from the early 1700s. Commonly the origin of the Phrygian second scale tone is ascribed to the so-called Neapolitan School, a group of Neapolitan (opera) composers flourishing in the early eighteenth century, among them Alessandro Scarlatti (1660–1725) and Giovanni Pergolesi (1710–1736). For this reason the lowered second of the minor scale is called Neapolitan. Like the raised sixth and seventh degrees of the minor scale, the Neapolitan second is not considered as a chromatic tone. Often “Neapolitan” is associated with the $\frac{6}{3}$ chord on ④, the so-called Neapolitan sixth chord. Although there are good reasons for this chordal perspective, its application is broader, as we will see later.

EXAMPLE 3.27 Handel: Flute Sonata in A minor, HWV 374, first movement (Adagio), bars 39–44 (middle-part realization by the author)

A minor

39

Example 3.27 exposes the final bars of the first movement of Handel’s A minor Flute Sonata. The notes in cue size complete the harmonic structure; by no means do they aim to provide a stylistic realization of the (authentic) figured bass. The excerpt starts with a compound Galant cadence in bars 39–40, which closes the preceding phrase (not included in the example). The cadence might have been the end of the piece, were it not that the complex chromaticism of this preceding phrase requires some prolongation. This happens through the melodically and rhythmically interrupted Fauxbourdon in bars 40–42. Eventually, the movement ends with a simple Galant cadence. Notable is the Neapolitan B \flat in the flute part. The tone descends to G \sharp , which in turn resolves onto the final tone A. Note that the interval B \flat –G \sharp is a diminished third. This Neapolitan turn B \flat –A–G \sharp –A is the stereotypical melodic element of the Neapolitan cadence (in full: Galant cadence with Neapolitan $\hat{2}$).

EXAMPLE 3.28 Mozart: “Ach ich fühl’s” from *Die Zauberflöte*, K 620, bars 24–27 (a) and 30–33 (b)

a. G minor v1

b. v1

Then there will be peace in death!

Example 3.28 shows two vocal excerpts of the famous aria “Ach, ich fühl’s” from *The Magic Flute*, in which Pamina mourns about the assumed lost of her beloved Tamino. The key is G minor. The vocal passage of example (a) seems to close a long phrase by a melodic cadence in bars 26–27, yet the orchestral cadence is deceptive (for the harmonic explanation, see example 3.29). A few bars later the melody is varied mainly in two respects (example (b)). First, the sixteenth notes provide a belcanto variant of the plain melody of example (a). Second, and most significant here, the $A\flat$ on the first beat of bar 32 replaces the $A\sharp$ on the third eighth note of bar 26; see the * signs in examples (a) and (b).

The $A\flat$ in bar 32 is the Neapolitan tone in G minor. Consequently, one might expect the Neapolitan turn $A\flat-G-F\sharp-G$ in the vocal part. Indeed the somewhat flourishing $A\flat$ steps down to G, but then bypasses $F\sharp$ through a leap to $B\flat$ before achieving the final tone of the cadence. This third leap appears to be a current alternative to the melodic turn in the Galant cadence, with or without the Neapolitan. (Section 6.2 provides further information about this cadence variant, the so-called Marpurg cadence.) The violin part, notated above the vocal lines, does play the Neapolitan turn, and gives the Neapolitan its proper melodic treatment.

Example 3.29 shows both orchestral cadences.

EXAMPLE 3.29 Orchestral parts in bars 26–27 (a) and 31–33 (b)

a. G minor turn

b. Neapolitan turn

① ④ ⑤ ⑥ ① ④ ⑤ ④ \sharp

compound Galant cadence (deceptive) compound Neapolitan cadence (deceptive)

Example 3.29 includes all orchestral voices; the notation of the “fourth” part is in cue size. Examples (a) and (b) show the Galant and the Neapolitan cadence, respectively. Both cadences are compound because of the dissonance–consonance succession on ⑤, and deceptive because of the deviation from the final ①. The deceptive final chord of example (a) is in accordance with the schema discussed in Section 3.2. (see examples 3.11 and 3.12(b) and (d).) The final chord of example (b) differs because of the chromatic bass step down. An explanation of this chord is beyond the scope of this section; Chapter 8 will expand on this issue. Of main interest here is the juxtaposition of the $A\sharp$ in example (a) and the $A\flat$ in example (b). While the A can be conceived as “natural” and “ordinary”, the Neapolitan $A\flat$ is “artificial” and “special”.

So far the discussion on the Neapolitan second scale tone has been in technical terms. However, the phenomenon has an unmistakably expressive side. In Mozart’s aria the correspondence of the Neapolitan tone with the text “. . . then there will be peace in death” is far from accidental. Pamina has got the erroneous idea that Tamino has turned her down. The text expresses her despair at this very moment, and alludes to an escape into death. The Neapolitan tone musically represents her emotional state of sorrow and pain, likely because of the flattening of the tone and its descending tendency. The expressive power of the Neapolitan cadence is even stronger after the preceding “natural” Galant cadence. This affective meaning of Neapolitan remains a consistent factor during the whole eighteenth and a great part of the nineteenth centuries.

EXAMPLE 3.30 Prototypes of the Neapolitan cadence, simple (a) and compound (b, c)

Figure 3.30 shows three prototypes of the Neapolitan cadence. Part (a) is a simple cadence in A minor, showing a Neapolitan turn from G# to Bb. Part (b) is a compound cadence, showing a Neapolitan turn from G# to Bb. Part (c) is another compound cadence, showing a Neapolitan turn from G# to Bb. The notation includes treble and bass staves with notes and rests. Below the notation are figured bass symbols for each measure.

Example 3.30 shows three prototypes of the Neapolitan cadence. First of all it must be stressed that the Neapolitan almost exclusively occurs in the minor mode. The usage in the major mode is rare: therefore we will ignore this at the moment. The Neapolitan cadence is a variant of the Galant cadence, rather than a new schema itself.

Example (a) exposes a simple cadence because of the singular consonance on ⑤. As a result the Neapolitan turn contains the direct diminished third $B\flat$ – $G\sharp$. Notable is the so-called cross relation between $B\flat$ in the upper and $B\sharp$ in the middle voice; see the dashed line. This kind of a direct chromatic relation divided over two voices often causes a disagreeable effect. Here, however, the cross relation is as inescapable as it is effective: it contributes to the rhetorical power of the Neapolitan.

The cadence in example (b) is compound because of the succession of the dissonant $\frac{6}{4}$ and the consonant $\frac{5}{3}$ chord on ⑤. The insertion of a $\frac{6}{4}$ chord (on the strong beat) results in a smoother

voice leading: first, it fills the gap of the diminished third in the Neapolitan turn, and second, it neutralizes the cross relation between B \flat and B \sharp .

In example (c) the Neapolitan turn appears in the middle voice. Here the parallel sixths of examples (a) and (b) are inverted into parallel thirds.

EXAMPLE 3.31 Bach: “Blute nur” from *St. Matthew Passion*, BWV 244, bars 15–18

B minor

15 Herz, blu - te * nur, du lie - bes * Herz, blu - te * nur, du lie - bes * Herz, blu - te nur,

3# 6 3# 5 6 6 6 3# 5 6 - 6 6 6 6 6 7# 9

Bleed on, dear heart!

Example 3.31 exhibits a different application of the Neapolitan tone. It shows the soprano part and the basso continuo (including the authentic figured-bass numerals) of a fragment from the aria “Blute nur” in B minor, one of the most popular pieces of Bach’s *St. Matthew Passion*. The complex, polyphonic orchestral parts are omitted for the sake of simplicity.

The highly emotional aria comes right after the recitative that tells of Judas’s betrayal of Jesus. The aria text articulates the abhorrence of this act, as an imaginary faithful person might feel it. The indignation is almost tangible in bars 15–16. The bass ascends chromatically to the Neapolitan C \sharp in bar 17. The vocal line accompanies the bass by thirds on each first and third beat (see the * signs), and achieves its climax on the long note E on “Herz” in bar 17. A few bars later (not included in the example) the phrase closes in the main key B minor.

Example 3.32 provides a reduction of the fragment.

EXAMPLE 3.32 Reduction of bars 15–18

B minor

15

5/3 6/3 5/3 6/3 5/3 6/3 5/3 6/3 5/3 6/3 5/3 6/3 5/3 6/3 5/3 6/3

⑤ ----- ② \sharp ----- ⑦ \sharp ①

Monte Neapolitan turn

The upper voice of the reduction presents the melodic framework of the vocal line and the bass. All diminutions and chromatic tones have been removed. The parallel thirds movement is

filled by leaps on each second and fourth beat. These leaps result in a 3–6 alternation on the ascending bass; see Section 1.2, example 1.12.

Although Bach's figured-bass numerals in example 3.31 are somewhat incomplete (but complete enough for a well-trained continuo player), they imply an alternation of $\frac{5}{3}$ and $\frac{6}{3}$ chords. Consequently, the reduction shows a Monte in bars 15–16 on the bass that starts on $\textcircled{5}$ and leads to the Neapolitan $\textcircled{2}$ in bar 17. The Neapolitan $\frac{5}{3}$ chord appears to be the climax of the process. The tone A in the middle voice of the same bar (notated in parentheses) suggests a continuation of the Monte, but this tone seems less structural in harmonic respect. In any case, the bass tone C_4 is the starting point of a Neapolitan turn around the tonic B. Note that the B in bar 17 is a passing tone, and the B in bar 18 the final goal of the melodic bass pattern.

This example highlights two features of the Neapolitan tone. First, although the Neapolitan turn most frequently occurs in the upper (or middle) voice in the Neapolitan cadence, its application in the bass is possible too. Second, like the Mozart aria shown in example 3.28 the Bach excerpt uncovers the rhetorical meaning of the Neapolitan because of its alliance with the text: the word “Herz” incorporates the emotional impact of the whole phrase.

Terms to remember

- The Neapolitan concerns the lowered second tone of the minor scale. The tone can be regarded as a mixture of the minor and the Phrygian modes.
- The Neapolitan cadence is a variant of the Galant cadence; its melodic component is the Neapolitan turn.
- An application of the Neapolitan in the bass is possible, though quite rare.
- The Neapolitan has a rhetorical meaning: it expresses emotions like pain, sorrow, and anger.

Instructions for the exercises

- a. Accompany the Neapolitan turn with parallel sixths in the middle voice. Consequently, the Neapolitan $\frac{6}{3}$ chord will be incomplete.
- b. Determine the figured-bass numerals proper to the Tied Bass. The phrase closes with a Neapolitan cadence.
- c. This exercise consists of a succession of distinct cadences. Try to achieve melodic variety.
- d. This exercise is after a partimento by Stanislao Mattei (1750–1825). The cadential bass $\textcircled{4}-\textcircled{2}-\textcircled{5}$ in bar 2 recurs in bars 5 and 10 in $B\flat$ major and G minor, respectively. You may ignore $\textcircled{2}$: this tone is merely ornamental and does not require a realization (therefore the — sign). All cadences require a similar realization through transposition or repetition; thus

use similar diminutions as given in bar 2. Notate the proper schemata below the brackets. The final cadence must contain a Neapolitan turn. Try to create a flourishing melodic figure in eighth notes on ④ in bar 12, which is the basis of the Neapolitan $\frac{6}{3}$ chord.

Suggestion for further analysis

Mozart: Piano Concerto in A major, K 488, second movement (Adagio), 1–20 and 84–92

THE RULE OF THE OCTAVE

INTRODUCTION

One of the most striking features of eighteenth-century music theory is the so-called Rule of the Octave. It stems from thoroughbass treatises denoting standard chord progressions on ascending and descending bass scales. An “inventor” of the Rule of the Octave can hardly be traced, although the luteist and guitarist François Campion claimed the honor in 1716. The Rule of the Octave (hereafter RO) acts like a living organism: various versions circulate throughout the century. The RO has been used as a tool for keyboard (or plucked strings) accompaniment and improvisation. In order to grasp the proper chords automatically, apprentices have been required to play the RO in all major and minor keys.

The principle of the RO is simple. Each bass tone of the major and minor scale requires a unique chord realization. Conversely, each chord or chord progression occupies its own place in the scale. In this way the specific chords and chord progressions that are derived from the Rule of the Octave establish the key. Many teachers, theorists, and composers have warned against a thoughtless application of the RO. Indeed, the RO merely provides a concise harmonic “vocabulary” that leaves room for many exceptions and variants. Moreover, it does not address bass leaps at all. Nevertheless, the RO appears to be an indispensable attribute for understanding eighteenth-century harmony. It even proves its value in nineteenth-century music, although in a more limited fashion: the harmonic developments of the Romantic style go far beyond the simple chord progressions provided by the Rule of the Octave.

This chapter reconstructs the RO gradually by dividing the scale into the pentachord ①–②–③–④–⑤ and the tetrachord ⑤–⑥–⑦–①. Section 4.1 discusses the chords and chord progressions proper to the ascending pentachord. Section 4.2 deals with the descending pentachord. This does not entirely coincide with the ascending pentachord, in particular concerning the realization of scale degree ④. The ascending and descending tetrachords form the subjects of Sections 4.3 and 4.4, respectively. In contrast with the straightforward realizations of the pentachord, the ascending and descending tetrachords show different variants.

4.1 THE ASCENDING PENTACHORD

EXAMPLE 4.1 Beethoven: Piano Sonata in F minor, Op. 2 No. 1, first movement, bars 1–8

The musical score for Example 4.1 consists of two systems of staves. The first system contains bars 1 through 4, and the second system contains bars 5 through 8. The key signature is F minor (one flat) and the time signature is 3/4. A box labeled 'F minor' is placed above the first staff. The right hand (treble clef) plays the melody, featuring an ascending triad in bars 1-2 and triplet figures. The left hand (bass clef) provides harmonic support, with a stepwise ascending bass line in bars 5-8 labeled with scale degrees ① through ⑤.

Example 4.1 exposes the opening theme of Beethoven’s First Piano Sonata in F minor. The theme starts with the presentation of the main motif in bars 1–2, which itself is the combination of an ascending triad, a so-called *Rakete* (Eng. rocket), and a triplet figure. This is followed by a varied presentation in bars 3–4. Together they form the so-called presentation phrase of the theme. The next group of four bars develops the triplet motif and subsequently closes the theme by a half cadence. This is the continuation phrase. The entire theme, existing of a presentation phrase (2+2 bars) and a continuation phrase (4 bars) is what is generally called a sentence.

Let us now focus on bars 5–8. The bass ascends stepwise from ① to ⑤. This series of five tones is called a pentachord. The two scale degrees form the anchor points of this ascending pentachord, while the intermediate scale degrees ②, ③, and ④ are “en route.” In other words, scale degrees ① and ⑤ present themselves as “stable,” and ②, ③, and ④ as “mobile.” The succession of chords on this stepwise bass strengthens the distinction between stable and mobile scale degrees.

The left hand contains almost all the essential harmonic components. Example 4.2a illustrates this harmonic structure.

EXAMPLE 4.2 Reduction of bars 5–8 (a) and a variant (b)

The musical score for Example 4.2 shows two variants, (a) and (b), of the harmonic structure from bars 5-8. Both variants are in F minor. Part (a) shows the original structure with scale degrees ① through ⑤ indicated below the bass line. Part (b) shows a variant of the structure. The chords are represented by their figured bass notation: 5, 6[♯], 6, 6, (5) 3[♯], 5, 6[♯], 6, 6[♯], 5[♯].

Example (a) is almost entirely based on the left-hand chords in bars 5–8 of example 4.1. Only the last chord differs somewhat, due to the third E, which actually belongs to the right hand. The stable $\frac{5}{3}$ chords on ① and ⑤ contrast with the mobile $\frac{6}{3}$ chords on ②, ③, and ④. Indeed, $\frac{5}{3}$ chords suggest a certain degree of repose, while $\frac{6}{3}$ chords suggest mobility. (So, for instance, a Classical composition will never end with a $\frac{6}{3}$ chord.)

The $\frac{6}{3}$ chord on ④ deserves our special attention. The D \flat , which is $\hat{6}$ in the natural (and harmonic) F minor scale, is a descending leading tone that tends to C. The oblique line indicates this leading-tone resolution $\hat{6}-\hat{5}$.

Example (b) shows a variant concerning the $\frac{6}{3}$ chord on ④ with the D \sharp in the middle voice. This tone proceeds to E \sharp , according to the melodic minor scale. The oblique line indicates the ascending voice leading $\hat{6}-\hat{7}$. Although example (a) is the usual realization of the ascending pentachord, at least in the Classical period, example (b) is also possible.

The chords that constitute the harmonic process of bars 5–8 are based on the Rule of the Octave. The RO provides a standard harmonization of ascending and descending bass scales. Although the RO can be “overruled” by other factors, like sequences and leaping basses, the concept is applicable to the musical repertoire of the eighteenth century and a great part of the nineteenth century.

The RO relies on the division of the scale into a pentachord and a tetrachord on the one hand, and the distinction between stable and mobile chords on the other. Example 4.3 illustrates this.

EXAMPLE 4.3 The division of the scale in pentachords and tetrachords in major (a) and minor (b)

a. C major

b. A minor

The division of the scale highlights the harmonic relations ①–⑤ and ⑤–①. This means that the chord on ① tends to move forward to ⑤, and vice versa. We have already got acquainted with the $\frac{5}{3}$ chord on ① as the tonic, which is the harmonic and melodic center of the key. With respect to harmony the $\frac{5}{3}$ chord on ⑤ is antithetical to the tonic. This chord on ⑤ is called the dominant. While the tonic stands for repose, the dominant stands for tension: a dominant evokes the expectation of a tonic right after. Just recall the cadences discussed in Chapter 3: apart from the deceptive cadence all cadences end by means of a bass leap ⑤–①. In the deceptive cadence, however (see Section 3.2, examples 3.12(b) and (d)), the dominant is deprived of its solution toward the tonic.

All components of the RO, the ascending and descending pentachords and tetrachords, require different treatments. We will therefore discuss them separately. The Beethoven excerpt of

example 4.1 corresponds with the ascending pentachord of the RO. Example 4.4 shows this pentachord in major and minor.

EXAMPLE 4.4 The Rule of the Octave, ascending pentachord in major (a) and minor (b)

a. C major

b. A minor

Example (a) shows two variants of the RO based on the ascending pentachord ①–⑤. Scale degrees ① and ⑤ support complete or incomplete $\frac{5}{3}$ chords, and the intermediate scale degrees $\frac{6}{3}$ chords. The two variants differ with respect to the progression ④–⑤. The oblique lines indicate the steps A–G ($\hat{6}-\hat{5}$) and A–B ($\hat{6}-\hat{7}$). These steps result in an incomplete and a complete $\frac{5}{3}$ chord on ⑤, respectively.

The same applies to example (b) in the minor mode. The descending step F–E refers to the natural scale ($\hat{6}_\natural-\hat{5}$) and the ascending step F#–G# to the melodic scale ($\hat{6}_\sharp-\hat{7}_\sharp$). As has been mentioned before, the first variant is more usual than the second, but the second is also possible.

EXAMPLE 4.5 Bach: Flute Sonata in E major, BWV 1035, second movement (Allegro), bars 30–32 (a) and 79–80 (b), figured-bass realization by the author

a. B major

b. E major

The second movement of Bach's E major Flute Sonata is like a dance movement that consists of two repeated parts. The first part closes in the dominant key B major, and the second in the main key E major.

Example 4.5(a) presents the close of the first part. The added figured-bass realization in cue size clarifies the harmonic structure. The figured-bass numerals are according to the RO, except for $\frac{7}{5}$ on ④. As the realization shows, the right hand plays two non-chordal tones D \sharp and B on that scale degree. Both dissonances have to be interpreted as suspensions. The preceding incomplete $\frac{6}{3}$ chord on ③ provides the obligatory preparations; see the ties. This alternative $\frac{7}{5}$ realization of ④ replaces the $\frac{6}{3}$ chord standardized by the RO. A realization with $\frac{6}{5}$, as a component of the compound cadence, would be an option too. Note that the RO pentachord smoothly blends with the cadence, which somewhat obscures the start of the cadence. They are unified in what is called a cadential movement ①–⑤–①.

Example (b) shows the end of the second part. Apart from the key, the example differs from example (a) because of the omission of ②. Consequently, the (incomplete) RO coincides with the compound cadence entirely.

EXAMPLE 4.6 Bach: Flute Sonata in E major, BWV 1035, third movement (Siciliano), bars 1–3

C# minor

$3\sharp$ $\frac{6}{4}$ $\frac{5}{3}$ $6\sharp$ 6 $3\sharp$ 6
 ⑤ ① ② ③ ④ ⑤ ⑥
 RO

Example 4.6 shows the opening bars of the Siciliano in C \sharp minor from the same sonata. The imitation of the flute melody by the bass is noteworthy. At the same time the bass is the foundation of the ascending pentachord from ① to ⑤ in bar 2. The imitative counterpoint between the flute and bass influences the harmonic realization. On the first eighth note of bar 2 the flute plays an A preceded by an appoggiatura F \sharp . These two tones result in a $\frac{6}{4}$ chord on ①, which resolves to the next $\frac{5}{3}$ chord.

The subsequent scale degrees ② and ③ support $\frac{6}{3}$ chords in accordance with the RO. The $\frac{5}{3}$ chord on ④ replaces the more typical $\frac{6}{3}$ chord. Although the $\frac{5}{3}$ chord in itself is relatively stable, the mobile bass stresses the continuity of the harmonic progression. The $\frac{6}{3}$ chord on ⑥ creates a deceptive cadence. As we will see in Section 4.4, this chord is a component of the descending tetrachord of the RO.

The Bach excerpts in examples 4.5 and 4.6 prove that the RO is by no means a rigid system. Rather, it allows a certain amount of freedom, especially with regard to the realization of ④. The

prescribed $\frac{6}{3}$ chord on this scale degree may be replaced by $\frac{5}{3}$, $\frac{6}{5}$, or, less usually, $\frac{7}{5}$. Moreover, all chords may be ornamented by suspensions, see for instance the $\frac{6}{4}$ chord on ① in example 4.6.

Terms to remember

- The Rule of the Octave (RO) is an eighteenth-century concept that standardizes the harmonic realization of ascending or descending bass scales.
- The RO leans on the division of the scale in a pentachord and a tetrachord: ①—⑤—①. The chords on ① and ⑤ act as stable anchors of the RO; they are called tonic and dominant, respectively. The intermediate chords are mobile; they move from ① to ⑤ and vice versa.
- Scale degrees ① and ⑤ require $\frac{5}{3}$ chords. The intermediate chords of the ascending pentachord, namely ②, ③, and ④, support $\frac{6}{3}$ chords.
- Scale degree ④ allows various realizations: a $\frac{5}{3}$ or $\frac{6}{5}$ chord (or $\frac{7}{5}$) may replace the standard $\frac{6}{3}$ chord.

Instructions for the exercises

- Apply the RO. Scale degree ⑤ is the end of the ascending pentachord and the start of a double cadence at the same time.
- Bar 2 contains a 7–6 suspension in the upper voice. The figured-bass numerals may be realized by means of complete and incomplete chords. Create a fluent melodic line.
- Realize the bass first. Follow the indications underneath the staves accurately: they will guide you. Add the figured-bass numerals. From bar 7 many patterns can be transposed from earlier bars. Do not forget to introduce the $B\flat$ on the third beat of bar 5 (modulation to C major) and to re-introduce the $B\flat$ on the third beat of bar 9.

Suggestion for further analysis

Stanley: Voluntary Op. 6 No. 2, first movement (Andante), bars 1–2

4.2 THE DESCENDING PENTACHORD

Example 4.7 shows an excerpt from Beethoven's Fifth Piano Sonata. The fragment concerns the modulatory transition section that bridges the main theme in C minor and the secondary theme in $E\flat$ major. The transition section starts right after the C minor cadence that firmly closes the main theme (not included in the example). The transition switches to $A\flat$ major at once, and starts a five-bar phrase (bars 32–36). This phrase minus the first bar is transposed to F minor in bars 37–40

EXAMPLE 4.7 Beethoven: Piano Sonata in C minor, Op. 10 No. 1, first movement (Allegro molto e con brio), bars 32–48

and subsequently to D \flat major in bars 41–44. These transpositions result in a modulating sequence divided in three segments, each in the key a third lower: in A \flat major, F minor, and D \flat major. From bar 45 the phrase quits the sequence and proceeds to the dominant chord on B \flat in bar 48 in the key E \flat minor. This dominant holds on for eight bars (not included in the example) and turns into the parallel key E \flat major, which is the key of the following secondary theme.

Example 4.8 provides a metrically adjusted reduction of the sequence.

EXAMPLE 4.8 Reduction of bars 32–44

The harmonic rhythm of example 4.7 (one chord in each bar) obscures the metric succession of strong and weak chords. The reduction of example 4.8 reveals these metric relations by means of the notation in a $\frac{3}{2}$ time signature. Moreover, the reduction presents all segments in their complete form: the chords on the parenthetical bass notes do not occur in the real score.

Each segment is founded on the descending pentachord from ⑤ to ①. The analysis below will examine the harmonic realization of this descending pentachord.

Like in the ascending pentachord, scale degrees ⑤ and ① are realized by means of $\frac{5}{3}$ chords; see the figured-bass numerals. The harmonic substance of the descending pentachord differs from the ascending one concerning the realization of scale degree ④. The descending ④ acts as a passing tone (pt) that connects ⑤ and ③ by stepwise motion. This procedure results in a $\frac{4}{2}$ chord on ④. Different from the $\frac{4}{2}$ suspensions discussed in Section 2.5, the $\frac{4}{2}$ chord in question here is based on a passing bass tone on the weak beat.

The reason why the $\frac{4}{2}$ chord has become the standard realization of the descending ④ at the expense of the $\frac{6}{3}$ chord is easily comprehensible. In the first three bars of the reduction the oblique lines indicate the resolutions of the augmented fourth to a sixth and the diminished fifth to a third. Example 4.9 illustrates this.

EXAMPLE 4.9 Resolutions of the augmented fourth and the diminished fifth in A^b major (a), F minor (b), and D^b major (c)

Figure 4.9 shows three musical examples (a, b, c) illustrating the resolution of the augmented fourth (A4) and the diminished fifth (d5) intervals. Example (a) is in A^b major, (b) is in F minor, and (c) is in D^b major. Each example shows a progression of intervals: A4, m6, d5, M3. Oblique lines indicate the resolution of the augmented fourth to a sixth and the diminished fifth to a third.

Examples (a) in A^b major and (c) in D^b major show the divergent resolution of the augmented fourth (A4) to the minor sixth (m6), and the convergent resolution of the diminished fifth (d5) to the major third (M3). Both interval progressions relate by means of invertible counterpoint.

Example (b) shows similar progressions in F minor. Here the augmented fourth proceeds to the major sixth (M6), and the diminished fifth to the minor third (m3). These interval progressions are considered essential in the major and minor tonal system. They define the key as no other interval progression. So to speak, example (a) “is” A^b major and example (b) “is” F minor. Accordingly, the progressions ④–③ ($\frac{4}{2}$ – $\frac{6}{3}$) and ②–① ($\frac{6}{3}$ – $\frac{5}{3}$) in example 4.8 are significant features of the keys in question.

The augmented fourth and the diminished fifth take a particular stand in the harmony of the early eighteenth century. As “semi-consonances” (“semi-dissonances” would be equally appropriate) they require a resolution but do not need a preparation. The next example illustrates the special status of these two intervals.

EXAMPLE 4.10 Beethoven: Piano Sonata in D major, Op. 10 No. 3, first movement (Presto), bars 71–82

Figure 4.10 shows a musical excerpt from Beethoven's Piano Sonata in D major, Op. 10 No. 3, first movement (Presto), bars 71–82. The excerpt is divided into three sections: A major (bars 71–72), D major (bars 73–74), and C major (bars 75–82). The figured bass numerals are: $\frac{4}{2}$ ④, $\frac{6}{3}$ ③, $\frac{4}{2}$ ④, $\frac{6}{3}$ ③, $\frac{4}{2}$ ④, $\frac{6}{3}$ ③, $\frac{4}{2}$ ④, $\frac{6}{3}$ ③, $\frac{6}{5}$ ⑦. A motif is indicated in the first few bars, and an invertible section is marked at the end.

EXAMPLE 4.10 Continued

Example 4.10 shows an excerpt from Beethoven’s early D major Piano Sonata. It concerns the secondary theme of the first movement. The theme starts with the presentation of a four-tone motif in A major (not included in the example). The fragment exposed here starts in the fifth bar of the phrase in question and is entirely based on this motif; see the horizontal bracket at the beginning of the example. The bass repeats the motif over and over again in various keys and in different octaves. The upper voice brings up the inversion of the motif (i.e., ascending instead of descending) from the upbeat of bar 75; see the horizontal bracket above the staff. From here all voices participate in this dense motivic development.

The many bass steps ④–③ that support the progression $\frac{4}{2}-\frac{6}{3}$ are particularly significant here. This happens in bars 72–73 for the first time (*). The bass tone G \flat on the fourth beat of bar 72 (④ in D major) supports a $\frac{4}{2}$ chord. The augmented fourth G–C \sharp enters without any preparation. The two dissonant tones resolve into the following sixth F \sharp –D. This procedure recurs many times, first in D major, then in C major and in D minor. Not included in the example are the subsequent repeats in B \flat major and the eventual return to A major.

Note that from the fourth beat of bar 76 the bass performs the inverted motif in C major, in contrary motion with the upper voice. This relates to the surrounding motifs by means of invertible counterpoint. Consequently, the bass step ④–③ is inverted to ⑦–①, and the $\frac{4}{2}-\frac{6}{3}$ progression to $\frac{6}{5}-\frac{5}{3}$.

EXAMPLE 4.11 The Rule of the Octave, descending pentachord in major (a, b) and minor (c)

Example 4.11 shows three prototypes of the descending pentachord of the RO.

Example (a) shows the pentachord in the major mode. Scale degree ④ appears as a passing tone that connects ⑤ and ③. The $\frac{4}{2}$ chord results from this passing motion. The oblique lines indicate the augmented-fourth resolutions.

Example (b) differs mainly with respect to the $\frac{6}{4}$ chord on ④. This chord is the result of the passing bass motion too. Note that the $\frac{4}{2}$ chord of example (a) stems from an incomplete $\frac{5}{3}$ chord on ⑤ and the $\frac{6}{4}$ chord of example (b) from a complete $\frac{5}{3}$ chord. The oblique lines indicate the resolution of the augmented fourth and the diminished fifth.

Example (c) in the minor mode is similar to example (a).

Terms to remember

- The descending pentachord of the RO differs from the ascending pentachord through the $\frac{4}{2}$ chord on ④. While the ascending ④ supports a $\frac{6}{3}$ chord (or probably $\frac{5}{3}$ or $\frac{6}{5}$), the descending ④ is the basis of a $\frac{4}{2}$ chord.
- The $\frac{4}{2}$ chord contains an augmented fourth that does not need a preparation but requires a resolution to a sixth. This is called a semi-consonance (or semi-dissonance).
- The substitution of $\frac{4}{2}$ by $\frac{6}{4}$ on ④ arises from the preceding complete $\frac{5}{3}$ chord on ⑤.

Instructions for the exercises

- a. The bass tones B \flat in bars 2 and 3 require different realizations. You may wish to make an octave leap in the upper voice after the fermata, in order to create a compelling close.
- b. The first half of the exercise is based on the descending pentachord followed by a compound half cadence (including $\frac{6}{4}$) in E minor and G major, successively. The bass and the middle voice in the Fourth Up Fifth Down schema move in half notes. The exercise smoothly returns to E minor in bar 12. From here the exercise closes with a threefold cadence.

Suggestion for further analysis

Mozart: Divertimento in F major, K 439b, second movement (Menuetto: Allegro), bars 1–4

4.3 THE ASCENDING TETRACHORD

Example 4.12 shows the opening bars of the final movement from a flute sonata by Telemann. The phrasing is somewhat diffuse, since a division in sub-phrases is hardly perceivable. Indeed, cadential patterns occur: the bass tone D on the third beat of bar 2 implies a weak close, just like the A on the third beat of bar 4 and the D on the third beat of bar 6. Yet the flute melody seems to ignore these phrasings. The continuation of the piece (not included in the example) gives the clue: the flute imitates the bass from bars 1–7 in the manner of a fugue. As a matter of fact, the entire fourth movement is a fugue.

EXAMPLE 4.12 Telemann: Flute Sonata in D major, TWV 41:9, fourth movement (Allegro), bars 1–7, realization by the author

The musical score for Example 4.12 consists of two systems of music. The first system covers bars 1-3, and the second system covers bars 4-7. Each system has a flute part on the top staff and a figured bass part on the bottom staff. The key signature is D major (one sharp). The time signature is common time (C).
 In the first system, the flute part has notes marked with asterisks (*). The figured bass part includes numerals: 6, 6, 6, 7, 1, 6, 7, 1. Horizontal brackets below the numerals label the first four notes as an 'ascending tetrachord' and the last four notes as an 'incomplete tetrachord'. Labels 'D major' and 'A major' are placed above the first and third measures respectively.
 In the second system, the flute part continues with notes marked with asterisks (*). The figured bass part includes numerals: 4/2, 6, 3#, 6, 7, 6, 7, 1. A horizontal bracket below the last four notes labels them as an 'ascending tetrachord'. A label 'D major' is placed above the fourth measure.

Let us now examine the three ascending tetrachords indicated by the horizontal brackets. The notes in cue size present a plain realization of the figured-bass numerals. The harmonic reduction of example 4.13 differs from the figured-bass realization because it takes into account the structural tones (*) of the flute part.

EXAMPLE 4.13 Reduction of bars 1–2 (a), 3 (b), and 5–6 (c)

The harmonic reduction score for Example 4.13 shows three sections: (a), (b), and (c). Each section has a single staff with a treble clef and a key signature of D major. Section (a) is labeled 'D major' and '2'. Section (b) is labeled 'A major' and '3'. Section (c) is labeled 'D major' and '6'.
 Below the staff, figured-bass numerals are provided for each section:
 (a) 5/3, 6/3, 6/3, 5/3, 5/3, 6/6, 7/3, 1/1
 (b) 5/3, 6/3, 6/3, 5/3, 5/3, 6/6, 7/3, 1/1
 (c) 5/3, 7/3, 6/3, 6/3, 5/3, 5/3, 6/6, 7/3, 1/1

Example (a) exhibits a chord progression based on the stepwise ascending bass motion from 5 to 1 in D major. Similar to the pentachord (see Sections 4.1. and 4.2.), the 5/3 chords on 5 and 1 form the stable framework of this tetrachord. The 6/3 chords on 6 and 7, on the other hand, suggest harmonic movement. These 6/3 chords are the standard components of the ascending tetrachord of the RO.

The tetrachord in example (b) is incomplete: the bracketed chord on ⑤ is added here for reason of comparison. The omission of this first chord illustrates that by no means does a pentachord or a tetrachord need to be complete. In this particular case a ⑤ would disturb the harmonic connection between the D-chords at the end of bar 2 and the beginning of bar 3 (see example 4.12). The realization of ⑦ is a little doubtful here: neither the flute part nor the (authentic) figured-bass numerals explicitly contain the sixth E. Therefore this tone is bracketed too. So the dotted quarter note D on the first beat may be replaced by a half note.

Example (c) shows the entire tetrachord, again in D major. What is said about the $\frac{6}{3}$ chord on ⑦ in example (b) is also applicable here. Note the 7–6 suspension on ⑥ in this tetrachord realization.

EXAMPLE 4.14 Haydn: String Quartet in E \flat major, Op. 64 No. 6, first movement (Allegretto), bars 61–68

Example 4.14 shows an excerpt from the last of Haydn's Six String Quartets Opus 64. It is the end of a complex section with regard to imitative polyphony and chromatic harmony. The section is dominated by quotations of the opening motif.

The viola presents the motif in E \flat major in bars 61–62; the cello imitates the viola in B \flat major in bars 64–65. The section ends in bars 66–67 with a weak cadence, after which a new section starts. Example 4.15 is the reduction of this closure, from the third beat of bar 65 to the first beat of bar 67.

EXAMPLE 4.15 Reduction of bars 65–67

The tetrachord shown here is particular in two respects. First, it is embellished through a 7–6 suspension on ⑥, comparable to example 4.12(c). Second, it provides a return from the temporary key B♭ major to E♭ major through the A♭ in bar 66. Because of this modulation, the bass tone B♭, corresponding with the fourth beat of bar 65 in example 4.14, is simultaneously ① in B♭ major and ⑤ in E♭ major.

Modulating ascending tetrachords like this occur rather frequently. In fact, the tetrachord in bars 5–6 of Telemann's Flute Sonata shown in example 4.12 fulfills this function too.

EXAMPLE 4.16 Bach: Prelude and Fugue in G major, BWV 541 (fugue), bars 23–27

Example 4.16 shows an excerpt from Bach's Organ Fugue in G major. It concerns an episode that starts in D major and leads to the "alto" entry of the fugue subject in G major in bar 26. (This entry hints at the temporary key D major by means of a cadence; yet the subject continues in G major. Because of its temporary significance the key indication of D major is between brackets.) The episode combines flourishing diminutions with a dense polyphony. The dashed lines indicate the invertible counterpoint between the two upper voices. The harmonic-contrapuntal construction is based on a series of three ascending tetrachords, successively in D major, G major, and C major; see the horizontal brackets.

Example 4.17 brings the harmonic structure to the fore by omitting all sixteenth-note diminutions. The reduction highlights the sequential structure of the fragment. Like the Haydn excerpt in example 4.14 the ascending tetrachords in Bach's fugue fulfill a modulatory task. The first tetrachord closes on ① in D major, which acts as ⑤ of the next tetrachord in G major at the

EXAMPLE 4.17 Reduction of bars 23–25

The score shows three segments of an ascending tetrachord in D major, G major, and C major. Each segment consists of four chords: $\frac{7}{3}$, $\frac{6}{3}$, $\frac{5}{3}$, and $\frac{5}{3}$. The bass line is figured with numbers 5, 3, 7, 6, 5, 3, 1, and 1. The first segment is in D major, the second in G major, and the third in C major. The chords are labeled as ascending tetrachords.

same time. Note that the new key becomes clear through the $C\sharp$ in bar 24. The same applies to C major in the third tetrachord through the $F\sharp$ in bar 25.

All segments are ascending tetrachords of the RO, which is slightly varied in two respects. First, each $\textcircled{6}$ is suspended by a seventh, which results in a $\frac{7}{3}$ chord instead of $\frac{6}{3}$. Second, each $\frac{7}{3}$ chord immediately proceeds to a diminished $\frac{5}{3}$ chord on $\textcircled{7}$. This chord progression results from the simultaneous motion of the outer voices, which is indicated by the oblique lines.

Example 4.18 explains this procedure step by step.

EXAMPLE 4.18 Harmonic procedure of segment 1

The score shows three variations (a, b, c) of the harmonic procedure in D major. Each variation consists of four chords: $\frac{7}{3}$, $\frac{6}{3}$, $\frac{6}{3}$, and $\frac{5}{3}$. The bass line is figured with numbers 5, 3, 7, 6, 5, 3, 1, and 1. The chords are labeled as ascending tetrachords.

Example (a) shows a regular 7–6 suspension on $\textcircled{6}$. The $\frac{6}{3}$ chord on this scale degree proceeds via $\frac{6}{3}$ on $\textcircled{7}$ to $\frac{5}{3}$ on $\textcircled{1}$. Example (b) contains the same 7–6 resolution on $\textcircled{6}$. However, the quarter note G on the second beat results in the diminished $\frac{5}{3}$ chord on $\textcircled{7}$. From a contrapuntal perspective the bass tone $C\sharp$ is a (non-chordal) passing tone that connects $\textcircled{6}$ with $\textcircled{1}$.

Example (c) shows the concrete process of Bach’s fugue: all voices move simultaneously from the first to the second beat.

Example 4.19 shows two prototypes of the entire ascending RO, which is the assembly of the lower pentachord and the higher tetrachord. As the example demonstrates, the principle of the RO is simple. The $\frac{5}{3}$ chords on $\textcircled{1}$, $\textcircled{5}$, and the high $\textcircled{1}$ form a framework of stable points, and the $\frac{6}{3}$ chords on the intermediate scale degrees fill the framework. Note the position changes of the $\frac{5}{3}$

EXAMPLE 4.19 The ascending Rule of the Octave in major (a) and minor (b)

a. **C major**

b. **A minor**

chords on ⑤ in examples (a) and (b). This happens mainly for the sake of a proper meter and a correct voice leading; moreover it stresses the division of the RO in a pentachord and a tetrachord. The spots indicated with the * signs are interchangeable.

The minor version of example (b) deserves our special attention. The F \sharp ($\hat{6}$) in bar 2 needs to step down to the E; see the oblique line. The alternative realization (*) contains the progression F \sharp –G \sharp in accordance with the melodic A-minor scale.

Terms to remember

- The ascending tetrachord of the RO is defined by $\frac{5}{3}$ chords on ⑤ and ①, and $\frac{6}{3}$ chords on the intermediate degrees ⑥ and ⑦.
- In minor ⑥ and ⑦ have to be raised.
- Frequently the ascending tetrachord appears in a modulatory context.
- Variations of the ascending RO are possible, for instance by means of a suspension on ⑥. A diminished $\frac{5}{3}$ chord on ⑦ may replace the regular sixth chord. Evidently the diminished fifth needs to resolve correctly.

Instructions for the exercises

- The ascending pentachord and the ascending tetrachord are unified in the complete RO. The given chord in bar 3 provides a proper start of the tetrachord.

- b. Realize the bass line first, according to the indications underneath the staves. The eighth notes in bar 6 between the first and the second beat are diminutions that do not require a harmonic realization.
- c. In this exercise the ascending tetrachord forms the first segment of a modulating sequence. Each segment must be realized similarly.

Suggestion for further analysis

Handel: “Lift up your heads” from the *Messiah*, HWV 56, bars 1–26

4.4 THE DESCENDING TETRACHORD

EXAMPLE 4.20 Handel: Flute Sonata in G major, HWV 363b, second movement (Adagio), bars 5–17, realization by the author

5 E minor

6 6# 6 6 3# 2 6 6 4 3# 6 6# 6 6
 ③ ② ① ⑦ ⑥ ⑤ ④ ③ ⑤ ④ ③# ① ⑦ ⑥

descending tetrachord compound cadence descending tetrachord (interrupted)

11 G major

6 6 6 6# 2 6 6 4 3 6 6 6 6# 6 6
 ③ ② ① ⑦ ⑥ ⑤ ④ ③ ⑤ ④ ③ ① ⑦ ⑥ ⑤

descending tetrachord compound cadence descending tetrachord

The second movement of Handel’s G major Flute Sonata is in E minor. Example 4.20 shows an excerpt from this movement. It starts with an unaccompanied bass (not included in the example)

that equals the bass of bars 5–9. From the second beat of bar 5 the bass descends from the high to the low G. Somewhat artificially, the scalar bass motion can be divided into an incomplete pentachord ③–②–① (G–F#–E), the indicated tetrachord ①–⑦–⑥–⑤ (E–D–C–B), and an incomplete pentachord ⑤–④–③ (B–A–G).

The descending tetrachord deserves our attention here. Not surprisingly, (incomplete) $\frac{5}{3}$ chords sound on ① and ⑤, and $\frac{6}{3}$ chords on ⑦ and ⑥. Note that the third on ⑤ in bar 7 (i.e., the leading tone D#) is raised. This descending tetrachord realization appears to be normative. The imperfect compound cadence closes the phrase on the first beat of bar 9. On the second beat of that bar the scalar bass recurs until the bass leap to G on the first beat of bar 11. This leap initiates the relative key of G major.

From there the entire harmonic process recurs in G major: bars 11–15 are an almost exact transposition of bars 5–9, including the scalar bass and the imperfect compound cadence. The G major key contains the descending tetrachord ①–⑦–⑥–⑤ (G–F#–E–D). The raised sixth on ⑥ on the third beat of bar 12 is remarkable. The C# acts as a chromatic leading tone toward the dominant tone D. The C# is only implied by the figured-bass numerals. On the other hand, in the descending tetrachord at the end of the example (in bars 16–17) the C# plays a prominent role in the flute melody.

In general, the descending tetrachord in the major mode differs from the minor version with regard to the raised sixth on ⑥. Example 4.21 presents various realizations of the descending tetrachord.

EXAMPLE 4.21 The descending tetrachord of the RO in major (a, b) and minor (c, d)

Examples (a) and (b) show two prototypes of the descending tetrachord in C major. The two examples differ only with respect to the inverted upper voices. As has been noted above, the F# can be considered a chromatic leading tone to the dominant tone G of C major. Example (c) presents the tetrachord in A minor, including the natural sixth D on ⑥. The sixth can be raised too (resulting in the augmented sixth F–D#), which will be demonstrated below.

Example (d) shows that the two upper voices of example (c) cannot be inverted, due to the appearance of parallel fifths (X). This problem seems to occur in example (b) as well; yet here the perfect fifth G–D proceeds to the diminished fifth F#–C, which is acceptable throughout. Below we will see that the parallel fifths of example (d) can be bypassed by the use of a suspension.

The descending tetrachord completes the entire RO. Example 4.22 shows the plain versions of the RO in the major and minor mode. The RO prescribes standard chord progressions based on scalar

EXAMPLE 4.22 The complete RO in major (a) and minor (b)

a. C major

(5) $\frac{6}{3}$ $\frac{6}{3}$ $\frac{6}{3}$ (5) — $\frac{6}{3}$ $\frac{6}{3}$ (5) $\frac{5}{3}$ $\frac{6}{3}$ $\frac{6^\#}{3}$ (5) $\frac{4}{2}$ $\frac{6}{3}$ $\frac{6}{3}$ (5)

① ② ③ ④ ⑤ ⑥ ⑦ ① ⑦ ⑥ ⑤ ④ ③ ② ①

pentachord tetrachord tetrachord pentachord

ascending RO descending RO

b. A minor

(5) $\frac{6^\#}{3}$ $\frac{6}{3}$ $\frac{6}{3}$ (5) $\frac{3^\#}{3}$ — $\frac{6}{3}$ $\frac{6}{3}$ (5) $\frac{5}{3}$ $\frac{6}{3}$ $\frac{6}{3}$ (5) $\frac{3^\#}{3}$ $\frac{4^\#}{2}$ $\frac{6}{3}$ $\frac{6^\#}{3}$ (5)

① ② ③ ④ ⑤ ⑥ $^\#$ ⑦ $^\#$ ① ⑦ ⑥ ⑤ ④ ③ ② ①

pentachord tetrachord tetrachord pentachord

ascending RO descending RO

basses. It does not establish a fixed upper voice: one can start with $\hat{1}$ in the top voice (the so-called first position), $\hat{3}$ (the second position), or $\hat{5}$ (the third position). Examples (a) and (b) both start in the first position.

In sum, the RO is based on the framework of $\frac{5}{3}$ chords on ①–⑤–①. The intermediate degrees imply $\frac{6}{3}$ chords, except for the $\frac{4}{2}$ chord on the descending ④. In the minor mode the ascending and descending bass are according to the melodic and natural scale, respectively. In the major mode the raised sixth (*) on the descending ⑥ is a chromatic leading tone to the dominant.

EXAMPLE 4.23 Handel: Trio Sonata in E \flat major, HWV 382, third movement (Andante), bars 24–27

24 C minor

① ⑦ ⑥ ⑤

descending tetrachord

The Andante from Handel's Trio Sonata for two oboes and basso continuo shown in example 4.23 is in C minor. The excerpt concerns the final bars of the movement, which are idiomatic for the late-Baroque style. The movement seems to end on the first beat of bar 26 by means of a strong

cadence, but it extends by two more bars. In these final bars the bass descends stepwise from ① to ⑤; its harmonic realization is according to the descending tetrachord of the RO. This opens the door for the following Allegro. The fact that this Allegro movement abruptly starts in the main key of E♭ major does not alter the effect.

EXAMPLE 4.24 Reduction of bars 25–27

Example 4.24 illustrates the harmonic structure of bars 25–27.

The simplified representation of bar 25 reveals a double cadence: the sustained bass tone G replaces the two cadential patterns ⑤–① and ④–⑤–① in example 4.23. The final chord of the cadence on the first beat of bar 26 coincides with the start of a descending tetrachord.

Noteworthy is the $\frac{7}{3}$ chord on ⑥, caused by the suspension (the tied G) in the middle voice. The tied G prevents direct parallel fifths G–D and F–C (*) between the upper voices. Moreover, the suspension initiates the interval progression 7–6–8 (see the bracketed numerals between the staves) proper to the compound cadence. It concerns a Phrygian cadence through the half-tone bass step ⑥–⑤ (see Section 2.1, example 2.1). Closures of this kind are usually labeled a half cadence because of their open-end function on ⑤. The term “Phrygian half cadence” covers both the intrinsic quality and the cadential function of the schema.

Example 4.25 illustrates the prototypical version of the compound Phrygian half cadence. Note that this cadence type only occurs in the minor mode.

EXAMPLE 4.25 The compound Phrygian half cadence, with wrong (a) and correct (b) voice leading

Example (a) contains the aforementioned parallel fifths (see example 4.21(d)), indicated by the oblique lines.

In example (b) the inserted suspension (the tied E) avoids the incorrect voice leading.

EXAMPLE 4.26 Beethoven: String Quartet in D major, Op. 18 No. 3, third movement (Allegro: Minore), bars 63–74

The musical score for Example 4.26 consists of two systems of staves. The first system covers bars 63 to 74. The key signature is D minor. The score is divided into two groups of four bars each, separated by rests in the upper voice. The first group (bars 63-66) is in D minor and features a descending tetrachord (F-E-D-C) in the bass line, with the first and second violins doubling this motion. The second group (bars 67-70) modulates to A minor. The score includes annotations for voice leading and fingering.

Example 4.26 shows an excerpt from Beethoven’s String Quartet in D major, which is the first section of the Minore part from the “Scherzo” (Beethoven did not name it as such). The section is divided in three groups of four bars, separated by rests in the upper voice. In the first group in D minor (bars 63–66) the second violin introduces a rapid eighth-note movement that crosses the first violin in the second bar. The second group is a repeat of the first group, yet here the first violin performs the eighth notes one octave higher. The third group modulates to A minor and closes the section.

The first two groups are based on the descending tetrachord ①–⑦–⑥–⑤. The viola accompanies the bass by parallel thirds; the first and the second violin double this parallel motion F–E–D–C one after the other. We may conceive this doubled voice leading as one single voice rather than “wrong” parallel octaves.

EXAMPLE 4.27 Reduction of bars 63–66 and 67–70

The musical score for Example 4.27 shows a reduction of bars 63-66 and 67-70. The key signature is D minor. The score is divided into two groups of four bars each, separated by rests in the upper voice. The first group (bars 63-66) is in D minor and features a descending tetrachord (F-E-D-C) in the bass line, with the first and second violins doubling this motion. The second group (bars 67-70) modulates to A minor. The score includes annotations for voice leading and fingering.

The reduction in example 4.27 shows the essentially three-part harmony of both groups. Its upper voice is based on the structural tones (*) of the eighth-notes passages.

In the third bar of the reduction the tied A is a suspension that resolves onto the G#. This chromatic tone forms an augmented sixth on the bass. The oblique lines indicate the resolution of the augmented sixth to the octave. The chromatically altered $\frac{6}{3}$ chord on ⑥ is called the augmented $\frac{6}{3}$ chord, which forms a powerful half cadence with the subsequent $\frac{5}{3}$ chord on ⑤. Most often, the augmented $\frac{6}{3}$ chord occurs in the minor mode. However, Section 8.5 will show applications of the chord in the major mode too.

Terms to remember

- The descending tetrachord of the RO contains $\frac{5}{3}$ chords on ① and ⑤ and $\frac{6}{3}$ chords on ⑦ and ⑥.
- In the major mode the sixth on ⑥ is raised. In the minor mode the raised sixth is an option, and implies the augmented $\frac{6}{3}$ chord.
- A 7–6 suspension can occur on ⑥. In the minor mode this often results in a Phrygian half cadence.

Instructions for the exercises

- The suspension in bar 3 creates a compound half cadence. The D \natural follows the implied D# in bar 3, hence the bracketed natural sign. On that bass tone a $\frac{6}{4}$ chord may replace the $\frac{4}{2}$ chord.
- The whole notes in bars 2 and 5 require half notes in the upper voice.
- The descending RO in bars 3–6 can be split into a tetrachord and a pentachord. The tetrachord ends with a half cadence in bar 4.
- Create a suitable bass line below the diminished upper voice. You may wish to add slight diminutions in the bass in bar 2.
- This exercise does not provide any indications for realization apart from the keys. Start by analyzing the bass thoroughly, and determine the proper schemata and RO components.

Suggestion for further analysis

Mozart: Piano Sonata in D major, K 576, second movement (Adagio), bars 10–12, 17–20 and 30–39

GALANT SCHEMATA

INTRODUCTION

The musical Galant style covers a large part of the eighteenth century, roughly 1720–1770, and is found in many European countries. The adjective “galant” literally means courtly, well-mannered. In this sense a galant person was well-educated, knew how to behave in social life, and had a considerable understanding of art and music. Galant music responds to these requirements, insofar as it implies a natural, relatively simple, and melodic style that resists the complex “learned” polyphony of the Baroque period. Moreover, galant compositions share a vocabulary of musical patterns and phrases that were easily comprehensible for a large group of musical amateurs.

This chapter discusses a number of these typically Galant schemata. Although these schemata originate from the Galant-style period, their significance is also palpable in later periods, until even the late nineteenth century.

Section 5.1 deals with the leaping Romanesca, often associated with the famous Pachelbel sequence. This schema closely relates to the stepwise Romanesca, introduced in Section 2.3. Section 5.2 expands on the Quiescenza, which is a pedal point containing a specific chord progression. The schema often marks a starting point or an arrival, so at the beginning or end of a piece or section. The Prinner, which is the subject of Section 5.3, might be regarded as most typically Galant because of its grace and simplicity. Its relaxing and closing quality works well as a response to an energetic opening gesture. Section 5.4 discusses the Monte Romanesca. The term unifies aspects of both the (ascending) Monte and the (descending) Romanesca. A well-known exemplar is the Chaconne in C major by Handel. A more sophisticated variant of the schema contains suspensions that result in a canon between the two upper voices. Section 5.5 presents the Fenaroli; the term honors the celebrated Neapolitan partimento master Fedele Fenaroli. The Fenaroli consists of a bass circling around the tonic, and a pedal point on the fifth scale tone in one of the upper voices. Continuous repeat of the schema reveals a simple canon between the bass and one of the two upper voices. Finally, Section 5.6 introduces the Folia, a harmonic and melodic framework often used as the basis for a set of variations. Although the Folia seems old-fashioned near the end of the eighteenth century, it fully deserves its place in this chapter. This is partly due to more advanced applications of the schema, which will be discussed in Section 7.5.

5.1 THE LEAPING ROMANESCA

EXAMPLE 5.1 Pachelbel: Canon in D major for three violins and basso continuo, bars 1–9

D major

(1) (2)

leaping Romanesca leaping Romanesca leaping Romanesca

6 (3) (4)

leaping Romanesca

Who does not know the Canon for three violins and basso continuo by the German composer Johann Pachelbel (1653–1706)? Example 5.1 shows the opening bars of this famous composition. The bass starts with a two-bar-long segment that is played over and over again, up to twenty-eight times! The three violins enter one by one, and perform a continuous and increasingly complex canon on the bass that falls by a fourth and rises by a second. In bars 5–6 the entry of the second violin (2) results in three-part harmony. The two bars show an alternation of complete and incomplete $\frac{5}{3}$ chords. In bars 7–8 the entry of the third violin (3) completes all triads. We will postpone four-part harmony until Chapter 6; for now we will focus on the three-part texture of bars 5–6.

Example 5.2 juxtaposes the “Pachelbel sequence” of bars 5–6 (a) and the stepwise Romanesca (b) as shown earlier (see Section 2.3, example 2.20).

EXAMPLE 5.2 The leaping (a) and stepwise (b) Romanesca

D major

a. segment 1 segment 2 segment 3 b.

leaping Romanesca stepwise Romanesca

Examples (a) and (b) share two voices in parallel thirds and one leaping voice. In other words, they differ by means of invertible counterpoint. The lower (1), middle (2), and upper (3) voices of example (a) have been inverted to the upper (1), lower (2), and middle (3) voices of example (b). Thus both examples can be regarded as variants of a common schema. In contrast with the stepwise Romanesca we will call the variant of example (a) the leaping Romanesca. The Romanesca, whether leaping or stepwise, is a sequence in descending thirds: the second segment is a third lower than the first, and the third segment a third lower than the second.

The contrapuntal relation between the leaping and the stepwise Romanesca comes to the fore in the partimento by the Neapolitan maestro Fedele Fenaroli (1730–1818) cited in example 5.3.

EXAMPLE 5.3 Fenaroli: Partimento book VI-24b, bars 1–10 (realization by the author)

A major

(5) 3 (5) 3 (5) 3 (5) 3 (5) 3 (5) 3
 ① — ⑤ ⑥ — ③ ④ — ①
 leaping Romanesca

6 E major

(5) 6 (5) 6 (5) 6 (5) 6 (5) 6 (5) 6
 ① ③ ⑥ ⑤ ④ ③
 stepwise Romanesca

The bass pattern shown in bars 1–3 recurs many times in the partimento. Despite the bass diminutions a leaping Romanesca bass is easily detectable; see the circled numbers underneath the staves. The Romanesca bass alternates with passages in longer note values such as in bars 6–8. This slower bass pattern implies an upper voice similar to the bass pattern in bars 1–3. Conversely, the bass of bars 6–8 can serve as a model for one of the upper voices of bars 1–3. As a result, bars 1–3 and 6–8 relate by means of invertible counterpoint, although in different keys.

EXAMPLE 5.4 Neruda: Trumpet Concerto in E \flat major, first movement (Allegro), bars 22–32 (viola omitted)

E \flat major

segment 1 segment 2 segment 3
 22
 ① ⑤ ⑥ ③ ④ ①
 leaping Romanesca

EXAMPLE 5.4 Continued

Example 5.4 shows an excerpt from the trumpet concerto by Johann Baptist Georg Neruda (ca. 1711–1776), a Czech musician who served at the Dresden court as violinist and concertmaster. He composed some fine works, among them the Concerto for Trumpet and String Orchestra shown in example 5.4. It concerns an excerpt from the orchestral introduction of the first movement. (The viola part is omitted in the example: it mainly doubles the bass.)

The example starts with the (incomplete) $\frac{5}{3}$ chord on ① in the main key of E \flat major, which comes right after a lengthily sustained ⑤ (not included in the example). Through the scalar diminutions a leaping Romanesca bass is perceivable, comparable to examples 5.1 and 5.3; see the circled numerals below the staves. The bass line is the foundation of a sequence that contains three complete segments. Note that the bass itself is somewhat free with regard to the sequence. The fourth, incomplete segment leads to the close of the phrase by means of deceptive and Galant cadences in bars 30–32.

Each segment shows two graceful upper voices (the first and the second violin) that perform an alternation of thirds and sixths. The first bar of each segment inverts the third into the sixth; in the second bar this is the other way around. The appoggiaturas on the first beats enhance the voices' grace even more.

The interval inversions split the melodic structure into two layers. The first layer includes the thirds at the start and the end of each segment, and the second layer the successive sixths in the center of each segment. The two melodic interpretations in example 5.5 do justice to both layers. The reductions are in double meter, which reveals a succession of “strong” and “weak” chords.

EXAMPLE 5.5 Two reductions of bars 22–27

In both examples the bass is simplified in accordance with the leaping Romanesca of example 5.1: the bass alternates descending fourths and ascending seconds.

Example (a) shows the first melodic layer. The two upper voices move in parallel thirds; the highest voice forms thirds with the bass on each first beat.

Example (b) shows the second layer. The upper voices move in parallel sixths; the highest voice forms octaves with the bass on each first beat. The two upper voices relate to those of example (a) by means of invertible counterpoint.

The figured-bass numerals show the alternation of incomplete and complete $\frac{5}{3}$ chords. A leaping Romanesca that consists of merely complete $\frac{5}{3}$ chords requires a four-part texture.

EXAMPLE 5.6 Greene: Voluntary No. 12 in E major, second movement (Vivace), bars 8–12

Example 5.6 is an excerpt from one of the organ voluntaries by the English composer Maurice Greene (1696–1755). The excerpt starts in B major but returns to the main key of E major in bar 9. The first two bars contain imitations of a scale pattern in all voices. The bass continues the pattern from bar 10 by means of a sequence, each segment a third lower than the preceding one. The circled numerals indicate the structural bass tones that form a sequence of rising fifths and falling sevenths (C#–G#–A, etc.). The two upper voices accompany the bass sequence by means of 2–3 suspensions. Example 5.7 illustrates the harmonic process.

EXAMPLE 5.7 Reduction of bars 10–11

E major: ⑥ ③ ④ ① ② ⑥
 [C# minor: ① ⑤ ⑥ ③ ④ ①]

leaping Romanesca

The reduction modifies the structural bass by changing the rising fifths and falling sevenths (see the bracketed notes) into the smoother pattern of falling fourths and rising seconds. This reveals a leaping Romanesca. The suspensions in the middle voice are noteworthy: the initial syncopated quarter note C \sharp becomes a suspension on the second beat of bar 10 and resolves onto the following B; in turn the B becomes the preparation for the next suspension, and so on. Relative to the bass this chain results in an alternation of 4–3 and 9–8 suspensions. The figured-bass numerals indicate these suspensions exclusively.

Undoubtedly, Greene's Romanesca sounds in E major. In this key the placement of the schema is somewhat unusual, since it starts with the segment ⑥–③ instead of ①–⑤. Isolated from its context, the Romanesca would fit in C \sharp minor as well. For this reason example 5.7 contains an auxiliary analysis in C \sharp minor.

EXAMPLE 5.8 Prototypes of the leaping Romanesca in major (a, b) and minor (c, d)

Example 5.8 consists of four musical examples (a, b, c, d) showing the leaping Romanesca in major and minor modes. Each example is presented in two staves: a treble clef staff for the upper voice and a bass clef staff for the lower voice. Below the bass staff, figured-bass numerals are provided for each measure, indicating the harmonic structure and any suspensions.

a. C major

Measures 1-3: Treble clef has chords (G4, B4) and (G4, B4). Bass clef has notes (G2, B2) and (G2, B2). Numerals: ① ⑤, ⑥ ③, ④ ①.

Measures 4-6: Treble clef has notes (G4, B4) and (G4, B4). Bass clef has notes (G2, B2) and (G2, B2). Numerals: ① ⑤, ⑥ ③, ④ ①.

b.

Measures 1-3: Treble clef has notes (G4, B4) and (G4, B4). Bass clef has notes (G2, B2) and (G2, B2). Numerals: ① ⑤, ⑥ ③, ④ ①.

Measures 4-6: Treble clef has notes (G4, B4) and (G4, B4). Bass clef has notes (G2, B2) and (G2, B2). Numerals: ① ⑤, ⑥ ③, ④ ①.

c. A minor

Measures 1-3: Treble clef has chords (G4, B4) and (G4, B4). Bass clef has notes (G2, B2) and (G2, B2). Numerals: ① ⑤, ⑥ ③, ④ ①.

Measures 4-6: Treble clef has notes (G4, B4) and (G4, B4). Bass clef has notes (G2, B2) and (G2, B2). Numerals: ① ⑤, ⑥ ③, ④ ①.

d.

Measures 1-3: Treble clef has notes (G4, B4) and (G4, B4). Bass clef has notes (G2, B2) and (G2, B2). Numerals: ① ⑤, ⑥ ③, ④ ①.

Measures 4-6: Treble clef has notes (G4, B4) and (G4, B4). Bass clef has notes (G2, B2) and (G2, B2). Numerals: ① ⑤, ⑥ ③, ④ ①.

Example 5.8 provides four prototypes of the leaping Romanesca. Example (a) presents the plain schema, in which incomplete and complete $\frac{5}{3}$ chords alternate.

Example (b) shows the leaping Romanesca embellished with suspensions. The two upper voices perform a chain of 2–3 suspensions: the ties are in the lower voice. Relative to the bass the middle voice performs 4–3 and 9–8 suspension alternately.

The plain Romanesca in example (c) is in the minor mode. The schema only makes use of the natural scale, so with $\hat{7}_\natural$ (G) and $\hat{6}_\natural$ (F).

Example (d) shows the leaping Romanesca in minor embellished with suspensions. Compared to example (b) the two upper voices are inverted, resulting in a chain of 7–6 suspensions. Consequently, the ties are in the higher voice. The figured-bass numerals 4–3 and 9–8 are equal.

These suspensions often occur in the leaping Romanesca; in the stepwise variant, however, they are less frequent, although possible throughout. (Imagine for instance a tied bass tone E in bar 6 of example 5.3; similarly a tied C \sharp in bar 7, and a tied A in bar 8.)

Terms to remember

- The leaping Romanesca is a schema that flourishes during the whole eighteenth century and later. “The” exemplar of the schema is Pachelbel’s Canon for three violins and basso continuo.
- The leaping and stepwise Romanesca relate by means of invertible counterpoint.
- Often the leaping Romanesca is embellished with 4–3 and 9–8 suspensions. In the stepwise Romanesca suspensions occur less frequently, although this is possible throughout.
- The minor-mode Romanesca, whether leaping or stepwise, makes use of the natural scale.

Instructions for the exercises

- This exercise requires a plain realization of the leaping Romanesca in half notes in either voice. The G (⑥) in bar 4 replaces the cadential ① or ③. Determine its proper realization.
- Continue the given pattern including the 4–3 suspension.
- The leaping Romanesca alternates 4–3 and 9–8 suspensions. The subsequent Monte features a syncopated middle voice.
- The melody of bars 1–3 equals the melody of bars 6–7; nevertheless the two require different realizations, in C minor and E♭ major, respectively. Parallel thirds between the upper voices in bar 4 will work well. A simple ⑤–① bass leap will suffice here.
- This challenging exercise, almost without any indication, is after a partimento by Durante. The leaping Romanesca bass recurs in several keys. Bars 4–5 contain an (incomplete) ascending tetrachord and a compound cadence. The given suspensions organically prepare the cadence. Analyze the exercise thoroughly before you start.

Suggestion for further analysis

Bach: Prelude in B♭ major, BWV 866, from *Das Wohltemperierte Klavier* I, bars 1–3

5.2 THE QUIESCENZA

EXAMPLE 5.9 Mozart: Divertimento in F major for three basset horns, K 439b No. 2, first movement (Allegro), bars 5–11

The musical score shows two staves: treble and bass. Bar 5 is marked 'F major' and bar 11 is marked 'C major'. A dashed line with a circled 1 (①) spans from the beginning of bar 5 to the end of bar 11, labeled 'Quiescenza (a)'. A solid line with a circled 4 (④) spans from the beginning of bar 11 to the end of bar 11, labeled 'Galant cadence'.

EXAMPLE 5.9 Continued

Although there are some uncertainties about the authenticity of the wind trio (called *Divertimento* in the *New Mozart Edition*) shown in example 5.9, there is little doubt that Mozart was the composer, and that the composition was originally written for three basses. Bars 5–6 are a literal repeat of the two opening bars (not included in the example). The chord progressions in these bars are based on the sustained (actually repeated) bass tone F. That kind of sustained bass is called a pedal point; this is indicated by the dashed line beneath the staves. The following parallel sixths in bar 7 lead to the F major chord in bar 8, which marks the beginning of a simple Galant cadence in C major. In retrospect we can reconceive the bass tone F in bar 8 as ④ in the dominant key C major. The final bass tone of the cadence, C on the third beat of bar 9, sustains and becomes a pedal point until the end of the excerpt.

Both pedal points, in bars 5–6 (a) and 9–11 (b), are the foundation of stereotypical chord progressions that are covered by the term *Quiescenza*. The pedal point in bars 9–11 even contains two similar *Quiescenzas*.

EXAMPLE 5.10 Reduction of bars 5–6 (a) and 9–11 (b)

Example 5.10 clarifies the harmonic substance of this schema.

As already noted above, the *Quiescenza* is built on a pedal point. This does not mean that each pedal point is necessarily a *Quiescenza*. The progression of chords plays a crucial role. Example (a) shows two progressions of an augmented fourth (*) to a sixth. Example (b) starts with a diminished fifth (*) that proceeds to a third; subsequently an augmented fourth proceeds to a sixth. The oblique lines indicate these progressions. Recall Section 4.2 about the resolutions of the augmented fourth and the diminished fifth; see examples 4.8 and 4.9.

In the first bar of example (a) the $\frac{7}{3}$ chord seems to quit F major, due to the chromatic tone E_b that hints at the two-flats key B_b major. The chromatically altered $\frac{7}{3}$ chord proceeds to the $\frac{6}{4}$ chord in the next bar. Indeed this chord slightly affirms the shift from F major to B_b major. However, the

$E\flat$ in the next $\frac{7}{4}$ (!) chord restores the prevalence of F major. Note that the augmented fourth $E-B\flat$ sharply conflicts with the pedal point and strongly evokes the return to the F major tonic.

Example (b) is similar in this respect. Here the $\frac{7}{3}$ chord (including $B\flat$) suggests a departure from the key C major by hinting at F major, after which the $\frac{7}{4}$ chord (including $B\flat$) re-establishes the key.

The final chords of both examples do not only provide the resolution of the augmented fourths, but also unify all voices in one ultimate consonance. This interaction between departure and return characterizes the *Quiescenza*. The temporary departure paradoxically strengthens the power of the tonic. Therefore the *Quiescenza* is a highly suitable schema at the beginning as well as the end of a composition or section, as is the case in the Mozart excerpt of example 5.9.

EXAMPLE 5.11 Bach: Cello Suite No. 4 in $E\flat$ major, BWV 1010, Prelude, bars 1–9 (a) and 88–101 (b)

The image displays a musical score for the Prelude from Bach's Cello Suite No. 4. It is divided into two parts, (a) and (b). Part (a) covers bars 1 through 9, starting in $E\flat$ major. The notation shows a series of broken chords on the bass line, with a chromatic shift to $D\flat$ in bar 3 and a return to $E\flat$ in bar 7. Part (b) covers bars 88 through 101, starting with a dashed arrow indicating a transition from bar 6 of part (a). The key signature changes to $A\flat$ major for this section. The score includes various rhythmic values and articulation marks such as plus signs.

Example 5.11 shows the beginning and the end of the Prelude from Bach's Fourth Cello Suite in $E\flat$ major. The major part of the prelude exhibits a homogeneous texture consisting of broken chords. Most of them sound for one or two bars, and are built on bass tones (the lowest tones of the broken-chord figurations) that occur on each first beat. The two-bar-long broken chords in bars 1–9 (example (a)) are based on the tonic pedal point $E\flat$. As will be clarified in the reduction of example 5.12(a), this pedal point is the foundation of a *Quiescenza*. Following the two-bar-long tonic $\frac{5}{3}$ chord, bars 3–4 “escape” from the main key through the chromatic tone $D\flat$ that hints at the key $A\flat$ major. Bars 7–9 return to $E\flat$ major by means of the $D\sharp$; this tone eventually enables an arrival on the tonic $\frac{5}{3}$ chord in bar 9.

Nearly at the end of the piece, in bars 82–87, the opening *Quiescenza* recurs literally up to the sixth bar. (Thus, read bars 1–6 once more.) From there the final section of the prelude takes another path. The dashed arrow indicates the moment of deviation. Thus bar 6 of example (a) connects to bar 88 of example (b). This deviation concerns both rhythm and harmony.

First, the sixteenth notes substitute for the continuous eighth-note movement. This acceleration refers to passages earlier in the prelude: all of them articulate the musical form in one way or another. In these final bars the sixteenth notes announce the close of the piece. Second, the harmonic texture of broken chords makes way for figurations of a mainly scalar nature. Nevertheless the contours of a broken chord are well detectable, just at the leaps that interrupt the scalar motion.

The + signs indicate the chord components D, B \flat , A \flat , and F. The reduction of example 5.12 further clarifies the harmonic meaning of the chord.

EXAMPLE 5.12 Reduction of bars 1–9 (a) and 82–91 (b)

Example (a) provides a three-part reduction of the multi-part harmonic structure shown in example 5.11(a). The chord supplements have been notated in black notes in cue size. Essentially, all stages of the Quiescenza presented in example (a) are similar to the Quiescenza of example 5.10: the $\frac{7}{3}$ chord with the lowered seventh proceeds to the $\frac{6}{4}$ chord, and the sharply conflicting $\frac{7}{4}$ chord proceeds to the tonic $\frac{5}{3}$ chord.

Example (b) differs in one respect. The final two bars of the reduction represent bars 88–91 in example 5.11(b). Recall that these final bars come after the six bars (bars 82–87) that match bars 1–6. In bars 88–90 of the concrete score the leading tone D sounds prominently on each first beat in place of the pedal point E \flat . The fact that the D occurs a seventh above the preceding pedal point (and even a seventh plus an octave) leaves room for the interpretation of an implicit pedal point. In example 5.12(b) the bracketed note E \flat indicates this imaginary prolongation of the pedal point. The reason why Bach did not prolong the pedal point explicitly is simple: the practical limits of the instrument do not enable this.

EXAMPLE 5.13 Bach: Cello Suite No. 4 in E \flat major, BWV 1010, Prelude, bars 52–62

Example 5.13 shows another excerpt from the same prelude. The exposed bars are introduced by a cadenza-like passage in sixteenth notes (not included in the example) that shortly interrupts the continuous eighth-notes rhythm. The preceding bars have strongly established the key of G minor; therefore the pedal point D from bar 52 has to be conceived as the dominant of G minor. The pedal point starts with the broken-chord figurations that characterize the major part of the prelude. From bar 56, however, sixteenth notes double the speed and eventually lead to a compound cadence in bars 61–62.

Example 5.14 illustrates and simplifies the complex harmonic structure of the pedal point. The * signs in the score correspond to the chords of the reduction.

EXAMPLE 5.14 Reduction of bars 52–62

The score for Example 5.14 shows a reduction of bars 52–62 in G minor. The treble staff contains chord symbols and figured bass notation, while the bass staff shows the original notation with asterisks marking the chords. A dashed arrow labeled "Quiescenza on the dominant" spans from bar 52 to bar 61, indicating an interlocking structure. The final bars (61–62) are labeled as a "compound cadence".

The chord supplements have been notated in cue size. The reduction shows a succession of two interlocked Quiescenzas. The first Quiescenza, from bar 52, omits the initial $\frac{5}{3}$ chord and instead starts with the $\frac{7}{3}$ chord that proceeds to the $\frac{6}{4}$ chord in bar 54. Subsequently, bars 56–58 play around a chord containing the tones C#, B \flat , G, and E. The + signs in example 5.13 indicate these chord components. This so-called diminished seventh chord will be further explored in Section 7.1. The $\frac{7}{4}$ chord in the reduction is a simplified representation of this three-bar-long broken chord. One might expect a progression to a $\frac{5}{3}$ chord on ⑤, ending the Quiescenza in bar 59, but the unprepared dissonant tone E \flat in that bar complicates this. Rather than ending the first Quiescenza, the chord starts a second one. The dashed arrow underneath the reduction indicates this interlocking.

The dissonant (but sonorous) chord in bar 59 acts in a similar way as the chord in bars 52–53: it strongly addresses to the subsequent $\frac{6}{4}$ chord. From here the reduction is in four parts, with that doing justice to the complex harmonic structure. The chromatic tone C# on the second half of bar 60 eventually leads to the compound ⑤ ($\frac{5}{4}$ – $\frac{5}{3}$) just before the close of the phrase.

EXAMPLE 5.15 Beethoven: Piano Sonata in C minor, Op. 13, "Pathétique," first movement (Grave–Allegro di molto e con brio), bars 11–15

The score for Example 5.15 shows a reduction of bars 11–15 in C minor. The treble staff contains chord symbols and figured bass notation, while the bass staff shows the original notation with asterisks marking the chords. A bracket labeled "pedal point on ①" indicates the constant D note in the bass.

Beethoven's famous Sonata "Pathétique" (1798) opens with an at the time unprecedented slow introduction (not included in the example), a feature that refers to the Classical symphony and the opera overture. Indeed, the introduction of this piano sonata has an orchestral grandeur. Example 5.15 shows the opening of the Allegro, right after this introduction. The characteristic left-hand tremolo exhibits a pedal point on the C minor tonic. It is the basis of fast chord progressions in the right hand from bar 11 up to the first beat of bar 13. From there the process recurs one octave higher. The * signs indicate the structural chords.

Example 5.16 is the reduction of these bars.

EXAMPLE 5.16 Reduction of bars 11–15

The reduction, which transforms the instrumental texture into a vocal one, reveals two Quiescenzas in succession. The Quiescenza in the minor mode differs somewhat from its major equivalent. This concerns not only the quality of the chords, but also the occurrence of chromatic tones. In bars 11 and 13 the E_b is chromatically raised to E_b^\sharp . This tone constitutes a diminished fifth with the B_b , which is the natural $\hat{7}$ of the minor scale. The oblique lines indicate the progression to the following third. The progression $\frac{7}{3}-\frac{6}{4}$ hints at the key of F minor. The subsequent B_b^\sharp re-establishes C minor. Noteworthy is the sixth $D-B_b^\sharp$ (*) that replaces the more common augmented fourth $F-B_b^\sharp$; the variant results in a $\frac{7}{2}$ instead of a $\frac{7}{4}$ chord.

EXAMPLE 5.17 Prototypes of the Quiescenza in major (a, b, c) and minor (d, e, f)

Example 5.17 shows the prototypes of the Quiescenza in major and minor, based on pedal points on ① and ⑤.

Example (a) exposes the Quiescenza on ① with a strict and smooth voice leading. The chromatic element is the lowered $\hat{7}$ ($B\flat$) in the second chord. The diminished fifth E– $B\flat$ temporarily quits C major by hinting at F major, while the augmented fourth F– $B\flat$ returns to it; see the oblique lines.

The voice leading of example (b) is somewhat free, due to the leaps toward the fourth chord. Example (c) is similar to example (a) with respect to the shape of the Quiescenza. Yet its harmonic function is different, because of the pedal point on the dominant ⑤. The chromatic element is the raised $\hat{4}$ ($F\sharp$) in the fourth chord of the schema. The augmented fourth F–B in the second chord leads away from the dominant (hinting at the tonic), after which the diminished fifth $F\sharp$ –C returns to it.

The variants in the minor mode follow the same principle but differ in detail. In examples (d) and (e) the chromatic alteration concerns the raised $\hat{3}$ ($C\sharp$) in the second chord. The diminished fifth $C\sharp$ –G temporarily quits A minor by hinting at D minor, after which the augmented fourth D– $G\sharp$ returns to A minor. Optionally, the $\hat{6}$ may be raised (F or $F\sharp$).

Example (f) is on the dominant; its chromatic feature is the raised $\hat{4}$ ($D\sharp$) in the fourth chord.

Terms to remember

- The Quiescenza is a schema based on a pedal point on ① or ⑤, and on the twofold progression of a diminished fifth to a third or an augmented fourth to a sixth.
- Because of the interaction between departure and return, the Quiescenza strengthens the harmonic function of the tonic or dominant pedal point. For this reason a Quiescenza on ① is highly suitable at the beginning or end of a composition or section.
- The chromatic element of the Quiescenza on ① is the lowered $\hat{7}$ in the major mode, and the raised $\hat{3}$ in the minor mode. On ⑤, the chromatic element is the raised $\hat{4}$, both in major and minor.

Instructions for the exercises

- The exercise starts and ends with a Quiescenza. The schema indications will guide you.
- This exercise contains Quiescenzas on ① and ⑤ of the minor scale. Apply the RO and close with a proper cadence schema. Complete the figured-bass numerals.
- The Quiescenzas on ① and ⑤ provide the harmonic framework of the exercise. Connect these harmonic units smoothly. Bar 5 requires a cadence; determine which cadence schema is most suitable. (Note the $C\sharp$!) The two final melody tones differ from the prototype of the Quiescenza. Try to find an agreeable alternative in the middle voice.

Suggestion for further analysis

Bach: Prelude in C major, BWV 939, from *Zwölf kleine präludien oder Übungen für Anfänger*, bars 1–4, 9–12 and 13–15

5.3 THE PRINNER

EXAMPLE 5.18 Haydn: *Missa brevis* in F major, Hob XXII:1, Kyrie, bars 1–2

Example 5.18 shows two excerpts from the Kyrie of Joseph Haydn’s *Missa brevis* (i.e., short mass), an early work by the Viennese composer. Both excerpts start with a short musical evocation, followed by a weak close on a stepwise descending bass motion. In example (a) this happens in F major and in example (b) in C major. The pairing of an energetic upward motion with a relaxing downward motion at the beginning of a composition or section belongs to the musical vocabulary of the Galant style.

The stereotypical downward motion deserves our attention here. Example 5.19 provides a three-part reduction of bars 2 and 9, including the upbeats.

EXAMPLE 5.19 Reduction of bars 2 (a) and 9 (b)

Both patterns are based on the stepwise bass ④–③–②–①. Note the parallel thirds $\hat{6}-\hat{5}-\hat{4}-\hat{3}$ in the upper voice of example (a). Although somewhat hidden, example (b) also exhibits this parallel motion. Yet here the $\hat{6}-\hat{5}-\hat{4}-\hat{3}$ motion is divided over the upper and middle voice; see the dashed line. This specific parallel motion is called a Prinner. The stepwise bass, leading to the tonic, results in a weak cadence. In both examples the cadences are compound, because of the 7–6 suspensions in the middle and upper voices, respectively. In general, a simple $\frac{6}{3}$ chord on ② is possible too. The $\frac{5}{3}$ chord on ④, which replaces the $\frac{4}{2}$ chord prescribed by the RO, is a harmonic feature of the Prinner.

EXAMPLE 5.20 J. S. Bach (?): Flute Sonata in E \flat major, BWV 1031, first movement (Allegro moderato)
bars 9–15

The musical score for Example 5.20 consists of three staves: flute (top), keyboard (middle), and basso continuo (bottom). The key signature is E \flat major. The flute part has asterisks above notes in bars 9, 10, 11, and 14. The keyboard and continuo parts are in normal and cue sizes respectively. Below the continuo staff, two Prinner diagrams are shown: Prinner (a) and Prinner (b). Prinner (a) is shown in two instances, each with circled numerals 4, 3, 2, 1. Prinner (b) is shown with circled numerals 1, 7, 6, 5, 4, 3, 2, 1.

The attribution of the flute sonata shown in example 5.20 to Johann Sebastian Bach is highly doubtful. Perhaps erroneously his son Carl Philipp has attributed the work to him. Indeed, the character of the sonata points to the mid-century Galant style rather than the polyphonic art of the old master. Thus Carl Philipp Emanuel Bach (1714–1788) might well have written the piece himself. Whoever the composer is, the sonata fully deserves its place in the flute repertoire.

Example 5.20 shows the entry of the flute part following on an obbligato keyboard introduction (not included in the example). Noteworthy is the alternation of the obbligato and the unfigured basso continuo sections; the obbligato (by the composer) is shown in normal note size and the continuo realization (by the author) in cue size. Despite the continuous bass rhythm of eighth notes a structure of interlocking phrases is perceivable. Weak closes occur on the third beat of bar 10 (on E \flat), on the third beat of bar 11 (on E \flat too), and on the first beat of bar 14 (on B \flat). Each close implies the beginning of a new phrase at the same time. The circled numerals reveal three slightly diminished Prinneres that generate these closes. The * signs indicate the parallel thirds in the flute part.

Example 5.21 illustrates the harmonic substance of the Prinneres.

Example (a) corresponds with the repeated Prinner (a) in bars 9–10 and 10–11 of example 5.20. The bass pattern ④–③–②–① accompanies the upper voice $\hat{6}$ – $\hat{5}$ – $\hat{4}$ – $\hat{3}$. The Prinner differs somewhat from the schema given in example 5.19, because of the inserted ⑤ (the bracketed B \flat). This optional addition to the Prinner strengthens its cadential function. In the reduction the

EXAMPLE 5.21 Reduction of bars 9–1 and 10–11 (a), and 13–14 (b, c)

The image shows three musical examples labeled (a), (b), and (modulating) Prinner (b). Each example consists of a treble and bass staff with figured bass notation underneath. Above the treble staff, key signatures are indicated: Eb major for (a) and (modulating) Prinner (b), and Bb major for (b). Above the bass staff, figured bass numerals are provided for each measure. Brackets below the bass staff group the measures into Prinner (a), Prinner (b), and (modulating) Prinner (b). The numerals for Prinner (a) are 5/3, 6/3, 7/3, 6/3, and (5)/3. The numerals for Prinner (b) are 5/3, 6/3, 5/3, 6/3, and (5)/3. The numerals for (modulating) Prinner (b) are 5/3, 6/3, 5/3, 6#/3, and (5)/3. The treble staff shows notes with accents (^) and fingerings (10, 13, 13).

insertion is considered ornamental and therefore placed between brackets. Note that the figured-bass numerals underneath the B \flat would be $\hat{7}$.

Example (b) corresponds with Prinner (b) in bars 12–14 of example 5.20. This Prinner needs further explanation. On a detailed level Prinner (b) deviates from Prinner (a), because of the $\hat{5}$ chord on C and the insertion of the (bracketed) A \sharp . Note that the reduction moves the A \sharp to the middle voice. Despite these minor differences Prinner (a) and (b) are similar with regard to their intrinsic quality: they share the stepwise bass and the parallel-tenths accompaniment of the upper voice.

More significant is their different location. Prinner (b) appears as a transposition of Prinner (a). While the former firmly establishes the key Eb major, the latter quits the key. Even more, the whole Prinner can be conceived in B \flat major, as the analysis of example (b) shows. The following bars (see example 5.20 from bar 14) affirm the new key. However, its tonal orientation is ambiguous. Indeed, example (c) analyzes the same Prinner in Eb major. It is realized according to the descending tetrachord of the RO in that key, including the raised sixth on $\hat{6}$. From this perspective the bass $\hat{1}-\hat{7}-\hat{6}-\hat{5}$ accompanies the upper voice $\hat{3}-\hat{2}-\hat{1}-\hat{7}$. Because of its modulating potential the variant shown in examples (b) and (c) is called the modulating Prinner, whether the modulation is realized or not.

EXAMPLE 5.22 Beethoven: String Quartet in D major, Op. 18 No. 3, third movement (Allegro), bars 75–86

The image shows a musical score for Example 5.22, starting at bar 75. It features two Prinner reductions. The first is in G minor, with a treble staff labeled 'vl 1' and 'vl 2', and a bass staff labeled 'vla' and 'vlc'. The second is in D minor, with a treble staff labeled 'vl 2' and a bass staff. Above the treble staff, key signatures are indicated: G minor for the first Prinner and D minor for the second. Above the bass staff, figured bass numerals are provided for each measure. Brackets below the bass staff group the measures into Prinner and Prinner. The numerals for the first Prinner are 6/3, 5/3, 4/3, and 3/3. The numerals for the second Prinner are 6/3 and 5/3. The treble staff shows notes with accents (^) and asterisks (*).

EXAMPLE 5.22 Continued

Prinner = descending tetrachord RO

Generally speaking, the Prinner is strongly associated with the major mode, probably because of its graceful nature. Primmers in the minor mode are relatively rare, even though the Beethoven string quartet of Example 5.22 shows three minor-mode Primmers in succession. The excerpt presents the immediate continuation of example 4.26 (see Section 4.4). All Primmers shown here share the parallel thirds (or tenths) between the cello and the viola. The succession of octaves between the viola and the first violin (from bar 79 the second violin) may be considered as one single voice, rather than parallel octaves. Example 5.23 shows the three-part reduction of the excerpt. Its upper voice is based on the structural tones of the eighth-notes figurations (see the * signs).

EXAMPLE 5.23 Reduction of bars 75–86

Prinner (a) Prinner (b) Prinner (c) = RO

The end of the first Prinner connects to the beginning of the second by means of a common G minor chord (bars 78–79). Similarly, the end of the second Prinner connects to the beginning of the third by their common D minor chord (bars 82–83). If we ignore the octave leap in bars 78–79, this feature results in a continuously descending bass from C in bar 75 to A in bar 86.

The first two Primmers are somewhat ambiguous in harmonic respect, since the subsequent keys of G minor and D minor only become apparent in retrospect. Indeed, Prinner (a) seems to start in C minor rather than G minor, and Prinner (b) in G minor rather than D minor, given their initial chords.

We will further leave this ambiguity out of account. Thus the bass ④–③–②–① and its accompanying parallel thirds $\hat{6}-\hat{5}-\hat{4}-\hat{3}$ form the framework of both Primmers. Prinner (c) shows a similar parallel motion, yet is otherwise located in the key. One might expect a modulation to

A minor from bar 83 in accordance with the former Prinner, but instead Prinner (c) ends on the dominant of D minor. This is due to the bass tone B^b (instead of B^{\natural}) in bar 85. Consequently, the Prinner bass is $\hat{1}-\hat{7}-\hat{6}-\hat{5}$ in D minor, accompanied by the parallel motion $\hat{3}-\hat{2}-\hat{1}-\hat{7}$. Unlike the modulating Prinner in the major mode, discussed earlier in this section, the Prinner in question is unequivocally in D minor, and thus does not imply a modulation at all. Noteworthy is its similarity with the descending tetrachord of the RO, previously shown in example 4.27.

As mentioned before, the upper voice of the reduction is based on the structural tones of the eighth-note figurations. So the G is the top note of the reduction of Prinner (a). In bar 77 the G (the tied note) becomes a suspension that resolves into the F^{\sharp} ; in bar 81 the same applies to the tied D in Prinner (b) that resolves into the C^{\sharp} . In bar 85 the tied A of Prinner (c) resolves into the G^{\sharp} (*), which results in the augmented $\frac{6}{3}$ chord on $\hat{6}$ (see Section 4.4, example 4.27).

EXAMPLE 5.24 Prototypes of the Prinner in major (a, b, c) and minor (d, e, f)

Example 5.24 shows six prototypes of the Prinner, labeled (a) through (f). Each example consists of a two-staff musical score (treble and bass clefs) with fingerings indicated below the notes. The fingerings are circled numbers 1 through 7, with some notes in parentheses. Examples (a), (b), and (c) are in C major, while (d), (e), and (f) are in A minor and E minor respectively.

Example (a) C major: Treble clef, notes G4, A4, B4, A4, G4, F4, E4, D4. Bass clef, notes G2, A2, B2, A2, G2, F2, E2, D2. Fingerings: (5)3, 63, 73, 63, (5)3, 4, 3, 2, 3, 1.

Example (b) C major: Treble clef, notes G4, A4, B4, A4, G4, F4, E4, D4. Bass clef, notes G2, A2, B2, A2, G2, F2, E2, D2. Fingerings: (5)3, 63, 73, 73, (5)3, 4, 3, 2, 5, 1.

Example (c) C major or G major: Treble clef, notes G4, A4, B4, A4, G4, F4, E4, D4. Bass clef, notes G2, A2, B2, A2, G2, F2, E2, D2. Fingerings: 53, 63, 73, 6#3, (5)3, 1, 7, 6, 5, 4, 3, 2, 1.

Example (d) A minor: Treble clef, notes G4, A4, B4, A4, G4, F#4, E4, D4. Bass clef, notes G2, A2, B2, A2, G2, F#2, E2, D2. Fingerings: 53, 63, 73, 6#3, (5)3, 4, 3, 2, 1.

Example (e) A minor: Treble clef, notes G4, A4, B4, A4, G4, F#4, E4, D4. Bass clef, notes G2, A2, B2, A2, G2, F#2, E2, D2. Fingerings: 53, 63, 73, 6#3, (5)3, 1, 7, 6, 5, 4, 3, 2, 1.

Example (f) E minor: Treble clef, notes G4, A4, B4, A4, G4, F#4, E4, D4. Bass clef, notes G2, A2, B2, A2, G2, F#2, E2, D2. Fingerings: 53, 63, 73, 6#3, (5)3, 4, 3, 2, 1.

Example 5.24 shows various prototypes of the Prinner. All contain parallel tenths, either in the upper or the middle voice.

Examples (a) and (b) are in C major; their most significant difference is the inserted $\hat{5}$ between $\hat{2}$ and $\hat{1}$ in example (b).

Example (c) can be conceived either in C major or G major, and must therefore be regarded as a modulating Prinner. The analysis shows both options: the higher-level circled numerals address C major and the lower-level numerals G major. This ambiguous variant enables a continuation in C major as well as in G major.

Example (d) is the minor equivalent of example (a).

The Prinner of examples (e) and (f) are almost equal; however, example (e) sounds in A minor because of its bass tone F^{\sharp} , and example (f) in E minor because of its bass tone F^{\sharp} . These two examples prove that a minor-mode equivalent of the modulating Prinner does not exist.

Terms to remember

- The Prinner is a schema based on the bass motion ④–③–②–①, accompanied by parallel thirds (tenths) in one of the upper voices. The $\frac{5}{3}$ chord on ④ deviates from the descending RO.
- The Prinner can be transposed to ①–⑦–⑥–⑤. Because of the raised sixth on ⑥ this transposition can generate a modulation to the dominant key. If so, the scale degrees must be reconceived as ④–③–②–①. This variant is called the modulating Prinner.
- In the minor mode the modulating Prinner does not exist.
- Because of its graceful nature the Prinner best suits the major mode.

Instructions for the exercises

- This exercise is after Handel's "Hallelujah" from his oratorio *The Messiah*. Bars 4–6 and 10–11 are ambiguous with respect to their tonal orientation: they can be conceived in D major as well as in A major. Note that these bars require a similar realization. The figured-bass numerals in bars 7–9 will guide you; create a nice upper voice.
- Notate the entire bass according to the indicated schemata. Subsequently you can add the middle part. Note that bars 7–8 are a transposition of bars 5–6, and thus require a similar realization.

Suggestion for further analysis

Haydn: String Quartet in C major, Op. 33 No. 3, fourth movement (Rondo: Presto), bars 19–22

5.4 THE MONTE ROMANESCA

EXAMPLE 5.25 Handel: Chaconne in C major, HWV 484, bars 1–8

C major

segment 1 segment 2 segment 3

① ----- ⑤ ② ----- ⑥ ④ ----- ①

Monte Romanesca Galant cadence

Example 5.25 shows the theme of Handel's famous Chaconne with 49(!) variations.

It opens with a progression of $\frac{5}{3}$ chords on a ①–⑤ bass pattern in bars 1–2, which turns out to be the initial segment of an ascending sequence. The pattern is transposed in bars 3–4 and 5–6. Each segment is based on an ascending fifth (or a descending fourth): ①–⑤, ②–⑥ and ④–①, respectively. A Galant cadence closes the theme.

One might wonder about the gap between segments 2 and 3: the sequence omits the segment ③–⑦ and goes on with ④–①. The reason for this omission is the occurrence of a diminished $\frac{5}{3}$ chord on ⑦: the (imaginary) chord B–D–F does not sound well here and must therefore be avoided.

The sequence shares features with both the leaping Romanesca (see Section 5.1) and the Monte (see Section 2.2). The ascending fifth (or the descending fourth) of each segment is also the starting point of a leaping Romanesca. On the other hand, the ascending direction of the sequence addresses the Monte. Therefore this schema is called the Monte Romanesca. Example 5.26 juxtaposes the basses of the three schemata.

EXAMPLE 5.26 Bass patterns of the leaping Romanesca (a), the Monte Romanesca (b), and the Monte (c)

C major

a. $\frac{5}{3}$ $\frac{5}{3}$ $\frac{5}{3}$ $\frac{5}{3}$ $\frac{5}{3}$ $\frac{5}{3}$ b. $\frac{5}{3}$ $\frac{5}{3}$ $\frac{5}{3}$ $\frac{5}{3}$ c. $\frac{5}{3}$ $\frac{5}{3}$ $\frac{6}{3}$ $\frac{5}{3}$ $\frac{6}{3}$ $\frac{5}{3}$ $\frac{6}{3}$ $\frac{5}{3}$ $\frac{6}{3}$

① ⑤ ⑥ ③ ④ ① ① ⑤ ② ⑥ ④ ① ① ② ③ ④

The horizontal brackets indicate the sequential structure of the three schemata.

Example (a) is the bass of the leaping Romanesca, a fourth down and a second up, which results in a descending-thirds sequence. The plain leaping Romanesca consists of complete and incomplete $\frac{5}{3}$ chords exclusively.

Example (b) is the bass of the Monte Romanesca. The first segment corresponds with the leaping Romanesca, but the second segment is transposed a second higher instead of a third lower. As is mentioned above, the sequence omits the segment E–B, due to the diminished $\frac{5}{3}$ chord on B. Like the leaping Romanesca, the Monte Romanesca consists of $\frac{5}{3}$ chords.

Example (c) is the bass of the Monte, which supports an alternation of $\frac{5}{3}$ and $\frac{6}{3}$ chords. The Monte and the Monte Romanesca share the stepwise sequential ascent C–D–(E–)F.

The prototype of the Monte Romanesca shown in example 5.29(a) below can be used as the reduction of bars 1–6 of Handel's chaconne.

EXAMPLE 5.27 Schumann: "Wanderlust," Op. 35 No. 3, bars 32–39

G♭ major

32

Da grü - ßen ihn Vö - gel be - kann't ü - berm Meer, sie flo - gen von Flu - ren der Hei - mat hie - her, da

① ----- ⑤ ② ----- ⑥

EXAMPLE 5.27 Continued

36

duf - ten die Blu - men ver - trau - lich um ihn, sie trie - ben vom Lan - de die Lüf - te da - hin.

④ ----- ① ④ ----- ①

Example 5.27 is an excerpt from the song “Wanderlust” from *Zwölf Gedichte* Op. 35 by Robert Schumann (1810–1856). The whole section is in $G\flat$ major. In accordance with the text phrasing (note the commas in the lyrics) the vocal melody consists of four groups of two bars each. These groups are tightly connected. The first two groups (bars 32–33 and 34–35) form a sequence, while the last two groups (bars 36–37 and 38–39) are identical. The bass exhibits a series of descending fourths: in bars 32–35 the leaps ①–⑤ and ②–⑥, and in bars 36–39 a repeated, stepwise filled descending fourth ④–①. The dashed arrows underneath the staves indicate these filled fourths. The reduction of example 5.28 clarifies the harmonic structure.

EXAMPLE 5.28 Reduction of bars 32–39

$G\flat$ major

32

segment 1 segment 2 segment 3 (repeated)

p s r p s r p s r

① ----- ⑤ ② ----- ⑥ ④ ----- ①

Monte Romanesca Prinner (2x)

The reduction reveals two segments of the Monte Romanesca that are based on ①–⑤ and ②–⑥. Schumann’s Monte Romanesca differs from Handel’s (example 5.23) because of the 4–3 suspension in the second bar of each segment. This harmonic embellishment produces a full sound and a strong forward drive. In bar 36 a third segment starts on ④. As has been noted above, the stepwise motion from ④ to ① replaces the direct ④–① leap. In this respect the $D\flat$ (notated between brackets) may be regarded as ornamental, even though the tone strengthens the close of the phrase.

In this third segment the upper voice accompanies the bass in parallel tenths: $\hat{6}-\hat{5}-\hat{4}-\hat{3}$. This Prinner (see Section 5.3) includes the stereotypical 7–6 suspension in the middle voice of the last bar. The schema beautifully balances the rising energy of the Monte Romanesca by means of a gradual relaxation.

EXAMPLE 5.29 Prototypes of the Monte Romanesca in major (a, c) and minor (b, d)

Figure 5.29 shows four variations of the Monte Romanesca. Each variation consists of two staves (treble and bass) and a line of figured bass notation below.
 - Variation (a) is in C major. The treble staff has chords in the upper voice. The bass staff has a simple accompaniment. The figured bass notation below is: (5) 3, 5 3, (5) 3, 5 3, (5) 3, 5 3, (5) 3, 5 3.
 - Variation (b) is in A minor. The treble staff has chords in the upper voice. The bass staff has a simple accompaniment. The figured bass notation below is: (5) 3, 5 3#, (5) 3, 5 3, (5) 3, 5 3.
 - Variation (c) is in C major. The treble staff has 4-3 suspensions in the upper voice, indicated by bracketed numerals (6 7 6) above the notes. The bass staff has a simple accompaniment. The figured bass notation below is: (5) 3, 5 4 3, (5) 3, 5 4 3, (5) 3, 5 4 3, (5) 3, 5 4 3, (5) 3, 5 4 3.
 - Variation (d) is in A minor. The treble staff has 4-3 suspensions in the middle voice, indicated by bracketed numerals (3 2 3) above the notes. The bass staff has a simple accompaniment. The figured bass notation below is: (5) 3, 5 4 3#, (5) 3, 5 4 3, (5) 3, 5 4 3.

Example 5.29 provides the prototypes of the Monte Romanesca.

Example (a) shows the plain variant of the Monte Romanesca in the major mode. The example may be used as the reduction of Handel’s Chaconne in example 5.25. The schema consists of consonances exclusively. Note that the segment ③–⑦ is omitted. As has been mentioned previously, the reason for this omission is the occurrence of a diminished triad on ⑦.

Example (b) shows the plain Monte Romanesca in the minor mode. Here the segment ②–⑥ is omitted for the same reason, namely the occurrence of a diminished triad on ②. Because of the sequential structure the leading tone G# in bar 1 does not require a resolution.

Example (c) contains 4–3 suspensions in the upper voice; see the figured-bass numerals. The two upper voices perform the interval progression 6–7–6; see the bracketed numerals above the staves.

In example (d) the 4–3 suspensions are in the middle voice; the upper voices perform the interval progression 3–2–3.

EXAMPLE 5.30 Stanley: Voluntary in D minor, Op. 5 No. 8, bars 28–33

Figure 5.30 shows Stanley's Voluntary in D minor, bars 28-33. The notation includes a treble and bass staff. The key signature is F major (one flat). The figured bass notation below the bass staff is: ①, ⑤, ②. The treble staff has a complex rhythmic pattern with sixteenth notes. The bass staff has a simple accompaniment with some rests.

EXAMPLE 5.30 Continued

31

⑥ ③ ③

D minor A minor

34

Example 5.30 shows an excerpt from a voluntary by John Stanley. The phrase shown starts in F major and leads via D minor to A minor, and ends with a half cadence. The sixteenth notes of the right hand strongly suggest two distinct voices. They form the interval progressions 6–7–3–2, and so on; see the bracketed numerals above bars 28–30. The continuous alternation of consonances (sixths and thirds) and dissonances (sevenths and seconds) is noteworthy. In bar 33 the harmonic rhythm accelerates from half notes to quarter notes; from here sixths merely alternate with sevenths.

Despite its leaps up and down, we can easily recognize the Monte Romanesca bass: ①–⑤–②–⑥–③. Example 5.31 illustrates the three-part harmonic structure of these bars.

EXAMPLE 5.31 Reduction of bars 28–33

F major

segment 1 segment 2 segment 3

p *s* *r* *risposta*

proposta *p* *s* *r*

$\frac{8}{3}$ $\frac{4}{5}$ — $\frac{3}{8}$ $\frac{5}{4}$ — $\frac{8}{3}$ $\frac{4}{5}$ — $\frac{3}{8}$ $\frac{5}{4}$ — $\frac{8}{3}$

① ——— ⑤ ② ——— ⑥ ③ ———

The bass leaps ①–⑤ and ②–⑥ are the basis of the first two segments of the Monte Romanesca. The two upper voices perform 4–3 suspensions in turn. In order to highlight this voice leading the figured-bass numerals have been adjusted to the contrapuntal texture: the higher numerals systematically represent the upper voice and the lower ones the middle voice. The horizontal lines

stress the 4–3 resolutions. Thus, each voice consists of an alternation of 4–3 and 5–8 patterns, and each 4–3 suspension in one voice goes hand in hand with a 5–8 leap in the other, and vice versa. Note that each 5–8 leap provides the preparation for the suspension.

This procedure generates a canon between the two upper voices. The middle voice of the reduction acts as the *proposta* and the upper voice as the *risposta*, but the other way around is possible too. The canon inevitably stops in the third segment. The prototypical representation of this canonic *Monte Romanesca* in example 5.32 clarifies this.

EXAMPLE 5.32 Prototype of the canonic *Monte Romanesca*, in major (a) and minor (b)

Figure 5.32 shows two musical examples of the *Monte Romanesca* canon. Example (a) is in C major and consists of three segments. Example (b) is in A minor and consists of two segments. Below the staves, figured bass notation is provided for each segment. In (a), the figures are ①, ④, ③, ④, ③, ④, ③, ④, ③, ④, ③, and ⑦. In (b), the figures are ④, ③, ④, ③, ④, ③, and ②. An 'X' is placed under the ⑦ in (a) and the ② in (b), indicating a diminished fifth interval that prevents further continuation of the canon.

Example (a) shows a prototype of the canonic *Monte Romanesca* in the major mode. The sequence consists of two and a half segments. The diminished fifth B–F on ⑦, indicated by the X sign, prohibits continuation. Jumping from ②–⑥ to ④–①, as in examples 5.29(a) and (c), is no option: the canonic voice leading resists any irregularity. Example (b) proves that the canonic *Monte Romanesca* in the minor mode is virtually impossible, due to the diminished fifth (X) that already occurs on ②.

EXAMPLE 5.33 Mozart: String Quartet in G Major, K 387, fourth movement (*Molto allegro*), bars 124–142

Figure 5.33 shows a musical excerpt from Mozart's String Quartet in G Major, K 387, fourth movement, bars 124–142. The score is in G major and features various string parts (v1, v2, vlc) and figured bass notation. The key signature changes to E minor, B minor, F# minor, C# minor, and G# minor. Asterisks mark specific points in the score.

EXAMPLE 5.33 Continued

Example 5.33 shows an excerpt from the fourth movement of Mozart's String Quartet in G major, K 387. The entire movement explores various contrapuntal techniques, embedded in a Classical sonata form. Both main and secondary theme appear as mutually related fugues!

The excerpt concerns the first section of the development. As in large parts of the exposition the texture is highly polyphonic. The second violin initiates a chromatic quarter-note motif that is imitated by all other instruments. From bar 130 only the cello and the viola play the chromatic motif alternately; the two violins accompany the lower strings by (tied) whole notes until the end of the section in bars 141–142.

The section starts in G major, but quickly turns to the relative key E minor in bar 127 by means of the chromatic motif. From here a modulation process starts. Regarding the chromatic quarter-note motifs, the keys go through the ascending circle of fifths: E minor, B minor, F# minor, and so on. (About the notation of bars 136–137, see below.) These modulations eventually lead to B \flat minor from bar 139. Indeed, a next step in the circle of fifth is suggested, but the final F major chord is the dominant of B \flat minor rather than a new tonic.

The foundation of the harmonic process is a slow structural bass motion, indicated by the * signs underneath the staves. Example 5.34 shows this structural bass.

EXAMPLE 5.34 Structural bass of bars 127–142

The first two structural bass tones E and B (in example 5.33 notated in cue size and between brackets) are only implicit: they actually sound in the highest voices. Nevertheless, their role in the harmonic process is crucial. The structural bass is a succession of rising perfect fifths and falling perfect fourths. Note the enharmonization of the sixth bass tone: D# is notated as E \flat . The reason for this notation is to avoid an abundance of sharps: theoretically speaking, the last three bass notes should have been D#, A#, and E#. (Mozart's authentic notation seems somewhat haphazard in this respect; this is why the examples given here slightly differ from the authentic score.)

EXAMPLE 5.35 Reduction of bars 127–142

Example 5.35 shows the three-part harmonic structure of the entire section. The reduction is based on the structural bass presented in example 5.34. The reduction reveals a stepwise ascending sequence that contains four segments of four bars each (see the horizontal brackets above the staves). Each segment arises from a ①–⑤ bass motion; retrospectively, each ⑤ can be re-interpreted as ①. Apart from the first two bars, the two upper voices exhibit an alternation of rising fourths (5–8) and suspension patterns (4–3) that is distinctive for the canonic *Monte Romanesca*.

The *Monte Romanesca* of Mozart's string quartet is remarkable in two respects. First, the schema starts in the minor mode. As mentioned above, the canonic *Monte Romanesca* usually does not occur in the minor mode, due to the diminished fifth on ② (see example 5.32(b)). Second, each chord implies a different key. It is this continuous modulation process that enables the canonic variant.

A little experiment makes this clear. Imagine a single key of E minor in bars 127–132 of example 5.35: this implies a $C\sharp_4$ in bar 131 instead of the real $C\sharp$. As we know, the imaginary $C\sharp_4$ is not acceptable, due to the diminished fifth $F\sharp$ – C . The $C\sharp$, on the contrary, avoids this false harmonic relation, and automatically causes modulations to B minor and $F\sharp$ minor. The second (and third and fourth) segment turns out to be an exact transposition of the first.

Terms to remember

- The *Monte Romanesca* is a sequence based on the bass a fifth up and a fourth down. The plain schema consists of $\frac{5}{3}$ chords exclusively.
- The second chord of each segment may contain a 4–3 suspension.
- The segments ③–⑦ in major and ②–⑥ in minor are omitted because of the diminished $\frac{5}{3}$ chord on ⑦ and ②, respectively.

- A particular variant is the canonic Monte Romanesca, with an alternation of 5–8 leaps and 4–3 suspensions in the upper and middle voice.

Instructions for the exercises

- The segments in bars 2 and 3 are exact transpositions of the initial segment. Close the phrase with a double cadence.
- The exercise starts with a Monte Romanesca that contains a 4–3 suspension in the second chord of each segment. In bar 3 the Monte Romanesca overlaps with the leaping Romanesca, in which 4–3 alternates with 9–8. Close the phrase with a compound cadence.
- The canonic Monte Romanesca alternates 4–3 and 5–8 patterns in the upper and middle voice. A 7–6 Fauxbourdon grows organically out of the Monte Romanesca. Determine the proper starting point of this sequence. A stepwise cadence closes the Fauxbourdon. The compound cadence and the Quiescenza subsequently close the phrase.
- This exercise is a partimento by Stanislao Mattei (1750–1825). Determine the structural bass tones by adding circled numerals. The authentic figured bass implies a canonic Monte Romanesca. Thus the 4–3 suspensions occur alternately in the upper and middle voice.
- This challenging exercise makes use of the minor-mode Monte Romanesca, like Mozart's String Quartet K 387 (see example 5.33). Before you start, notate the keys in the empty boxes and add the scale degrees underneath the staves. In bar 7 the bass note E \flat is an enharmonization of D \sharp . The canonic procedure will guide you through the correct keys. Do not forget to add all necessary sharps and flats.

Suggestion for further analysis

Schumann: Arabeske, Op. 18, bars 153–160

5.5 THE FENAROLI

EXAMPLE 5.36 Stanley: Voluntary in G minor, Op. 5 No. 9, bars 1–4

G minor

5/3 6 \sharp /4 6/3 6/3 5/3 6 \sharp /4 6/3 6/3 5/3

① ② ③ ⑦ ① ② ③ ⑦ ①

Fenaroli

Example 5.36 shows the opening bars of Stanley's Voluntary in G minor. The pedal point in the upper voice on \hat{S} is noteworthy. The bass and the middle voice provide the melodic movement. Both voices circle around the tonic G until the first beat of bar 3. The two voices perform a canon. The example presents the bass as the proposta and the middle voice as the risposta, but the other way around is possible too. If so, the bass imitates the middle voice, starting from B \flat on the third beat of bar 1.

This schema, consisting of two canonic voices and a pedal point on \hat{S} , is called the Fenaroli, as a tribute, so to speak, to the great Neapolitan partimento master. The harmonic progressions are according to the RO, except for the $\text{}^6_4$ chord on $\textcircled{2}$. (The RO prescribes a $\text{}^6_3$ chord on that scale degree.) A reduction of example 5.36 is redundant, since Stanley's Fenaroli may be valued as the prototype itself.

EXAMPLE 5.37 Beethoven: Piano Sonata in C major, Op. 53, "Waldstein," first movement, bars 96–104

The musical score for Example 5.37 is presented in three systems, each with a treble and bass staff. The first system (bars 96-98) is labeled 'G minor' and 'segment 1'. The second system (bars 99-101) is labeled 'C minor' and 'segment 2'. The third system (bars 102-104) is labeled 'F minor' and '(segment 3)'. The left-hand part consists of a complex tremolo accompaniment. The right-hand part features a melodic line with repeated notes marked with asterisks (*).

Example 5.37 presents an excerpt from Beethoven's famous "Waldstein" Sonata. The two flats key signature is not authentic, but added by the author; the authentic key signature is C major throughout the whole movement. The excerpt appears a couple of bars after the beginning of the development. It starts in G minor (hence the added flats), then moves to C minor and finally to F minor. The left-hand accompaniment consists of tremolos that suggest two distinct voices, namely a bass moving in half-note durations, and a middle voice with sustained (actually repeated) tones. The bass circles around the tonic G until the first half of bar 99: G–A–B \flat –F \sharp , and so on. This pattern recurs from bar 100, although transposed to C minor. Bar 104 suggests a third recurrence in F minor, but departs from the model right after.

The right hand presents two motifs from the sonata's main theme, on beats 1–2 and 3–4 in bar 96. These motifs are subject to continuous variation in the following bars. The spreading of the motives across several octaves seems to result in a loose and mosaic-like motivic structure. However, sizing the structural tones (*) down to one single octave uncovers a fluent and coherent melodic line. This will be shown in the reduction of the whole excerpt in example 5.38.

EXAMPLE 5.38 Reduction of bars 96–104

96

G minor C minor F minor

risposta *risposta*

proposta *proposta*

5 6# 6 6 5 6# 6 6 5 6# 6 6 5 6# 6 6 5

① ② ③ ⑦# ① ② ③ ⑦# ① ② ③ ⑦# ① ② ③ ⑦# ①

Fenaroli Fenaroli (Fenaroli)

The reduced upper voice reveals a circling around the tonic similar to the bass line. Indeed, the upper voice imitates the bass (or the other way around) from the beginning, and again from bar 100. The middle voice performs a pedal point on $\hat{5}$ of G minor and C minor, respectively. These components form two distinct Fenarolis, the first in G minor and the second in C minor. It needs to be emphasized that all sixteenth-note diminutions and octave displacements highly obscure the Fenaroli. In other words, the listener does not necessarily perceive the canonic relation between the outer voices or the pedal points in the middle voice. Notwithstanding this, the Fenaroli appears to be the foundation of the whole section.

EXAMPLE 5.39 Schubert: Impromptu in E \flat major, Op. 90 No. 2, bars 1–8.

E \flat major

* * * * * (*)

3 3 3

5 * * * *

Example 5.39 shows the opening bars of Schubert's Impromptu in E \flat major. The phrase plays a significant role in the composition. It is repeated twice from bar 9; in the whole Impromptu the phrase sounds no fewer than ten times!

The score distinguishes three voices, each of them fulfilling their own task. Bars 1–5 contain the Fenaroli bass, circling around the tonic $E\flat$. Subsequently, the bass closes the phrase with the cadential progression ①–④–⑤–① in bars 5–8. The middle voice, explicitly notated in bars 1–5 and more implicitly in bars 6–8, performs a pedal point on \hat{S} before it closes by the stepwise motion $B\flat$ – C – D – $E\flat$. The two left-hand voices provide the harmonic framework of the phrase.

The upper voice fills this framework with graceful triplet garlands. Due to the waves of descending and ascending scale figurations it is difficult, if not impossible, to determine the structural tones from a purely melodic perspective. Otherwise, the missing tones of the harmonic framework distinguish between structural and ornamental melody tones. From this perspective the structural tones (*) in bars 1–3 are G , D , and $E\flat$. In bar 4 the chromatic tone $F\sharp$ replaces the “missing link” F that sounded just before. The addition of the $A\flat$ (under the bracketed *) to the structural melody is optional. The structural tones on the first beats of bars 5, 6, and 8 are obvious. On the other hand, the D in bar 7 is somewhat arbitrary: the tone is more prominent in the left hand.

Example 5.40 provides the reduction of the fragment.

EXAMPLE 5.40 Reduction of bars 1–9

The reduction reveals a Fenaroli, even though a canon between the outer voices does not really occur. In fact, the canon needs a repeat of the schema before it becomes manifest. Nevertheless, the relation between the outer voices cannot be ignored. The upper voice pattern G – D – $E\flat$ recurs as bass pattern two bars later and, similarly, the bass pattern $E\flat$ – F – G recurs as upper voice pattern.

The subsequent Galant cadence deviates somewhat from the schema described in Section 3.4, because the stereotypical parallel sixths are given up in favor of fuller chords. So the penultimate chord is a $\frac{7}{3}$ chord; the oblique lines indicate the resolution of the augmented fourth $A\flat$ – D to the sixth G – $E\flat$.

Example 5.41 shows two prototypes of the Fenaroli.

EXAMPLE 5.41 Prototypes of the Fenaroli in major (a) and minor (b)

Example (a) is in the major mode. The bass and the middle voice perform the canon and the upper voice the \hat{S} pedal point.

Example (b) is in the minor mode. The upper and middle voices relate to those of example (a) by means of invertible counterpoint. So, the bass and the upper voice perform the canon and the middle voice the \hat{S} pedal point.

Terms to remember

- The Fenaroli consists of three components. First, the bass circling around the tonic; second, the middle or upper voice imitating the bass; third, the remaining voice that performs a pedal point on \hat{S} .
- The harmonic progressions are according to the RO, except for the $\frac{6}{4}$ chord on ②.
- All sorts of diminutions may obscure the Fenaroli.

Instructions for the exercises

- The modulating Prinner is part of the complete descending RO in bars 3–6. The half note E in bar 3 requires a suspension.
- This exercise contains two Fenarolis, the first with a canonic middle voice and the second with a canonic upper voice. The Fifth Down Fourth Up schema is slightly diminished by a rhythmic pattern. Apply a similar rhythm in the middle voice. The last eighth note (*) in bar 8 requires a harmonic realization.
- This exercise does not contain any hint. Determine the suitable schemata and add the figured-bass numerals.
- This is an arrangement of a partimento by Durante. Analyze the bass before you start your realization. On which spots does the bass imply a Fenaroli? Which other schemata (including cadence formulas) are required? Add the figured-bass numerals.

Suggestion for further analysis

Schumann: “An meinem Herzen, am meiner Brust” from *Frauenliebe und -leben*, Op. 42, bars 2–5 and 26–29

5.6 THE FOLIA

EXAMPLE 5.42 Marais: *Les Folies d’Espagne*, bars 1–8

D minor

EXAMPLE 5.42 Continued

Example 5.42 shows the theme of a set of variations for viola da gamba and basso continuo by the French composer Marin Marais (1656–1728). The one-flat key signature is not authentic. For his theme Marais has used a pre-existing compositional model called the Folia (It.). In French the name *Les Folies d'Espagne* was used. Indeed, the history of the Folia goes back to a sixteenth-century dance with Iberian roots. During the seventeenth and early eighteenth century the Folia became increasingly popular. Most Folias are in D minor, like Marais' *Les Folies*; stereotypical is the Sarabande rhythm with dotted quarter notes on the second and the first beats alternately.

Many composers have written sets of variations based on the Folia. To mention just a few besides Marais: Lully, Corelli, Vivaldi, and Carl Philipp Bach. Later composers like Franz Liszt (*Rhapsodie Espagnole*) and Rachmaninoff (*Corelli Variations*) reverted to the old practice.

Example 5.43 provides the three-part reduction of Marais' Folia, which can serve as a prototype at the same time.

EXAMPLE 5.43 Reduction of bars 1–8, and prototype of the Folia

D minor

(5)₃ ① 5₃[#] ⑤ (5)₃ ① 5₃ ⑦ (5)₃ ③ 5₃ ⑦ (5)₃ ① 5₃[#] ⑤ (5)₃ ① 5₃[#] ⑤ (5)₃ ①

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

Note the two upper voices, which move exclusively in parallel sixths. The bass supplements the parallel motion by providing complete and incomplete $\frac{5}{3}$ chords. The leap from ⑦ to ③ betrays the modal (Dorian) quality of the harmony. From a tonal perspective, the theme starts with ①–⑤–① in D minor (a), then deviates via ①–⑦–③ to the relative key F major (b), and finally (c) returns to D minor through the leaping Romanesca ③–⑦–①–⑤ (c). The first time the phrase ends with a half cadence and the second time with a perfect cadence (d).

The occurrence of the natural ⑦ gives the theme its uniqueness and may have contributed to its popularity. The significance of this scale degree excludes the occurrence of the schema in the major mode.

EXAMPLE 5.44 Beethoven: Symphony No. 5 in C minor, Op. 67, second movement (Andante con moto), bars 167–176 (arrangement by the author)

A♭ minor

Example 5.44 shows an excerpt from the slow movement of Beethoven's Fifth Symphony. The main key of the movement is A♭ major. It is construed as a variation form, but the variations are separated by substantial interpolations. The variation exposed here comes after such an interpolation. The key is A♭ minor, the parallel key of the main key. Woodwind instruments (flute, clarinet, and bassoon an octave lower) play a melodic variation of the theme, which is notated on the highest staff. The string section, notated on the two lower staves, provides the harmonic framework of the variation. The top notes (*) of the broken triads in thirty-seconds (played by the first violins) form the structural upper voice; most of them coincide with the woodwind melody.

The bass is in accordance with the first phrase of the Folia (see example 5.43). The half cadence is already achieved in bar 174. From here ⑤ alternates with ①. Since ① seems subordinate to ⑤ from a metrical point of view, we are used to speaking of a prolongation of ⑤. Example 5.45 reduces the phrase into three parts, and makes use of the key signature of A♭ minor.

EXAMPLE 5.45 Reduction of bars 167–174

167 A♭ minor

(5) ① 5 3̣ ⑤ (5) ① 5 3 ⑦ (5) ③ 5 3 ⑦ (5) ① 5 3̣ ⑤ -----

The example is similar to bars 1–8 of example 5.43, yet the inversion of the upper voices results in parallel thirds instead of parallel sixths. The reduction illustrates the prolongation of ⑤ in bars 174–176 by bracketing the subordinate chords.

In one meaningful respect Beethoven's use of the Folia differs from Marais' theme. While Marais' theme "is" the Folia, Beethoven's variation only "recalls" it. In Beethoven the Folia has lost its original nature, namely a dance tune that can endlessly be varied. Beethoven here conjures the association of an earlier style, which indeed gives the variation its somewhat archaic character.

EXAMPLE 5.46 Tchaikovsky: *The Queen of Spades*, Op. 68, Act III, Entr'acte (Largo), bars 1–7

E♭ minor (Dorian)

① ⑤ ① ⑦ ③ ⑦ ①

Folia

Example 5.46 presents the opening of the third act of Tchaikovsky's opera *The Queen of Spades*. The entr'acte (the orchestral piece of music that links two acts) is notated without key signature. Although the key seems to be E♭ minor at first sight, a key signature of five instead of six flats is appropriate because of the C♯ at the end of the excerpt. The lack of a strong orientation on the tonic, due to an almost consistent omission of the leading tone, gives the harmony its modal (one might say typically Russian folkloristic) quality. Indeed, the tone set implies E♭ Dorian with five flats, thus with its characteristic C♯. Notwithstanding this, the analysis below takes E♭ minor as its orientation point.

The harmony starts floating around the tonic E♭ minor chord, from bar 1 to the first beat of bar 4. From here the harmony obtains a stronger forward drive by the appearance of the leading tone D♯, and by the bass leaps of fourths and fifths. An association with the Folia comes up; see the

circled numerals underneath the staves. The bass progression ①–⑤–① in bars 4–5 can be heard in E \flat minor, the following ①–⑦–③ deviates to the relative key G \flat major, and the final ③–⑦–① returns to E \flat minor. Instead of a half cadence that would accomplish the Folia phrase, the music drops back to its seemingly aimless character in bars 6–7.

Example 5.47 reduces the many voices (up to seven in bar 5!) to a three-part texture.

EXAMPLE 5.47 Reduction of bars 4–6

4 E \flat minor

$\begin{matrix} (5) & 5 & (5) & 5 & (5) & & (5) \\ 3 & 3 & 3 & 3 & 3 & & 3 \\ \textcircled{1} & \textcircled{5} & \textcircled{1} & \textcircled{7} & \textcircled{3} & \textcircled{7} & \textcircled{1} \end{matrix}$

The question arises whether this Folia is intentional or not. After all, modality is an integrated part of Tchaikovsky's harmonic language. First, the irregular rhythm contradicts the simple ternary meter of the Folia, which we can observe in the examples of Marais and Beethoven. Second, the lacking half cadence deprives the music of the clear phrasing proper to the Folia, and of a hint to the leaping Romanesca. On the other hand, the Tchaikovsky excerpt shares its harmonic substance with the Folia, as do the parallel thirds in the upper voices. These thirds continue in bars 6–7 (notated in example 5.47 in cue size), and seem to be superordinate to the bass motion as in the preceding bars.

Terms to remember

- The Folia originates from sixteenth-century dance music.
- In the seventeenth and early eighteenth century its harmonic/melodic/metric framework forms the basis of many sets of variations. In later works the Folia now and then act as a schema that recalls the older phenomenon.
- Parallel sixths or thirds form the principle of the Folia. The bass supports this parallel motion by providing complete and incomplete $\frac{5}{3}$ chords.
- The Folia solely occurs in the minor mode.

Instructions for the exercises

This single exercise is a partimento by Francesco Durante. You may wish to substitute the broken triads for a simpler rhythm in quarter notes or so. The upper voices move in dotted half notes on the broken-chord figurations. Bars 10–18 are in the dominant key A minor. Vary bars 14–15

in relation to bars 12–13 by inverting the upper voices. The figured-bass numerals will help you create a nice cadence. If you wish, you may try alternatives. Bars 27–34 are a transposition of bars 12–18, except for the inserted bar 31.

Suggestion for further analysis

Beethoven: *Für Elise*, WoO 59, bars 1–22

P A R T I I

**HARMONY IN
FOUR PARTS**

FUNDAMENTALS OF FOUR-PART HARMONY

INTRODUCTION

This chapter introduces four-part writing. Harmony in four parts, rather than in two or three parts, is often regarded as the premise of tonal music. Indeed, by enabling a more permanent use of complete triads and seventh chords, four-part harmony is an enrichment of the sound compared to two- and three-part harmony.

On the other hand, the added fourth voice causes a loss of transparency to some extent. Generally speaking, middle voices are less perceivable than outer voices. Our perception automatically addresses the harmonic complex as a whole, rather than the distinct voices. In other words, the two middle voices lose their individuality, at least partly, by blending into a sonorous unity. The result is what the Germans call *Aussenstimmensatz* (outer-voices texture). This means that the outer voices are contrapuntally related, while the middle voices mainly fulfill the harmonic implications provided by the outer voices.

This fact changes our perspective to a certain degree. Part I (Chapters 1–5) gave priority to the contrapuntal relation of the two or three voices: recall for instance the treatment of suspensions, invertible counterpoint, or canon techniques. So far, harmony has been the result of the simultaneous movement of the voices, rather than the other way around.

Part II (Chapters 6–9) maintains the contrapuntal perspective whenever possible. However, more often than in Part I it seems appropriate to focus on the vertical rather than the horizontal. The present chapter, for instance, presents the dominant seventh chord as a vertical, harmonic configuration. Moreover, the chapter introduces the concept of chord inversion, although with reference to the linear concept of invertible counterpoint. An additional aspect of four-part writing is the doubling of tones in $\frac{5}{3}$, $\frac{6}{3}$ and $\frac{6}{4}$ chords. Doubling of tones depends on the requirements of voice leading and harmonic sound. This chapter increasingly pays attention to this issue.

The first sections deal with different kinds of four-part cadences. Section 6.1 presents the compound cadence including the $\frac{6}{3}$ chord on $\textcircled{4}$. This chord is the four-part version of the already

known $\frac{6}{3}$ chord. Section 6.2 discusses the four-part Galant cadence. Section 6.3 introduces the discant cadence, a frequently occurring schema that relates to the compound cadence (with $\frac{6}{3}$ on ④) by means of invertible counterpoint. Section 6.4 deals with the aforementioned dominant seventh chord. The particular status of the chord is due to its inherent diminished fifth or augmented fourth; recall the discussion on these intervals in Section 4.2. Section 6.5 presents the four positions of the dominant seventh chord by introducing the concepts of chord inversion and chord family. Finally, Section 6.6 discusses the four-part Rule of the Octave, which appears to be a useful tool for four-part writing.

6.1 THE COMPOUND CADENCE (II)

EXAMPLE 6.1 Bach Prelude in F major, BWV 928, from *Zwölf kleine Präludien oder Übungen für Anfänger*, bars 1–6

Although the short Prelude in F major, shown in example 6.1, is addressed to beginners on the keyboard, it has the qualities of the mature Bach in all respects. Imitations, invertible counterpoint, complementary rhythm, chromaticism, and a perfect balance between consonance and dissonance characterize its harmonic-contrapuntal texture. The structure of the Prelude resembles the concerto form: the core of the ritornello, presented in bar 1, recurs several times in various keys. Its repetitions alternate with “solo” episodes that are heavily determined by sequences.

The prelude opens with a melodic motif in sixteenth notes, which is straight away imitated by the bass. At the same time the bass forms the foundation of a four-part cadence (a); due to the bass imitation the cadence closes on an “imperfect” ③.

The next bar modulates to C major; the phrase continues the sixteenth notes of the opening motif and eventually closes with a three-part cadence (b) in the first half of bar 5. The German term *Fortspinnung* denominates this Baroque phrase type. In short, a *Fortspinnung* consists of the presentation of a motif (here bar 1), a sequence (bars 2–4), and a cadence (first half of bar 5).

Cadence (b) lacks a final bass tone: the sixteenth rest replaces the implied C on the third beat of bar 5. This incomplete cadence is called an evaded cadence. It subtly differs from the deceptive cadence (see Section 3.2): while the evaded cadence merely avoids the conclusive tonic, for instance by omitting the bass tone, the deceptive cadence denies the tonic by an alternative bass move, for instance ⑤–⑥ instead of ⑤–①. (See Appendix II for further explanation.) The evaded cadence in bar 5 provides continuity, since the bass tone C that follows the sixteenth rest is the beginning of a new phrase rather than a close. This new phrase starts with a repeat of the cadence in bar 1, transposed to C major (c).

The alternation of three- and four-part cadences is highly instructive. Example 6.2 shows the two types (cadences (a) and (c) are similar); for sake of comparison both cadences are represented as perfect cadences in C major.

EXAMPLE 6.2 Reduction of the cadences

The image shows two musical examples, (a) and (b), in C major. Example (a) is a three-part cadence with chords 6/3, 6/5, 5/3, and 5/3. Example (b) is a four-part evaded cadence with chords 6/3, 6/3, 5/3, and 5/3. Both are labeled as perfect cadences in C major.

Example (a) shows the compound cadence including $\frac{6}{3}$ on ④; see Section 3.2, examples 3.12(a) and (c). The upper voice depicts the regular succession of preparation (p), suspension (s), and resolution (r). Together with the middle voice it follows the harmonic progression 6–7–6, if we leave out of account the bracketed F in the middle voice.

The cadence of example (b) contains the same components, yet with the addition of a fourth voice G–A–G–G (\hat{S} – $\hat{6}$ – \hat{S} – \hat{S}). Apart from its own melodic quality, the voice provides a fuller texture in comparison with example (a). In turn, it completes the $\frac{6}{3}$ chord on ③, adds a third to the $\frac{6}{3}$ chord that becomes $\frac{6}{3}$, doubles the bass tone of the $\frac{5}{3}$ chord on ⑤, and completes the final $\frac{5}{3}$ chord on ①.

Evidently, the four-part $\frac{5}{3}$ and $\frac{6}{3}$ chords oblige a doubling of one of the chord tones. In a $\frac{5}{3}$ chord this concerns the bass tone as a rule. The doubling in a $\frac{6}{3}$ chord is less univocal: this depends partly on the voice leading and partly on the sound quality. In any case the doubling of dissonances and leading tones is prohibited. We will return to this important issue as necessary.

EXAMPLE 6.3 Beethoven: Piano Sonata in F minor, Op. 57, “Appassionata,” second movement (Andante con moto), bars 1–4

The musical score for Example 6.3 shows the first four bars of the second movement of Beethoven's Piano Sonata in F minor, Op. 57. The key signature is D-flat major (two flats) and the time signature is 2/4. The upper staff contains chords and a melodic line with notes marked with 'p', 's', and 'r'. The lower staff contains a bass line with fingerings: 5, 3, 6, 3, 5, 4, 5, 3, and 6, 3. A bracket under the bass line from bar 1 to bar 4 is labeled 'compound alto cadence'. A box above the first bar is labeled 'D-flat major'.

Example 6.3 shows the opening bars from the slow movement in D \flat major of Beethoven's well-known Sonata “Appassionata.” The movement consists of a theme, followed by three variations with ever-shorter note values and a final variation that reverts to the original theme.

Bars 1–4 form the antecedent of a period; bars 5–8 (not included in the example) form its consequent. The antecedent closes by means of a compound cadence with a 4–3 suspension on ⑤ (D \flat –C) in bar 3. The bass motion ⑤–④–③, however, weakens the cadence and prevents it from being conclusive. We will call this cadence-type ending on ③ an alto cadence, since the bass performs a cadential pattern that in earlier times was allocated to the alto of a four-part choir. See Section 6.3 (example 6.16(c)) and Appendix II for further information. In syntactical respect this cadence is comparable to a half cadence; the consequent ends more powerfully with a perfect cadence.

The static upper voice draws our attention to the harmonic progressions rather than the melodic lines. Noteworthy is the $\frac{6}{3}$ chord on ④ (*) in bar 2, and more specifically its dissonant component D \flat . So far this dissonance has been regarded as a suspension that requires both a preparation and a resolution; its proper metric location has always been the strong beat. Yet here the tone turns out to be a preparation for the next dissonance, namely the “tied” D \flat on the first beat of bar 3. Only on the second beat does the tone resolve to C.

The chord appears on the intersection of consonance and dissonance treatment. On the one hand, the chord is a consonance on behalf of its free metrical placement and its lost need for preparation; on the other hand, its inherent dissonance still requires a resolution. The dissonant second D \flat –E \flat in bar 2 resolves indirectly to the third C–E \flat in bar 3; see the numerals 2–2–3 in the upper staff. In Section 6.6 we will see that the $\frac{6}{3}$ chord on ④ occupies a fixed position in the ascending RO, herewith affirming its semi-consonant status.

Example 6.4 illuminates this semi-consonant $\frac{6}{3}$ chord on ④.

EXAMPLE 6.4 Prototypes of the semi-consonant $\frac{6}{3}$ on ④ in major (a), (b) and minor (c)

Figured bass symbols for Example 6.4:

(a) $\frac{5}{3}$ $\frac{6}{3}$ $\frac{6}{4} - \frac{5}{3}$ $\frac{5}{3}$

(b) $\frac{5}{3}$ $\frac{6}{3}$ $\frac{5}{4} - \frac{3}{3}$ $\frac{5}{3}$

(c) $\frac{5}{3}$ $\frac{6}{3}$ $\frac{5}{4} - \frac{3\#}{3}$ $\frac{5}{3}$

Voice numbers: ① ④ ⑤ ① ① ④ ⑤ ① ① ④ ⑤ ①

First of all, some remarks about the notation of four-part harmony need to be made. Example (a) has been written in the so-called keyboard notation, which means that the two middle voices are notated underneath the upper voice in the same staff. The notes of the upper voice have their stems up, and those of the middle voices have their stems down. The bass is notated separately in the lower staff.

Examples (b) and (c) show the so-called chorale notation, which means that the two highest voices are notated in the upper staff, and the two lowest in the lower staff. Usually the voices are called soprano, alto, tenor, and bass. The soprano and the tenor have their stems up, and the alto and the bass their stems down. These voice types also denote the different voices in keyboard notation.

The suspension pattern in example (a) sounds in the soprano. Although the C on the second beat of bar 1 is the dissonant upper tone of the seventh D–C, it appears to be the consonant preparation of the tied C in bar 2. As the fourth of the $\frac{6}{4}$ chord on ⑤ the tied C regularly resolves to the next B.

In example (b) the suspension appears in the tenor; here the tied C in bar 2 is the fourth of the $\frac{5}{4}$ chord on ⑤ and resolves regularly.

Example (c) in the minor mode presents the suspension in the alto. Its treatment is in accordance with the previous examples. The imperfect cadence resembles the Beethoven excerpt in example 6.3, given its static soprano $\hat{5}-\hat{6}-\hat{5}-\hat{5}$.

Note that all chords, apart from the $\frac{6}{3}$ chords, contain a doubling of the bass tone. This applies to the $\frac{5}{3}$ chords on ① and ⑤ and to the suspension chords $\frac{6}{4}$ and $\frac{5}{4}$. The final $\frac{5}{3}$ chord of example (b) is incomplete and contains a twofold doubling of the bass tone.

EXAMPLE 6.5 Brahms: “An die Nachtigall”, Op. 46 No. 4, bars 1–5 (a) and 29–32 (b)

Lyrics: Geuss nicht so laut der lieb-ent-flamm-ten Lie-der

Chord numbers: ① ④ ⑤ ⑥

EXAMPLE 6.5 Continued

b E major

29

Dann flieht der Schlaf von neu - em die - ses La - ger,

① ④ ⑤ ⑥

*Do not pour forth your love-enflamed songs . . .
Sleep flees once more from this place.*

Example 6.5 presents two excerpts from the song “An die Nachtigall” by Johannes Brahms (1833–1897), both in the main key of E major. The piano accompaniment, consisting of broken-chord figurations, supports an expressive, leaping melody. In the first phrase (example (a)) the harmonic structure is determined by a deceptive cadence on the bass ①–④–⑤–⑥: note the bass step B–C# in bar 5 that replaces the cadential leap B–E.

At the center of the song, from bar 29, the opening phrase seems to recur (example (b)). However, the C_♭ (*) in bar 30 comes in place of the original C# (*) in bar 3. The tone causes a sudden shift to the parallel minor key. In other words, bars 29 and 30 show a mixture of modes by the lowering of $\hat{6}$ in the major mode. The German term *molldur* covers the phenomenon very well: a minor (*moll*) element in the major (*dur*) scale. In respect of harmony bars 29–32 are determined by a deceptive cadence too, ending with the molldur ⑥ C_♭. From here the key of E minor is established for a couple of bars.

EXAMPLE 6.6 Reduction of bars 2–5 (a) and 29–32 (b)

a. E major

b. E major E minor

2

① ④ ⑤ ⑥ ① ④ ⑤ ⑥

Example 6.6 juxtaposes the harmonic structure of both phrases.

Example (a) shows the first phrase, which is a deceptive cadence in respect of harmony. Significant here is the $\frac{6}{3}$ chord on ④ with $\hat{6}$ (C#) in the soprano.

The deceptive cadence of example (b) differs with regard to the C_4 that replaces the scale tone $C\#$ in bars 30 and 32. Although the $\frac{6}{3}$ chord on $\textcircled{4}$ hints at E minor, it can still be conceived in E major: a deceptive close in the major mode, with an imaginary triad $C\#-E-G\#$ in bar 32, would very well be possible. In reality the “deceptive” triad C_4-E-G_4 introduces the parallel minor key more firmly.

Terms to remember

- A four-part texture enables the construction of chords that contain four different tones: here the three-part $\frac{6}{3}$ chord becomes the four-part $\frac{6}{3}$ chord.
- All $\frac{5}{3}$, $\frac{6}{3}$ and $\frac{6}{4}$ chords require doublings of one of the constituting tones. At this stage of the method the doubling of the bass tone works well most often. The following sections will revert to this issue.
- Four-part harmony can be notated in keyboard or chorale notation.
- The alto cadence is a weak cadence type that ends on $\textcircled{3}$, often by means of the bass step $\textcircled{4}-\textcircled{3}$. By analogy with the alto cadence the stepwise cadence, ending with $\textcircled{2}-\textcircled{1}$, is called a tenor cadence (see instruction (a) below). Appendix II will provide further information.
- Molldur is a minor element in the major key, which concerns the lowered sixth scale tone.

Instructions for the exercises

- This is a partimento by the celebrated Neapolitan master Nicola Sala (1713–1801). Most cadences are compound, including $\frac{6}{4}$ on $\textcircled{5}$ or $\frac{6}{3}$ on $\textcircled{4}$. The bass tone of the $\frac{6}{4}$ chord must be doubled. Lead the soprano in bars 4–5 toward the high G in bar 6. Three- and four-part textures alternate continuously. The partimento ends with two cadences in succession. Try to vary by making the final cadence the stronger one. The stepwise cadences in bars 5–6 and 10–11 are labeled tenor cadences by analogy with the alto cadence: the bass performs a cadential voice leading that is usually allocated to the tenor.
- This exercise is after a partimento by Fenaroli. Indicate the keys in the empty boxes above the staves. Underlined bass tones do not require a harmonic realization. Eighth notes do not need to be realized one by one. Three- and four-part textures alternate continuously. Apply the given patterns on similar spots: so for instance bars 1–2 relate to bars 5–6, and bars 13–14 to bars 17–18. Like exercise (a) this partimento ends with a succession of two cadences.

Suggestion for further analysis

Handel: “Verdi prati, selve amene” from *Alcina*, HWV 34, bars 1–20

6.2 THE GALANT CADENCE (II)

EXAMPLE 6.7 Schubert: Violin Sonatina in A major, Op. 137 No. 1, second movement (Andante), bars 6–10 (a) and 45–48 (b)

a. A major
6

① ----- ⑤ ①

b. A minor
45

① ----- ④ ⑤ ①

Example 6.7 shows two excerpts from the slow movement of Schubert’s First Violin Sonatina. Example (a) shows the consequent of the opening phrase. The harmonic structure is very simple: a prolonged tonic in bars 6–8 leads to the ⑤–① cadence in bars 9–10. (Note the “extra” bar 8 that echoes bar 7; this enlarges the consequent to a group of five bars, corresponding with the five-bar-long antecedent.)

Example (b) shows the end of the middle section in A minor. The harmonic structure of these bars is hardly more complex: here the prolonged A minor tonic in bars 45–46 leads to the ④–⑤–① cadence in bars 47–48.

Example 6.8 reduces both phrases.

EXAMPLE 6.8 Reduction of bars 6–10 (a) and 45–48 (b)

a. A major
6

① ----- ⑤ ①

b. A minor
45

① ----- ④ ⑤ ①

incomplete compound Galant cadence complete simple Galant cadence

The cadence of example (a) is compound because of its dissonance–consonance succession on ⑤. This concerns a suspension $\frac{6}{4}$ chord that resolves into a $\frac{5}{3}$ chord with an added seventh ($\frac{7}{3}$). This so-called dominant seventh chord will be further discussed in Section 6.4. The cadence shares its parallel thirds between the soprano and the alto with the Galant cadence.

Example (b) shows the Galant cadence of the A minor phrase, with its characteristic parallel sixths in the soprano and the tenor; see Section 3.4. The cadence is simple, since ⑤ supports a consonance only, namely the dominant seventh chord again. Note that all $\frac{5}{3}$, $\frac{6}{3}$, and $\frac{6}{4}$ chords, as in the examples of Section 6.1, contain bass doublings. Although highly stereotypical, the subsequent threefold appoggiatura on ① in bar 47 may be regarded as ornamental. Because of this the appoggiaturas have been notated in cue size.

The two cadence categories “simple” and “compound” do not fully suffice here: a relevant distinction also concerns the occurrence or the omission of ④ preceding ⑤ in the cadence. The cadence of example (a) lacks this ④ and may be called incomplete. In contrast, the cadence of example (b) does contain the ④–⑤ bass step, and is therefore complete. In full, example (a) presents an incomplete compound Galant cadence, and example (b) a complete simple Galant cadence.

EXAMPLE 6.9 Beethoven: Violin Sonata in A major, Op. 12 No. 2, third movement (Allegro piacevole), bars 1–16

The image shows a musical score for Example 6.9, divided into two systems. The first system covers bars 1-8, with the first four bars in A major and the last four in B minor. The second system covers bars 9-16, with the first four bars in D major and the last four in A major. Brackets below the bass staves identify cadences: '7-6 Fauxbourdon - half cadence' and 'complete compound Galant cadence' for the first system, and '7-6 Fauxbourdon - half cadence' and 'complete compound Marpurg cadence' for the second system. Asterisks are placed above the treble staves in bars 5, 6, and 7.

Example 6.9 shows the opening phrase from the third movement of Beethoven’s Second Violin Sonata. The phrase can be divided into four groups of four bars: they are separated by rests and distinguished by different keys.

The first group (bars 1–4 in A major) starts with the opening motif of a broken triad, and proceeds via the 7–6 Fauxbourdon to the half cadence on ⑤ in bar 4.

The second group (bars 5–8) starts suddenly in B minor. This key change might be understood as the continuation of the melodic B in bar 4: the repeated tones B (*) in bars 5 and 8 prolong this tone so to speak. In any case, the group exhibits a complete compound Galant cadence in B minor.

The third group (bars 9–12 in D major) thematically reverts to the first group. The end of the group differs slightly, due to the close on ⑦ instead of ⑤; however, its syntactical function is comparable throughout with the half cadence in bar 4.

The repeated chord in the next bar tightly connects the third and fourth groups (bars 13–16 in A major). This group presents a cadence that may be regarded as a variant of the Galant cadence. This variant is called the Marpurg cadence, after the influential German theorist Friedrich Wilhelm Marpurg (1718–1795), who described this cadence type; for a further explanation see below.

Thematically the whole phrase can be conceived as a period, consisting of an antecedent in bars 1–8, and a consequent in bars 9–16. However, the B minor cadence that comes in place of the more normative half cadence, as well as the continuous key changes, trouble the balance between the two half phrases. The various keys provide a sort of circular movement, leading away from A major to B minor and D major, and finally returning to A major. Due to its harmonic instability, the circular movement requires a powerful close, which is provided by the Marpurg cadence.

Example 6.10 juxtaposes the Galant cadence in bars 6–8 and the Marpurg cadence in bars 13–16; for the sake of comparison they have been generalized metrically.

EXAMPLE 6.10 Reduction of bars 6–8 (a) and 13–16 (b)

a. B minor

b. A major

① ④ ⑤ ① ③ ④ ⑤ ①

Galant cadence Marpurg cadence

Example (a) shows the prototypical four-part Galant cadence: note the parallel thirds between the soprano and the alto, and the $\frac{6}{4}$ suspension on ⑤. Apart from the dominant seventh chord on ⑤, each chord contains a doubling of the bass tone.

The cadence of example (b) is much freer. The big leap in the soprano is striking, as well as the doubling of the fourth (the A) in the $\frac{6}{4}$ chord. The A in the tenor appears to be a suspension, given its regular preparation and resolution. The $\frac{5}{3}$ chord on ④ that replaces the more common $\frac{6}{3}$ enables the preparation. The A in the soprano acts as a consonant: the tone is approached by a leap, and proceeds by means of a rising step. (In bar 15 of example 6.9 the soprano tone A leaps by a third to

the appoggiatura C \sharp .) This $\hat{1}-\hat{2}-\hat{1}$ melodic pattern on $\textcircled{5}$ (or $\hat{1}-\hat{3}-\hat{2}-\hat{1}$ including the appoggiatura) is the most distinctive feature of the Marpurg cadence.

EXAMPLE 6.11 Mozart: String Quartet in F major, K 168, second movement (Andante), bars 21–28

The musical score shows two systems of music. The first system covers bars 21 to 28. It is in C minor. Annotations include 'C minor' at the top left, 'Neapolitan turn (a)' over bar 21, 'Neapolitan turn (b)' over bar 22, and 'incomplete Neapolitan turn (c)' over bar 27. A bracket labeled 'Neapolitan cadence (abandoned)' spans the end of bar 27. The second system covers bars 25 to 28. It starts with a key signature change to F minor, indicated by '[F minor]' above bar 25. A bracket labeled 'Neapolitan turn (d)' spans bar 26. A bracket labeled 'Neapolitan cadence' spans the end of bar 28. Instrument parts for violin 1, violin 2, viola, and violoncello are indicated.

Example 6.11 shows an excerpt from an early Mozart string quartet. It concerns the highly polyphonic opening section of the slow movement. This section modulates from the main key F minor to its dominant key C minor. The exposed excerpt is entirely in C minor, despite some chromatic tones that obscure the key.

The section ends by means of a Neapolitan cadence, including the Neapolitan turn $D\flat-C-B\sharp-C$ in bars 27–28. As we know, the Neapolitan cadence is a variant of the Galant cadence; recall Section 3.5 regarding this issue.

The Neapolitan cadence is foreshadowed in bar 24: note the cadential bass pattern including the octave leap, and the beginning of a Neapolitan turn on the first and second beats. On the third beat the cadence is abandoned: instead of achieving a perfect cadence, the harmony seems to run away from C minor. Indeed, the chromatic tones $D\flat$ and $E\sharp$ slightly imply F minor. (Sections 8.1, 8.2, and 8.3 further explore the concept of temporary keys.) Only in bar 26 is C minor clearly restored. The Neapolitan cadence at the end of the phrase finally fulfills the evoked expectations.

The Neapolitan turn appears to be a thematic element in the excerpt. It occurs not only fully in the final cadence, but also in the second violin in bar 21 (including the upbeat), and in the first violin that imitates the pattern.

EXAMPLE 6.12 Neapolitan cadences in bars 21–22 (a) and 26–28 (b)

C minor

$\frac{6^b}{3}$ $\frac{4^\sharp}{2}$ $\frac{6}{3}$ $\frac{5}{3}$ $\frac{6^b}{3}$ $\frac{6}{4}$ — $\frac{5}{3^\sharp}$ $\frac{5}{3}$

④ ③ ① ④ ⑤ ①

Neapolitan (alto) cadence Neapolitan cadence

Example 6.12 juxtaposes two of these Neapolitan cadences.

Let us start with the final Neapolitan cadence in C minor, shown in example (b). The D^b , which is the lowered $\hat{2}$, modifies the $\frac{6}{3}$ chord on ④ into the Neapolitan $\frac{6}{3}$ chord. The similarity with the compound Galant cadence, with its unaltered $\hat{2}$, is obvious. The oblique lines indicate the parallel sixths between the soprano and the tenor. Note that the bass tone of the Neapolitan $\frac{6}{3}$ chord is doubled.

The harmonic progression in example (a) is derived from the Neapolitan cadence. It differs principally in two respects. First, the Neapolitan turn in the soprano contains the diminished third D^b-B^\sharp , so without an intermediate C. Second, the bass line features a tied F, which resolves to E^b . The step ④–③ is the basis of an alto cadence (see Section 6.1, example 6.3).

EXAMPLE 6.13 Prototypes of the four-part Galant cadence in major (a, b, c) and minor (d, e, f)

C major

$\frac{5}{3}$ $\frac{6}{3}$ $\frac{6}{4}$ — $\frac{5}{3}$ $\frac{5}{3}$ $\frac{5}{3}$ $\frac{6}{3}$ $\frac{6}{4}$ — $\frac{5}{3}$ $\frac{5}{3}$ $\frac{5}{3}$ $\frac{6}{3}$ $\frac{6}{4}$ — $\frac{5}{3}$ $\frac{5}{3}$

① ④ ⑤ ① ① ④ ⑤ ① ① ④ ⑤ ①

A minor

Neapolitan turn

$\frac{5}{3}$ $\frac{6}{3}$ $\frac{6}{3}$ $\frac{5^\sharp}{3^\sharp}$ $\frac{5}{3}$ $\frac{5}{3}$ $\frac{6^b}{3}$ $\frac{6}{4}$ — $\frac{5^\sharp}{3^\sharp}$ $\frac{5}{3}$ $\frac{6}{3}$ $\frac{6}{3}$ $\frac{6}{4}$ — $\frac{5^\sharp}{3^\sharp}$ $\frac{5}{3}$

① ③ ④ ⑤ ① ① ④ ⑤ ① ③ ④ ⑤ ①

Example 6.13 shows various prototypes of the four-part Galant cadence. The examples are either in keyboard or chorale notation.

Example (a) shows the straightforward Galant cadence. The cadence features a $\frac{6}{3}$ chord on ④ and the stereotypical parallel sixths between the soprano and the tenor (see the oblique lines). The cadence is compound because of the $\frac{6}{4}$ chord on ⑤.

Example (b) only differs with respect to the inverted upper voices, which results in parallel thirds between the soprano and the alto.

At first glance example (c) is similar to the previous example, apart from the inversion of the middle voices. However, this inversion of successive fourths into fifths causes an incorrect voice leading of parallel fifths; see the oblique lines.

Example (d) is a simple Galant cadence in the minor mode. It lacks the $\frac{6}{4}$ chord on ⑤. The oblique lines indicate the parallel sixths.

Example (e) shows the compound Neapolitan cadence, which is throughout comparable to examples (a) and (b). Note the indirect cross relation between the $B\flat$ in the soprano and the $B\sharp$ in the tenor.

Finally, example (f) shows the Marpurg cadence. It features an irregular (or at least alternative) treatment of the cadential $\frac{6}{4}$ chord through the ascending resolution of the fourth. The appoggiatura and the dominant $\frac{7}{3}$ chord are stereotypical elements of the cadence. The oblique lines indicate the resolution of the inherent augmented fourth to the sixth. (See Section 6.4 for further explanation.)

Some remarks concerning the doubling of tones have to be made. Evidently, this does not concern the dominant seventh chord in example (f). In all remaining chords the bass tones are doubled, apart from the $\frac{6}{3}$ chord on ③ in example (d). This different doubling is partly due to the voice leading and partly to the sound quality. First, the $\frac{6}{3}$ chord arises from a so-called voice exchange between the bass (A–C) and the soprano (C–A). Second, the $\frac{6}{3}$ chord on ③ is closely related to the tonic $\frac{5}{3}$ chord on ①: they share all tones, including the doubling of the A. There is more about this relationship in Section 6.4.

Terms to remember

- The Galant cadence can be complete or incomplete on the one hand, and simple or compound on the other. The complete Galant cadence contains a $\frac{6}{3}$ chord on ④, while the incomplete cadence lacks this chord. The compound cadence features the succession of a $\frac{6}{4}$ and a $\frac{5}{3}$ chord on ⑤; the simple cadence only contains a $\frac{5}{3}$ chord on ⑤.
- The Neapolitan cadence is a close variant of the Galant cadence. It concerns the Neapolitan $\frac{6}{3}$ chord with the lowered $\hat{2}$. Mostly the Neapolitan cadence occurs in the minor mode.
- The Marpurg cadence is a specific variant of the Galant cadence, which implies an alternative treatment of the $\frac{6}{4}$ chord. Its main feature is the soprano pattern $\hat{1} - \hat{3} - \hat{2} - \hat{1}$, in which $\hat{3}$ is an appoggiatura for $\hat{2}$.
- The bass tones of $\frac{6}{3}$ on ④ and $\frac{6}{4}$ on ⑤ can best be doubled.

Instructions for the exercises

- This exercise is after a short partimento by Mattei. The figured bass indicates the voice leading of the upper voice rather than the chords. Which schema is implied here? The phrase ends with a four-part simple Galant cadence. Double all cadential bass tones.
- This exercise is also by Mattei. Determine the schema in bars 1–5. Do justice to the contrapuntal potential of the schema; see Section 5.4. The bass of bars 6–7 is figured; the bass pattern B \flat –C–D \flat (⑥–⑦–①) supports an ornamented RO segment. The phrase closes with a four-part compound Galant cadence.
- This exercise moves through various keys. First of all, indicate the keys. Design a bass that matches the given soprano in bars 1–2 and transpose the pattern in bars 3–4. The * signs indicate the bass rhythm. The sequence in bars 5–6 is a so-called Fonte (see Section 8.1). On the first beat of bar 5 the third F \sharp of the $\overset{6}{3}$ chord is doubled; the soprano leap F \sharp –B automatically causes the doubling of the sixth B.

Suggestion for further analysis

Donizetti: “Una furtive lagrima” from *L’Elisir d’Amore*, bars 39–49

6.3 THE DISCANT CADENCE

EXAMPLE 6.14 Bach: Prelude in F, bars 8–9 (a) and 20–21 (b)

The image shows two musical excerpts from Bach's Prelude in F. Excerpt (a) is in D minor, bars 8-9, and excerpt (b) is in F major, bars 20-21. Both excerpts show a cadence followed by an inverted cadence. The cadence is marked with 'p s r' and the inverted cadence with 'p s r'. The score is written for a single melodic line on a grand staff.

Example 6.14 refers to the same prelude as example 6.1. The example shows two appearances of the ritornello, in D minor (example (a)) and F major (example (b)). Both excerpts juxtapose two compound cadences, namely the cadence that starts the prelude (see bar 1 of example 6.1) and a variant of this cadence by means of invertible counterpoint. The sixteenth figurations in the first half of bars 8 and 20 move to the soprano in the second half of both bars. Simultaneously the suspension patterns moves from the soprano to the bass.

Let us examine this inversion of the cadence by going back in history for a while, to the origins of the cadence in Renaissance polyphony. (See also Section 3.2, examples 3.7 and 3.8).

EXAMPLE 6.15 The two-part (a, b) and four-part (c) cadence in Renaissance polyphony

The image shows three musical examples labeled a, b, and c. Example (a) is titled 'D Dorian' and shows a two-part setting with a Treble clef (C) and a Bass clef (F). The melody in the treble clef consists of a half note G, a quarter note A, a quarter note B, a quarter note C with a sharp sign, a half note D, and a quarter note C. The bass line consists of a half note F, a quarter note G, a quarter note A, a quarter note B, a quarter note C, and a quarter note D. Example (b) shows the same two parts inverted. The treble clef part is a half note C, a quarter note B, a quarter note A, a quarter note G with a sharp sign, a half note F, and a quarter note E. The bass clef part is a half note D, a quarter note C, a quarter note B, a quarter note A, a quarter note G, and a quarter note F. Example (c) shows a four-part setting with four staves: Treble (C), Alto (A), Tenor (T), and Bass (B). The Treble part is a half note G, a quarter note A, a quarter note B, a quarter note C with a sharp sign, a half note D, and a quarter note C. The Alto part is a half note G, a quarter note A, a quarter note B, a quarter note C with a sharp sign, a half note D, and a quarter note C. The Tenor part is a half note F, a quarter note G, a quarter note A, a quarter note B, a quarter note C, and a quarter note D. The Bass part is a half note F, a quarter note G, a quarter note A, a quarter note B, a quarter note C, and a quarter note D.

Example 6.15 shows the fixed components of the cadence in sixteenth-century vocal style. Example (a) is the contrapuntal framework of each cadence, whether in two, three, or more parts. The lower voice, the tenor (Latin; pronounce “*tay-nor*”), performs the falling step ②–①. The higher voice, the cantus or discantus (synonymous with the Italian term *soprano*), accompanies the tenor by means of the suspension pattern $\hat{1}-\hat{7}(\#)-\hat{1}$. Contemporaneous theorists have called these melodic patterns *clausula tenorizans* (tenor cadence) and *clausula cantizans* (soprano or discant cadence), respectively.

Example (b) shows the inversion of the two voices: the soprano performs the *clausula tenorizans* and the tenor the *clausula cantizans*.

Example (c) shows the four-part cadence, in which the soprano performs the *cantizans*, the alto the *altizans* (i.e., the sustained $\hat{5}$), the tenor the *tenorizans* and the bass the *basizans* (i.e., the ⑤–① leap). Though the voices may be inverted in different ways, this constitution of cadential patterns remained normative during a long time. Example 6.16 shows the standard four-part compound cadence of the early 1700s, together with some of its derivatives.

EXAMPLE 6.16 The (perfect) cadence (a), the tenor cadence (b), the alto cadence (c), and the discant cadence (d)

The image shows four musical examples labeled a, b, c, and d, all in C major. Example (a) is the perfect cadence, showing four parts (Soprano, Alto, Tenor, Bass) with a final bass leap from ⑤ to ①. Example (b) is the tenor cadence, showing the tenor part with a falling step from ② to ①. Example (c) is the alto cadence, showing the alto part with a sustained ⑤. Example (d) is the discant cadence, showing the discant part with a falling step from ② to ①. Below each example is figured bass notation. For (a), the figures are 5/3, 4-3, (5)/3, and ①. For (b), the figures are 6/3, 7-6, 5/3, and ①. For (c), the figures are 5/3, 4-3, 6/3, and ①. For (d), the figures are 5/3, 2-3, 6/3, and ①. Brackets below the figures group them into 'perfect cadence', 'tenor cadence', 'alto cadence', and 'discant cadence'.

Example (a) defines the compound cadence in its most perfect, conclusive form, ending with the ⑤–① bass leap. The alto differs from example 6.15(c) by the stepwise pattern $\hat{5}-\hat{4}-\hat{3}$, which leads to the third of the final chord. (The sustained $\hat{5}$ is also possible throughout; in this case the tenor will lead to the third of the final chord.) As we know, a frequent variant of the four-part perfect cadence is based on the final bass motion ④–⑤–①, with $\frac{6}{3}$ on ④; see Section 6.1.

Example (b) ends with the ②–① bass step. This stepwise cadence is usually called a tenor cadence, because the bass performs the melodic pattern that is traditionally allocated to the tenor. The tenor cadence generates a soft landing on the tonic and can act as a weak close but lacks the power to be really conclusive.

Example (c) shows the alto cadence: the bass performs the pattern ⑤–④–③ (or just ④–③ or ⑤–③) that is generally allocated to the alto. This cadence is even weaker than the tenor cadence, due to its concluding $\frac{6}{3}$ chord. Often the alto cadence is followed by a more powerful cadence. Alternatively, example 6.3 in Section 6.1 shows the alto cadence as a substitute for the half cadence.

Example (d) shows the discant cadence, in which the bass performs the syncopated soprano or discant pattern ①–⑦–①. Most often the tied bass tone supports a $\frac{6}{2}$ chord instead of the given $\frac{5}{2}$ chord, as will be clarified below.

EXAMPLE 6.17 Reduction of bars 8–9 (a) and 20–21 (b)

The image shows two musical excerpts, (a) and (b), with figured bass notation below them. Excerpt (a) is in D minor and shows bars 8 and 9. The bass line consists of notes G, F, E, D, C, B, A, G. The figured bass notation below is: $\frac{6}{3}$ $\frac{6}{3}$ $\frac{5\#}{3}$ $\frac{6}{3}$ $\frac{5}{3}$ $\frac{6}{2}$ $\frac{6}{3}$ $\frac{5}{3}$. Below the figures are circled numbers: ③, ④, ⑤, ③, ①, ⑦#, ①. Brackets group the first four figures as 'compound alto cadence' and the last three as 'discant cadence'. Excerpt (b) is in F major and shows bars 20 and 21. The bass line consists of notes C, B, A, G, F, E, D, C. The figured bass notation below is: $\frac{6}{3}$ $\frac{6}{3}$ $\frac{5}{3}$ $\frac{6}{3}$ $\frac{5}{3}$ $\frac{6}{2}$ $\frac{6}{3}$ $\frac{5}{3}$. Below the figures are circled numbers: ③, ④, ⑤, ③, ①, ⑦, ①. Brackets group the first four figures as 'compound alto cadence' and the last three as 'discant cadence'.

Let us now return to the Bach Prelude shown in example 6.14. Example 6.17 provides a reduction of the two excerpts.

As has already been mentioned, the cadences given in examples (a) and (b) relate by means of invertible counterpoint. The first cadence of both examples is compound, including a $\frac{6}{3}$ chord on ④; the final $\frac{6}{3}$ chord on ③ implies an alto cadence. The inversion of the alto cadence results in the subsequent discant cadence, including $\frac{6}{2}$ on the tied ①.

As has been discussed in Section 2.4, tied bass tones require $\frac{4}{2}$ chords in three-part harmony. The $\frac{6}{2}$ chord here, so with an added sixth, is the four-part variant of the $\frac{4}{2}$ chord. In the discant cadence this chord occurs on the tied ①, and proceeds to $\frac{6}{3}$ on ⑦(♯) in examples (a) and (b). Evidently, the tied bass note is a suspension that is surrounded by its preparation and resolution.

It must be noted that the closing potential of a discant cadence is much weaker than that of a perfect or even a tenor cadence. As a result, the discant cadence is not suitable for closing a section, let alone a whole composition. Instead, as we will see below, the discant cadence often starts a composition and establishes the main key.

EXAMPLE 6.18 Mozart: “Ave verum Corpus”, K 618, bars 1–10

Example 6.18 shows the opening phrase of Mozart’s famous “Ave verum Corpus”, a motet for mixed choir, orchestra, and organ. The choir starts in bar 3 following a short instrumental introduction, notated in cue size. The phrase’s simplicity is due to the slow harmonic rhythm, the static tenor, and the alto that accompanies the soprano largely in thirds. The phrase can be divided into two groups of four bars: in harmonic terms bars 3–6 start and end on the tonic, and bars 7–10 start and end on the dominant.

Let us focus on the first group of bars 3–6. From a melodic-rhythmic perspective we experience a slight comma at the end of bar 4, which divides the group into 2 + 2 bars. Superficially, the harmonic structure supports this division. Indeed bars 3–4 depart from the tonic $\frac{5}{3}$ chord, while bars 5–6 return to it. The dashed arrows in example 6.19 represent this process.

EXAMPLE 6.19 Reduction of bars 3–6

The bass pattern ①–⑦–① is the basis of the harmonic progressions. The leading-tone resolution coincides with (or causes) a weak close in bar 6. The harmonic structure resists the aforementioned melodic-rhythmic division into 2 + 2 bars. The repeated bass tone D in bar 4 can be conceived as a tied note that implies a $\frac{6}{4}$ realization. The tied D is a suspension that is regularly prepared by the D in bar 3 and resolved to the C# in bar 5. The latter is the foundation of a dominant $\frac{6}{3}$.

chord that we may understand for the moment as a variant of a $\frac{6}{3}$ chord. (Section 6.4 will expand on this issue.)

The metric aspect of the suspension pattern has been deactivated here, since all chords seem equally strong. Nevertheless, one might perceive bar 4 as “strong” compared to the relatively “weak” bar 5.

The harmonic structure parallels the discant cadence discussed above. The cadence tightly unifies the two groups bars 3–4 and 5–6 into an indivisible harmonic gesture. As has been remarked above, the discant cadence is most appropriate to the beginning of a composition. It provides a powerful and well-articulated establishment of the tonic.

EXAMPLE 6.20 Prototypes of the discant cadence in major (a, b) and minor (c)

The image shows three musical examples, labeled a, b, and c, illustrating the discant cadence. Each example is written in a two-staff system (treble and bass clefs). Example (a) is in C major and shows a sequence of chords: a $\frac{6}{2}$ chord on the first beat, followed by a $\frac{6}{3}$ chord on the second beat, and a final $\frac{6}{3}$ chord on the third beat. Example (b) is also in C major but features a diminished fifth (F*) in the alto voice of the second $\frac{6}{3}$ chord, which resolves to the final $\frac{6}{3}$ chord. Example (c) is in A minor and shows a similar sequence: a $\frac{6}{2}$ chord on the first beat, a $\frac{6}{3}$ chord on the second beat, and a final $\frac{6}{3}$ chord on the third beat. Below each staff, Roman numerals and chord symbols are provided: (1) for the first chord, 2/4 for the second, and 7 for the third. In (c), the 7 is marked with a sharp sign (#).

Example 6.20 exposes three prototypes of the discant cadence. Compared to the Mozart excerpt in example 6.18 the metric organization has been “restored”: all tied notes occur on the strong beats and are regularly prepared and resolved.

In example (a) the $\frac{6}{2}$ chord on ① proceeds to the $\frac{6}{3}$ chord on ⑦.

Example (b) mainly differs with regard to the inverted soprano and alto. Note the F (*) in the alto. This tone adds a diminished fifth to the $\frac{6}{3}$ chord on ⑦, which results in the aforementioned dominant $\frac{6}{3}$ chord. The oblique lines indicate the resolution of the diminished fifth into the third in the final chord.

Example (c) shows the discant cadence in the minor mode.

Terms to remember

- The discant cadence is based on the bass movement ①—⑦—①. The tied ① is a suspension that must be prepared and resolved.
- The tied ① implies a $\frac{6}{2}$ chord, which proceeds to $\frac{6}{3}$ (or $\frac{6}{\frac{3}{2}}$) on ⑦.
- The discant cadence relates to the compound cadence (including $\frac{6}{\frac{3}{2}}$ on ④) by means of invertible counterpoint.

Instructions for the exercises

- The exercise starts with the succession of a discant cadence and a perfect compound cadence (with $\frac{6}{3}$ on ④). The Prinner in bars 3–4 requires parallel tenths in the soprano; the schema combines with a Tied Bass and a Phrygian half cadence (including 7–6). The Monte in bars 6–7 bridges the keys of C major and A minor. Which schemata fit best in bars 7–10? Try to vary the two successive cadences at the end.
- This exercise is after a partimento by Fenaroli. The opening motif and the following cadence recall the Bach Prelude presented in examples 6.1 and 6.14. Apply the opening motif at all appropriate points. Bars 9–16 form a modulating sequence that starts and ends in C major. The sequence passes through the temporary keys G major and A minor before it returns to C major. Sections 7.1, 7.2, and 7.3 will expand on this subject. The ascending sequence is called a Monte Principale (“principale” because of its $\frac{5}{3}$ chords). Apply the opening motif to the Tied Bass in bars 26–31.

Suggestion for further analysis

Mozart: Symphony No. 40 in G minor, K 550, first movement (Molto allegro), bars 1–9

6.4 THE DOMINANT SEVENTH CHORD

EXAMPLE 6.21 Beethoven: Symphony No. 1 in C major, Op. 21, first movement (Adagio molto–Allegro con brio), bars 1–5

The musical score for Example 6.21 shows the first five bars of Beethoven's Symphony No. 1 in C major. The score is in C major and features a sequence of dominant seventh chords. Above the staff, boxes indicate the key of each bar: F major (bars 1-2), C major (bars 3-4), G major (bars 5-6), and C major (bars 7-8). Below the staff, figured bass notation shows the chord structures: bar 1 (7/3, 5/3), bar 2 (7/3, 5/3), bar 3 (7/3, 5/3), bar 4 (7/3, 5/3), and bar 5 (7/3, 5/3). Brackets below the figures label the cadences: 'simple' for bars 1-2, 'deceptive' for bars 3-4, and 'simple' for bars 5-6. Circled numbers 5 and 6 indicate the bass notes for the deceptive cadence.

Example 6.21 shows the opening bars of Beethoven's First Symphony in C major. The main key is not immediately clear; only from bar 5 does it gradually become manifest. Bars 1–4 present a succession of simple cadences in F major, C major, and G major, from which the second is deceptive, due to the bass progression ⑤–⑥.

Each cadence contains a dominant seventh chord on $\textcircled{5}$ (see also Section 6.2, example 6.13(f)). This is an assembly of a major $\frac{5}{3}$ chord and a minor seventh: so the first chord in bar 1 is the major triad C–E–G with an added seventh B \flat . Unlike the sevenths discussed so far, the seventh in question here is not prepared: on the contrary, the symphony opens with it. Consequently, the seventh seems to be a firm component of the chord.

An essential feature of the opening chord is the augmented fourth B \flat –E. This harmonic interval resolves into the sixth A–F; see the oblique lines. The bass leap $\textcircled{5}$ – $\textcircled{1}$ supports this resolution. Similarly, the augmented fourths F–B in bar 2 and C–F \sharp in bar 3 proceed to the sixths E–C and B–G, respectively. As we have seen before, this simultaneous resolution is a characteristic implication of the augmented fourth or its inversion, the diminished fifth. As the Beethoven example proves, the augmented fourth (or diminished fifth) requires a resolution indeed, but does not need a preparation. Because of this the dominant $\frac{7}{3}$ chord can be considered a semi-consonance, like the $\frac{6}{3}$ chord on $\textcircled{4}$ in the Beethoven example 6.3.

EXAMPLE 6.22 Bellini: “Dolente imagine di Fille mia”, bars 1–7

E minor

Do - len - te, i -
ma - gi - ne di Fil - le mi - a, Per - che si qual - li - da mi sie di, acc can - to?

compound (Galant?) cadence

half cadence

*Mournful image of Phyllis mine,
Why linger drearly beside me here?*

Example 6.22 shows the beginning of an arietta (a short aria) in E minor by the Italian opera composer Vincenzo Bellini (1801–1835). The piano introduction consists of an expressive chromatic progression, followed by a powerful cadence. This resembles the Galant cadence, because of the inherent $\frac{6}{4}$ chord on B on the third beat of bar 2. The $\frac{6}{4}$ chord proceeds to a dominant $\frac{7}{3}$ chord (*),

which in turn proceeds to the tonic in bar 3. Like the major mode, the minor mode contains a dominant seventh chord on $\textcircled{5}$ because of the raised seventh scale tone $D\sharp$.

From bar 5 the piano accompaniment exhibits a complete harmonic texture by means of broken-chord figurations. The vocal line moves around the piano accompaniment without influencing the harmony substantially. The piano plays dominant seventh chords on the third beat of bar 5 and the first beat of bar 7; see the * signs.

Note that the half cadence in bars 7–8 that closes the phrase contains a major triad on B instead of a dominant seventh chord. This is because a triad is more stable, and does not imply an immediate continuation.

EXAMPLE 6.23 The dominant $\frac{7}{3}$ chord in bars 2–3 (a) and 5–8 (b)

The musical notation for Example 6.23 is presented in two parts, (a) and (b), in E minor. Part (a) covers bars 2 and 3. In bar 2, the dominant $\frac{7}{3}$ chord is on the fifth (D#), with a passing tone (pt) A. In bar 3, the tonic $\frac{5}{3}$ chord is on the first (B). Part (b) covers bars 5, 7, and 8. In bar 5, the dominant $\frac{7}{3}$ chord is on the fifth (D#), with a neighbor tone (nt) A. In bar 7, the dominant $\frac{7}{3}$ chord is on the fifth (D#). In bar 8, the tonic $\frac{5}{3}$ chord is on the first (B). The notation includes a treble and bass clef, a key signature of one sharp (F#), and various annotations like 'pt' (passing tone) and 'nt' (neighbor tone). The chord symbols below the staff are: (a) $\frac{6}{4} = \frac{7}{3\sharp}$ and $\frac{5}{3}$; (b) $\frac{5}{3}$, $\frac{7}{3}$, and $\frac{5}{3}$.

Example 6.23 sheds light on the applications of the dominant $\frac{7}{3}$ chord.

In example (a) the seventh A on the last eighth note of bar 2 arises from the passing motion B–A–G, in which A acts as a passing tone (pt). The oblique lines indicate the resolution of the augmented fourth A–D \sharp into the sixth G–E. The incomplete tonic $\frac{5}{3}$ chord is noteworthy, due to the required resolution of the augmented fourth. The twofold doubling of the bass tone E in the soprano and the alto compensates for the lacking fifth B, which has been put between brackets. Yet many examples can be given (in Bach chorales for instance), in which the leading tone proceeds more freely to this fifth. This irregular progression is confined to the middle voices.

In the incomplete dominant $\frac{7}{3}$ chord in example (b) the fifth F \sharp is omitted; this tone sounds in the vocal part. Here the seventh A arises from the neighbor tone motion G–A–G (a second up and down), in which A acts as a neighbor tone (nt). The diminished fifth D \sharp –A eventually resolves into the third E–G. Note that the incomplete dominant $\frac{7}{3}$ chord (with a doubled bass tone) proceeds to the complete $\frac{5}{3}$ chord. Generally speaking, the dominant $\frac{7}{3}$ chord can be complete or incomplete. A complete dominant $\frac{7}{3}$ chord proceeds to an incomplete tonic $\frac{5}{3}$ chord; conversely, an incomplete dominant $\frac{7}{3}$ chord proceeds to a complete tonic $\frac{5}{3}$ chord.

Example 6.24 presents various applications of the dominant $\frac{7}{3}$ chord. The oblique lines indicate the resolutions of the augmented fourths and the diminished fifths.

EXAMPLE 6.24 The resolution of the dominant $\frac{7}{3}$ chord in major (a, b, c) and minor (c, d, e)

a. C major b. c. d. A minor e. f.

$\frac{7}{3}$ (5) $\frac{7}{3}$ (5) $\frac{7}{3}$ (5) $\frac{7}{3}$ (5) $\frac{7}{3}$ (5) $\frac{7}{3}$ (5)
 ⑤ ① ⑤ ① ⑤ ① ⑤ ① ⑤ ① ⑤ ①
 (5) (3) (5) (3) (5) (3) (5) (3) (5) (3) (5) (3)

deceptive
deceptive

Example (a) shows a complete dominant $\frac{7}{3}$ chord that proceeds to an incomplete tonic $\frac{5}{3}$ chord. In the latter the fifth G is omitted and the bass tone C doubled in the soprano and the tenor.

Example (b) shows an incomplete dominant $\frac{7}{3}$ chord that proceeds to a complete tonic $\frac{5}{3}$ chord. The fifth D of the $\frac{7}{3}$ chord is omitted and the bass tone G doubled. Example (c) presents the “deceptive” progression by means of a ⑤–⑥ bass motion. Apart from the bass, the voices are equivalent to those in example (a). This voice leading results in a $\frac{5}{3}$ chord on ⑥, in which the third C is doubled. This treatment of the deceptive resolution of the dominant $\frac{7}{3}$ chord is necessary. Thus, the dominant $\frac{7}{3}$ must be complete, and the $\frac{5}{3}$ chord on ⑥ must contain the doubling of the third.

Examples (d), (e), and (f) are similar to the previous examples, apart from the minor mode. They do not need further explanation.

Terms to remember

- A distinct component of the dominant $\frac{7}{3}$ chord is the diminished fifth or augmented fourth. The diminished fifth resolves into the third, and the augmented fourth into the sixth.
- These harmonic intervals are semi-consonances: they require a resolution but do not need a preparation.
- A complete dominant $\frac{7}{3}$ chord proceeds to an incomplete tonic $\frac{5}{3}$ chord. Conversely, an incomplete dominant $\frac{7}{3}$ proceeds to a complete tonic $\frac{5}{3}$.
- In a deceptive cadence the complete dominant $\frac{7}{3}$ chord proceeds to the $\frac{5}{3}$ chord on ⑥, in which the third is doubled.

Instructions for the exercises

- a. This exercise is after a solfeggio from the *Solfèges d'Italie*. The * signs indicate the use of the dominant $\frac{7}{3}$ chords. The exercise is a chain of schemata; label these before you start. The realization of the tied B \flat in bar 6 differs from that of the tied B \flat in bar 2, since bar 6 leads to F major. The dominant $\frac{7}{3}$ chord in bar 15 has to be complete because of the deceptive ⑤–⑥ progression; think of doubling the third of the $\frac{5}{3}$ chord on ⑥.
- b. The opening phrase of the slow movement from Schubert's Fifth Symphony serves as the model for this exercise. A comparison of Schubert's realization with your own will provide interesting insights into the young composer's part-writing skills (Schubert was 19 years old). The exercise shows a variety of cadences. The alto cadence in bar 3 implies a ⑤–④–③ bass motion with a $\frac{6}{3}$ chord on ③. The voice leading will determine the doubling. The * signs in bars 3–4 and 7 indicate the appropriate harmonic rhythm. The exercise must be realized in four parts throughout and in chorale notation.

Suggestion for further analysis

Haydn: String Quartet in E \flat major, Op. 33 No. 2, Trio from Scherzo, bars 35–68

6.5 THE DOMINANT SEVENTH FAMILY

EXAMPLE 6.25 M. Haydn: "Benedictus, qui venit", bars 1–11

B \flat major

Be - ne - dic - tus, qui ve - nit in no - mi - ne Do - mi - ni,

④ ③
a

⑦ ①
b

⑤ ①
c
Galant cadence

6 De - us Do - mi - nus, De - us Do - mi - nus et il - lu - xit no - bis:

④ ③
d

⑦ ④ ③
e

② ①
f
half cadence

*Blessed is he who comes in the name of the Lord:
God the Lord,
and He has shone upon us.*

Undoubtedly, a choral work for soprano, alto, tenor, and bass (SATB) presents the purest form of four-part harmony. Thus does the church song “Benedictus qui venit” (a graduale for Christmas) by Michael Haydn (1737–1806), the younger and at the time even more celebrated brother of Joseph.

The opening section in B \flat major, shown in example 6.25, contains two phrases. The first phrase ends with a Galant cadence in bar 5; the * signs indicate the structural chords. The cadence is imperfect, due to the dotted rhythm based on the word Dó-mi-ni. Its closing bass motion ⑤–① (c) supports a dominant $\frac{7}{3}$ chord that proceeds to a tonic $\frac{5}{3}$ chord. The second phrase ends with a half cadence in bar 11. Subsequently the song continues in the dominant key F major (not included in the example).

The first phrase is divided in three segments of various durations, which are separated by eighth rests. The bass motions ④–③ (a) and ⑦–① (b) provide weak closes of the first and second segments. They imply an alto cadence and a simple discant cadence, respectively; see the explanation below example 6.16 in Section 6.3. The similarity of these two closes to the progression ⑤–① in bars 4–5 is remarkable: the chords on ④–③ (a) contain the same tones as those on ⑦–① (b), and on ⑤–① (c). Chord progressions that are comparable in this respect sound in the second phrase: see the progressions (d), (e), and (f).

Example 6.26 juxtaposes these progressions, and compares them to the progressions that are prescribed by the three-part Rule of the Octave (see Chapter 4).

EXAMPLE 6.26 Comparison of chord progressions from Haydn’s Benedictus with the three-part RO

B \flat major

The image displays two systems of musical notation for B \flat major. The top system shows the original chord progressions from Haydn's Benedictus, with figured bass notation below each measure. The bottom system shows six variations (a-f) of these progressions, also with figured bass notation below. Oblique lines in the bottom system indicate resolutions of augmented fourths to sixths or diminished fifths to thirds.

The examples correspond with the letter indications in example 6.25. Each chord progression contains a resolution of the augmented fourth into the sixth (examples (a), (c), (d), and (e)) or the diminished fifth into the third (examples (b) and (f)); see the oblique lines. As is discussed in Section 6.4, these harmonic intervals are semi-consonances: they can be unprepared but need to be resolved.

The small staves above the examples show the comparable three-part RO progressions. The black notes represent the additional tones in the four-part progressions.

Example (a) shows the four-part ④–③ progression. Compared to the three-part $\frac{4}{2}$ chord the sixth C is added, which results in the four-part $\frac{6}{2}$ chord.

Example (b) is based on ⑦–①; the three-part $\frac{6}{3}$ chord on ⑦ becomes the four-part $\frac{6}{3}$ chord by the addition of the diminished fifth E \flat .

In example (c) the seventh E \flat replaces the fifth C. This results in the incomplete $\frac{7}{3}$ chord on ⑤, which proceeds to the complete $\frac{5}{3}$ chord on ①. Note that in example 6.25 the missing C occurs as a diminution in both the soprano and the tenor on the last eighth note of bar 4.

Example (d) is similar to example (a): the added sixth C provides the four-part $\frac{6}{2}$ chord again.

Example (e), on the bass ⑦–④–③, deserves special attention. It exhibits a so-called chord inversion from the first to the second chord. The bass tone A moves to the alto and the soprano tone E \flat to the bass. This procedure involves the inversion of the diminished fifth to the augmented fourth. The augmented fourth resolves regularly; see the oblique lines.

Example (f) is based on ②–①. Compared to the three-part $\frac{6}{3}$ chord the four-part $\frac{6}{3}$ chord contains the added perfect fourth F. In contrast with the fourth in the cadential $\frac{5}{4}$ and $\frac{6}{4}$ chords, this fourth is conceived as a consonance.

The distinct bass patterns discussed above represent different syntactical functions. For instance, ⑤–① in bars 4–5 (d) of example 6.25 is the basis of a relatively strong cadence, while ④–③ in bar 7 (d) is a transient part of the descending pentachord of the RO. (Section 6.6 discusses the entire four-part RO.) Nevertheless, the similarity of the chord progressions cannot be denied. They all represent some kind of a dominant–tonic progression. Each first chord is a specific position of the dominant seventh chord, built on a distinct scale degree. The term “dominant seventh” implies the priority of the $\frac{7}{3}$ position, from which all other positions are derived. So to speak, these chords belong to the chord family of the dominant seventh chord. Accordingly, the last chord of each progression in question here belongs to the chord family of the tonic triad.

Example 6.27 systematizes these chord families.

EXAMPLE 6.27 The dominant seventh chord (a) and the tonic triad (b) in major

B \flat major								
a.	root position	first inversion	second inversion	third inversion	b.	root position	first inversion	(second inversion)
	7 5 3	6 5 3	6 4 3	6 4 2		5 3	6 3	(6 4)
	⑤	⑦	②	④		①	③	(⑤)
	dominant seventh chord: V					major tonic triad: I		

Example (a) shows the four positions of the dominant seventh chord, ranked according to their different bass tones. The example presents the chords on ⑦, ②, and ④ as chord inversions of

the root position on ⑤. The Roman numeral V represents the whole chord family, which includes the positions $\frac{7}{3}$ on ⑤, $\frac{6}{3}$ on ⑦, $\frac{6}{4}$ on ②, and $\frac{6}{2}$ on ④.

Example (b) shows the three positions of the tonic triad, represented by the Roman numeral I. From a theoretical perspective, the positions $\frac{6}{3}$ on ③ and $\frac{6}{4}$ on ⑤ are the first and second inversion of the root position on ①, respectively. The $\frac{6}{4}$ chord has been put between brackets, since a tonic $\frac{6}{4}$ chord (that is: with a tonic function) rarely occurs. One might point at the $\frac{6}{4}$ chord on F in bar 9 of example 6.25. However, this chord merely results from the passing motion in parallel thirds in the two highest voices; it does not imply any structural harmonic function.

The concept of chord inversion is hardly questioned in present-day music theory, at least concerning the Classical and Romantic repertoire. Nevertheless, this concept causes some complications that require further discussion. Let us return to example 6.25.

In bar 1 the $\frac{5}{3}$ chord on ① proceeds to the $\frac{6}{3}$ chord on ③, which returns to the $\frac{5}{3}$ chord on ① once more. Obviously, the chords are members of the same tonic chord family. In metric respect the $\frac{6}{3}$ chord is subordinate to its surrounding chords; it appears as an inversion of the preceding root position.

The inversion of the C minor chord in bar 4 is comparable in this respect. Given the Galant cadence in bars 3–5 the $\frac{5}{3}$ chord on the second beat is subordinate to the $\frac{6}{3}$ chord on the first beat. See the * signs that indicate the structural components of the cadence. Similarly, in bar 9 the $\frac{6}{4}$ chord on ④ appears as an inversion of the preceding $\frac{6}{3}$ chord on ⑦, ignoring the aforementioned, harmonically insignificant $\frac{6}{4}$ chord on ⑤.

Example 6.28 illuminates the procedure of chord inversion in detail.

EXAMPLE 6.28 Chord inversion and voice exchange in bar 1 (a), bar 4 (b), and bar 9 (c)

Example 6.28 illustrates chord inversion and voice exchange in three parts:

- (a) B \flat major:** Shows the progression of the tonic chord family (I) in bar 1. The chords are $\frac{5}{3}$ (root position), $\frac{6}{3}$ (first inversion), and $\frac{5}{3}$ (root position). The Roman numeral I is indicated below the staves.
- (b) C minor:** Shows the inversion of the tonic chord family (ii) in bar 4. The chords are $\frac{6}{3}$ (first inversion) and $\frac{5}{3}$ (second inversion). The Roman numeral ii is indicated below the staves.
- (c) C major:** Shows the inversion of the tonic chord family (V) in bar 9. The chords are $\frac{6}{3}$ (first inversion), $\frac{6}{4}$ (second inversion), and $\frac{6}{3}$ (first inversion). The Roman numeral V is indicated below the staves.

Example (a) shows the process of chord inversion in bar 1. In the progression ①–③ a voice exchange occurs between the bass and the tenor: the bass moves from B \flat to D, and the tenor from D to B \flat . Subsequently, a similar voice exchange takes place between the bass and the soprano. The Roman numeral I underneath the staves represents the tonic chord family.

Example (b) shows the inversion of the C minor chord in bar 4: the voice exchange between the bass and the soprano causes the inversion of the $\frac{6}{3}$ chord on ④ to the $\frac{5}{3}$ chord on ②. As is mentioned above, the $\frac{5}{3}$ chord (the root position) appears as the inversion of the $\frac{6}{3}$ chord instead of the other way around. Notwithstanding this, the lower-case Roman numeral ii symbolizes the chord family based on the minor $\frac{5}{3}$ chord on ②.

In example (c) all voices except the tenor are reshuffled: the bass tone A moves to the alto, the alto C to the soprano and the soprano E \flat to the bass. The Roman numeral V represents the family of the $\frac{5}{3}$ and $\frac{7}{3}$ chord on $\textcircled{5}$.

The chord inversions discussed here are explicit, which means that the second chord is directly derived from the first. The situation in bar 3 of example 6.25 differs in this respect: on the first beat the $\frac{6}{3}$ chord can only implicitly be conceived as the inversion of an (imaginary) root position. While the concept of chord inversion undoubtedly suits the actual situation in bars 1, 4, and 9, the concept remains somewhat abstract in bar 3 and at similar points. Moreover, the concept might even obscure the syntactical function of a chord, as for instance in bars 7–8. In these bars the bass motion from $\textcircled{5}$ to $\textcircled{1}$ implies the descending RO pentachord. Thinking in terms of chord inversion, for instance by conceiving the $\frac{6}{3}$ chord on $\textcircled{3}$ (bar 7, first beat) as the derivation of an imaginary $\frac{5}{3}$ chord on $\textcircled{1}$, would trouble our sense of melodic direction.

To conclude, we will apply the concept of chord inversion with regard to explicit connections between two chord-family members. In contrast, we will conceive a chord that is not directly derived from its preceding chord as a chord in its own right. The notion of chord families, for instance concerning the different positions of the dominant seventh chord in example 6.25, provides unity in the harmonic language in more general terms.

EXAMPLE 6.29 Beethoven: Piano Sonata in A \flat major, Op. 26, third movement (Marcia funebre), bars 1–4

A \flat minor

$\textcircled{1}$ $\textcircled{5}$ ----- $\textcircled{4}$ $\textcircled{3}$ -- $\textcircled{1}$ $\textcircled{7}^{\sharp}$ $\textcircled{1}$ $\textcircled{5}$

half cadence

The well-known Funeral March from Beethoven's A \flat major Sonata is in the parallel minor key A \flat minor. Example 6.29 shows the antecedent of the opening phrase, which closes with a half cadence on a plain $\textcircled{1}$ – $\textcircled{5}$ bass leap. The consequent (not included in the example) leads to a cadence in the relative key C \flat major. The sustained $\hat{5}$ in the upper voice is striking: the melodic movement is mainly assigned to the bass. The harmonic substance consists exclusively of tonic and dominant chords. Minor-tonic chords sound on $\textcircled{1}$ ($\frac{5}{3}$) and $\textcircled{3}$ ($\frac{6}{3}$), and dominant chords on $\textcircled{5}$ ($\frac{7}{3}$ and $\frac{5}{3}$), $\textcircled{7}$ ($\frac{6}{3}$) and $\textcircled{4}$ ($\frac{6}{4}$). The $\frac{6}{4}$ chord on $\textcircled{2}$ does not occur in the excerpt. Recall that the dominant seventh chord also occurs in the minor mode, due to the raised $\hat{7}$.

The dominant $\frac{7}{3}$ in bar 2 contains a D \flat that forms a diminished fifth with the G in the lower staff. Even though the latter is a transient component of a broken chord, the dissonant tension between G and D \flat is palpable. The diminished fifth does not immediately resolve, but inverts to the

augmented fourth on the fourth beat; see the crossing dashed lines. The oblique lines indicate the resolution of the augmented fourth on the bass ④–③. In the next bar the oblique lines indicate the resolution of the diminished fifth on ⑦–①.

Example 6.30 systematizes the dominant seventh chord and the tonic triad in the minor mode.

EXAMPLE 6.30 The dominant seventh chord (a) and the tonic triad (b) in minor

Ab minor

	root position	first inversion	second inversion	third inversion		root position	first inversion	(second inversion)
a.					b.			
	$\begin{matrix} 7 \\ 5 \\ 3 \\ \textcircled{5} \end{matrix}$	$\begin{matrix} 6 \\ 5 \\ 3 \\ \textcircled{7} \flat \end{matrix}$	$\begin{matrix} 6 \flat \\ 4 \\ 3 \\ \textcircled{2} \end{matrix}$	$\begin{matrix} 6 \\ 4 \flat \\ 2 \\ \textcircled{4} \end{matrix}$		$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 6 \\ 3 \\ \textcircled{3} \end{matrix}$	$\begin{matrix} 4 \\ 2 \\ \textcircled{5} \end{matrix}$
	dominant seventh chord: V					minor tonic triad: i		

This example closely relates to example 6.27.

Example (a) presents the root position $\begin{matrix} 7 \\ 5 \\ 3 \\ \textcircled{5} \end{matrix}$ on ⑤ and its inversions $\begin{matrix} 6 \\ 5 \\ 3 \\ \textcircled{7} \flat \end{matrix}$ on ⑦ \flat , $\begin{matrix} 6 \\ 4 \\ 3 \\ \textcircled{2} \end{matrix}$ on ②, and $\begin{matrix} 6 \\ 4 \flat \\ 2 \\ \textcircled{4} \end{matrix}$ on ④. The leading tone G \flat (the raised $\hat{7}$) appears as the third of $\begin{matrix} 7 \\ 5 \\ 3 \\ \textcircled{5} \end{matrix}$, the bass tone of $\begin{matrix} 6 \\ 5 \\ 3 \\ \textcircled{7} \flat \end{matrix}$, the sixth of $\begin{matrix} 6 \\ 4 \\ 3 \\ \textcircled{2} \end{matrix}$, and the fourth of $\begin{matrix} 6 \\ 4 \flat \\ 2 \\ \textcircled{4} \end{matrix}$. As in the major mode the Roman numeral V represents the dominant seventh chord family.

Example b presents the root position $\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$ on ① and its inversions $\begin{matrix} 6 \\ 3 \\ \textcircled{3} \end{matrix}$ on ③ and $\begin{matrix} 4 \\ 2 \\ \textcircled{5} \end{matrix}$ on ⑤. The lower-case Roman numeral i symbolizes the minor-tonic chord family. As has been mentioned previously, the $\begin{matrix} 4 \\ 2 \\ \textcircled{5} \end{matrix}$ chord on ⑤ rarely occurs as a real tonic function.

EXAMPLE 6.31 Resolutions of the dominant seventh chord in major (a) and minor (b)

	C major					
a.	b.	c.	d.	e.	f.	
$\begin{matrix} 7 \\ 5 \\ 3 \\ \textcircled{5} \end{matrix}$	$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 7 \\ 5 \\ 3 \\ \textcircled{5} \end{matrix}$	$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 6 \\ 5 \\ 3 \\ \textcircled{7} \end{matrix}$	$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 6 \\ 5 \\ 3 \\ \textcircled{2} \end{matrix}$
$\begin{matrix} 6 \\ 5 \\ 3 \\ \textcircled{7} \end{matrix}$	$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 6 \\ 5 \\ 3 \\ \textcircled{7} \end{matrix}$	$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 6 \\ 4 \\ 3 \\ \textcircled{2} \end{matrix}$	$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 6 \\ 4 \\ 3 \\ \textcircled{2} \end{matrix}$
$\begin{matrix} 6 \\ 4 \\ 3 \\ \textcircled{2} \end{matrix}$	$\begin{matrix} 6 \\ 3 \\ \textcircled{3} \end{matrix}$	$\begin{matrix} 6 \\ 4 \\ 3 \\ \textcircled{2} \end{matrix}$	$\begin{matrix} 6 \\ 3 \\ \textcircled{3} \end{matrix}$	$\begin{matrix} 6 \\ 4 \\ 2 \\ \textcircled{4} \end{matrix}$	$\begin{matrix} 6 \\ 3 \\ \textcircled{3} \end{matrix}$	$\begin{matrix} 6 \\ 4 \\ 2 \\ \textcircled{4} \end{matrix}$
$\begin{matrix} 6 \\ 4 \\ 2 \\ \textcircled{4} \end{matrix}$	$\begin{matrix} 6 \\ 3 \\ \textcircled{3} \end{matrix}$	$\begin{matrix} 6 \\ 4 \\ 2 \\ \textcircled{4} \end{matrix}$	$\begin{matrix} 6 \\ 3 \\ \textcircled{3} \end{matrix}$	$\begin{matrix} 6 \\ 4 \flat \\ 2 \\ \textcircled{4} \end{matrix}$	$\begin{matrix} 6 \\ 3 \\ \textcircled{3} \end{matrix}$	$\begin{matrix} 6 \\ 4 \flat \\ 2 \\ \textcircled{4} \end{matrix}$
$\begin{matrix} 7 \\ 5 \\ 3 \\ \textcircled{5} \end{matrix}$	$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 7 \\ 5 \\ 3 \\ \textcircled{5} \end{matrix}$	$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 6 \\ 5 \\ 3 \\ \textcircled{7} \flat \end{matrix}$	$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 6 \\ 5 \\ 3 \\ \textcircled{2} \end{matrix}$
$\begin{matrix} 6 \\ 5 \\ 3 \\ \textcircled{7} \flat \end{matrix}$	$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 6 \\ 5 \\ 3 \\ \textcircled{7} \flat \end{matrix}$	$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 6 \flat \\ 5 \\ 3 \\ \textcircled{7} \flat \end{matrix}$	$\begin{matrix} 5 \\ 3 \\ \textcircled{1} \end{matrix}$	$\begin{matrix} 6 \flat \\ 5 \\ 3 \\ \textcircled{2} \end{matrix}$
$\begin{matrix} 6 \flat \\ 5 \\ 3 \\ \textcircled{7} \flat \end{matrix}$	$\begin{matrix} 6 \flat \\ 4 \\ 3 \\ \textcircled{2} \end{matrix}$	$\begin{matrix} 6 \flat \\ 5 \\ 3 \\ \textcircled{7} \flat \end{matrix}$	$\begin{matrix} 6 \flat \\ 4 \\ 3 \\ \textcircled{2} \end{matrix}$	$\begin{matrix} 6 \flat \\ 4 \flat \\ 3 \\ \textcircled{2} \end{matrix}$	$\begin{matrix} 6 \flat \\ 4 \\ 3 \\ \textcircled{2} \end{matrix}$	$\begin{matrix} 6 \flat \\ 4 \flat \\ 3 \\ \textcircled{2} \end{matrix}$
$\begin{matrix} 6 \flat \\ 4 \flat \\ 3 \\ \textcircled{2} \end{matrix}$	$\begin{matrix} 6 \flat \\ 3 \\ \textcircled{3} \end{matrix}$	$\begin{matrix} 6 \flat \\ 4 \flat \\ 3 \\ \textcircled{2} \end{matrix}$	$\begin{matrix} 6 \flat \\ 3 \\ \textcircled{3} \end{matrix}$	$\begin{matrix} 6 \flat \\ 4 \flat \\ 2 \\ \textcircled{4} \end{matrix}$	$\begin{matrix} 6 \flat \\ 3 \\ \textcircled{3} \end{matrix}$	$\begin{matrix} 6 \flat \\ 4 \flat \\ 2 \\ \textcircled{4} \end{matrix}$

Example 6.31 joins all positions of the dominant seventh chord and their resolutions. The oblique lines indicate the resolutions of the augmented fourths and the diminished fifths. Leaving aside the major or minor tonic the progressions in the major and minor mode are identical. Thus one explanation will suffice for each major and minor progression.

Example (a) shows the cadential ⑤–① progression. The complete dominant $\frac{7}{3}$ proceeds to the incomplete tonic $\frac{5}{3}$. In the latter chord the fifth is omitted and the bass tone is doubled twice.

In example (b) the incomplete dominant $\frac{7}{3}$ proceeds to the complete tonic $\frac{5}{3}$. In the first chord the fifth is omitted and the bass doubled.

Example (c) is based on ⑦(♯)–①. The dominant $\frac{6}{3}$ proceeds to the tonic $\frac{5}{3}$; both chords are complete.

Example (d) is based on the bass ②–①, which supports the progression of the dominant $\frac{6}{4}$ to the tonic $\frac{5}{3}$.

Example (e) on the ②–③ bass step shows the progression of the same dominant $\frac{6}{4}$ to the tonic $\frac{6}{3}$. The resolution of the augmented fourth results in the doubling of the bass tone. For reasons of sound quality, however, this doubling is often avoided in favor of doubling the third on ③; see the bracketed black notes. Notice that this doubling causes an irregular resolution of the augmented fourth. Section 6.6 (example 6.35) will return to this issue.

Example (f) shows the progression of the dominant $\frac{6}{2}$ on ④ to the tonic $\frac{6}{3}$ on ③. For reasons of sound quality doubling of the sixth (*) is often preferred to doubling of the bass. This doubling, or possibly the doubling of the third, strengthens the tonic function of the $\frac{6}{3}$ chord.

One last remark must be made about the origins of the semi-consonant diminished fifth and augmented fourth. Like all dissonances they originate from suspensions, passing-tone patterns, and the like. Example 6.32 shows a strict dissonance treatment of the dominant seventh chord by introducing the dissonant tone as a passing tone (pt).

EXAMPLE 6.32 The passing tone in the dominant–tonic progression in major (a, b, c) and minor (d, e, f)

The figured-bass numerals show the characteristic voice-leading patterns generated by the passing tones. In examples (a) and (b) each passing tone is the upper tone of the diminished fifth B–F. In example (c) the passing tone occurs in the bass as the lower tone of the augmented fourth F–B. In examples (d) and (f) the passing tone is the lower tone of the augmented fourth D–G#. In example (e) the passing tone occurs as the upper tone of the diminished fifth G#–D.

Terms to remember

- The dominant seventh chord occurs in four positions, namely $\frac{7}{3}$ on ⑤, $\frac{6}{3}$ on ⑦(#), $\frac{6}{4}$ on ②, and $\frac{6}{2}$ on ④. They can be regarded as four members of one chord family. The Roman numeral V symbolizes the chord family, both in the major and the minor mode.
- The dominant seventh chord usually proceeds to the tonic triad, which is $\frac{5}{3}$ on ① or $\frac{6}{3}$ on ③. Both chords are members of the tonic family I in major and i in minor.
- In $\frac{5}{3}$ and $\frac{6}{3}$ chords the bass is doubled most frequently; in $\frac{6}{4}$ chords, however, the doubling of the third or the sixth may be preferred for reasons of voice leading or sound quality. The doubling of the bass tone of a $\frac{6}{3}$ chord on ⑦(#) is prohibited.
- The dominant–tonic progression can well arise from a passing-tone pattern.

Instructions for the exercises

- This partimento by Fenaroli must be realized in chorale notation. Dominant seventh chords occur in all positions. Resolve each diminished fifth or augmented fourth carefully. The figured-bass numerals 6–5 in bars 6 and 8 indicate the voice leading rather than the chords. The first numeral implies a $\frac{6}{3}$ chord (hint: double the sixth), and the second a $\frac{6}{3}$ chord. The descending tetrachords in bars 9–10 and 11–12 imply a three-part Prinner; apply the augmented $\frac{6}{3}$ chord.
- This partimento by Durante practices the use of the passing-tone pattern in the dominant–tonic progression. This pattern, given in bars 1–2, must be applied to all corresponding patterns, including the repeated eighth notes in, for instance, bar 11; see the * signs. The persistent use of Galant cadences will emphasize the Galant nature of the partimento. Just before the end, in bar 18, the partimento seems to quit A major; yet in the next bar the main key is restored. The figured bass will guide you; note that the harmonic rhythm is extremely fast in the penultimate bar.
- This exercise is a partimento by Fenaroli. The * signs indicate the application of the dominant seventh chord in all positions. At some points the upper voice is given, as for instance in bar 13. Note that the diminished fifth D acts as a neighbor tone. Repeat the pattern in bar 15. The Fenarolis (see Section 5.5) in bars 8–11 and 20–23 must be realized in four parts (although a three-part realization is also possible). Use a $\frac{6}{4}$ chord on ②; the third above the bass may rise by a step.

Suggestion for further analysis

Schubert: Impromptu in A \flat , Op. 142 No. 2, bars 1–16

6.6 THE FOUR-PART RULE OF THE OCTAVE

EXAMPLE 6.33 Schumann: “Ich kann’s nicht fassen, nicht glauben” from *Frauenliebe und -leben*, Op. 42 No. 3, bars 1–16

C minor

Ich kann's nicht fas - sen, nicht glau - ben, es hat ein Traum mich be - rückt; —

wie häßt' er doch ü - ber Al - len mich Ar - me er - höht und be - glückt?

① ② ③ ----- ④ ⑤ ⑥

⑦

① compound cadence

*I can't grasp it, nor believe it,
A dream has bewitched me;
How should he, among all the others
Lift up and make happy poor me?*

The opening phrase of Schumann's song from his song cycle *Frauenliebe und -Leben*, shown in example 6.33, is based on a complete ascending bass scale in C minor in bars 1–11. The E_b in bar 4 adds a chromatic element to the scale. Subsequently, a compound cadence including $\frac{6}{3}$ on ④ (bass tone F in bar 13) closes the phrase. The vocal part largely coincides with the upper part of the piano. The + signs above the staves shed light on the overarching $\frac{3}{8}$ meter of the phrase, which distinguishes strong and weak bars.

Example 6.34 illustrates the harmonic structure of bars 1–11 in comparison with the four-part RO according to many eighteenth-century theorists and partimento teachers.

The $\frac{6}{8}$ bar that replaces the $\frac{3}{8}$ bar of the real score clarifies the aforementioned implicit meter. The real bar numbers are given above the staves.

EXAMPLE 6.34 Reduction of bars 1–11 (a) and the four-part RO (b)

The image shows two musical staves, (a) and (b), with bar numbers 1 through 9 above them. Staff (a) is a reduction of bars 1-11, showing a C minor key signature. It features a treble and bass clef with various chords and melodic lines. Staff (b) shows the four-part RO (Realization of the Order) for the same bars, with chords and their corresponding scale degrees indicated below the staves. The scale degrees are circled numbers: ①, ②, ③, ④, ⑤, ⑥, ⑦, ⑧, ⑨. A bracket under bars 4 and 5 is labeled 'F minor: ⑦, ①'. Asterisks are placed above bars 4 and 6. The RO for bar 4 is $\frac{5}{3}$, for bar 5 is $\frac{6}{4}$, for bar 6 is $\frac{6}{3}$, for bar 7 is $\frac{6}{3}$, for bar 8 is $\frac{6}{3}$, and for bar 9 is $\frac{5}{3}$.

At some points Schumann departs from the eighteenth-century RO. The * signs in example (a) indicate the most significant deviations. The first deviation concerns the insertion of a $\frac{6}{3}$ chord on the chromatic leading tone $E\flat$: $E\flat-G-B\flat-C$. The chord is a member of the dominant seventh chord family; its proper scale degree is ⑦ in F major or ⑦ \flat in F minor. It proceeds to a chord that temporarily acts as ① in F minor. The analysis beneath the staves clarifies this. Sections 8.1, 8.2, and 8.3 will expand on these temporary digressions.

The second deviation concerns the $\frac{6}{4}$ chord on ⑤ that bypasses the ①–⑤–① framework of the RO. The $\frac{6}{4}$ chord results from the voice exchange between the bass and the soprano. The oblique lines illustrate this voice exchange and the passing-tone function of the double G in the outer voices.

Minor deviations concern the $\frac{5}{3}$ chord on ④, and the chromatically colored $\frac{6}{3}$ chord on ⑥ \flat . The first chord is a usual substitute for the standardized $\frac{6}{3}$ or $\frac{5}{3}$ chord. The second chord, however, is more complex. Although the RO does not prescribe an $F\sharp$ at this point, the tone is highly stereotypical: it generates a graceful chromatic voice leading in the upper voice. The added dissonance of $E\flat$ makes the chord a diminished seventh chord. This chord type will further be discussed in Section 7.1.

There is no reason to suppose that Schumann's scale realization pretends to deliberately vary the RO. Conversely, the coincidence of Schumann's song from 1840 with the then over hundred years old theoretical concept is remarkable. Apparently, the harmonic language of

the first half of the nineteenth century shares, at least partly, the premises of that of the eighteenth century.

A comparison of the four-part RO in example (b) with the three-part RO, discussed in Chapter 4, shows the similarities of scale degrees ①, ③, ⑤, and ⑥: $\frac{5}{3}$ chords sound on ① and ⑤ and $\frac{6}{3}$ chords on ③ and ⑥. In each four-part $\frac{5}{3}$ or $\frac{6}{3}$ chord the bass tone is doubled. We already know that an alternative doubling on ③ is also possible throughout: see example 6.31e in Section 6.5. This doubling is illuminated once more in example 6.36 below. Scale degrees ②, ④, and ⑦ support chords with added dissonances. On ② and ⑦ the three-part $\frac{6}{3}$ chords are modified into dominant $\frac{6}{4}$ and $\frac{6}{3}$ chords, respectively. On ④ the three-part sixth chord is modified into the $\frac{6}{3}$ chord known from the compound cadence.

The four-part RO affirms the special status of the dominant seventh chord and the $\frac{6}{3}$ chord on ④: it presents the chords as semi-consonances without any need for preparation.

EXAMPLE 6.35 Schubert: Piano Sonata in C minor, D 958, second movement (Adagio), bars 1–4

Ab major

① ② ③ ⑦ ①

Example 6.35 shows the opening bars of the slow movement in $A\flat$ major of one of Schubert's late piano sonatas. With respect to harmony, the opening phrase circles around the tonic before it closes with a half cadence in bar 4. Example 6.36 clarifies this circular movement.

EXAMPLE 6.36 Reduction of bars 1–3

Ab major

① ② ③ ⑦ ①

The reduction recalls the Fenaroli, given the implicit canon between the two outer voices (just imagine a continuous repeat of bars 1–2), and the $\hat{5}$ pedal point in the tenor. The augmented fourth D \flat –G on the second beat of bar 1 is noteworthy. Instead of resolving to a sixth by contrary motion, both voices rise by a step. This irregularity can be explained in two different ways.

First, the $\frac{6}{3}$ chord on ② can be regarded as a $\frac{6}{3}$ chord with an added fourth. If we ignore the tenor for a while, the harmonic structure is in accordance with the three-part RO, namely a parallel movement of $\frac{6}{3}$ chords on scale degrees ② and ③; see the three oblique lines. Apparently the “added” tenor does not influence the voice leading of the alto.

Second, the $\frac{6}{3}$ chord on ③ is, as we have seen in Section 6.5, a member of the tonic chord family. In the tonic $\frac{5}{3}$ on ① the bass tone A \flat and its upper fifth E \flat may be regarded as stable components, since they form a perfect consonance. Meanwhile, the third C forms an imperfect consonance with the bass, which gives the tone an unstable, mobile quality. This difference in quality applies to the sixth chord on ③ as well. The doubling of the bass tone (i.e., the third of ①) stresses the mobile quality of the chord. On the contrary, the doubling of the third or the sixth (i.e., the fifth or the octave on ①) stresses the relative stability of the chord.

EXAMPLE 6.37 Prototypes of the ascending four-part RO in major (a) and minor (b)

a. C major

b. A minor

Example 6.37 shows two versions of the ascending RO. The upper voices may be varied: the RO can start in the so-called first, second, and third positions, which means that the soprano starts with $\hat{1}$, $\hat{3}$ or $\hat{5}$, respectively. The RO presents the dominant seventh chords on ②, ④, and ⑦ as chords in their own right. In other words, these semi-consonances do not need to be prepared, yet they require a resolution. The same applies to the $\frac{6}{3}$ chord on ④. The oblique lines show the obliged resolutions of their dissonant components.

EXAMPLE 6.38 Bach: Prelude in C major, BWV 846, from *The Well-Tempered Clavier*, I, bars 1–4

C major

The score shows two systems of two staves each. The first system contains bars 1 and 2. The second system contains bars 3 and 4. Fingerings are indicated by circled numbers: 1, 3, 5, 7, 6, 4, 2, 1 in the first system and 3, 7, 5, 1 in the second system.

Bach's Prelude in C major mainly consists of broken-chord figurations. These broken chords constitute a five-part harmonic texture. The prelude opens with a discant cadence (on ①---⑦-①), which is shown in example 6.38. Although the succession of whole-bar chords resists a clear meter, we may perceive the “tied” bass tone C in bar 2 as an accented one. Indeed, the tone is a suspension that is prepared in bar 1 and resolved in bar 3. Consequently, bar 3 may be considered as weak.

The composition continues with similar chord figurations. Example 6.39(a) is a five-part reduction, in which the chords are shortened into half-note values in order to reveal the underlying, though hardly perceivable meter. The real bar numbers are given above the staves.

EXAMPLE 6.39 Reduction of bars 4–19 (a), compared with the four-part descending RO (b) in major

C major

a. 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

Part (a) shows a reduction of bars 4-19 in C major. Chords are shown as half-note values. Bar numbers 4-19 are written above the staves. Fingerings are indicated by circled numbers: 1, 7, 6, 5, 4, 3, 2, 1. A dashed line indicates the continuation of the texture.

Part (b) shows a four-part descending RO in G major. Chords are shown as half-note values. Bar numbers 5-1 are written below the staves. Fingerings are indicated by circled numbers: 5, 7, 6, 5, 4, 3, 2, 1. Labels "leading to dominant" and "leading to tonic" are placed below the staves.

The meter suggested in example (a) is based on the tied bass tones that dominate the whole excerpt: all tied bass tones are strong and their resolutions weak. Bars 8–10 and 16–18 interrupt this strong–weak succession. Here a ternary meter seems more suitable. It must be said that the slow harmonic rhythm (one chord in each bar) and the repeat of the chord figurations (see example 6.38) obscure a clear metrical perception.

The descending bass scale from the high C to the low C in bars 4–19 is noteworthy. The circled numerals indicate the stepwise bass motion. The scale is divided into the descending tetrachord ①–⑤ (bars 4–11) and the descending pentachord ⑤–① (bars 11–19). The odd bass tones D in bar 10 and G in bar 18 emphasize these anchor points by providing cadential leaps. From a structural-melodic point of view these tones may be regarded as ornamental (hence the horizontal brackets underneath the staves).

Example (b) shows the four-part descending RO, which forms the framework of the harmonic structure. The RO is closely related to its three-part variant. It only differs with respect to $\frac{6}{3}$ on ⑥, $\frac{6}{4}$ on ②, and $\frac{6}{3}$ on ②. The chords on ⑥ and ② contain an added fourth compared to their three-part counterparts. The chord on ④ contains an added sixth.

The raised sixth on ⑥ results in a dominant $\frac{6}{3}$ chord, which refers to the temporary key of G major. Note that the harmonic progressions on ⑦–⑥–⑤ (leading to the dominant) and ③–②–① (leading to the tonic) are similar.

EXAMPLE 6.40 Schubert: “Der Wanderer”, Op. 4 No. 1, bars 16–22

16 E major

Ich wan - dle - still, bin we - nig froh,

19 C# minor

und im - mer fragt der Seuf - zer: wo? im - mer wo?

⑥ ⑤ ⑥ ⑤

half cadence half cadence

*I wander silently,
I am somewhat unhappy,
And my sighs always ask:
"Where?"*

Example 6.40 shows the second section of Schubert's famous song "Der Wanderer". The phrase starts in E major, and ends with a half cadence in C# minor. The half cadence reflects the question "where?" posed in the lyrics. Of principal significance here is the repeated ⑥–⑤ bass motion that forms the basis of the half cadence. The piano part exhibits an augmented $\frac{6}{3}$ chord that proceeds to the $\frac{5}{3}$ chord on ⑤. This chord progression is in accordance with the three-part RO; see Section 4.4, example 4.26. However, the vocal part adds two essential elements (*) to the harmony. Example 6.41 shows the harmonic progressions in question.

EXAMPLE 6.41 The augmented sixth chords: $\frac{6}{3}$ (a), $\frac{6}{3}$ (b), and $\frac{6}{4}$ (c)

C# minor

a. 20-22 b. 20-21 c. 21-22

Example (a) presents the piano part in bars 20–22, which depicts a twofold progression of the augmented $\frac{6}{3}$ chord on ⑥ to the dominant $\frac{5}{3}$ chord on ⑤. Like the diminished fifth and the augmented fourth the augmented sixth may be regarded as a semi-consonance, since the interval does not need a preparation. The oblique lines indicate its resolution toward the octave.

In example (b) the tone E supplements the augmented $\frac{6}{3}$ to create an augmented $\frac{6}{3}$. In this chord the diminished seventh F#–E resolves into the perfect fifth G#–D#. Note that the outer voices perform parallel fifths! Since this prohibited voice leading is inevitable here, it is accepted to a certain degree. However, just look at bar 20 in example 6.40 and observe that Schubert avoids direct parallel fifths between the bass and the vocal part by the use of a melodic turn.

Example (c) presents the augmented $\frac{6}{4}$ chord by the addition of the tone D#. The differences between the three augmented sixth chords mainly concern the sound quality. In functional respect the three chords are identical: they strongly tend to the dominant $\frac{5}{3}$ chord. This feature makes the chords highly suitable to half cadences with a powerful closing function. In the Schubert song the half cadence marks the end of the first strophe; the second strophe contrasts with the first in all respects.

Examples (b) and (c) combine the piano and vocal parts. Since “Der Wanderer” is a typical male song the vocal part sounds an octave lower than the notation. Consequently, the vocal patterns E–D# (example (b)) and the repeated D# (example (c)) sound below the upper voice of the piano.

EXAMPLE 6.42 Prototypes of the four-part descending RO in minor

A minor

$\frac{5}{3}$ $\frac{6}{3}$ $\frac{6\#}{4}$ $\frac{5}{3\#}$ $\frac{6}{4\#}$ $\frac{6}{3}$ $\frac{6\#}{4}$ $\frac{5}{3}$
 ① ⑦ ⑥ ⑤ ④ ③ ② ①

Example 6.42 provides a prototype of the descending four-part RO in the minor mode. Note that the augmented $\frac{6}{4}$ chord on ⑥ is standardized rather than the augmented $\frac{6}{3}$ chord. However, both chords are convertible: they mainly differ with respect to their sound.

Generally speaking, the RO is an extremely useful tool for the realization of (primarily) step-wise basses. So for instance ④, as part of an ascending bass, implies a $\frac{6}{3}$ chord that leads to a $\frac{5}{3}$ chord on ⑤; as part of a descending bass ④ implies a $\frac{6}{4}$ chord that leads to a $\frac{6}{3}$ chord on ③. Of course, the vocabulary of tonal harmony, regardless of the specific musical style, includes many alternatives. Sequences of all kinds, cadences, and particular Galant schemata, such as the Prinner or the Romanesca, also determine the harmonic language. Anyway, the RO provides a reliable principle for harmonic realizations in each key.

Conversely, the RO is a key-determining factor itself. If, say, a dominant $\frac{6}{3}$ chord regularly proceeds to a $\frac{5}{3}$ chord, this happens on the bass step ⑦–① inevitably; similarly, a dominant $\frac{6}{4}$ chord occurs on ②, or possibly on the descending ⑥ in the major mode.

For obvious reasons many eighteenth-century music apprentices had to learn the RO by rote in all twenty-four major and minor keys. Nowadays this would still be an excellent exercise. At minimum, a thorough and ready knowledge of the RO is an indispensable attribute for the training of harmonic skills.

Terms to remember

- All chords of the RO may be considered as self-contained harmonic entities. The dissonances do not need to be prepared, although they still require a resolution. They may be considered semi-consonances.

- In the descending RO the $\frac{6}{4}$ chord on $\textcircled{6}$ contains a raised sixth. In the major mode this concerns the dominant $\frac{6}{3}$ chord, and in the minor the augmented $\frac{6}{4}$ chord. The augmented $\frac{6}{3}$ chord may replace the standard $\frac{6}{4}$.

Instructions for the exercises

- Follow the RO throughout until the final cadence. Which scale degree does the $G\sharp$ in bar 3 imply? The $G\sharp$ in bar 6 is a chromatic ornament. You may ignore the sharp in your realization.
- The exercise passes through various keys. Indicate these first. Each segment of the sequence in bars 9–14 has to be realized similarly. (See exercise (b) of Section 6.2: bars 5–7 contain a comparable sequence.)
- This exercise is a partimento by Fenaroli. You may wish to follow Schumann's model of example 6.34(a); accordingly, you may realize the G in bar 2 with a $\frac{6}{4}$ chord. Bars 26–33 and 34–40 imply invertible counterpoint: the eighth notes of the bass recur in the upper voice.

Suggestion for further analysis

Beethoven: Piano Sonata in F major, Op. 10 No. 2, first movement (Allegro), bars 1–18

BEYOND THE RULE OF THE OCTAVE

INTRODUCTION

Section 6.6 presented the RO as an important concept of tonal harmony. However, by no means does the RO provide a complete harmonic vocabulary.

First, various alternatives exist for the standard RO chords. So a $\frac{5}{3}$ or $\frac{6}{3}$ chord can replace a $\frac{6}{3}$ chord on the ascending ④. Similarly, an unaltered $\frac{6}{3}$ chord can take the place of the augmented $\frac{6}{4}$ on the descending ⑥ in the minor mode. Second, the RO is mainly applicable to stepwise basses. Leaping or tied basses often require realizations that are not included in the RO.

Section 7.1 introduces the diminished seventh chord, which can be a substitute for the dominant seventh chord. In contrast with the general approach of the book this section starts with a discussion of the sound of the chord and its constitution rather than its function in the musical context. The reason for this lies in the chord's inherent qualities. Its characteristic sound evokes various associations and emotions, such that we can almost consider the chord a schema itself. Moreover, the structure of the chord, a stacking of only minor thirds, permits all sorts of harmonic progressions. The section confines itself to the basic treatment of the chord; more advanced procedures will be deferred until Section 9.3.

The remaining sections of this chapter deal with specific bass motions. Section 7.2 explores sequential basses, namely the schemata Fifth Down Fourth Up (see also Sections 1.4 and 2.4) and Third Down Second Up (see also Section 1.2). Section 7.3 discusses the four-part Tied Bass, which refers to Sections 1.3, 1.4, and 2.5. These three schemata are unified by the superordinate principle of the Circle of Fifths. Section 7.4 examines the Descending Thirds schema. Progressions of $\frac{5}{3}$ chords on a descending-thirds bass occur frequently in a wide range of styles. The section aims to uncover the underlying principle of this harmonic phenomenon. Finally, Section 7.5 revisits the Folia (see also Section 5.6). It presents the rising part of the schema as an effective tool for modulation.

7.1 THE DIMINISHED SEVENTH FAMILY

EXAMPLE 7.1 Beethoven: Piano Sonata in C minor, Op. 111, first movement (Maestoso–Allegro con brio ed appassionato), bars 1–4

Beethoven's last piano sonata starts with a slow introduction preceding the Allegro movement. Example 7.1 shows the opening bars. The dramatic and passionate temperament is clear from the very first moment. The piece opens with a descending diminished seventh E_b-F^\sharp that forms the basis of the following diminished seventh chord $F^\sharp-A-C-E_b$ (*). Despite the key signature of C minor, the chord belongs to the harmonic system of G minor; the bass tone F^\sharp is scale degree $\textcircled{7}^\sharp$. For this reason the chord is sometimes called the leading-tone seventh chord. Apparently, this chord does not require a preparation: the composition simply starts with it. In this respect the diminished seventh chord is comparable with the semi-consonant dominant seventh chord; see for instance Section 6.4, example 6.21.

It must be said that aural perception does not necessarily correspond to the above analysis. For instance, if one does not read the score at the same time as listening, the diminished seventh at the beginning may be heard as a major sixth (E_b-G_b) too. As a consequence, the key of G minor is somewhat ambiguous, hence the question mark in the key box above the staves. As a matter of fact, G minor is never truly affirmed: the G major chord on the first beat of bar 2 pushes the harmony into the region of the main key C minor.

From the upbeat to bar 3 the musical idea recurs in C minor, now on the basis of the descending diminished seventh A_b-B_b and the following diminished seventh chord $B_b-D-F-A_b$ (**). Here again the key is not affirmed; instead, the harmony switches to F minor in bar 4. Only after a long chromatic passage (not included in the example) does the music achieve its harmonic goal,

which is the dominant of the main key C minor. The following Allegro eventually affirms the key with the appearance of the tonic.

Undoubtedly the harmonic instability here is due to the general harmonic idea of a slow introduction, in which the affirmation of the main key is postponed until the beginning of the Allegro movement. Yet this instability, or vagueness if you wish, is also a feature of the diminished seventh chord itself. Section 9.3 will further explore the tonal ambiguity of this chord. This section will discuss its most characteristic features. Example 7.2 shows its interval construction.

EXAMPLE 7.2 Features of the diminished seventh chord in G minor (a) and C minor (b)

Example 7.2 consists of two parts, (a) and (b), illustrating the interval construction of a diminished seventh chord. Part (a) is for G minor and part (b) is for C minor. Both parts show a sequence of notes on a staff, with brackets indicating intervals: three minor thirds (m 3) and two diminished fifths (dim 5). Below the notes, the vertical constellation is shown as a 7/3 chord on the tonic (7 3 # for G minor and 7 3 ♭ for C minor).

Example (a) clarifies the diminished seventh chord of bar 1. First, the example shows the two-part framework of the diminished seventh chord. This is the most characteristic interval of the harmonic minor mode. The interval is an assembly of an ascending and a descending leading tone, namely the F# (leading to G), and the E \flat (leading to D). Subsequently, the example shows the internal interval structure of the diminished seventh chord, consisting of three minor thirds (m 3) and two diminished fifths (d 5). Finally, the example shows the vertical constellation, which is a $\frac{7}{3}$ chord on 7^\sharp . The same applies to the diminished seventh chord in C minor in bar 3 of example 7.1, which is clarified in example (b).

EXAMPLE 7.3 Haydn: *Die Worte des Erlösers am Kreuze*, Hob. XX/2, introduction (Maestoso adagio), bars 1–6

Example 7.3 shows musical notation for Haydn's introduction in D minor, bars 1–6. The notation includes treble and bass staves with dynamics like *ff* and *p*. Below the notes, various cadences are identified with numbers in circles: ①, ②, ③, ④, ⑤, ⑥. Specific cadences are labeled: Meyer (bars 1-2), deceptive compound cadence (bars 3-4), alto cadence (bars 4-5), and Galant cadence (evaded) (bars 5-6). Fingerings and accents are also indicated.

Dissonant chords, dynamic contrasts (therefore the added dynamics), and musical discontinuity by frequent rests characterize the opening of Joseph Haydn's oratorio *Die Worte des Erlösers am Kreuze*, shown in example 7.3. These features contribute to the dramatic and majestic atmosphere of the orchestral introduction in D minor. It starts with a so-called Meyer, which is a sort of question-answer gesture containing a twofold melodic pattern $\hat{1}-\hat{7} / \hat{4}-\hat{3}$ accompanied by the bass pattern ①-② / ⑦-①. The Meyer often acts as an opening gesture.

The phrase continues with a three-part compound cadence that appears to be deceptive on the first beat of bar 4. (The detailed analysis underneath the staves leaves out of account the chromatic embellishments.) Bars 4 and 5 exhibit a threefold alto cadence on the ④-③ bass pattern that only achieves its completion after the third occurrence, by means of a Galant cadence. A perfect close to the phrase is evaded, since the tonic triad in bar 6 acts as a new beginning rather than an end, due to the dynamic contrast.

Let us focus on the chords in bars 1 and 4 indicated with the * signs. They represent different positions of the diminished seventh chord. In D minor these positions share the tones C#-E-G-Bb. In accordance with the dominant seventh family, these positions are members of the family of the diminished seventh chord.

Example 7.4 clarifies these chords and their inherent resolution tendencies.

EXAMPLE 7.4 Reduction of bars 4 (a) and 1-2 (b)

D minor

a. $\hat{1} \text{-----} \hat{7}$ $\hat{4} \text{-----} \hat{3}$

b. $\hat{1} \text{-----} \hat{7}$ $\hat{4} \text{-----} \hat{3}$

6/4# 6/3 5/3 6/3# 5/3 7/3-6/3 5/3

④ ③ ① ② (① ⑦#) ⑦# ①

Example (a) presents the chord progression that sounds in bar 4. The bass step ④-③ supports the progression of the diminished seventh chord in $\frac{6}{4}$ position (briefly diminished $\frac{6}{3}$) to the tonic $\frac{6}{3}$ chord. The oblique lines indicate the resolution of the diminished seventh C#-Bb to the perfect fifth D-A. The dashed line indicates the resolution of the bass tone G, which forms an augmented fourth with the C#.

Example (b) presents the Meyer of bars 1-2. The first stage concerns the progression of the tonic $\frac{5}{3}$ to the diminished $\frac{6}{3}$ on ②. Compared to example (a) the diminished seventh is inverted to the augmented second Bb-C#. Although the chord does not resolve directly, it implies a return to $\frac{5}{3}$ on ①; see the oblique lines and the black notes. Yet instead it proceeds to the dominant $\frac{6}{3}$ on ⑦#, which is closely related to the diminished $\frac{7}{3}$ (see the black notes). One might say that the actually sounding A (*) comes in place of the Bb (*). The example shows that the dominant $\frac{6}{3}$ and the diminished $\frac{7}{3}$, both on ⑦#, are exchangeable to a certain degree.

Generally speaking, the diminished seventh chord shares three tones with the dominant seventh chord. Example 7.5 shows the family of the diminished seventh chord.

EXAMPLE 7.5 The diminished seventh family (a) and its relation with the dominant seventh family (b)

A minor

a. root position first inversion second inversion third inversion

b.

diminished seventh chord: vii°

Example (a) presents the four positions of the diminished seventh chord, represented by the symbol vii°. Its root position is on 7# in the minor mode and its inversions are on 2, 4, and 6, respectively. Recall what is said about explicit and implicit chord inversion in Section 6.5 (see example 6.28). The explicit inversion of a diminished seventh chord is constrained to the direct succession of two different positions. Consequently, we will regard the diminished $\frac{6}{3}$ in bar 4 of example 7.3 as a member of the diminished seventh family rather than as an inversion of an imaginary root position. Example (b) shows the resolution of the diminished seventh or augmented second by the descending half-tone step F–E or, in general, $\hat{6}-\hat{5}$ in the minor mode. Accordingly, the diminished $\frac{7}{3}$ resolves into the dominant $\frac{6}{3}$, the diminished $\frac{6}{3}$ into the dominant $\frac{6}{3}$, the diminished $\frac{6}{4}$ into the dominant $\frac{6}{2}$, and the diminished $\frac{4}{2}$ into the dominant $\frac{7}{3}$. The direct resolution into the tonic will be discussed below.

EXAMPLE 7.6 Cherubini: Requiem in C minor, Offertory, bars 9–12 (choral parts)

E♭ major

9 Do - mi - ne Je - su Chri - ste, rex glo - ri - ae, rex glo - ri - ae,

① ⑦ ① ⑥

Example 7.6 shows an excerpt from the Requiem in C minor by the Italian/French composer Luigi Cherubini (1760–1842). It concerns the opening choral phrase of the Offertory in E♭ major, which ends with a half cadence in bar 12. The phrase is divided in two groups of two bars, separated by a rest. Example 7.7 illustrates its harmonic structure.

The reduction in example 7.7 omits the chromatic A♯ in bar 10 because of its ornamental nature. Moreover, it ignores the double suspension G♭–B♭ on the first beat of bar 10. These simplifications

EXAMPLE 7.7 Reduction of bars 9–12

9 Eb major

5/3 6/4 7^b/3 — 6/3 5/3 6/4 — 5/3

① ⑦ ① ⑤

discant cadence half cadence

reveal the underlying harmonic principle of the discant cadence, which is similar to Mozart’s “Ave verum corpus” in example 6.18 (bars 3–6). Cherubini’s discant cadence differs in that it does not stand alone, but connects to a half cadence.

The $C\flat$ in bar 11 is noteworthy for two reasons. With respect to the horizontal, the tone is the lowered $\hat{6}$, which adds a minor-key element (molldur) to the key $E\flat$ major. Recall what was said about molldur in Section 6.1 (examples 6.5 and 6.6). The molldur $\hat{6}$ bridges the surrounding tones C and $B\flat$ chromatically.

With respect to the vertical, the $C\flat$ is the diminished seventh of the diminished seventh chord $D-F-A\flat-C\flat$ on $\textcircled{7}$. This tone resolves onto the sixth $B\flat$, creating a progression from the diminished $\frac{7}{3}$ to the dominant $\frac{6}{3}$ chord. In turn this chord proceeds to the tonic triad. The oblique lines indicate the resolutions of the diminished seventh $D-C\flat$ and the diminished fifth $D-A\flat$.

In conclusion, although the diminished seventh chord is most proper to the minor mode, it can also be applied in the major mode. By definition, this happens by the molldur $\hat{6}$.

EXAMPLE 7.8 Tchaikovsky: “Waltz of the Flowers” from *The Nutcracker*, Op. 71, bars 1–3 (a) and 38–40 (b)

a. A major b. D major

5/3 6/4 — 5/3 5/3 vii° 5/3

① ④ ② ③ ①

Example 7.8 juxtaposes two small excerpts from the “Waltz of the Flowers” by Pyotr Ilyich Tchaikovsky (1840–1893). This orchestral piece is part of the second act of his ballet *The Nutcracker*. The excerpts contain two special applications of the diminished seventh chord.

Example (a) shows the opening bars of the introduction. The key of A major appears after a few bars to be the dominant of the main key, D major. In retrospect one can also perceive bar 1 as the dominant $\frac{5}{3}$ in D major. In any case, what is important here is the diminished seventh chord marked with the * sign. Theoretically speaking, the root position of the chord is $B\sharp-D\sharp-F\sharp-A$,

thus on the raised second tone of the A major scale. Yet it is hard, if not impossible, to hear the B \sharp as the root of the chord. On the contrary, the chord arises from a threefold neighbor-tone motion (see the oblique lines) on the sustained bass tone A. Because of this sustained bass the chord is called a common-tone diminished seventh chord. Although the chord can be defined as a diminished seventh chord with respect to its sound quality and its interval construction, it does not belong to the family of the diminished seventh chord as discussed above. In other words, the chord cannot be represented by the Roman numeral vii $^{\circ}$. Instead it seems more appropriate to conceive the common-tone diminished seventh chord as an ornamental neighbor-tone chord. The oblique lines indicate the threefold neighbor-tone motion.

Example (b) shows the beginning of the Waltz itself (following four bars of accompaniment), which is closely related to the opening bars of the introduction. The chord marked with the ** sign is another diminished seventh chord. If we ignore the bass for the moment, the chord consists of the tones C \sharp -E-G-B \flat . Its context differs slightly from the chord in example (a). On the one hand there is no common tone with the surrounding tonic triad, and on the other there is no harmonic connection with the sustained bass tone D. To put it differently, the diminished seventh chord departs from the harmonic foundation, which is the bass tone D, and returns to it. A sustained bass tone like this is called a pedal point. (Recall Section 5.2 regarding the Quiescenza.) Despite this pedal point, which highlights the tonic function, the diminished seventh chord can be included in the vii $^{\circ}$ family. A bass tone is indeterminate and thus so too is the position of the chord, since the sounding bass tone D is no chord tone at all. For this reason its denomination by the Roman numeral vii $^{\circ}$ without figured-bass numerals suffices.

Example 7.9 shows the resolution of the diminished seventh chord into the tonic. In each example the oblique lines indicate the resolution of the diminished seventh to the perfect fifth or, inverted,

EXAMPLE 7.9 Resolutions of the diminished seventh chord in minor and major

A minor

a. b. c. d. e.

C major

a. b. c. d. e.

of the augmented second to the perfect fourth; each dashed line indicates the resolution of the diminished fifth or the augmented fourth. Further, the examples illuminate the relation between the diminished seventh chord and the corresponding dominant seventh chord; see the black notes in cue size. The treatment of the diminished seventh chord is similar in major and minor; therefore the following explanations will address the minor and major keys at the same time. Recall that the chord contains $\hat{7}\sharp$ in minor and $\hat{6}\flat$ in major.

The leading-tone resolution $\textcircled{7}(\sharp)-\textcircled{1}$ in example (a) is the basis of the progression of the diminished $\frac{7}{3}$ to the tonic $\frac{5}{3}$. The dominant $\frac{6}{3}$ (see the black note) can act as an intermediate step or a substitution of the diminished chord.

The diminished $\frac{6}{3}$ in example (b) leads to the tonic $\frac{5}{3}$ on the bass step $\textcircled{2}-\textcircled{1}$. The dominant $\frac{6}{4}$ can be an intermediate or a substitute.

Example (c) shows the diminished $\frac{6}{3}$ to the tonic $\frac{6}{3}$ on the bass step $\textcircled{2}-\textcircled{3}$, again via the dominant $\frac{6}{4}$. (Note the rising step F–G in the C major example, which avoids an inconvenient doubling of the bass tone.)

Example (d) shows the progression of the diminished $\frac{6}{4}$ to the tonic $\frac{6}{3}$ on $\textcircled{4}-\textcircled{3}$ via the dominant $\frac{6}{2}$.

Example (e) differs from the previous examples. The progression of the diminished chord to the tonic on the bass $\textcircled{6}-\textcircled{5}$ would result in a tonic $\frac{6}{4}$ chord. This resolution rarely occurs. Instead, the diminished $\frac{6}{2}$ most often proceeds to the dominant $\frac{7}{3}$.

Terms to remember

- The diminished seventh chord is based on the diminished seventh, which is the interval between $\hat{7}\sharp$ and $\hat{6}$ in the minor mode. The diminished seventh gives the chord its dramatic power.
- The diminished seventh chord is proper to the minor mode, but in combination with molldur $\hat{6}$ it can be applied in the major mode too.
- The diminished seventh chord occurs in four positions, namely as $\frac{7}{3}$ on $\textcircled{7}(\sharp)$, $\frac{6}{3}$ on $\textcircled{2}$, $\frac{6}{4}$ on $\textcircled{4}$, and $\frac{6}{2}$ on $\textcircled{6}(\flat)$. These can be regarded as four members of one family, indicated by the symbol vii° .
- The diminished seventh chord can resolve into the dominant seventh chord by the simple resolution of the diminished seventh or augmented second, or into the tonic $\frac{5}{3}$ or $\frac{6}{3}$ directly. The diminished $\frac{6}{4}$ resolves into the dominant $\frac{7}{3}$ most often.
- The diminished $\frac{7}{3}$ is exchangeable with the dominant $\frac{6}{3}$, the diminished $\frac{6}{3}$ with the dominant $\frac{6}{4}$ and the diminished $\frac{6}{4}$ with the dominant $\frac{6}{2}$. The diminished $\frac{6}{2}$ and the dominant $\frac{7}{3}$ are not exchangeable, due to their distinct bass tones.

Instructions for the exercises

- Realize the entire exercise in four parts; you may alternate between keyboard and chorale notation. The * signs indicate the application of the diminished seventh family. For the realization of the Meyer, see example 7.3. The soprano performs the pattern $\hat{1} - \hat{7} / \hat{4} - \hat{3}$.
- This exercise consists of a four-bar antecedent and a five-bar consequent. The end of the antecedent exhibits a network of schemata. The one-bar extension of the consequent is the result of the inserted chromatic tone B \flat (*). This tone requires a diminished seventh chord; choose the appropriate position. The eighth notes C \sharp and A in bar 8 are accented passing tones. The slur at the end of the melody implies a threefold suspension of the tonic chord. Just sustain the tones of the preceding dominant seventh chord.
- Realize this Fenaroli partimento in three and four voices alternately. Analyze the structure of the partimento: the keys, the cadences, and the thematic recurrences. The * signs indicate the diminished seventh chords. The figured-bass numerals in bars 2 and 9 ignore the suspensions in the upper voice: they correspond with the chord on the second half of each bar. Notice the voice exchange between the soprano and the tenor in bar 15. You have to reuse the pattern several times. A so-called Fonte starts from the third beat of bar 20. This is a modulating sequence from G minor to F major. Section 8.1 explores this schema further.

Suggestion for further analysis

Beethoven: Piano Sonata in C minor, Op. 10 No. 1, first movement (Molto allegro e con brio), bars 1–22

7.2 FIFTH DOWN FOURTH UP AND THIRD DOWN SECOND UP

EXAMPLE 7.10 Greene: Voluntary in G major, No. 5, first movement (Andante), bars 6–9

The musical score for Example 7.10 shows a four-part setting in G major, 3/4 time, bars 6–9. The soprano line consists of eighth-note chords: G4-A4-B4 (bar 6), F4-G4-A4 (bar 7), E4-F4-G4 (bar 8), and D4-E4-F4 (bar 9). The bass line consists of eighth-note chords: G2-A2-B2 (bar 6), F2-G2-A2 (bar 7), E2-F2-G2 (bar 8), and D2-E2-F2 (bar 9). The score includes figured bass numerals (1, 4, 7, 3, 6, 2, 5) under the bass line. Annotations include 'E minor' in a box above bar 6, 'proposta' with an arrow pointing to the first chord in bar 7, and 'risposta' with an arrow pointing to the first chord in bar 8.

EXAMPLE 7.10 Continued

Example 7.10 shows an excerpt from one of the Twelve Voluntaries for organ by Greene. The main key is G major, but the phrase shown is in E minor. From the second beat of bar 6 the bass exhibits the schema Fourth Up Fifth Down: ①–④–⑦, and so forth. The two upper voices accompany the bass in complementary rhythm, resulting in a continuous stream of sixteenth notes. The soprano (the risposta) imitates the alto (the proposta) a fourth higher. From the third beat in bar 7 the imitation becomes freer. In bar 8 the upper voices hint at A minor and G major successively; yet these temporary keys are not strong enough to quit E minor definitively. The phrase ends with a Phrygian cadence.

Example 7.11 clarifies the harmonic structure of the phrase.

EXAMPLE 7.11 Reduction of bars 6–9

The reduction omits the aforementioned hints at A minor and G major. The accidentals corresponding with these temporary keys are notated in cue size. The reduction shows the Fourth Up Fifth Down sequence, closely related to its three-part variant discussed in Section 2.4; see for instance example 2.23. In the example here, complete and incomplete $\frac{7}{3}$ chords alternate. For the sake of smooth voice leading the fifth has been omitted from the incomplete chords and the bass tone doubled. The Phrygian cadence at the end is compound because of the tied B.

EXAMPLE 7.12 Prototypes of Fifth Down Fourth Up in major (a, b) and minor (c, d)

C major

a. p s r/p p s r/p

b.

A minor

c. p s r/p p s r/p

d.

Figured bass numbers for (a): 5/3, 7/3, 7(5)/3, 7/3, 7(5)/3, 7/3, 7(5)/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3.

Figured bass numbers for (b): 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3.

Figured bass numbers for (c): 5/3, 7/3, 7(5)/3, 7/3, 7(5)/3, 7/3, 7(5)/3, 7(5#)/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3.

Figured bass numbers for (d): 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3, 5/3.

Example 7.12 provides four prototypes of the Fifth Down Fourth Up (or vice versa) schema.

Example (a) resembles the procedure of example 7.11: complete and incomplete seventh chords alternate continually. The soprano consists of a regular succession of preparation, suspension, and resolution. The alto imitates this: each whole note can be divided into a preparation and a suspension. The resolution is simultaneously the preparation, and so on. Note that the meter of the alto contrasts with that of the soprano: the suspensions are inevitably on the weak beat. Of course the phrase closes with a tonic $\frac{5}{3}$.

In example (b) $\frac{5}{3}$ chords replace the $\frac{7}{3}$ chords of example (a). All $\frac{5}{3}$ chords are complete and contain doubled bass tones.

In example (c) in the minor mode all chords are derived from the natural scale, thus including the natural $\hat{7}$ ($G\flat$). In the cadence the raised $\hat{7}$ ($G\sharp$) is required in order to close on the tonic $\frac{5}{3}$ chord. Here the suspension patterns are in the tenor; the soprano imitates these.

Example (d) shows the variant with complete $\frac{5}{3}$ chords.

The usual term for these sequences is the Circle of Fifths; see also Sections 1.4 and 2.4. Implicitly the term equates a descending fifth with an ascending fourth, which is only true with respect to harmony. From a melodic perspective the term is of course somewhat inaccurate.

Example 7.13 shows a short phrase right after the opening of the Credo from Michael Haydn's *Missa Tempore Quadragesimae* in D minor. The title of the Mass refers to its intended use during the forty days of Lent.

EXAMPLE 7.13 M. Haydn: *Missa Tempore Quadragesimae*, MH 553, Credo, bars 7–12

D minor

segment 1 segment 2 segment 3

vi - si - bi - li - um o - mni - um, et in - vi - si - bi - li - um.

5/3 6/5 5/3 6/5 5/3 6/5 5/3 6/5

① ⑥ ⑦ ⑤ ⑥ ④ ⑤ ③

compound alto cadence compound cadence

In bars 7–10 the soprano and the alto perform an alternation of sixths and sevenths. The suspension patterns sound in the soprano; see the indications above the staff. The bass accompanies the 7–6 alternation with falling thirds and rising steps (Third Down Second Up), which results in a sequence consisting of $\frac{6}{5}$ and $\frac{5}{3}$ chords. The phrase ends with the succession of an alto cadence and a final cadence with a ⑤–① bass leap.

EXAMPLE 7.14 Mozart: *String Quartet in E \flat major*, K 428, second movement (Andante con moto), bars 1–6

A \flat major

segment 1 segment 2 segment 3

segment 4 segment 5

5/3 6/5 7/6 6 etc.

① ⑦ ①

bass segment 1 segment 2

(segment 3)

① ⑤ ①

compound cadence

Example 7.14 shows the opening phrase of the *Andante con moto* in $A\flat$ major from Mozart's String Quartet K 428. The phrase can be labeled as a Fortspinnung, according to the structural principle presentation–sequence–cadence. The phrase starts with the presentation of a simple harmonic progression on ①–⑦–①. From the second half of bar 2 the phrase continues with a descending sequence, which is blurred by an alternative segmentation of the bass (the cello). The phrase closes with a compound cadence, including the $\frac{6}{4}$ chord on ⑤. The harmonic analysis of the cadence beneath the staves confines itself to the framework ①–⑤–①.

The sequence for all the instruments but the cello, which starts in bar 2, is based on a regular 6–7–6 alternation performed by the first violin and the viola (the “tenor”); see the numerals between the staves. The first violin consists of a succession of preparation, suspension, and resolution. At first glance the cello takes another path by performing a somewhat soloistic melody, divided into two and a half bass segments. Nonetheless, it delicately supports the higher instruments. Although the structural bass tones (*) are metrically free, their harmonic function is unmistakable. Example 7.15 is based on this structural bass, and “restores” the metric regularity and the harmonic transparency of the sequence.

EXAMPLE 7.15 Reduction of bars 2–5

Paradoxically, example 7.15 aims to emphasize the expressiveness of Mozart's sequence rather than ignoring it. The reduction provides the harmonic norm against which the peculiarities of the real composition come to the fore.

The second chord of bar 2 begins the schema Third Down Second Up. Each step up supports a progression from a $\frac{6}{3}$ to a $\frac{5}{3}$ chord. Not coincidentally the first $\frac{6}{3}$ chord sounds on ④, the proper location of the chord in the RO. The same applies to the last $\frac{6}{3}$ on ⑦.

One remark about the reduction will suffice. The molldur tone $F\flat$ in bar 4, notated in cue size, forms a diminished $\frac{7}{3}$ on ⑦. Recall the exchangeability of the diminished and the dominant seventh chord (see Section 7.1, for instance example 7.9). The $F\flat$ does not essentially change the harmonic progression but merely colors it.

EXAMPLE 7.16 Prototypes of the schema Third Down Second Up in major (a, c) and minor (b)

Example 7.16 consists of three musical examples, (a), (b), and (c), each showing a sequence of chords in a specific mode. Below each staff is a figured bass notation with circled numbers 1-7 indicating fingerings.

- (a) C major:** Shows a sequence of chords: C major (p), G major (s), F major (r/p), E major, D major, C major, and a final C major. Fingerings: ①, ⑥, ⑦, ⑤, ⑥, ④, ⑤, ①.
- (b) A minor:** Shows a sequence of chords: A minor, G major, F major, E major, D major, C major, and a final C major. Fingerings: ①, ⑥, ⑦, ⑤, ⑥.
- (c) C major:** Shows a sequence of chords: C major, C major with a sharp (C#), C major, and then a series of chords with voice exchange indicated by oblique lines. Fingerings: ④, ⑤, ①, ①, ⑥, ⑦, ⑤, ⑥, ④, ⑤, ①, ①, ④, ⑦, ③, ⑥, ②, ⑤, ①.

Example 7.16 contains three prototypes of the Third Down Second Up schema.

Example (a) shows the plain variant of the schema in the major mode, in which the “third down” always leads to a $\frac{6}{3}$ and the “second up” to a $\frac{5}{3}$ chord. The suspensions sound in the soprano. Although the suspensions sound most natural in the soprano, they can occur in all voices but the bass.

Example (b) shows the minor variant. The sequence contains $\frac{6}{3}$ instead of $\frac{5}{3}$ chords. Apart from the leading tone G# in the penultimate chord, all tones stem from the natural scale. In the $\frac{6}{3}$ chords the sixths are doubled, but other doublings are also possible.

The schema in example (c) is more complex, due to the diminutions on the second beats. Each diminution is based on a voice exchange between the bass and the tenor; see the oblique lines. This procedure permits two different analyses. First, with a focus on the first and third beats, the sequence follows the schema Third Down Second Up. Each third down leads to a $\frac{6}{3}$ chord, as in example (a). Second, with a focus on the second and third beats, the sequence follows the Fifth Down Fourth Up schema. Each fifth down leads to a $\frac{7}{3}$ chord, as in example 7.12. Both analyses are given below the staves.

This example shows the close relation between the two schemata: by means of voice exchange one schema can be modified into the other. Put differently, both schemata are members of the same family. Paraphrasing the previously introduced concept of chord families we may speak of the Circle-of-Fifths family.

Terms to remember

- The schema Fifth Down Fourth Up implies a series of complete and incomplete seventh chords. $\frac{5}{3}$ chords may sound in place of $\frac{7}{3}$ chords.
- The schema Third Down Second Up implies an alternation of $\frac{6}{3}$ and $\frac{5}{3}$ chords. $\frac{6}{3}$ chords may sound in place of $\frac{6}{3}$ chords. All chords are complete; in each $\frac{5}{3}$ chord the bass tone is doubled.
- The two schemata are closely related by means of voice exchange. They may be conceived as two members of the Circle-of-Fifths family.

Instructions for the exercises

- This exercise is a partimento that Durante intended as an example of the schema Third Down Second Up in his “Rules” for partimento realization. The harmonic rhythm is mainly in quarter notes. Durante varies the initial bass pattern in different ways; yet all sequences follow the same harmonic principle. Bar 15 deserves your attention. The bass circles around the dominant, from $\frac{6}{3}$ on ④ to $\frac{6}{4}$ on ⑥ and back. The bass and the alto perform a voice exchange. (This schema, which postpones the arrival on a cadential ⑤, is called an Indugio.) This bar can best be realized in chorale notation. The detailed instructions underneath the staves will guide you through the partimento.
- This exercise is after a Fenaroli partimento. (In the authentic partimento the bass moves in sixteenth notes almost continuously.) The exercise contains a few hints for realization. Start by analyzing the keys. Subsequently add the schemata: there are many Fifth Down and Fourth Up (or vice versa) sequences as well as Third Down Second Up. Mark the structural notes and determine their harmonic implications. Bar 4 provides a rhythmic variation; try to apply this and other variations throughout the exercise. Work out in keyboard notation.

Suggestion for further analysis

Mozart: “Smanie implacabili” from *Così fan tutte*, K 588, bars 55–65

7.3 THE TIED BASS (II)

The fifth movement of Handel’s B minor Flute Sonata is in fugue style: subject entries alternate with long episodes; example 7.17 shows one of these episodes. The quarter notes of the flute part and the bass subsequently stem from the fugue subject. The invertible counterpoint in these bars

EXAMPLE 7.17 Handel: Flute Sonata in B minor, HWV 367b, fifth movement (Alla breve), bars 46–56 (realization by the author)

The musical score consists of two systems. The first system (bars 46-51) is in D major. The flute part (top staff) has a melody with notes: G4, A4, B4, A4, G4, F#4, E4, D4, C#4, B3, A3, G3. The figured bass (bottom staff) has figures: 6, 3, 6/4, 6, 6/4, 6, 6/4, 6, 6/4, 6, 6/4, 6. Circled numerals 1 through 7 are placed below the figures. Performance markings include 'p' and 's'. The second system (bars 52-56) is in A major. The flute part has notes: G4, A4, B4, A4, G4, F#4, E4, D4, C#4, B3, A3, G3. The figured bass has figures: 6/5, 6/5, 4, 4, 6/5, 6/5, 3#, 6. Circled numerals 1 through 5 are placed below the figures. Performance markings include 's' and 'r/p'. Annotations include 'abandoned cadence' and 'compound alto cadence'. Key signatures 'D major' and 'A major' are indicated above the staves.

is noteworthy: the quarter-note melody of the flute part recurs in the bass, and the tied notes of the bass recur in the flute part.

The authentic figured-bass numerals imply a four-part keyboard realization, given the $\frac{6}{2}$ figures. The realization of bars 47–50, notated in cue size, closely relates to the three-part Tied Bass discussed in Section 2.5. The four-part realization requires the addition of a fourth tone: $\frac{4}{2}$ becomes $\frac{6}{4}$. Each $\frac{6}{4}$ chord proceeds to a $\frac{6}{3}$ chord. Seemingly four-part and three-part chords alternate in the accompaniment; however, the $\frac{6}{3}$ chords may also be conceived as four-part chords, with (implicit) doublings of the sixths. (See for instance the $\frac{6}{3}$ chord on C# in bar 47: the A may be regarded as both alto and tenor. The doubling of the bass tone or the third would also have been possible.) The sequence continues until the cadence in bars 51–52, which is abandoned due to the tied C# in the flute part.

This cadence overlaps the new, inverted sequence that starts in bar 52. From there the structural bass follows the schema Third Down Second Up, or, more precisely, Second Up Third Down; see the circled numerals. The schema depicts the usual alternation of $\frac{6}{3}$ and $\frac{5}{3}$ chords. (Although the $\frac{5}{3}$ chords are unfigured, they are certainly implied.) The sequence leads to the compound alto cadence (ending on ③) in bars 54–56.

The Handel fragment reveals the relation between the Tied Bass and Third Down Second Up schemata by means of invertible counterpoint. Recall the latter's relation to the Fifth Down Fourth Up schema, as a member of the Circle-of-Fifths family. Likewise, we may also consider the Tied Bass a family member.

EXAMPLE 7.18 Beethoven: Piano Sonata in C major, Op. 53 "Waldstein," first movement (Allegro con brio) bars 104–112

Example 7.18 is the continuation of example 5.35; both concern the development section of the "Waldstein" Sonata. The phrase exposed here starts and ends in F minor. (The non-authentic four-flat key signature is added for sake of readability.) The sixteenth-notes motif in the right hand, scattered over various octaves, is derived from the main theme of the sonata. Three segments of two bars each form a sequence in bars 104–109; see the indications above the staves. The third segment quits the sequence from the octave leap C–C in bar 109. The melodic pattern of this bar recurs one octave higher in bar 110 and two octaves higher in the first half of bar 111 before it eventually vanishes.

The left hand accompanies the motivic development of the right hand by means of continuous broken-chord figurations based on the descending F minor scale up to bar 110; see the circled numbers underneath the staves. The scale forms the harmonic foundation of the phrase, despite temporary digressions toward B \flat minor and A \flat major. The phrase ends with a chromatic tetra-chord (see the dashed line), which leads to the half cadence in bar 112.

The circled numerals reveal a syncopated harmonic rhythm that overlaps the bar lines. The structural bass, so to speak, consists mainly of tied half notes. Example 7.19 illuminates the harmonic structure.

EXAMPLE 7.19 Reduction of bars 104–110

104 F minor

$\frac{5}{3}$ $\frac{6}{4}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$

① ⑦ ⑥ ⑤ ④ ③ ② ①

Tied Bass RO

In the reduction all accidentals foreign to F minor have been placed between brackets. The analysis that follows ignores them, since they may be considered as ornamental. The reduction reveals a Tied Bass, with its usual alternation of $\frac{6}{2}$ and $\frac{6}{3}$ chords. This lasts until the $\frac{6}{3}$ chord on ③ in bar 109; from there the Tied Bass overlaps with the RO.

The ascending fourths and descending fifths in the upper voice recall the Fourth Up Fifth Down schema discussed in Section 7.2; see also Section 1.4, example 1.30. Indeed, the two schemata are related by means of invertible counterpoint.

Example 7.20 shows two prototypes of the Tied Bass.

EXAMPLE 7.20 Prototypes of the Tied Bass in major (a) and minor (b)

a. C major

$\frac{5}{3}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{2}$ $\frac{6}{3}$ $\frac{6}{3}$ $\frac{5}{3}$ $\frac{5}{3}$

① ⑦ ⑥ ⑤ ④ ③ ④ ⑤ ①

compound cadence

b. A minor

$\frac{5}{3}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$ $\frac{6}{\frac{4}{2}}$ $\frac{6}{3}$

① ⑦ ⑥ ⑤ ④ ③ ④ ⑤ ①

compound cadence

Example (a), in the major mode, contains an upper voice that falls by a third and rises by a second. The end of the sequence, the $\frac{6}{3}$ chord on ③, is the start of the compound cadence at the same time.

The upper voice of example (b), in the minor mode, falls by a fifth and rises by a fourth, as in the Beethoven excerpt above. The sequence is based on the natural minor scale until the $\frac{6}{2}$ chord (*) on ④, which requires a G# in order to quit the sequence.

Both examples illuminate the relation of the Tied Bass to the Third Down Second Up and Fifth Down Fourth Up schemata by means of invertible counterpoint. In other words, they all are members of the Circle-of-Fifths family.

Terms to remember

- The four-part realization of the Tied Bass requires an alternation of $\frac{6}{4}$ and $\frac{6}{3}$ chords. In the $\frac{6}{3}$ chords the doubling of the sixth is preferable, but other doublings are also possible, depending on the voice leading.
- Each tied bass tone is a suspension that requires a preparation and a resolution.
- The Tied Bass is related to the Third Down Second Up and Fifth Down Fourth Up by means of invertible counterpoint. Together they form the Circle-of-Fifths family.

Instructions for the exercises

- This exercise is a partimento by Giacomo Insanguine (1728–1795). The economic figured-bass numerals are authentic, apart from those between brackets. Many Tied Basses occur; the Tied Bass in bars 6–7 is somewhat embellished. Recall that each tied bass note requires a $\frac{6}{2}$ chord. Pay special attention to the $\frac{6}{2}$ chord on the first beat of bar 18. This diminished seventh chord proceeds to the tonic $\frac{6}{3}$ on F. The bass tones in between may be considered as passing tones. The exercise can be realized in four voices throughout. Chorale notation is preferable, but use keyboard notation if the middle voices are high.
- Durante has composed this challenging partimento. The syncopations in bar 2 and similar bars must be treated as tied notes. The tied C on F# on the first beat of bar 7 implies a diminished $\frac{5}{3}$ chord. The diminished fifth must be treated as a dissonance. The texture is freer than the previous exercise: the indications above the staves suggest a realization in four, three and two parts. Try to apply sixteenth-notes patterns in the upper voice. Of course, you are allowed to make your own choices.

Suggestion for further analysis

Bach: Prelude and Fugue in D major, BWV 532, Fugue, bars 120–126

7.4 DESCENDING THIRDS

EXAMPLE 7.21 Corelli: Trio Sonata in C major, Op. 4 No. 1, Corrente (Allegro) bars 42–47

42 C major

(5)
(3) ①

(5)
(3) ⑥

(5)
(3) ④

6
3 ②

(5)
(3) ①

7 5 4 3 ④ ⑤ ③

(5)
(3) ①

Descending Thirds double cadence

Example 7.21 shows the closing phrase of the Corrente from a trio sonata for two violins and basso continuo by Corelli. Both violins perform the sustained C that precedes the cadence. The bass accompanies this tone with a descending C major scale (*) diminished by a flourishing eighth-notes movement. Unlike the RO, with its pentachord–tetrachord framework, the scale is divided into descending thirds. The harmonic intervals in bars 42–44 are the octave C–C on ①, the third A–C on ⑥, and the fifth F–C on ④. Although the harmony is in two parts as a matter of fact, the intervals are conceivable as incomplete $\frac{5}{3}$ chords. Thus ① implies the $\frac{5}{3}$ chord C–E–G, ⑥ the $\frac{5}{3}$ chord A–C–E, and ④ the $\frac{5}{3}$ chord F–A–C. Put differently, the descending thirds provide a step-by-step realization of the tone C by means of the descending thirds C–A and A–F.

The descending thirds eventually lead to scale degree ② in bar 45. This last stage of the descending-thirds bass motion resists a prolongation of the sustained C, which would cause a dissonant seventh. Instead, the step ②–① follows the three-part RO with a $\frac{6}{3}$ and $\frac{5}{3}$ chord, respectively. At the same time this progression is the start of a variant of the double cadence: the cadential bass in bars 45–46 replaces the prototypical sustained ⑤.

EXAMPLE 7.22 Bach: “Herr Christ, der einig Gotts-Sohn”, from Cantata BWV 164, bars 5–8

B♭ major G minor

wohl hier auf die - ser Er - den, den Sinn und all - Be - ger - den

5

5 5 5 (5) 5 6 5 5 6 5

① ---- ① ⑥ ④ ② ⑦ ① ⑤ ① ③ ⑤

And here on this earth, our minds and all our desires...

The four-part chorale setting of example 7.22 is the final movement of Bach’s Cantata “Ihr, die ihr euch von Christo nennet” (“You, who call yourselves of Christ”). It concerns the fifth strophe of a chant that originates from 1524. Bach has transposed the chorale to B♭ major.

The first phrase (up to the first fermata) is largely based on the descending B \flat major scale before it ends by means of a half cadence. As in the Corelli excerpt in example 7.21 the structural bass descends in thirds: ①–⑥–④–②–⑦. The final ⑦ adds one more stage to the descending-thirds motion in comparison to Corelli's Trio Sonata. Each scale degree that descends by a third supports a complete or incomplete $\frac{5}{3}$ chord. Scale degree ⑦, however, ascends by step to ①. The $\frac{6}{3}$ chord on ⑦ is in accordance with the RO. (Setting aside the pre-existing melody, $\frac{6}{3}$ would have been possible too.)

The polyphonic voice leading of the middle voices somewhat obscures the harmonic structure. The reduction in example 7.23(a) simplifies these middle voices.

EXAMPLE 7.23 Reduction of bars 5–6 (a) and 7 (b)

The image shows two musical reductions. Part (a) is labeled 'B \flat major' and '5'. It consists of two staves. The upper staff has a treble clef and the lower a bass clef. The bass line shows a descending sequence of thirds: F (①), B \flat (⑥), A \flat (④), G (②), F (⑦). Brackets below the bass line group the first four notes as 'Descending Thirds' and the last two as 'half cadence'. Chord symbols $\frac{5}{3}$ are placed above each note. Part (b) is labeled '7' and shows a tonic (I) chord with notes F (①) and A \flat (③). Chord symbols $\frac{5}{3}$ and $\frac{6}{3}$ are placed above the notes.

The reduction includes complete $\frac{5}{3}$ chords on ①, ⑥, ④ and ②, with a consistent doubling of the bass tones. The ties shed light on the tight connection between the chords by two common tones. Each chord seems to grow out of its preceding chord organically. This explains why $\frac{5}{3}$ progressions by descending thirds occur frequently.

On the other hand, $\frac{5}{3}$ progressions by ascending thirds are less frequent. Example (b), which is the reduction of bar 7, illustrates this. Both $\frac{5}{3}$ on ① and $\frac{6}{3}$ on ③ are members of the tonic (I) family. A $\frac{5}{3}$ chord D–F–A on ③, although possible in theory, is less self-evident.

EXAMPLE 7.24 Brahms: Symphony No. 2 in D major, Op. 73, first movement (Allegro non troppo), bars 102–118 (arrangement by the author)

The image shows a musical reduction of bars 102-118. It is in F# minor. The notation shows two staves. Above the first staff are boxes for 'F# minor', 'A major', and 'B minor'. The bass line shows a sequence of chords: ① (F#), ⑥ (A), ④ (F#), ⑤ (D), ① (F#), ② (G#), ⑥ (A). A bracket below the bass line groups the ⑥, ④, and ⑤ chords as 'Galant half cadence'. Dashed lines connect the ① and ② notes to the ⑥ note.

EXAMPLE 7.24 Continued

108 E minor A minor

114 half cadence with augmented 6/3

Example 7.24 shows an excerpt from the first movement of Brahms's Second Symphony. It concerns a phrase within the secondary theme group, which develops the main motif of the theme. The bars until the comma in bar 105 (added by the author) refer to the opening of the entire theme. This group of four bars quickly modulates from F# minor to A major, and ends by means of a Galant half cadence. (Notice the parallel thirds in the two upper voices of bars 104–105.) Right after the half cadence a modulating process starts, from B minor via E minor toward A minor. Eventually, a half cadence including the augmented $\frac{6}{3}$ chord on ⑥ closes the phrase.

From bar 106 the bass descends in thirds continuously, up to the F in bar 114. The circled numbers, connected by dashed lines, group the descending thirds within each key. Example 7.25 is a reduction of this descending-thirds bass motion.

EXAMPLE 7.25 Reduction of bars 106–118

B minor E minor A minor

106 107 108 110 112 114 115 116 117 118

① ⑥ ④ ① ⑥ ④ ① ⑥ ④ ① ⑥ ④

The reduction ignores all rhythmic aspects and chord repetitions, and is therefore notated in whole notes. It clarifies the descending-thirds bass motion until the arrival on the bass tone F in bar 114. Moreover, it reveals a succession of six $\frac{5}{3}$ chords. The $\frac{5}{3}$ chord on F, which is ⑥ in A minor,

gradually transforms into the augmented $\frac{6}{3}$ chord in bar 117. This chord resolves to the dominant $\frac{5}{3}$ chord on $\textcircled{5}$ (see the oblique lines). Note the chromatic upper voice C–C#–D–D#–E.

The continuously descending thirds automatically involve the modulations from B minor to E minor and from E minor to A minor. Indeed, a fourth stage on $\textcircled{2}$ in B minor implies the diminished $\frac{5}{3}$ chord on C#. Its substitute, the major $\frac{5}{3}$ chord on C \flat in bar 110, quits the key and leads to E minor. In retrospect, the preceding E minor chord can already be conceived in the new key. The same applies to the modulation from E minor to A minor.

From now on we will call this descending-thirds bass motion simply Descending Thirds. The schema implies $\frac{5}{3}$ chords on all bass tones.

EXAMPLE 7.26 Prototypes of the Descending Thirds in major (a) and minor (b)

a. C major

b. A minor

Neapolitan turn

Example 7.26 shows two prototypes of the Descending Thirds. It must be said that the schema can stop at each stage: in example (a) the bass may quit after the A, the F, or the D.

The bass of example (a) descends by thirds until the B in bar 3. This $\textcircled{7}$ implies a $\frac{6}{3}$ or $\frac{6}{3}$ chord, and must proceed to $\textcircled{1}$. A compound cadence closes the phrase.

The structural bass of example (b) in A minor moves in thirds in bars 1–2. The bass tone B \flat in bar 2 deserves our special attention. This Neapolitan $\textcircled{2}$ replaces the unaltered $\textcircled{2}$ (B \natural), which would create a diminished $\frac{5}{3}$ chord. The major $\frac{5}{3}$ chord on B \flat enables a fourth stage of the Descending Thirds in the minor mode. The bass performs a Neapolitan turn; on the other hand, the doubled B \flat in the alto moves in a somewhat forced manner toward B \natural . The diminished $\frac{5}{3}$ chord on $\textcircled{7}\sharp$, which replaces the more prototypical dominant $\frac{6}{3}$, relieves the harsh voice leading. A simple Galant cadence closes the phrase.

Terms to remember

- The Descending Thirds schema implies a succession of $\frac{5}{3}$ chords.
- Each $\frac{5}{3}$ chord shares two tones with the preceding chord.
- Passing tones may fill the third leaps of the structural bass.
- In the minor mode the Neapolitan $\textcircled{2}$ may replace the unaltered $\textcircled{2}$, in order to avoid a diminished triad. This enables a fourth stage of the schema.

Instructions for the exercises

- This partimento by Mattei practices the Descending Thirds throughout. The * signs indicate the harmonic bass tones. Some bass tones imply diminished $\frac{5}{3}$ chords. Although not ideal in themselves, they are acceptable because of the sequential structure of the partimento.
- This exercise is free after an Ecoissaise (a Scottish dance) by Schubert. Apart from the cadences that close the two phrases the harmonic rhythm is in half notes. You may wish to create a bass that moves mainly in quarter notes.
- The bass, free after a partimento by Sala, largely moves in eighth notes; on the “slow” bass of bars 15–18 broken triads in eighth notes in the upper voice are suggested, thus freely imitating the bass pattern.

Suggestion for further analysis

Beethoven: Piano Sonata in C minor, Op. 13, “Pathétique,” first movement (Grave–Allegro di molto e con brio), bars 113–132

7.5 THE FOLIA (II)

EXAMPLE 7.27 Pergolesi: Stabat Mater, P 77, first movement, bars 12–17

12 F minor Sta - - - bat ma - - - ter do - -

① 6 $\frac{5}{4}$ 6 9 6 $\frac{5}{4}$ 9 6 9 6

EXAMPLE 7.27 Continued

15 (do) - lo - ro - - - - - sa

9 6 \sharp 7 \flat 6 6 6 6 9 6 \sharp 7 3 \sharp

⑤ ① half cadence ⑤

The grieving mother...

Example 7.27 shows an excerpt from the famous *Stabat Mater* in F minor for soprano and alto voice, strings and basso continuo by the Neapolitan trained composer Giovanni Battista Pergolesi (1710–1736). The figured-bass numerals are authentic; the four flats keys signature replaces the authentic three flats. The lyrics of the alto voice are omitted for sake of readability.

The start of the vocal section exposed here closely relates to the preceding instrumental introduction (not included in the example). The soprano and alto voice, accompanied by the first and second violin, perform two tightly intertwined melodies. The voices form a chain of suspensions; moreover, they cross continuously in bars 12–14. These so-called “frog leaps” are characteristic for the Italian style of the period and recall the music of Corelli.

The soprano and alto lean on a graceful eighth-notes bass movement. Through a circular motion the bass ascends to ⑤ in bar 15 and descends to ① in bar 17 before closing on ⑤. The harmonic structure of bars 12–14 (first beat) deserves our attention. Example 7.28 provides a reduction in which all suspensions and voice crossings have been removed. The notes in cue size do not actually sound but implicitly take part in the four-part harmony.

EXAMPLE 7.28 Reduction of bars 12–14

12 F minor segment 1 segment 2 [A \flat major]

5 5 \sharp 5 5 5

① ⑤ ① ⑦ ③

Folia

The reduction reveals the first half of the *Folia* as discussed in Section 5.6 (see example 5.43). The characteristic *Folia* bass leaps ⑤–① and ⑦–③ form the basis of an ascending sequence. The

first segment firmly establishes F minor, while the second slightly hints at its relative A \flat major. Instead of returning to ⑦ in accordance with the Folia prototype, the bass ascends stepwise to ⑤ in bar 15 (see example 7.27). Despite the hint at A \flat major, the incomplete Folia does not really quit F minor. We will see below that the modulatory potential of the Folia can be utilized more thoroughly.

EXAMPLE 7.29 Mozart: Requiem in D minor, K 626, Lacrymosa, bars 3–8

D minor F major

3 La - cri - mo - sa di - es il - la, qua re - sur - get

A minor C major C minor ----- D minor

6 ex fa - vil - la ju - di - can - dus ho - mo re - us:

⑥ ⑤
compound half cadence with augm. 6/5/3

*That day of tears,
when from the ashes shall arise,
the guilty man to be judged*

Example 7.29 shows an excerpt from the Lacrymosa in D minor of Mozart's Requiem, which follows two bars of orchestral introduction. The melodic interruptions by the rests in bars 5–6 express the frightening atmosphere of the text. The large ascent of the soprano, from D in bar 5 to A in bar 8, corresponds to the text line “when from the ashes shall arise”.

Although bars 5–8 start and end in D minor, the phrase passes through various keys: from D minor via F major, A minor, and C major/minor, and back to D minor again. The phrase ends with a compound half cadence including the augmented $\frac{6}{3}$ chord on ⑥.

The bass from bar 5 up to the first beat of bar 7 (see the * signs) resembles the incomplete Folia bass of Pergolesi's Stabat Mater, yet here the sequential bass continues. The reduction of example 7.30 (with simplified meter) illuminates this extended Folia.

EXAMPLE 7.30 Reduction of bars 5–7

D minor

segment 1 [D minor] segment 2 [F major] segment 3 [A minor] segment 4 [C major/minor]

5

① ⑤ ——— ① ⑥ ——— ⑤ ——— ① ⑥ ——— ⑤ ——— ①

Folia

The Folia follows its prototype until the first beat of bar 6. (The circled numerals ⑥–⑤–① refer to the relative key F major and replace the numerals ①–⑦–③ used in example 7.28.) From here a new Folia-like pattern ⑥–⑤–① starts that leads to A minor. Note that the F major segment contains a whole-tone step ⑥–⑤ (D–C in bar 5), and the A minor segment a half-tone step ⑥–⑤ (F–E in bar 6).

The A minor chord on the third beat of bar 6 starts a new segment that seems to refer to C major, given the whole-tone step ⑥–⑤ (A–G). However, the soprano tone E \flat (*) in bar 7 causes an as surprising as expressive switch to the parallel key C minor. This tone appears to be the start of a chromatic ascent to the climax A in bar 8, which is \hat{S} in D minor (see example 7.29).

This modulating variant of the Folia features four interlocking segments that are based on the ⑥–⑤–① bass pattern in continuously changing keys. With each segment the Folia disappears from its starting key. Mozart eventually connects the final segment in C major (ending on the C minor chord) to the D minor half cadence with a chromatic *tour de force*.

EXAMPLE 7.31 Prototype of the modulating Folia and its relation with the leaping Romanesca

A minor

segment 1 segment 2 segment 3 segment 1 segment 2 segment 3

[A minor] [C major] [E minor] [E minor] [C major] [A minor]

① ⑤ ⑥ ⑤ ① ⑤ ① ⑤ ⑥ ⑤ ①

Folia Romanesca

Example 7.31 combines a prototypical modulating Folia with a leaping Romanesca. The Folia starts in A minor and modulates via C major to E minor. Note the whole-tone step ⑥–⑤ (A–G) in C major and the half-tone step ⑥–⑤ (C–B) in E minor.

Each segment is a minor or major third higher than its preceding segment: from A to C a minor third and from C to E a major third. Continuation of the Folia sequence would lead to the key of G major. Instead, the E minor chord in bar 4 starts a leaping Romanesca that eventually leads back to the A minor chord. This Romanesca appears to be the retrograde of the Folia: the ascending Folia patterns ⑥–⑤–① give way to the descending Romanesca patterns ①–⑤–⑥.

Terms to remember

- The modulating variant of the Folia is based on interlocking ⑥–⑤–① segments in alternate major and minor keys. In major-mode segments ⑥–⑤ is a whole-tone step and in minor-mode segments it is a half tone.
- The Folia starts with ①–⑤–① in the minor mode.
- Each key is a minor or major third higher than the preceding one.
- The modulating Folia relates to the leaping Romanesca by means of retrograde motion.

Instructions for the exercises

- a. The modulating Folia leads to A minor. Apply the RO from G in bar 4. This tone transforms the preceding A minor chord into the dominant $\frac{6}{4}$ in D minor.
- b. Indicate the schemata and the keys before realizing this exercise.
- c. This exercise is after the Menuetto from Symphony No. 50 in C major by Haydn. The bass moves in dotted half notes throughout, apart from possibly some tone repeats or a cadential octave leap. The upper voice contains several suspensions, including strict preparations and resolutions. Haydn's realization contains suspensions in the middle part as well. Can you try to apply these suspensions too?

Suggestion for further analysis

Beethoven: Piano Sonata in E major, Op. 109, first movement (Vivace ma non troppo), bars 26–33

CHROMATICISM

INTRODUCTION

Ever since the Middle Ages composers and performers have used chromatic tones (from Gk. *chroma* = color) in order to color the diatonic system. Originally, this usage mainly concerned the addition of leading tones in cadences. From the second half of the sixteenth century chromatic tones increasingly penetrated the diatonic system, which resulted in works like the Chromatic Fantasy by Jan Pieterszoon Sweelinck (1562–1621), or, a hundred years later, the Chromatic Fantasy and Fugue by Johann Sebastian Bach, just to mention two well-known compositions. In the course of the eighteenth century chromaticism developed into an integral and self-evident component of the harmonic vocabulary, yet without questioning its diatonic basis. Nineteenth-century harmony eventually evolved into a tonal language in which the distinction between diatonic and chromatic tones became less relevant. Exemplary in this respect is the overture (Vorspiel) of Wagner's opera *Tristan und Isolde* (1859).

This chapter discusses a number of chromatic schemata in eighteenth- and early nineteenth-century styles. By definition, chromatic tones color the diatonic system with respect to melody and harmony. In ascending melodic lines chromatic tones arise by raising the diatonic scale steps: in C major for instance, C–C#–D–D#–E, and so on. In this chromatic pattern C# and D# are chromatic leading tones that resolve onto D and E, respectively. In descending lines chromatic tones arise by lowering the scale steps: in C major for instance, C–B–Bb–A–Ab–G. The chromatic tones Bb and Ab tend to A and G, respectively. In terms of melody these lowered tones may be conceived as descending leading tones.

An important distinction can be made between chromatic tones that merely embellish the prevailing key, and chromatic tones that refer to a foreign key. So for instance Ab in the key C major: this tone usually acts as molldur $\hat{6}$ that emphasizes the subsequent dominant tone G. On the contrary, the tone C# in the C major pattern C–C#–D probably (but not necessarily) hints at the key D minor. This evokes the concept of a temporary key, which implies a temporary digression from the prevailing key. (A more sustainable digression would imply a modulation to another key.) A temporary key may be understood as the “upgrading” of a certain scale degree to a temporary tonic. This upgrading procedure is called tonicization. The concept enables a switch of

perspective from a large-scale birds-eye view to a small-scale orientation, and vice versa. Section 8.1 will further elaborate on this issue.

Another distinction that can be made is between chordal and non-chordal chromatic tones. Non-chordal tones are merely ornamental and have no significance with respect to harmony. They have therefore been set aside in this chapter. (The upbeat of example 8.1 below provides an instance of this category.) Chordal chromatic tones, on the other hand, extend the harmonic vocabulary immensely, and thus increase the potential for harmonic variation.

Section 8.1 introduces the Fonte, which is a schema that implies a temporary escape from the prevailing key and an immediate return. Section 8.2 presents the chromatic variant of the Monte, which is based on a chromatic ascent. Section 8.3 focuses on a chromatic descent, through the tonicizations of scale degrees in Descending Thirds. Sections 8.4 and 8.5 deal with two schemata based on the descending chromatic tetrachord, namely the Baroque-style Lamento, and the Classical-style variant that is named a Morte (not to be confused with a Monte!). The chapter closes in Section 8.6 with the Chain of Dominants, which is the chromatic variant of the schema Fifth Down Fourth Up.

8.1 THE FONTE

EXAMPLE 8.1 Schubert: Minuet (Trio) No. 13 in D major, D 41, bars 9–12

Schubert's Trio, from which a small excerpt is shown in example 8.1, is part of a larger da capo structure: Minuet–Trio–Minuet DC. The trio is a minuet in its own right, and has a rounded binary form. This consists of two repeated sections of eight bars. Section one (bars 1–8 of the Trio, not included in the example) contains two phrases, the first closing in the main key of D major and the second in its dominant A major. Section two starts with a four-bar phrase (bars 9–12, shown in the example), divided into two sequential segments. The section ends with a short recapitulation: bars 13–16 (not included), equal to bars 1–4.

Like many other minuets, trios, or comparable musical forms, the bar following the medial repeat sign seems to escape from the original tonal area. Indeed, the E minor key of bars 9–10 contrasts with the preceding bars in harmonic terms. The sequential repeat, one step down, returns to D major. Both segments are based on 7–1 bass steps in their respective keys. The reduction in example 8.2 illustrates the harmonic structure. The harmonic-contrapuntal framework (the outer voices) is notated in normal size and the filling inner voices in cue size.

EXAMPLE 8.2 Reduction of bars 9–12

The harmonic analysis of the reduction shows two different levels of perception. First, the two sequential segments can be heard in the keys of E minor and D major, respectively. Both segments are based on the progression of a dominant $\frac{6}{3}$ (or $\frac{6}{\frac{5}{3}}$) chord to a tonic $\frac{5}{3}$. Second, the sequence can be heard entirely in the main key of D major, since bars 9–10 only slightly hint at E minor, without establishing the key by means of, say, a cadence. From this perspective the D# in bar 9 is the chromatically raised ① in D major, rather than a diatonic ⑦# in E minor.

In order to do justice to both interpretations, we will consider E minor as a temporary key, subordinate to the overarching key of D major. In this sense the E minor chord in bar 10 is a temporary tonic; similarly, the preceding $\frac{6}{3}$ chord (or $\frac{6}{\frac{5}{3}}$) on D# is a temporary dominant. Instead of “temporary dominant” and “temporary tonic” we will use the more current terms secondary dominant and secondary tonic from now on. The temporary key E minor is called the tonicization of the $\frac{5}{3}$ chord on ② by means of its preceding secondary dominant. (Tonicization literally means the upgrading of a non-tonic scale degree to a tonic.) Roman numerals indicate this process: capitals (like I, IV, V) refer to major triads and lower-case letters (like ii, iii, and vi) to minor triads. Thus ii in A major implies the minor triad B–D–F#. We will see below that this triad can be a $\frac{5}{3}$ as well as a $\frac{6}{3}$ chord.

The sequence in Schubert’s Trio is labeled with the historical term *Fonte* (Eng. fountain). The *Fonte* features a stepwise descending sequence with a minor (ii) and a major (I) segment, which escapes from, and leads back to the main key. This always concerns a major key: the diminished triad on ② in the minor mode can not be upgraded to a secondary tonic.

The voice leading of the bass and the upper voice, indicated by the oblique lines in example 8.2, are highly stereotypical, though not compulsory.

EXAMPLE 8.3 Beethoven: Piano Sonata in A♭ major, Op. 26, first movement (Andante con variazioni), bars 17–20

Beethoven's Piano Sonata in $A\flat$ major starts, quite unusually, with a slow-movement variation form. Example 8.3 shows part of the theme. It has a rounded binary form, like Schubert's Trio, but without repeat signs. Bars 1–8 and 9–16 (not included in the example) form an antecedent–consequent pair, ending with a cadence in $A\flat$ major. Bars 17–18 escape from the $A\flat$ major area by hinting at $B\flat$ minor; subsequently bars 19–20 return to the main key. The circled numerals indicate the structural bass; note that the second note of each sixteenth-note pattern appears to be structural.

Example 8.4 illustrates the harmonic structure of these bars; an optional fourth voice is notated in cue size.

EXAMPLE 8.4 Reduction of bars 17–20

The harmonic reduction reveals the close relation to the Fonte shown in example 8.2. The main difference concerns the inversion of the voices. The two upper-voice patterns $\hat{6}-\hat{5}-\hat{4}$ and $\hat{5}-\hat{4}-\hat{3}$ of example 8.2 appear in the bass line of example 8.4. The same applies to the $\textcircled{1}\sharp-\textcircled{2}$ and $\textcircled{7}-\textcircled{1}$ bass patterns of example 8.2: these patterns occur in the middle voice of example 8.4. The chord in bar 17 is a secondary dominant ($\textcircled{5}$ on the first beat becomes $\textcircled{6}$ on the third beat) that proceeds to the $B\flat$ minor chord in bar 18, the secondary tonic. Put differently, the two bars show a tonicization of ii in $A\flat$ major. Note that the secondary tonic in bar 18 is a $\textcircled{6}$ chord on $\textcircled{4}$. Recall what has been said about chord families in Section 6.5: thus the $\textcircled{6}$ chord on $\textcircled{4}$ and the $\textcircled{5}$ chord on $\textcircled{2}$ are members of the same family ii.

EXAMPLE 8.5 Vivaldi: Flute Concerto in D major, RV 428, “Il Gardellino,” second movement (Cantabile), bars 7–10 (realization by the author)

EXAMPLE 8.5 Continued

Example 8.5 shows an excerpt from the second movement in D major of Vivaldi’s Flute Concerto “Il Gardellino.” This movement is for flute (traverso) and basso continuo only. Bars 7–10, following the medial repeat sign, can be regarded as a Fonte, although the schema differs from the previous examples in various respects.

First, the two segments contain compound cadences (with $\hat{6}$ on ④) in E minor and D major, respectively. These cadences establish the two keys and increase the independence of both segments. It therefore seems appropriate to speak of two different keys rather than the tonicization of ii in D major.

Second, both segments start with a $\hat{5}_3$ chord on ②, which creates a smooth transition from one segment to the other. Indeed, the E minor chord in bars 8–9 is the end of the first segment, as well as the start of the second.

Third, on the third beat of bar 7 the flute plays the diminished seventh C_4 (*) on the bass tone $D\sharp$, which results in a diminished seventh chord in the key of E minor. The tone $B\flat$ in bar 9 (**) corresponds with the C_{\flat} , and results in a diminished seventh chord on ⑦ in D major. Recall Section 7.1 about the application of the diminished seventh chord in the major mode: the $B\flat$ in bar 9 is the molldur $\hat{6}$ in D major. Indeed, the second segment slightly hints at the minor mode, yet bar 10 restores the major mode by means of the D major cadence.

Example 8.6 illustrates the harmonic structure of the Fonte: for the sake of clarity the meter has been modified into common time.

EXAMPLE 8.6 Reduction of bars 7–10

By ignoring the cadences in bars 8 and 10 the reduction sheds light on the large-scale Fonte. The melodic patterns of the outer voices resemble those of example 8.2: the bass exhibits a twofold leading tone resolution, and the upper voice contains the (extended and shifted) $\hat{6}-\hat{5}-\hat{4}$ and $\hat{5}-\hat{4}-\hat{3}$ patterns. The oblique lines indicate this stereotypical voice leading. The diminished $\frac{7}{3}$ chords are similar to the dominant $\frac{6}{3}$ chords in functional respect: both chords act as (secondary) dominants.

EXAMPLE 8.7 Schubert: “Der Jäger” from *Die schöne Müllerin*, D 795, bars 17–24

E♭ major

17

und laß dei - ne klaf - fen - den Hun - de zu Haus, und laß auf dem Hor - ne den Saus_ und Braus, und

① ② ⑦ ① ① ② ⑦ ①

[ii: ⑦ ①] [ii: ⑦ ①]

Fonte Fonte

C minor E♭ major C minor

21

sche - re vom Kin - ne das strup - pi - ge Haar, sonst scheut sich im Gar - ten das Reh - lein für - wahr,

*And leave your barking dogs at home,
and stop trumpeting and blasting on your horn,
and shave the tangled hair from your chin,
or the doe will surely take fright in her garden.*

Schubert’s song “Der Jäger” from the song cycle *Die schöne Müllerin* features a continuous alternation between the main key of C minor and its relative E♭ major. The excerpt shown in example 8.7 immediately follows a weak close in C minor. The circled scale degrees and the circumflex numerals addressing the piano’s middle voice reveal a twofold Fonte in bars 17–18 and 19–20, even though the vocal part freely deviates from the schema.

The Fontes differ from examples 8.1, 8.3, and 8.5 because of their appearance in a minor-mode context. As mentioned before, the Fonte does not occur in the minor mode, due to the diminished $\frac{5}{3}$ chord on ②, which cannot be subject to tonicization. The relative major key offers an alternative: in example 8.7 the two Fontes sound in E♭ major. The entire phrase, including the Fontes, closes in C minor in bar 24.

EXAMPLE 8.8 Prototypes of the Fonte

C major

a. segment 1 [D minor] segment 2 [C major] b. segment 1 segment 2 c. segment 1 segment 2

Example 8.8 shows three prototypes of the Fonte.

The voice leading of example (a) is stereotypical: the upper voice patterns $\hat{6}-\hat{5}-\hat{4}$ and $\hat{5}-\hat{4}-\hat{3}$ accompany the leading tone resolutions $\textcircled{1}\sharp-\textcircled{2}$ and $\textcircled{7}-\textcircled{1}$. The first segment of the sequence seems to escape from C major by hinting at D minor: the $\hat{6}$ (or $\hat{5}$) chord on C \sharp is the secondary dominant that leads to the secondary tonic $\hat{5}$ on $\textcircled{2}$. Put differently, the first segment is a tonicization of ii. The second segment returns to C major by a repeat of the first segment one tone lower.

Example (b) relates to example (a) by means of invertible counterpoint: the upper voice of example (a) appears as the bass of example (b) and vice versa. The inversion results in the secondary tonic $\hat{6}$ on F and the tonic $\hat{6}$ on E. Notwithstanding this, the inversion does not essentially modify the harmonic progression: the first segment of example (b) is also a tonicization of ii.

The bass of example (c) equals the bass of example (a). The upper voice differs, due to the occurrence of diminished $\hat{7}$ chords on each first beat. These chords result in the chromatic upper voice $B\flat-A-A\flat-G$.

Note that all Fontes can occur in a minor-mode context: the prototypes shown may be part of an (imaginary) overarching A minor key.

Terms to remember

- The Fonte is a sequence that escapes from, and returns to the main key. Its most usual location is right after the medial repeat sign of a minuet or a comparable musical form.
- The first segment of the Fonte is usually based on the chromatic leading tone resolution $\textcircled{1}\sharp-\textcircled{2}$, accompanied by the upper voice $\hat{6}-\hat{5}-\hat{4}$. This results in the harmonic progression of a secondary dominant ($\hat{6}$ or $\hat{5}$) to a secondary tonic. This process of upgrading the minor $\hat{5}$ chord on $\textcircled{2}$ to a secondary tonic is called tonicization, represented by the lower-case Roman numeral ii. The second segment is based on the diatonic leading tone resolution $\textcircled{7}-\textcircled{1}$, accompanied by the upper voice $\hat{5}-\hat{4}-\hat{3}$.
- The melodic patterns may be varied, or may occur in different voices by means of invertible counterpoint.
- The Fonte occurs in the major mode exclusively, since the triad on $\textcircled{2}$ in the minor mode is diminished. If the Fonte occurs in the context of a minor composition, the Fonte addresses the relative major key.
- Diminished seventh chords may replace dominant seventh chords in the Fonte.

Instructions for the exercises

- The third beat of bar 2 is the start of a compound cadence rather than the continuation of the Romanesca. Double the bass tone in order to prevent parallel fifths toward the first beat of bar 3. The C on the second beat of bar 3 may be regarded as ornamental. The first segment of the Fonte (bars 5–6) hints at C minor; the second returns to B \flat major. The deceptive cadence in bars 8–10 requires a $\frac{7}{3}$ chord on ⑤. Resolve the augmented fourth or diminished fifth strictly.
- This exercise is freely devised after a solfeggio by the Neapolitan master Niccolò Antonio Zingarelli (1752–1837). Start by continuing the bass by following the indications underneath the staves. The whole exercise must be realized in three voices. Apart from the two Fontes the middle voice accompanies the upper voice either in thirds or in sixths throughout.
- This exercise is a concise version of a Fenaroli partimento. The empty boxes indicate the key changes; start with the determination of the keys. Bars 1 and 19–20 show possible (three-part) realizations; use similar diminutions in the comparable bars. The eighth notes in the bass may be realized with eighth notes in the other voices too. The A on the first beat of bar 9 must be considered as a tied note that requires a $\frac{6}{2}$ chord. The same applies at similar points. The Fonte lasts eight bars; first indicate the segments and determine the (temporary) keys. Bars 33–34 refer to bars 1–2; create a strong close afterward.

Suggestion for further analysis

Schubert: Symphony No. 5 in B \flat major, D 485, second movement (Andante con moto), bars 9–12

8.2 THE CHROMATIC MONTE

EXAMPLE 8.9 J. S. Bach: Orchestral Suite No. 3 in D major, BWV 1068, Gigue, bars 60–64

D major

Example 8.9 shows an excerpt from the Gigue of Bach's Third Orchestral Suite. As usual in dance movements the Gigue contains two repeated sections, the first modulating from D major to its

dominant A major, and the second modulating back from A major to D major. The bars shown concern the definitive establishment of the main key in the second section; the subsequent phrase (not included in the example) closes the dance.

The bass accompanies the strictly sequential upper voice somewhat freely: the bass patterns in bars 62 and 63 slightly differ from those in bars 60 and 61. The * signs indicate the structural bass line, which serves as the foundation of the harmonic reduction of example 8.10.

EXAMPLE 8.10 Reduction of bars 60–64

D major

segment 1 segment 2 segment 3 segment 4

60

6/3 5/3 6/3 5/3 6/3 5/3 6/3 6/3 5/3

③ ---- ④ ④# ---- ⑤ ⑤# ---- ⑥ ⑦ ----- ①

Monte

The reduction reveals a partly chromatic, partly diatonic bass line that ascends from ③ up to ①. The alternation of $\frac{6}{3}$ and $\frac{5}{3}$ chords recalls the Monte as discussed in Section 2.2, leaving the chromatic bass tones G# and A# out of account. This alternation lasts until the A (*) in the tenor of bar 63. This tone replaces the imaginary tied G, which would form a diminished fifth on the bass tone C#. The deviation results in a $\frac{6}{3}$ chord instead of a $\frac{5}{3}$ chord.

The chromatic bass tones G# and A# are chromatic leading tones to A and B, respectively. They follow the diatonic half-tone bass step F#–G at the beginning of the example. From bar 62 the bass proceeds diatonically to the final D. The reason why the whole-tone step B–C# (⑥–⑦) is not chromatically filled will be made clear below: see the explanation of example 8.17(a).

EXAMPLE 8.11 Weiss: Lute Suite No. 25 in B \flat major, Sarabande (Grave), bars 5–13 (author's arrangement)

B \flat major

segment 1 [C minor] segment 2 [B \flat major]

5 * * * * * * * *

① ♯ ----- ② ⑦ ----- ①

segment 1 [E \flat major] segment 1 [F major] segment 1 [G minor]

9 * * * * * * *

③ ----- ④ ④ ♯ ----- ⑤ ⑤# ----- ⑥

Monte

Example 8.11 shows an excerpt from the Sarabande for lute in G minor by the German lutist and composer Silvius Leopold Weiss (?1686–1750). The dance consists of two repeated sections, the first modulating from G minor to its relative B♭ major, and the second modulating back from B♭ major to G minor. The Sarabande opens with a four-bar phrase (not included in the example) that ends with a half cadence in the main key.

The following phrase, shown in the example, contains two sequences. The first sequence sounds in bars 5–8, and the second in bars 9–11. As will become clear, B♭ major extends over a succession of temporary keys. Thus the sequence in bars 5–8 starts with a segment in the temporary key C minor, and continues with a repeat in B♭ major. These are the two segments of a Fonte, as discussed in Section 8.1.

The next three bars (bars 9–11) form an ascending sequence consisting of three segments in the temporary keys E♭ major, F major, and G minor. The bass line ascends chromatically by the half-tone steps D–E♭, E♭–F, and F♯–G. The phrase ends in B♭ major with no more than a comma in bar 13 (a three-part $\frac{6}{8}$ chord on $\textcircled{7}$), which announces the cadential phase of the first section.

Example 8.12 shows the harmonic structure of the excerpt in a four-part realization. Its upper voice stems from the structural melodic tones (*) in example 8.11.

EXAMPLE 8.12 Four-part realization of bars 5–11

As already mentioned, the phrase starts with a Fonte in bars 5–8. Recall that the chromatic leading tone B♯ in bar 5 implies a secondary dominant that proceeds to the secondary C minor tonic in the next bar. The Roman numeral ii represents the tonicization of this chord in the range of B♭ major.

The ascending sequence in bars 9–11 consists of three segments that can temporarily be heard in E♭ major, F major, and G minor, respectively. All segments are based on $\textcircled{7}$ – $\textcircled{1}$ steps in these keys, and contain progressions of secondary dominants to secondary tonics. The Roman numerals IV, V, and vi represent these tonicizations. Note the stereotypical voice leading of the bass and the upper voice in each segment: on a temporary level the $\textcircled{7}$ – $\textcircled{1}$ bass steps accompany the upper-voice patterns $\hat{5}$ – $\hat{4}$ – $\hat{3}$. This chromatic ascent is called a chromatic Monte.

In the second section of Weiss’s Sarabande a comparable passage occurs in G minor, a few bars before the end of the composition; see example 8.13. The circled numerals beneath the staves indicate the leading-tone patterns. They depict an ascending sequence, although the first segment differs from the following segments in its melodic and rhythmic respects. The second and third

EXAMPLE 8.13 Weiss: Sarabande, bars 46–50 (see also example 8.11)

segments form a chromatic Monte. The structural melody tones (*) form the basis of the four-part realization in example 8.14.

EXAMPLE 8.14 Four-part realization of bars 46–50

As in the former examples, the voice leading of the outer voices is stereotypical: on a temporary level each $\hat{7}-\hat{1}$ step accompanies the $\hat{5}-\hat{4}-\hat{3}$ upper voice. Note the $B\flat$ on the first beat of bar 47: this tone transforms the G minor tonic into a major $\hat{5}$ chord that tightly connects to the $\hat{6}$ chord on the third beat of the same bar. As a matter of fact, as family members they form a secondary dominant that proceeds to the C major chord in bar 48. The major quality results from the tone $E\flat$, which is the raised $\hat{6}$ of the overarching G minor scale. Similarly, the D major chord in bar 49 results from the raised $\hat{7}$ of the scale. The Roman numerals IV and V (in capitals!) symbolize these major-chord variants. The phrase ends with a comma comparable to that in bar 13 of example 8.11.

Broken-triad figurations characterize Schubert's Impromptu in $A\flat$ major. The figurations in bars 53–64, shown in example 8.15, are based on the sequential bass motion of a repeated ascending fourth: $\hat{5}-\hat{1}$, $\hat{6}-\hat{2}$, and $\hat{1}-\hat{4}$. The bass skips the segment $\hat{7}-\hat{3}$, owing to the diminished triad that is located on $\hat{7}$. Each ascending fourth supports a dominant–tonic progression in $A\flat$ major, $B\flat$ minor, and $D\flat$ major, successively. The overarching key $A\flat$ major unifies these keys. Example 8.16 illustrates this.

EXAMPLE 8.15 Schubert: Impromptu in A \flat major, Op. 90, No. 4, bars 53–64

Ab major

segment 1

53 *8^{va}*

segment 2 [B \flat minor]

57

segment 3 [D \flat major]

61

EXAMPLE 8.16 Reduction of bars 53–64

Ab major

segment 1, 2x (bars 53-56)

segment 2 [B \flat minor], 2x (bars 57-60)

segment 3 [D \flat major], 2x (bars 61-64)

53

5 4 3

(5) 4 3

(5) 4 3

5 7 5

5 7 5

5 7 \flat 5

⑤ — ①

⑥ — ②

① — ④

[ii: ⑤ ①]

[IV: ⑤ ①]

chromatic Monte Principale

The reduction presents the middle voice of example 8.15 (the most prominent melody) as the upper voice; the top notes of the triad figurations form the alto. This alto voice exhibits a partly chromatic voice leading, consisting of the leading tone resolutions G–A \flat , A \flat –B \flat and C–D \flat . The upper voice accompanies these resolutions with the stereotypical $\hat{5}\text{--}\hat{4}\text{--}\hat{3}$ patterns. The oblique

lines indicate the resolutions of the diminished fifths into thirds. The sequence resembles the chromatic Montes shown in examples 8.10 and 8.12, but differs in two respects.

First, Schubert's leaping bass replaces the chromatic bass of the previous examples and transfers the chromaticism to a higher voice. This results in a succession of $\frac{5}{3}$ chords; the third beat of each odd bar adds a seventh to the chord. This variant is called the Monte Principale.

Second, Schubert's variant of the chromatic Monte is differently located in the overarching key. The Montes in examples 8.10 and 8.12 consist of tonicizations of IV, V, and vi, while example 8.16 shows tonicizations of I, ii, and IV.

EXAMPLE 8.17 Prototypes of the chromatic Monte in major (a, c,) and minor (b, d)

a. C major

b. A minor

c. C major

d. A minor

Example 8.17 provides various prototypes of the chromatic Monte. Each upper voice consists of a series of $\hat{5}-\hat{4}-\hat{3}$ patterns in temporary keys.

Example (a) is based on a partly chromatic bass; only ②–③ and ⑥–⑦ are whole-tone steps. Each chromatic tone acts as a leading tone toward the next scale degree, thus pursuing the diatonic leading-tone resolution ⑦–①. This results in chord progressions of secondary dominants ($\frac{6}{3}$ on

each first quarter note and $\frac{6}{3}$ on each second) to secondary tonics ($\frac{5}{3}$). One might assume that each $\frac{5}{3}$ chord can be upgraded to a secondary tonic, yet there are two restrictions.

First, the diminished $\frac{5}{3}$ chord on $\textcircled{7}(\#)$ can not act as a secondary tonic, since a (secondary) tonic is a major or a minor triad by definition. In other words, the diminished triad can not be preceded by a secondary dominant. This explains why the whole-tone step $\textcircled{6}-\textcircled{7}$ (the bass step A–B in the penultimate bar of the example) is not chromatically filled.

Second, like $\textcircled{7}-\textcircled{1}$ the diatonic half-tone step $\textcircled{3}-\textcircled{4}$ may support the progression of a dominant $\frac{6}{3}$ (or $\frac{6}{5}$) to a tonic $\frac{5}{3}$. The tonicization of $\textcircled{3}$ itself is, though theoretically possible, unusual in the major mode.

Example (b) shows the chromatic Monte in the minor mode, which differs significantly from the Monte in the major mode. The diatonic half-tone steps are $\textcircled{7}\#-\textcircled{1}$ and $\textcircled{2}-\textcircled{3}$. The example lacks the half-tone step $\textcircled{5}-\textcircled{6}$, which will become clear below. The half-tone step $\textcircled{7}\#-\textcircled{1}$ is similar throughout to its major equivalent: it implies the dominant $\frac{6}{3}$ or $\frac{6}{5}$ that proceeds to the tonic $\frac{5}{3}$. The half-tone step $\textcircled{2}-\textcircled{3}$ shows a similar progression. Note that $\textcircled{2}-\textcircled{3}$ in minor equals $\textcircled{7}-\textcircled{1}$ in the relative major key: compare bars 2–3 (bass step B–C) with bars 1–2 (bass step B–C) of example (a).

Theoretically speaking, the half-tone step $\textcircled{5}-\textcircled{6}$ (not included in the example) might form an additional segment of the Monte, so with a secondary dominant on $\textcircled{5}$ and a secondary tonic on $\textcircled{6}$. In practice, however, the chromatic Monte in the minor mode usually does not extend the lower pentachord from $\textcircled{1}$ to $\textcircled{5}$. A probable reason for this is that $\textcircled{5}$ strongly implies a $\frac{5}{3}$ chord, as one of the pillars of the RO framework $\textcircled{1}-\textcircled{5}-\textcircled{1}$.

Examples (c) and (d) show the chromatic Monte Principale with the chromaticism appearing in the tenor. The bass presents an ascending fourth, pursuing the $\textcircled{5}-\textcircled{1}$ leap. Consequently, all chords are in $\frac{5}{3}$ or $\frac{7}{3}$ position.

In sum, the complete chromatic Monte in the major mode contains the tonicizations of ii, IV, V, and vi. Scale degrees $\textcircled{3}$ and $\textcircled{7}$ resist tonicization, which means that they are not preceded by chromatic leading tones. In other words, the whole-tone steps $\textcircled{2}-\textcircled{3}$ and $\textcircled{6}-\textcircled{7}$ are not chromatically filled. The chromatic Monte in the minor mode contains the tonicizations III, iv (or IV), and V. The tonicization of VI is, though possible, relatively rare, since a $\frac{6}{3}$ chord on $\textcircled{5}$ would weaken the tonal framework $\textcircled{1}-\textcircled{5}-\textcircled{1}$.

Terms to remember

- The chromatic Monte relates to its diatonic variant by an alternation of $\frac{5}{3}$ and $\frac{6}{3}$ chords.
- The chromaticism fits best to the bass. The (chromatic) leading tones support secondary dominants ($\frac{6}{3}$ or $\frac{6}{5}$) that proceed to secondary tonics ($\frac{5}{3}$).
- The chromaticism may appear in other voices too. In these cases the bass will perform rising fourths or falling fifths, analogous to the $\textcircled{5}-\textcircled{1}$ progression. This leaping variant is called the Monte Principale.
- The usual tonicizations in the major mode are ii, IV, V, and vi; in the minor mode these are III, iv (or IV), and V.

Instructions for the exercises

- This exercise closely relates to the exercises on the Monte (5–6) of Section 2.2. Realize the exercise in three voices.
- The chromatic Monte arises from the ⑦–① progression in bars 1–2. Continue the bass and determine the tonicizations. Pursue the given pattern strictly; note the stereotypical $\hat{5}-\hat{4}-\hat{3}$ pattern in the upper voice. End by means of a simple Galant cadence; the * signs indicate its structural melodic components. You may wish to accompany the eighth notes in bar 7 with parallel sixths in one of the middle voices.
- This exercise resembles exercise (b), but is in the minor mode. This means that the chromatic Monte does not extend ⑤. All segments must be realized similarly. As is often the case, the alto cadence (⑤–④–③) precedes the final cadence.
- This exercise is a minuet and includes various Galant schemata. Recall the Meyer, which is a sort of question–answer gesture including the upper voice pattern $\hat{1}-\hat{7} / \hat{4}-\hat{3}$ over the bass ①–② / ⑦–①. For the Prinner, recall Section 5.3. The Fonte that follows on the medial repeat sign is highly stereotypical; the bass moves preferably in half and quarter notes. The term converging half cadence points at the converging outer voices, including the chromatic bass C–C#–D and the soprano A–G–F#. Keep the middle voice(s) as simple as possible: this best suits the Galant character of the exercise.
- Two given bars and a few indications will help you to realize this challenging partimento by Insanguine. Recall that a tied bass tone requires a $\frac{4}{2}$ chord. You can realize the entire exercise in three voices. Start by analyzing the exercise thoroughly.

Suggestion for further analysis

Beethoven: Symphony No. 1 in C major, Op. 21, first movement (Adagio molto–Allegro con brio), bars 178–198

8.3 TONICIZATION IN DESCENDING THIRDS

EXAMPLE 8.18 Mozart: “Cosa sento!” from *Le nozze di Figaro*, K 492, bars 129–138

B♭ major

segment 1 [G minor] segment 2 [E♭ major] segment 3 [C minor]

129 ed al - zan - do, pian pia - ni - no, il tap -

* (pt) * (pt) *

EXAMPLE 8.18 Continued

134 pe - to al ta - vo - li - no, ve - do'il pag - gio...

segment 4 segment 5

(pt) (pt)

* * * * *

*And lifting softly, very softly,
the cover from the table,
I see the page*

The trio “Cosa sento!” (What’s this!) from Mozart’s opera *Le nozze di Figaro* is performed by Susanna, the Count, and Basilio. In the excerpt shown in example 8.18 the Count reports an embarrassing spectacle the day before: he has caught his page Cherubino with the gardener’s daughter Barbarina. The many rests that interrupt the musical motion express his agitation.

The bass descends stepwise, spanning an octave and a fourth from ① to ⑤ in the main key of B♭ major. Despite its scalar motion, the bass line does not correspond with the ①–⑤–① framework of the descending RO. The inserted rests, the meter, and the sequential structure of the phrase reveal the schema Descending Thirds (*): from B♭ to G, from G to E♭, and so forth. Recall Section 7.4 about this issue. The temporary keys of G minor, E♭ major, and C minor accentuate the schema. As we will see below, these keys are tonicizations of scale degrees in the overarching key of B♭ major. In the final segment the primacy of the RO is restored by the close on the dominant. One might assume the temporary key of F major in the last two chords; however, the raised sixth E♯ on ⑥ (bass tone G) is a fixed component of the RO of B♭ major. Indeed, the following bars (not included in the example) emphasize the dominant function of the final chord.

The descending bass is the foundation of a sequence that consists of five segments. The metric accents are on the first and the last bass tones of each segment. Apart from the first segment, which starts with a 6/3 chord, all accented bass tones support 5/3 chords. The unaccented intermediate bass tones are passing tones (pt) with respect to melody. With respect to harmony, however, most of them are the basis of secondary dominants, as will be clear below.

Example 8.19 illuminates the harmonic structure.

EXAMPLE 8.19 Reduction of bars 129–138

B♭ major segment 1 [G minor] segment 2 [E♭ major] segment 3 [C minor] segment 4 segment 5

129 130 132 134 136 138

* **

6/3 6♯/4/3 5/3 6/4/3♭ 5/3 6♯/4/3 5/3 6/4/3 5/3 6♯/4/3 5/3

① --- ⑦ --- ⑥ --- ⑤ --- ④ --- ③ --- ② --- ① --- ⑦ --- ⑥ --- ⑤

[vi: ③] ② [①] [IV: ②] [①] [ii: ②] [①]

minor. The phrase closes in C major firmly; apparently, the preceding key changes did not affect the strength of the main key.

Example 8.21 zooms in on the three segments, and clarifies the detailed harmonic structure. The rhythm and the meter have been simplified.

EXAMPLE 8.21 Enlargement of segments 1, 2, and 3

The musical score for Example 8.21 consists of three segments, each with a treble and bass staff. Segment 1 (measures 42-43) is in C major. Segment 2 (measures 43-44) is in A minor. Segment 3 (measures 44-45) starts in F major and moves to D minor. Below the staves, chord positions are indicated with circled numbers and figured bass notation.

Segment 1 (C major):
 Treble: $\overset{6}{4} \overset{6}{3} \overset{6}{3} \overset{5}{3}$
 Bass: $\textcircled{4} - \textcircled{3} \quad \textcircled{7} - \textcircled{1}$

Segment 2 (A minor):
 Treble: $\overset{6}{2\#} \overset{6}{3} \overset{6}{3} \overset{5}{3}$
 Bass: $\textcircled{2} - \textcircled{1} \quad \textcircled{5} \# - \textcircled{6}$
 [vi: $\textcircled{4} - \textcircled{3} \quad \textcircled{7} \# - \textcircled{1}$]

Segment 3 (F major → D minor):
 Treble: $\overset{6}{4} \overset{6}{3} \overset{6\#}{3} \overset{6}{3}$
 Bass: $\textcircled{7} \flat - \textcircled{6} \quad \textcircled{3} - \textcircled{4}$
 [IV: $\textcircled{4} - \textcircled{3}$ | ii: $\textcircled{2} - \textcircled{3}$]

Example (a) shows the first segment in C major, which contains a twofold dominant-tonic progression in different positions. The oblique lines indicate the resolutions of the augmented fourth and diminished fifth. The harmonic progressions are in correspondence with the RO: $\textcircled{4}-\textcircled{3}$ is the basis of the dominant $\overset{6}{4}$ proceeding to the tonic $\overset{6}{3}$, and $\textcircled{7}-\textcircled{1}$ of the dominant $\overset{6}{3}$ to the tonic $\overset{5}{3}$. (An alternative reading downgrades the tonic $\overset{6}{3}$ chord on $\textcircled{3}$ to a non-structural chord, owing to the double passing-tone motion in the two middle voices. Then the first bar merely connects the two family members $\overset{6}{4}$ on $\textcircled{4}$ and $\overset{6}{3}$ on $\textcircled{7}$ by means of chord inversion.) The second segment in A minor, shown in example (b), is similar to the first segment. The third segment (example (c)) is more complex. It starts in F major with the $\textcircled{4}-\textcircled{3}$ progression similar to the previous segments, but the segment continues with $\textcircled{2}-\textcircled{3}$ in D minor. This rising bass step supports a progression of a diminished $\overset{6}{3}$ chord (the root position contains the tones C#-E-G-B \flat) to a tonic $\overset{6}{3}$ chord.

It is clear that A minor, F major, and even more D minor are keys that are acting merely on a temporary level. These tonicizations of vi, IV, and ii imply little more than embellishments of the extended Galant cadence that covers the whole phrase; see example 8.20.

The phrase shares its structural Descending Thirds with the Mozart excerpt in example 8.18. It differs with respect to the intermediate bass tones and the corresponding chord positions: compare Beethoven's leaping and capricious bass line with Mozart's stepwise and smooth descent.

Example 8.22 shows four prototypes of tonicizations in Descending Thirds. The oblique lines indicate the resolutions of the diminished fifths and augmented fourths of all (secondary) dominants.

Bars 1–4 of example (a) are based on the stepwise descending bass that supports $\overset{5}{3}$ chords on $\textcircled{1}$, $\textcircled{6}$, $\textcircled{4}$, and $\textcircled{2}$. The intermediate chords on $\textcircled{7}$, $\textcircled{5}$, and $\textcircled{3}$ are secondary dominants (all are dominant $\overset{6}{4}$ chords) that lead toward their secondary tonics in the temporary keys of A minor, F major,

EXAMPLE 8.22 Prototypes of tonicizations in Descending Thirds in major (a, c) and minor (b, d)

The image contains four musical examples, labeled a, b, c, and d, each showing a piano score with treble and bass staves. Above the treble staff are chord symbols, and below the bass staff is figured bass notation. Brackets above the staves indicate the key signature for each example: C major (a), A minor (b), C major (c), and A minor (d). Example (a) shows a sequence of chords: C major (5), A minor (6#), F major (5), D minor (6), C major (5), A minor (6#), D minor (5), and a compound Galant cadence (6, 4, 7, 5, 3, 5). Example (b) shows: A minor (5), F major (6), D minor (5), Bb major (6#), A minor (5), F major (6), D minor (5), and a compound Neapolitan cadence (6, 4, 7, 5, 3, 5). Example (c) shows: C major (5), A minor (7), F major (5), D minor (7b), C major (5), A minor (7b), D minor (5), and a compound Galant cadence (5, 7, 5, 3, 5). Example (d) shows: A minor (5), F major (5), D minor (7), A minor (5), F major (7), D minor (5), and a compound Neapolitan cadence (5, 7, 5, 3, 5). The figured bass notation includes scale degrees and Roman numerals in brackets, such as [vi: 2] and [IV: 2].

and D minor, respectively. The temporary keys represent the tonicizations of vi, IV, and ii. Note that in bar 4 the $\frac{5}{3}$ chord on ② inverts to $\frac{6}{3}$ on ④; the latter is the start of the compound Galant cadence. Considering that a cadence usually starts with a tonic $\frac{5}{3}$ on ① or a tonic $\frac{6}{3}$ on ③, the entire example depicts a large-scale cadence ①---④-⑤-①, with inserted tonicizations that connect ① in bar 1 to ④ in bar 4.

Example (b) shows the similar procedure in A minor, with $\frac{5}{3}$ chords on ⑥, ④, and ② \flat , and secondary dominants ($\frac{6}{4}$) on ⑦, ⑤, and ③. The bass contains the natural scale degrees ⑦ and ⑥ (G \natural and F \natural) in bars 1–2. Noteworthy is the Neapolitan ② \flat (B \flat) in bar 4: the major $\frac{5}{3}$ chord on this lowered scale degree substitutes the diminished $\frac{5}{3}$ chord on the natural ②. This Neapolitan $\frac{5}{3}$ chord on ② \flat acts as a secondary tonic, which is preceded by its secondary dominant $\frac{6}{4}$. The Neapolitan $\frac{6}{3}$

on ④ is the essential component of the large-scale Neapolitan cadence over ①---④-⑤-①, which spans the whole example. The Neapolitan turn in bars 4–6 sounds in the soprano, hence the leap from D to B♭.

Example (c) is a variant of example (a). Diminished $\frac{7}{3}$ chords replace the dominant $\frac{6}{4}$ chords of example (a); in coherence with this, the bass leaps by fourths to each (chromatic) leading tone.

Example (d) is a variant of example (b). Here dominant $\frac{7}{3}$ chords replace the dominant $\frac{6}{4}$ chords of example (b), which is related to the bass rising by thirds and falling by fifths.

The examples show various applications of tonicizations based on Descending Thirds. As a matter of fact, all major or minor $\frac{5}{3}$ and $\frac{6}{3}$ chords can act as secondary tonics, and can be preceded by dominant or diminished seventh chords in different positions. On a temporary level, optional bass progressions are ⑤-①, ⑦-①, ②-①, ②-③, and ④-③. (The last two are not included in the examples.) As a rule, the bass motion (for instance stepwise or leaping) is mutually related to the positions of the chords. The choice between a dominant and a diminished seventh chord depends either on the voice leading or the preferred sound.

Terms to remember

- Tonicizations in Descending Thirds are based on the framework ①-⑥-④-② or part of it. Most often $\frac{5}{3}$ chords sound on these scale degrees, but $\frac{6}{3}$ chords are possible too.
- Secondary dominants connect the $\frac{5}{3}$ (or $\frac{6}{3}$) chords, which become secondary tonics. The stepwise descending bass line implies the use of dominant $\frac{6}{4}$ chords.
- Diminished seventh chords may replace dominant seventh chords.
- All basses that support a dominant-tonic progression are possible: ⑤-①, ⑦-①, ②-①, or ②-③ and ④-③.

Instructions for the exercises

- The progression of the dominant $\frac{6}{4}$ on B♭ to the tonic $\frac{5}{3}$ on A♭ in bars 1–2 serves as the model for the following tonicizations in Descending Thirds. Thus, the following bass steps G–F, E♭–D♭, and C–B♭ require sequential repeats in all voices. Realize the cadence with a suitable soprano. (Which variant do you choose? Consider a soprano leap in bar 6.) The exercise ends with a *Quiescenza*.
- Provide a sequential bass that accompanies the sequential upper voice. Realize the voices according to the given model in bar 1. The end of the exercise refers to the Neapolitan cadence in example 8.22(b).
- This exercise after a *partimento* by Fenaroli contains tonicizations in Descending Thirds from bar 7. Although the beginning of this sequence coincides with the preceding cadence in D major, the tonicizations have to be conceived in the overarching key G major. Note that the end of the sequence overlaps with a *Monte* that starts in bar 11. In each eighth-note group only the first note is structural; the remaining three are diminutions. The Fourth Up

Fifth Down schema in bars 19–20 requires $\frac{7}{3}$ chords. As usual, the tied D in bar 22 requires a $\frac{6}{4}$ chord. This chord proceeds to the next dominant $\frac{6}{2}$ on the second beat of the bar. Try to fill the half notes in the bass line with smaller note values.

Suggestion for further analysis

Haydn: Piano Sonata in E \flat major, Hob. XVI:49, first movement (Allegro), bars 84–107

8.4 THE CHROMATIC TETRACHORD: THE LAMENTO

EXAMPLE 8.23 Vivaldi: Stabat Mater, RV 621, first movement (Largo), bars 1–12 (viola part omitted)

The musical score for Example 8.23 consists of two systems. The first system (bars 1-4) is in F minor, 3/4 time. The first violin part (vi 1) plays a melodic motif. The bass line is figured with numerals: b.c., $\frac{4}{2}$, $\frac{6}{5}$, $\frac{6}{5}$, $3\sharp$, $6\flat$, 7 , 6 . Brackets indicate a 'discant cadence' (bars 1-2) and a 'compound cadence' (bars 3-4). Asterisks (*) are placed under the 7 and 6 numerals in bar 4. The second system (bars 5-8) features a second violin part (vi 2) and a bass line. The second violin part has 'sigh' markings above it in bars 7 and 8. The bass line numerals are: 7 , 6 , $\frac{7}{3\sharp}$, 6 , 4 , $\frac{7}{5}$, 6 , 5 , $3\sharp$, $\frac{7}{5}$, 6 , 4 , 5 , $3\sharp$, $\frac{6}{5}$, $3\sharp$. Brackets indicate 'half cadence' (bars 6-7), 'half cadence' (bars 7-8), and 'imperfect compound cadence' (bars 8-9). Asterisks (*) are placed under the 7 and 6 numerals in bar 5.

Example 8.23 shows the instrumental introduction of Vivaldi's Stabat Mater (see also example 2.24). The figured-bass numerals are authentic. For the sake of clarity the viola part is omitted. This part does not essentially contribute to the contrapuntal structure, but merely doubles the tones played by the other instruments or fills the incomplete chords.

The first violin presents a melodic motif in bars 1–3; from bar 3 the second violin imitates the motif in the unison. This twofold presentation of the motif results in the succession of a two-part discant cadence and a three-part compound cadence. In bars 5–8 the bass performs a chromatic descending tetrachord from F to C. The * signs indicate this voice leading, which will further be examined below.

From the third beat of bar 8 the end of the phrase is announced by a twofold half cadence based on a “sighing” motif (the slurred notes). A powerful (though imperfect) compound cadence closes the phrase.

EXAMPLE 8.24 Reduction of bars 5–9

5

F minor

5/3 6 7/3 6 7/3 6 7/3 6 7/3 4 7/5 6/4 5/3

① ⑦♯ ⑦♭ ⑥♯ ⑥♭ ⑤ ④♯ ⑤

Lamento half cadence

The reduction of example 8.24 clarifies the realization of the chromatic tetrachord in bars 5–8, which is called a Lamento. The alternation of $\frac{7}{3}$ and $\frac{6}{3}$ chords relates to the 7–6 Fauxbourdon, discussed in Section 2.2 (see for instance example 2.15). Just imagine dotted half notes E \flat and D \flat instead of the chromatic bass steps in bars 6–7. The Lamento smoothly blends with the following half cadence. From a harmonic-contrapuntal perspective the chromaticism may be conceived as ornamental. Example 8.25 shows the distinction between the ornamental chromatic tones (the black notes) and the structural diatonic tones (the white ones) of the Lamento bass.

EXAMPLE 8.25 The Lamento bass

F minor

① ⑦♯ ⑦♭ ⑥♯ ⑥♭ ⑤

From a rhetorical perspective, however, the chromaticism is essential because of its expressive potential. The descending chromatic tetrachord associates with an emotional state of suffering or lamenting. (In the *Stabat Mater* text Maria mourns for Jesus hanging on the cross.) In the same way the sighing motif in bars 8–10 is rhetorically motivated. It is, so to speak, the ornamentation of musical “speech” that determines the rhetoric content.

Although Vivaldi’s *Stabat Mater* offers a highly stereotypical realization of the Lamento bass, there are various alternatives. For instance, the 7–6 suspensions can be omitted, which results in a succession of mainly $\frac{6}{3}$ chords. Imagine dotted half notes C and B \flat instead of the tied notes in bars 6–7 of example 8.24. Otherwise, dissonances and chromatic tones can be added in order to enrich the harmonic sonority, and enhance the rhetorical effect, as will be shown in example 8.26.

EXAMPLE 8.26 Purcell: “When I am laid in earth” from *Dido and Aeneas*, Z 626, bars 45–55

Example 8.26 shows the instrumental conclusion of the well-known aria “When I am laid in earth” (Dido’s lament) at the end of the opera *Dido and Aeneas* by Henry Purcell (1659–1695). The aria is constructed on a continuously repeated bass pattern, a so-called ground or *basso ostinato* (It.). The ground in question here consists of a Lamento followed by a cadence, which occurs twice in the example above: in bars 45–50 and 50–55.

The excerpt starts with a “sighing” motif (see the slur), presented by the viola, which perfectly reflects the tragic content of the aria (Dido’s lament and death). In this sense the motif recalls Vivaldi’s *Stabat Mater*. The second violin imitates the motif, and takes over the chromaticism of the bass at the same time. Two bars later the first violin imitates the motif, starting on G, the highest tone of the aria, and descends via the almost complete chromatic scale of G minor till the low G, the final tone. The * signs indicate the chromatic steps in the upper voice. The thorough chromaticism, the continuous repeat of the “sighing” motif, and the extreme degree of dissonance give the excerpt its tragic expression.

The entry of the first violin results in a four-part texture. The leaps in the tenor, a fifth down and an octave up in bars 51–52, are noteworthy. As we will see in example 8.27(c), big leaps are inevitable in a four-part Lamento realization.

EXAMPLE 8.27 Prototypes of the Lamento in three (a, b) and four voices (c)

EXAMPLE 8.27 Continued

c.

$\frac{7}{3\#}$ 6 5 5 $\frac{5}{3\#}$ (5) $\frac{5}{3}$ 6 $\frac{7}{3}$ 6 $\frac{7}{3}$ 6 $\frac{7}{3\#}$ 5 $\frac{6}{3}$ 5 $\frac{7}{3\#}$ 7 (5)
 ⑤ ① ① ⑦# ⑦b ⑥# ⑥b ⑤ ④ ⑤ ①

Example (a) is a prototype of the three-part Lamento. The suspensions appear in the upper voice and result in the succession of $\frac{7}{3}$ and $\frac{6}{3}$ chords in bars 2–3. The $\frac{7}{3}$ chord on the first beat of bar 4 announces the double cadence on the sustained ⑤.

Example (b) differs from example (a) mainly because of the inversion of the upper and middle voices.

Example (c) shows a four-part realization. Apart from the first note, the alto is equivalent to the middle voice of example (a), or the upper voice of example (b). The added tenor appears to move somewhat inconveniently, given the leaps in bars 2–3. A smooth, stepwise voice leading, as in the other voices, is impossible, due to imminent parallel octaves with the alto. (Imagine whole notes B and A instead of the leaps B–E and A–D.) Because of this, one might conclude that the Lamento fits best in a three-part texture. Of course, example 8.26 proves that a four-part realization is possible throughout.

Finally, two remarks have to be made. First, the Lamento occurs almost exclusively in the minor mode. Its expressive potential matches the minor rather than the major. Second, unlike the chromaticism discussed in Sections 8.1, 8.2, and 8.3, the chromatic tones of the Lamento do not refer to any temporary key. The tones may be regarded as substitutes for their diatonic counterparts.

Terms to remember

- The Lamento is the realization of a chromatic descending tetrachord in the minor mode, usually by the alternation of $\frac{6}{3}$ and $\frac{7}{3}$ chords. Yet alternatives, varying from consonant to highly dissonant realizations, are also possible.
- Usually the Lamento represents a state of suffering or lamenting.
- The Lamento occurs frequently as a basso ostinato in Baroque compositions.
- The Lamento fits best in a three-part texture. In a four-part texture the fourth voice (mostly the tenor) is forced to leap in order to prevent parallel octaves.

Instructions for the exercises

- Realize the Lamentos in three voices. (This applies to all Lamento realizations.) The suspensions appear in the upper voice first, and then in the middle voice. The final cadence must be realized in four voices.

- b. Realize this exercise like exercise (a). Each Lamento closes with a double cadence.
- c. The upper voice performs the “sighing” motif from examples 8.23 and 8.26. The phrase closes with a double cadence and a compound cadence in succession.
- d. This “classic” Fenaroli partimento starts with a Lamento theme that recurs several times in various keys. The theme requires a similar realization everywhere, yet it is possible to invert the upper and middle voices. Analyze the partimento thoroughly before you start your actual realization: which keys, which schemata (some are already indicated), which cadences? You may vary the number of voices according to your taste. Strive for a nice and smooth upper voice throughout the entire exercise.

Suggestion for further analysis

Bach: Cantata “Jesu, der du meine Seele,” Opening Chorus, BWV 78, bars 1–25

8.5 THE CHROMATIC TETRACHORD: ADVANCED REALIZATIONS

EXAMPLE 8.28 Beethoven: String Quartet in G major, Op. 18 No. 2, third movement (Scherzo Allegro: Trio), bars 1–8

Example 8.28 shows the opening phrase of the Trio of Beethoven’s String Quartet in G major. The Trio is the middle section of the Scherzo; rather than the main key G major the Trio sounds in the subdominant key C major.

The phrase closes in G major in bars 6–8. These bars are somewhat ambiguous in harmonic respect. On the one hand, they exhibit the intrinsic quality of a simple cadence ①–⑤–①, with a dominant $\frac{7}{3}$ on ⑤. On the other hand, the cadence is not powerful enough to establish the new key: the final G chord can still be heard as the dominant $\frac{5}{3}$ chord in C major. Put differently, bars 6–8 may be interpreted as a tonicization of V in C major, which means that the phrase ends with a half cadence.

In bars 1–6 the bass (the cello) descends chromatically from C to G. The * signs indicate the half-tone steps of this chromatic descending tetrachord ①–⑤. Example 8.29 distinguishes

between the (white) scale tones and their (black) chromatic derivations in the chromatic tetrachord of C major.

EXAMPLE 8.29 The chromatic tetrachord in C major

The chromatic tones B \flat and A \flat appear as alterations of the diatonic tones B and A, respectively. As a rule, these chromatically lowered tones act as descending leading tones, and thus descend stepwise to their next scale tones: B \flat resolves to A, and A \flat to G.

The upper voice of example 8.28 (the first violin) accompanies the bass in contrary motion, partly diatonically and partly chromatically. The + signs indicate the steps of the ascending pentachord $\hat{1}$ – $\hat{5}$. Example 8.30 illustrates the harmonic structure of the chromatic tetrachord, which differs significantly from the Lamento.

EXAMPLE 8.30 Reduction of bars 1–6

The contrary motion of the outer voices creates a compelling forward harmonic force. Most prominent in this respect are the augmented fourth B \flat –E in bar 3, and the augmented sixth A \flat –F \sharp in bar 5. The oblique lines indicate the resolutions of these intervals.

The $\frac{6}{3}$ chord on B in bar 2 suggests a return to the tonic, due to the tendency of the diminished fifth B–F toward the third C–E, notated in cue size. Instead, the E appears in the upper voice and the chromatic bass tone B \flat takes the place of the C. The harmonic progression in bars 3–4 refers to the temporary key of F major. The descending bass step B \flat –A implies $\textcircled{4}$ – $\textcircled{3}$ in that key; its realization is in accordance with the RO, which dictates a $\frac{6}{2}$ chord on $\textcircled{4}$ and a $\frac{6}{3}$ chord on $\textcircled{3}$. Thus bars 3–4 exhibit a tonicization of IV, consisting of a secondary dominant $\frac{6}{2}$ and a secondary tonic $\frac{6}{3}$.

The augmented sixth in bar 6 is the basis of the augmented $\frac{6}{3}$ chord on $\textcircled{6}\flat$ (molldur), which proceeds to the $\frac{5}{3}$ chord on $\textcircled{5}$. In previous chapters the augmented $\frac{6}{3}$ chord, with its related $\frac{6}{3}$ and $\frac{6}{4}$, has been attributed exclusively to the minor mode: see Section 4.4 (example 4.27) on the three-part augmented $\frac{6}{3}$ chord, and Section 6.6 (example 6.41) on the four-part augmented $\frac{6}{3}$ and $\frac{6}{4}$ chords. However, example 8.30 proves that the augmented $\frac{6}{3}$ chord can also occur on molldur $\textcircled{6}$ in the major mode. The same applies to the $\frac{6}{3}$ and $\frac{6}{4}$ chords. As a matter of fact, the molldur $\textcircled{6}$ creates

a short, momentary switch from major to minor. In example 8.30 the third of the augmented $\frac{6}{3}$ chord is doubled: this is the only option, since the leading tones $A\flat$ and $F\sharp$ cannot be doubled.

This realization of the chromatic tetrachord, including the tonicization of IV and the augmented sixth, becomes normative during the second half of the eighteenth century. It replaces the Baroque-style Lamento. This schema is called a Morte; characteristic is its contrary motion between the outer voices. (This modern term is an unmistakable wink at the historical terms Monte and Fonte.) However, alternative realizations are also possible, as we will see below.

EXAMPLE 8.31 Schubert: “Nachtstück”, D 672, bars 1–5

The musical score for Example 8.31 shows Schubert's piano introduction in C minor. The bass line features a chromatic tetrachord of chords ①, ⑦ \flat , ⑦ \flat , ⑥ \flat , ⑥ \flat , leading to a dominant pedal point on chord ⑤. The upper voice is mostly static. Brackets indicate the key signature change from C minor to F major between bars 2 and 3.

Chromaticism, dissonances, and a dense texture (up to seven- and eight-part chords) characterize the piano introduction of Schubert's song “Nachtstück” in C minor, shown in example 8.31. These characteristics perfectly match the first text lines “Wenn über Berge sich der Nebel breitet, und Luna mit Gewölken kämpft . . .” (When the mist spreads over the mountains, and Luna [i.e., the moon] competes the clouds . . .)

The piano introduction is based on a chromatic tetrachord that leads to a pedal point on ⑤. Its realization differs from Beethoven's Morte in various respects. First, Schubert's song is in C minor and Beethoven's Trio in C major. Second, Schubert's upper voice is quite static: it lacks the forward drive of Beethoven's contrary motion. A third difference concerns the harmonic structure, illustrated in example 8.32.

EXAMPLE 8.32 Reduction of bars 1–5

The harmonic reduction in Example 8.32 shows the chord structure in the bass line. Chords ①, ⑦ \flat , ⑦ \flat , ⑥ \flat , ⑥ \flat , ⑤ are shown. Brackets indicate the key signature change from C minor to F major between bars 2 and 3. The reduction is labeled as a chromatic tetrachord and a Quiescenza (on the dominant).

Like Beethoven's Trio, bar 2 refers to the temporary key of F major and presents a tonicization of IV, based on the (temporary) ④–③ bass step. However, the diminished $\frac{6}{4}$ chord on $B\flat$ replaces

Beethoven's dominant $\frac{6}{4}$ chord. (Recall the applications of the diminished seventh chord in both minor and major; see for instance example 7.9 in Section 7.1.) The chord proceeds to the major $\frac{6}{3}$ chord on $A\sharp$; the diminished $\frac{6}{3}$ acts as a secondary dominant and the major $\frac{6}{3}$ chord as a secondary tonic. The oblique lines indicate the resolutions of the augmented fourth and the diminished seventh. The major quality of the secondary tonic is caused by the chromatic bass tone $A\flat$ ($\textcircled{6}\flat$).

The bass tone $A\flat$ ($\textcircled{6}\flat$) in bar 3 re-establishes the C minor key. This tone modifies the preceding major $\frac{6}{3}$ into a minor $\frac{6}{3}$ chord. Note that this plain $\frac{6}{3}$ chord comes in place of Beethoven's augmented $\frac{6}{3}$ chord. This chord leads to the dominant $\frac{7}{3}$ chord $\textcircled{5}$. We will simply label this realization according to its bass line: the chromatic tetrachord.

The progression of the dominant $\frac{7}{3}$ to $\frac{6}{4}$ implies the first stage of the Quiescenza; the resolution of the next dissonant chord to the final $\frac{5}{3}$ chord forms the second stage. The oblique lines indicate the characteristic voice-leading patterns of the Quiescenza, divided over two voices: $F-E\flat$ and $F\sharp-G$.

EXAMPLE 8.33 Prototypes of the Morte in minor (a) and major (b)

a. A minor [D major]

b. C major [F major]

Example 8.33 shows two prototypes of the Morte.

Example (a) is in A minor. The outer voices are in contrary motion. The bass performs the descending chromatic tetrachord $\textcircled{1}-\textcircled{5}$, and the upper voice the ascending pentachord $\hat{1}-\hat{5}$, including the chromatic tones $\hat{3}\sharp$ and $\hat{4}\sharp$. The tonicization of IV refers to the $\textcircled{4}-\textcircled{3}$ bass step in the temporary key of D major. The secondary dominant $\frac{6}{4}$ on $G\sharp$ proceeds to the secondary tonic $\frac{6}{3}$ on $F\sharp$. The last stage of the Morte implies the resolution of the augmented $\frac{6}{3}$ chord into the dominant $\frac{5}{3}$. The augmented $\frac{6}{4}$ or the augmented $\frac{6}{3}$ can replace the augmented $\frac{6}{3}$. The resolution of the $\frac{6}{3}$ chord is noteworthy. Its direct resolution to $\frac{5}{3}$ (*) inevitably causes parallel fifths; see the dashed

line. Various repertoire excerpts prove that these parallel fifths are acceptable to a certain degree. However, many composers (among them Mozart) prefer to avoid this poor voice leading by the insertion of a $\frac{6}{4}$ chord (**).

Example (b) shows the Morte in C major, which is throughout comparable with the example in the minor. Note that the augmented $\frac{6}{3}$ chord sounds on molldur $\textcircled{6}$. Here too, the augmented $\frac{6}{4}$ or $\frac{5}{3}$ can replace the chord. The $\frac{6}{3}$ chord contains the additional molldur tone E_b . The chord stems from C minor, so to speak, but can be applied in C major too. As in example (a) the direct resolution to $\frac{5}{3}$ (*) causes parallel fifths. These parallel fifths can be avoided by the insertion of a (major) $\frac{6}{4}$ suspension (**). Note the chromatic step E_b-E_n in the tenor.

Terms to remember

- The Morte shares its bass with the Lamento but differs with respect to harmony. The schema occurs in both the major and the minor mode. The upper voice accompanies the bass in contrary motion.
- Alternative realizations of the chromatic tetrachord are possible, for instance omitting the contrary motion between the outer voices.
- The lowered $\textcircled{7}$ in the major and the natural $\textcircled{7}$ in the minor mode support a secondary dominant $\frac{6}{4}$ chord, which proceeds to a secondary tonic $\frac{6}{3}$ on $\textcircled{6}$ (the raised $\textcircled{6}$ in the minor mode). The Roman numeral IV (in the major as well as the minor mode) represents this tonicization.
- The $\textcircled{6}$ in minor and the molldur $\textcircled{6}$ in major usually (but not necessarily) support an augmented $\frac{6}{3}$, $\frac{5}{3}$, or $\frac{6}{4}$ chord.

Instructions for the exercises

- Realize this Morte with a soprano in contrary motion. Use a complete dominant $\frac{7}{3}$ on the second beat of bar 4: this matches well with the deceptive cadence. Apply the Neapolitan turn to the final cadence in the soprano.
- The Monte bass in bars 1–4 is partly chromatic and partly diatonic. A simple three-part realization suffices. From bar 4 a four-part realization is required. The given chord in bar 4 (*) provides an additional tonicization of V.
- The upper voice moves in a continuous contrary motion in bars 1–7. Start with two voices, and add a third and a fourth voice as soon as possible.
- This Fenaroli partimento is intended for keyboard: use keyboard notation. Start with a thorough analysis of the exercise: keys, cadences, and Galant schemata (above all the Morte). Bars 9–13 and similar points imply invertible counterpoint: the bass pattern of bars 9–11 must be applied in the upper voice in bars 11–13. Continue the tied notes in bars 36–37 until the compound cadence in bars 40–42. Complete the middle voices in

appropriate way. In general, several melodic and harmonic hints will guide you through this challenging partimento.

Suggestion for further analysis

Schubert: *Ecossaises* D 299, No. 3 in E major, bars 1–16

8.6 THE CHAIN OF DOMINANTS

EXAMPLE 8.34 Handel: Flute Sonata in B minor, HWV 367b, second movement (Vivace), bars 5–10

The musical score for Example 8.34 consists of two systems of music, each with a treble and bass staff. The first system (bars 5-7) is divided into three segments: Segment 1 (B minor), Segment 2 (E major), and Segment 3 (A major). The second system (bars 8-10) is divided into Segment 3 (D major) and Segment 4 (B minor). The figured-bass numerals are as follows:

- Bar 5: 3# 3# 6 (B minor)
- Bar 6: 3# 6 7 6 3# 5 (E major)
- Bar 7: 3# 6 7 (A major)
- Bar 8: * 6 6 7 6 5 (D major)
- Bar 9: * 6 6 3# (B minor)
- Bar 10: 3# (B minor)

Structural bass markers (*) are placed under the first note of bars 5, 6, 8, and 9. Plus signs (+) are placed above the notes in bars 5, 6, 7, 8, and 9. A bracket labeled "half cadence" spans the first two notes of bar 5. Brackets above the staves indicate the key signatures for each segment.

Example 8.34 shows an excerpt from the second movement of Handel's B minor Flute Sonata right after the opening phrase. (For a correct understanding of the meter, the time signature is $\frac{3}{2}$; see also the reduction in example 8.36.) The figured-bass numerals are authentic.

The first half of bar 5 is simultaneously a half cadence in B minor that closes the initial phrase (not included in the example) and the start of a sequence. At first glance, this sequence modulates through various keys: from B minor via E major, A major, and D major. The end of the sequence leads to a half cadence in the main key again. So B minor must be considered as the overarching key and the other keys as temporary.

Indeed, the structural bass (*) rises by fourths and falls by fifths in B minor throughout. The broken-chord figurations in both voices bring the harmonic progressions to the fore. The + signs indicate the characteristic dissonances, which will be explained below. Example 8.35 illustrates

the three-part harmonic framework of the excerpt. Recall Sections 2.4 (example 2.25) and 7.2 (example 7.12) regarding the Fifth Down Fourth Up schema.

EXAMPLE 8.35 Reduction of bars 5–10

The musical score for Example 8.35 shows a reduction of bars 5–10. The key signature is G major (one sharp). The score is written in treble and bass clefs. The chords are labeled as B minor, B major, E major, A major, and D major. The reduction includes passing tones (pt) and proposta (proposta) and risposta (risposta) markings. Below the staff, there are chord diagrams and Roman numerals: [I: 5], [IV: 5], [VII: 5], and [III: 5].

The reduction contains a succession of incomplete major $\frac{5}{3}$ chords based on the Fourth Up Fifth down schema. The fifths, omitted in the reduction but present in the chord figurations, are notated in cue size: they fill the chords without contributing to the contrapuntal structure. (The cue-size notes do not suggest any voice leading.)

The passing tones (pt) on the third beats correspond with the + signs in example 8.34. These passing tones are harmonically significant, since they transform the triads into dominant seventh chords. The oblique lines indicate the resolutions of the diminished fifths and augmented fourths.

Thus the dominant $\frac{7}{3}$ chord in bar 5 (including the passing tone E) proceeds to the tonic $\frac{5}{3}$ on B in bar 6. In turn, this chord becomes a new dominant $\frac{7}{3}$ by the chromatically altered third D \sharp and the passing tone A. This chord proceeds to the next tonic $\frac{5}{3}$ chord on E in bar 7, and so forth. This procedure results in a series of tonicizations following the major I: IV, VII, and III.

Besides these tonicizations the reduction reveals a canon between the upper and middle voices: the middle voice is the proposta, starting with A \sharp in bar 5, and the upper voice the risposta, starting with D \sharp in bar 6. The other way around is also possible: the upper voice starts in bar 5, and is imitated by the middle voice from bar 6. Note that the three-part texture (and the canon structure) is only implicitly present in the score of example 8.34.

EXAMPLE 8.36 Bach: Fugue in E \flat major, BWV 876, from *The Well-Tempered Clavier*, II, bars 45–55

The musical score for Example 8.36 shows a reduction of bars 45–55. The key signature is E \flat major (three flats). The score is written in treble and bass clefs. The chords are labeled as C minor and F minor. The reduction includes proposta (proposta) and risposta (risposta) markings. Below the staff, there are chord diagrams and Roman numerals: [I: 5] and [III: 5].

EXAMPLE 8.36 Continued

The episode in Bach's $E\flat$ major Fugue shown in example 8.36 modulates from C minor to $A\flat$ major. The fugue subject enters in the latter key at bar 53. The episode is based on two procedures at once.

First, the structural bass (*) moves according to the schema Fifth Down Fourth Up: $G-C-F-B\flat$. A final, implicit stage of $E\flat$ (*) in bar 54 (sounding as the second tone of the subject in the tenor) may be added to this sequence. Second, the two upper voices perform a canon of which the *proposta* (the upper voice) starts in bar 45, and the *risposta* (the middle voice) in bar 47. Again, the other way around is also possible: the middle voice starts on the first beat of bar 46, and the upper voice responds on the first beat of bar 48. Example 8.37 clarifies these harmonic and contrapuntal features.

EXAMPLE 8.37 Reduction of bars 45–55

Let us focus first on the contrapuntal process. Both *proposta* and *risposta* consist of a series of intertwined suspension patterns. Sometimes the resolution (r) is simultaneously the preparation (p)

for the next suspension (s): see for instance the middle voice in bar 47. The horizontal lines between the figured-bass numerals indicate the alternating 7–6 and 4–3 resolutions.

These suspensions are a determining factor of the harmonic structure. The tied F in the upper voice of bars 45–46 announces the start of a double cadence on ⑤ in C minor in cooperation with the lower B \flat . The oblique lines indicate the resolution of this diminished fifth. Taking into account all voices, the dominant $\frac{7}{3\sharp}$ leads to the $\frac{6}{4}$, which prepares the next $\frac{5}{4}$. From there the double cadence is abandoned: B \flat comes in place of a cadential leading tone B \natural . Example 8.38 shows the “accomplished” double cadence for sake of comparison.

EXAMPLE 8.38 Accomplished double cadence in bars 46–47

The musical score for Example 8.38 shows two staves: a treble staff and a bass staff. The key signature is C minor (three flats). The first part, labeled 'C minor', covers bars 46 and 47. The second part, labeled 'F minor', covers bars 48 and 49. The bass line is heavily figured with numerals: $\frac{7}{3\sharp}$, $\frac{6}{4}$, $\frac{5}{4}$, $\frac{5}{3\sharp}$, $\frac{7}{3\sharp}$, and $\frac{6}{4}$. Below the bass line, a dashed line indicates a sequence of pedal points: ⑤, followed by a bracketed section labeled 'double cadence' containing ⑤, ①, and ⑤, and finally another bracketed section labeled 'double cadence' containing ① and ⑤. Oblique lines connect the notes in the upper voice to the bass line figures.

The harshness of the unprepared augmented fourth B \flat –E on the first beat of bar 48 in example 8.38 contrasts with the smooth introduction of the interval in example 8.37 (and of course 8.36) where the seventh B \flat is prepared, and the leading tone E \sharp is carefully reached by a stepwise descending motion.

The procedure repeats on the consecutive bass tones C, F, and B \flat . Each pedal point on ⑤ proceeds to ①, which in turn becomes ⑤ in the next key. Finally, the bass leap to G instead of E \flat in bar 54 quits the sequence. One might say that the subject entry in the tenor takes over the avoided bass leap from B \flat to E \flat .

Example 8.39 juxtaposes all dominant $\frac{7}{3}$ chords, which constitute an implicit series of dominant $\frac{7}{3}$ chords. This succession of dominants on the schema Fifth Up Fourth Down is called the Chain of Dominants.

EXAMPLE 8.39 Implicit Chain of Dominants in bars 45–55

The musical score for Example 8.39 shows two staves: a treble staff and a bass staff. The key signature is C minor (three flats). The score is divided into five measures, each with a chord label above it: 'C min' (bar 46), 'F min' (bar 48), 'B \flat maj' (bar 50), 'E \flat maj' (bar 52), and 'A \flat maj' (bar 54). The bass line is figured with numerals: $\frac{7}{3\sharp}$, $\frac{7}{3\sharp}$, $\frac{7}{3}$, $\frac{7}{3}$, $\frac{7}{3}$, and $\frac{5}{3}$. Below the bass line, a sequence of pedal points is indicated: ⑤, ⑤, ⑤, ⑤, ⑤, and ⑥.

The example shows that the sevenths occur alternately in the upper and middle voices. The oblique lines indicate their resolutions. The major thirds do not resolve as leading tones, but descend chromatically: B_4-B_4 , E_4-E_4 , and so forth. The bracketed E_b is the imaginary substitution for the G on the first beat of bar 54, and suggests a “deceptive” progression to $\textcircled{6}$.

The tenor, notated in cue size, provides a four-part version of the Chain of Dominants. The dominant seventh chords alternate between complete ($\textcircled{7}_3$) and incomplete ($\textcircled{7}$) chords with a doubled bass tone. Note that a succession of complete dominant $\textcircled{7}_3$ chords would cause parallel fifths between bass and tenor: G–D would lead to C–G, and so on. (See also the provisional tenor in example 8.35.)

Although the Chain of Dominants shows up occasionally in early eighteenth-century compositions, the harmonic procedure evolved fully within the Classical and Romantic styles, as will be shown by the following example.

EXAMPLE 8.40 Mozart: Symphony No. 40 in G minor, K 550, first movement (Molto allegro), bars 53–68

53 B \flat major

half cadence Chain of Dominants

59

Galant cadence half cadence

65

Chain of Dominants

Example 8.40 shows the beginning of the secondary theme in $B\flat$ major from the first movement of Mozart’s famous G minor Symphony. The score is somewhat adjusted for a keyboard setting. The first phrase, in bars 53–60, is a period that consists of a four-bar antecedent (bars 53–56) and a four-bar consequent (bars 57–60, first beat). The start of the consequent refers to bar 53, but its

continuation differs significantly. The upper voice extends the chromatic three-tones pattern of bars 53–54 to the six-tone pattern in bars 57–58. The chromatic descent forms part of a Chain of Dominants, as we will see below. A Galant cadence closes the phrase. At bar 61 the phrase recurs. Ignoring differences in instrumentation and register, the antecedent is repeated almost literally. The consequent from bar 65 consists of a four-part version of the Chain of Dominants, which is extended by an additional dominant $\frac{7}{3}$ (*) on E^b in bar 67. Example 8.41 illustrates the harmonic structure of these bars.

EXAMPLE 8.41 Reduction of bars 65–67

From the D in bar 65 the bass starts the sequence Fifth Down Fourth Up in B^b major: ③–⑥–②–⑤–①–④. However, since all bass tones support complete or incomplete dominant $\frac{7}{3}$ chords, they hint at continually changing temporary keys: D acts as ⑤ in G minor (in retrospect the initial bass tone E^b can be heard in G minor too), G as ⑤ in C minor, and so on. The Chain of Dominants ends with the dominant $\frac{7}{3}$ chord on E^b in bar 67. This chord hints at A^b major; the $\frac{6}{4}$ chord on the fourth beat strengthens this impression. Yet instead of landing on a stable A^b tonic, which would imply an escape from the overarching B^b major key, the dominant $\frac{7}{3}$ chord is repeated over and over again in the following bars (not included in the example). Eventually, the chord ingeniously leads back to B^b major, in which key a strong cadence closes the whole section.

Examples 8.35 and 8.39 have shown the implicit succession of dominant $\frac{7}{3}$ chords in the Handel sonata and the Bach fugue, respectively. The Mozart excerpt, reduced in example 8.41, provides an explicit exemplar of the Chain of Dominants. Each seventh, whether in the middle or upper voice, resolves by a diatonic half step down (see the oblique lines); each leading tone descends a chromatic half step: F^\sharp – F , B^\flat – B^\flat , and so on. Note that complete and incomplete $\frac{7}{3}$ chords alternate.

Example 8.42 contains two prototypes of the Chain of Dominants.

EXAMPLE 8.42 Prototypes of Chains of Dominants in major (a) and minor (b)

a. C major

b. A minor

The bass of example (a) performs a Fifth Down Fourth Up sequence that does not quit the key C major. Its harmonic realization, however, passes through various temporary keys. Thus the dominant $\frac{7}{3}$ on E in bar 1 refers to the temporary key of A minor. Indeed, the bass falls by a fifth to A, yet this bass tone also supports a secondary dominant. This sets up a Chain of Dominants consisting exclusively of dominant $\frac{7}{3}$ chords. Each seventh resolves properly (see the oblique lines); each leading tone descends by a chromatic half step. Note that the chords are alternately complete and incomplete (with doubled bass tones). This procedure goes on until the bass tone F in bar 4: a next, imaginary progression toward B \flat would quit the overarching key. The (incomplete) $\frac{5}{3}$ chord on F is the start of the Galant cadence. As a matter of fact, the tonic $\frac{5}{3}$ in bar 1 may already be conceived as the start of a large-scale cadence that is extended by the Chain of Dominants.

Example (b) in A minor starts the Chain of Dominants on the second beat of bar 1. In contrast to example (a), dominant $\frac{7}{3}$ chords alternate with $\frac{5}{3}$ chords, which results in regular resolutions of the augmented fourths; see the oblique lines. The end of the Chain of Dominants is the chord on B \flat (i.e., the Neapolitan $\textcircled{2}$) in bar 4, which is the start of the Neapolitan cadence. Once more the initial $\frac{5}{3}$ chord on A may be conceived as the beginning of a cadence extended by the Chain of Dominants.

Terms to remember

- The Chain of Dominants is the chromatic variant of the Fifth Down Fourth Up schema. Each scale degree supports a chord that is a (secondary) dominant to the next chord.
- The Chain of Dominants can consist of merely major $\frac{5}{3}$ chords or dominant $\frac{7}{3}$ chords, or a combination of both.
- In case of a succession of dominant $\frac{7}{3}$ chords the seventh resolves regularly; the third (the leading tone) descends by a chromatic half-tone step.
- The Chain of Dominants quits the overarching key as soon as the bass leaps to a non-scalar tone.

Instructions for the exercises

- Continue the given pattern until the first beat of bar 4. This is the start of a Chain of Dominants, with an alternation of $\frac{5}{3}$ and incomplete dominant $\frac{7}{3}$ chords. The soprano will move chromatically. For the converging schema in bars 6–7: see among others Section 8.5, exercise (d). (Note that the figured-bass numerals underneath bass tone F# in bar 6 indicate the resolution C instead of the suspension D.) Realize the exercise in chorale notation throughout.
- The Morte ends with a $\frac{5}{3}$ chord on ⑤. From there a Chain of Dominants starts, with imitations between the upper and middle voices. The given tones in bar 5 clarify this. The B♭ in bar 10 is the inevitable result of the Chain, and serves as the start of a Neapolitan turn at the same time.
- This exercise shares various harmonic and melodic components with the Minuet of Mozart's G minor symphony, K 550. Thus the motif in bars 1–3 is a somewhat simplified variant of the opening motif in Mozart. It ends with an alto cadence, which means that the bass ends with a ④–③ step. Bars 5–6 are a transposition of bars 2–3. The following Chain of Dominants alternates complete and incomplete dominant $\frac{7}{3}$ chords. The first section ends with a variant of the Galant cadence. The bass pattern ④–②–⑤–① will suit well. The Fonte sequence is extended by a third segment (bars 17–18) that returns to G minor. The converging half cadence is prolonged by one of the augmented sixth chords ($\frac{6}{3}, \frac{6}{3},$ or $\frac{6}{3}$). The recapitulation, from the upbeat of bar 23, hints at the temporary key of C minor. Finally, the Chain of Dominants leads to cadential patterns in G minor.

Suggestion for further analysis

Mozart: Symphony No. 41 in C major, K 551, "Jupiter", third movement (Trio), bars 75–81

ENHARMONIZATION

INTRODUCTION

Around the turn of the eighteenth century only a limited number of keys were in use. Most compositions from that period contain key signatures that do not go beyond three flats or sharps. In the following decades interest grew in the unlimited use of all keys, ultimately leading to the first volume of Bach's *Well-Tempered Clavier* (1722). This work is a collection of twenty-four preludes and fugues that go through all twenty-four major and minor keys. The first prelude-fugue pair is in C major, the second in C minor, the third in C# major, and so forth. The development of tuning systems served the artistic need to compose in all keys. Eventually, these developments resulted in so-called equal temperament, which divides the octave into twelve equal half tones.

As a result, the distinction between, say, C# and D \flat or D# and E \flat disappeared. So the keys G \flat and F# major are identical, and C# minor may be regarded as the parallel key of D \flat major. These musical homonyms are called enharmonic. We call D \flat the enharmonic equivalent of C#.

The enharmonic equivalence between two tones can also cause a change in their structural function. Let us take for instance the diminished fifth D–A \flat with its implied resolution into a major or minor third. Its enharmonic equivalent, the augmented fourth D–G#, implies a resolution into a major or minor sixth. Similarly, a minor seventh can be enharmonized into an augmented sixth, a diminished seventh into a major sixth, and so on. In principle, these enharmonizations result in key changes.

Sections 9.1 and 9.2 deal with the enharmonic equivalence between the minor seventh and the augmented sixth. These enharmonic intervals correspond with the enharmonic equivalence between the dominant $\frac{7}{3}$ and the augmented $\frac{6}{3}$ chord. First of all the enharmonization of the dominant $\frac{7}{3}$ into the augmented $\frac{6}{3}$ will be discussed, and subsequently the enharmonization the other way around. Section 9.3 explores the inexhaustible enharmonizations of the diminished seventh chord. Consequently, one single sound of the diminished seventh chord is applicable in all twenty-four major and minor keys. Section 9.4 introduces the augmented fifth triad and its enharmonic potential. Like the diminished seventh chord the augmented fifth triad offers multiple options for enharmonization. Finally, Section 9.5 discusses the Omnibus, an advanced procedure based on successive enharmonizations. Although the Omnibus may be associated with nineteenth-century harmonic language, the schema originates from as early as the third quarter of the eighteenth century.

9.1 THE MINOR SEVENTH AND THE AUGMENTED SIXTH

EXAMPLE 9.1 Beethoven: Violin Concerto in D major, Op. 61, first movement (Allegro ma non troppo), bars 284–304

The musical score for Example 9.1 is divided into two sections. The first section, labeled 'C major', covers bars 284 to 297. It features a violin line with a melodic line and a figured bass line. The figured bass line shows a dominant 7/3 chord on the fifth degree (5) in bars 284-288. A dashed arrow points from this chord to the beginning of bar 298. The second section, labeled 'B minor', covers bars 298 to 304. The violin line continues with a melodic line, and the figured bass line shows a progression of chords: a 7 chord in bar 298, an 8 chord in bar 299, a 6/4 chord in bar 300, and a 5/3# chord in bar 304. A dashed arrow points from the 5 chord in bar 298 to the 5 chord in bar 304.

As usual in the Classical concerto form, a lengthy orchestral ritornello (interlude) precedes the beginning of the solo development in the first movement of Beethoven's Violin Concerto. The ritornello provides a modulation from A major, which is the secondary key of the exposition, to C major, in which key the solo violin enters. Example 9.1 starts with this solo entry.

The tutti strings perform the dominant $\frac{7}{3}$ chord on 5 in bars 284–288, which provides the harmonic basis of extended solo figurations (not entirely included in the example; see the dashed arrow). Even though the orchestral accompaniment ends on the first beat of bar 288, the dominant chord is still palpable. The emphasis on the seventh F, which is the highest note of the figurations, as well as the reoccurrence of the bass tone G in bar 299, echoes the underlying harmony. Even more disorientating to the listener is the sudden and unexpected progression to the ensuing octave on F#. Only in retrospect, at least after the delayed resolution of $\frac{6}{4}$ to $\frac{5}{3}$ in bars 301–304 (see the figured-bass numerals), can the F# be understood as 5 in B minor.

The question arises as to how the seventh G–F in bar 299 harmonically relates to the octave F#–F# in the next bar. Example 9.2 illustrates this progression.

EXAMPLE 9.2 Reduction of bars 298–304

Part a: C major (bar 298) with notes G, F, E, D, C, B, A, G. B minor (bar 299) with notes G, F, E, D, C, B, A, G. Part b: C major (bar 298) with notes G, F, E, D, C, B, A, G. B minor (bar 299) with notes G, F, E, D, C, B, A, G. Figured bass notation is provided below the staff for both parts.

Example (a) juxtaposes the minor seventh G–F and the augmented sixth G–E#. Although these intervals sound equally, they differ in function. Whereas the F implies a resolution down to E in C major (see the black note), the E# actually resolves up to F#. The resolution of the augmented sixth G–E# to the octave F#–F# occurs on ⑥–⑤ in B minor.

One might compare this process with a “black box”: the “input” is the minor seventh in C major, and the “output” is the resolution of the augmented sixth to the octave in B minor. This process is called enharmonization, referring to the term enharmonic, which literally means: equally sounding. The enharmonization of G–F into G–E# can only be experienced in retrospect, namely at the moment of the actual resolution.

Example (b) shows the dominant $\frac{7}{3}$ chord and its enharmonic equivalent, the augmented $\frac{6}{3}$ chord. These chords are the complete versions of the two-part chords of example (a). (For information about the augmented $\frac{6}{3}$, recall Section 6.6, example 6.41 and Section 8.5, example 8.33.) The black notes represent the implied resolution of the $\frac{7}{3}$ chord in C major. The augmented $\frac{6}{3}$, on the other hand, resolves into the cadential $\frac{6}{4}$ on ⑥–⑤ in B minor. Note that the third and the fifth of the augmented $\frac{6}{3}$ (B and D) are common with the fourth and the sixth of the $\frac{6}{4}$ chord. The $\frac{6}{4}$ chord eventually resolves to the next $\frac{5}{3}$ chord.

EXAMPLE 9.3 Schubert: Piano Sonata in C minor, D 958, second movement (Adagio), bars 80–85 (revised notation)

Part 1 (bars 80-81): A major (bar 80) with notes C, E, G, F, E, D, C, B. A minor (bar 81) with notes C, E, G, F, E, D, C, B. Part 2 (bars 82-85): Ab major (bar 82) with notes C, E, G, F, E, D, C, B. A minor (bar 83) with notes C, E, G, F, E, D, C, B. Figured bass notation is provided below the staff. Labels include 'deceptive compound cadence' and 'evaded compound cadence'.

Example 9.3 shows an excerpt from the slow movement in $A\flat$ major of Schubert's C minor Piano Sonata. The movement is a so-called slow-movement rondo form, according to the scheme $A-B-A'-B'-A''$ in which A is the (varied) rondo theme and B the (varied) episode. The excerpt spans the final bars of the B' section and the start of the A'' section.

Bars 80–81 appear at the end of a highly chromatic and modulating passage that has destabilized any feeling of a firm tonal center. The section seems to close in A minor, considering the powerful arrival on the compound dominant in bar 82. However, the cadence is deceptive through the absence of a conclusive tonic. Instead of this, a renewed compound cadence in $A\flat$ major(!) starts. This cadence eventually leads to the return of the rondo theme in bar 84. A real close is evaded, since bar 84 is the beginning of the rondo theme rather than the end of the previous section.

Example 9.4 provides the harmonic reduction of bars 81–84.

EXAMPLE 9.4 Reduction of bars 81–84 (a), and the process of enharmonization (b)

The image shows a musical score for Example 9.4, divided into two parts: (a) and (b). Part (a) shows the harmonic reduction of bars 81–84. It features two systems of music. The first system, labeled 'a.', shows bars 81 and 82. Above the staff, 'A minor' is written above bar 81 and 'Ab major' above bar 82. Asterisks (*) are placed above the first notes of bars 81 and 82. Below the staff, chord symbols are provided: $\frac{6}{5}$ and $\frac{7}{3}$ for bar 81, and $\frac{6}{4}$ and $\frac{7}{3}$ for bar 82. A double neighbor-tone (nt) motion is indicated between the two bars. Below the staff, circled numbers 1, 5, and 6 are used to identify tones. An arrow points from the circled 5 in bar 81 to the circled 5 in bar 82, labeled 'deceptive cadence'. Another arrow points from the circled 6 in bar 82 to the circled 1 in bar 82, labeled 'evaded cadence'. Part (b) shows the process of enharmonization. It zooms in on the chords marked with asterisks in part (a). The first chord is the dominant $\frac{6}{5}$ in A minor, with black notes representing its implied resolution. The next chord is the enharmonic equivalent, the augmented $\frac{6}{3}$ chord $F\flat-A\flat-C\flat-D\sharp$. Below the staff, circled numbers 5 and 6 are used to identify tones. A dashed line connects the circled 5 in the first chord to the circled 6 in the second chord, illustrating the enharmonization process.

Example (a) illustrates the two successive cadences. The bass step $E-E\flat$ is remarkable, because the first tone acts as ⑤ in A minor and the second as ⑤ in $A\flat$ major. Both compound cadences share a double neighbor-tone (nt) motion, which enhances their resemblance.

Example (b) zooms in on the chords indicated by the * signs. The first is the dominant $\frac{6}{5}$ chord in A minor. The black notes represent its implied resolution. The next chord is the enharmonic equivalent, the augmented $\frac{6}{3}$ chord $F\flat-A\flat-C\flat-D\sharp$. Three tones have been modified: E is enharmonized into $F\flat$, B into $C\flat$, and $G\sharp$ into $A\flat$. Only the D remains unchanged, which results in the enharmonization of the minor seventh $E-D$ into the augmented sixth $F\flat-D$.

The progression of the augmented $\frac{6}{3}$ to the $A\flat$ major $\frac{6}{4}$ chord is noteworthy. Recall the application of the augmented sixth chords in the major mode discussed in Section 8.5, example 8.33(b). Here the chord occurs in $A\flat$ major on the bass tone $F\flat$, which is molldur ⑥. The perfect fifth on the bass, $C\flat$, may be conceived as an additional molldur tone. The enharmonization of the dominant $\frac{7}{3}$ into the augmented $\frac{6}{3}$ causes a function change of the bass tone: while the E is ⑤ in A minor, the $F\flat$ is molldur ⑥ in $A\flat$ major. The metaphor of the black box comes up again: the input is the dominant $\frac{7}{3}$ in A minor, and the output is the resolution of the augmented $\frac{6}{3}$ in $A\flat$ major.

Example 9.5 shows four prototypical enharmonizations. The initial and the resulting keys can be major or minor, since both the dominant $\frac{7}{3}$ and the augmented $\frac{6}{3}$ occur in major and minor. Note

EXAMPLE 9.5 Prototypes of enharmonization (dom. $\frac{7}{3} \rightarrow$ augm. $\frac{6}{3}$), starting in major (a, b) and minor (c, d)

The musical score for Example 9.5 is divided into four parts, each with a two-staff notation (treble and bass clefs) and figured bass below.
Part (a): Labeled 'C major' and 'B minor'. The first staff shows a sequence of chords: C major (5 3), B minor (5 3), B minor (7 3#), B minor (6# 4), B minor (6 4), B minor (7 3#), and B minor (5 3). The second staff shows the same sequence with figured bass: ①, ⑤, ⑤, ⑥, ⑤, ⑤, ⑤, ①.
Part (b): Labeled 'C major' and 'B major'. The first staff shows: C major (5 3), B major (5 3), B major (7 3#), B major (6# 4), B major (6 4), B major (7 3), and B major (5 3). The second staff shows: ①, ①, ⑤, ⑥, ⑤, ①.
Part (c): Labeled 'A minor' and 'G# minor'. The first staff shows: A minor (5 3), G# minor (7 3#), G# minor (6x 4), G# minor (6 4), G# minor (7 3x), and G# minor (5 3). The second staff shows: ①, ⑤, ⑥, ⑤, ①.
Part (d): Labeled 'A minor' and 'Ab major'. The first staff shows: A minor (5 3), Ab major (7 3#), Ab major (6b 4), Ab major (6 4), Ab major (7 3), and Ab major (5 3). The second staff shows: ①, ⑤, ⑥, ⑤, ①.

that the resulting key is a half tone lower than the initial key in all examples: C versus B in examples (a) and (b), A versus G# in example (c) and A versus Ab in example (d).

In example (a) the minor seventh G–F in bar 2 is enharmonized into the augmented sixth G–E#. For sake of clarity the upper-voice pitch is divided in F and E#. This notation is unusual in practice: composers mostly notate either F or E#. Otherwise, this chapter will consistently use the double-pitch notation. The enharmonization is only perceivable through the resolution of the augmented sixth; see the oblique lines. In other words, the enharmonization manifests itself only in retrospect, namely by the $\frac{6}{4}$ chord on ⑤ in B minor in bar 3. The example closes with a compound cadence in that key.

Example (b) shows a similar procedure, yet the enharmonization leads to B major. Comparison with example (a) makes clear that the augmented $\frac{6}{3}$ originates from the minor mode: the fifth G–D belongs to B minor. In the B major key both tones must be conceived as molldur tones, as is previously explained. Note the chromatic half-tone step D–D# in the tenor that leads to the major $\frac{6}{4}$ chord in bar 2.

Example (c) modulates from A minor to G# minor. The minor seventh E–D is enharmonized into the augmented sixth E–C#.

Example (d) modulates to Ab major. In the enharmonic system Ab major is the parallel key of G# minor. Most often, the notation of Ab major is preferred to G# major (four flats versus eight sharps) and of G# minor to Ab minor (five sharps versus seven flats). The notational choice for Ab major involves the enharmonization of three tones instead of one. The essence, however, remains unchanged, namely the enharmonic relationship between the minor seventh E–D and the augmented sixth Fb–D.

Terms to remember

- Enharmonization is a process that changes the mutual relation of two pitches, without modifying the sound. This section deals with the enharmonization of the minor seventh into the augmented sixth. The intervals sound equal but resolve differently: the seventh resolves into the sixth (on a sustained bass), while the augmented sixth resolves into the octave.
- The enharmonic equivalence of the dominant $\frac{7}{3}$ and the augmented $\frac{6}{3}$ is based on the equivalence of the minor seventh and the augmented sixth.
- Both initial and resulting key can be major or minor. The resulting key is a half tone lower in comparison with the initial key.

Instructions for the exercises

- Realize the figured bass in four-part chorale notation. The $\frac{7}{3}$ chord on the first beat of bar 2 must be complete with regard to a correct enharmonization. Pay attention to a smooth soprano, and close the phrase with a perfect cadence.
- Determine the initial and the resulting keys. The location of the enharmonization is given. Create a quarter-note movement in the soprano of bar 3. A so-called plagal cadence on $\textcircled{1}-\textcircled{4}-\textcircled{1}$, including a sustained $\hat{1}$ in the soprano, closes the exercise.
- This exercise does not give any clue for realization, apart from the (passing) $\frac{6}{4}$ in bar 3. Determine the location of the enharmonization. Start the enharmonization process with a complete dominant $\frac{7}{3}$. The chords in bar 2 must be considered as family members.
- Different from the previous exercises, this exercise starts and ends in the same key. The modulation from C minor to $D\flat$ major is generated by the Neapolitan $\frac{6}{3}$ chord in bar 6. The chord hints at a Neapolitan cadence but it manifests itself as the tonic $\frac{6}{3}$ in $D\flat$ major. The enharmonization in bar 8 leads back to C minor. Via tonicizations in Descending Thirds (which temporary keys?) the phrase ends with a Neapolitan cadence. The Neapolitan turn has to sound in the soprano.
- This exercise shares many harmonic features with the first movement of Mozart's A minor Piano Sonata K 310. The given opening pattern recurs on different spots; the pattern in bar 26 is the beginning of a shortened recapitulation. The Fifth Down Fourth Up schema in bars 11–13 contains a Prinner: see the given scale tones in the upper voice. The * sign in bar 18 indicates the enharmonization. Various hints guide you through the exercise. Finally, compare your realization with Mozart's sonata.

Suggestion for further analysis

Schubert: Impromptu in $A\flat$ major, Op. 90 No. 4, bars 115–121 and 147–158

9.2 THE AUGMENTED SIXTH AND THE MINOR SEVENTH

EXAMPLE 9.6 Beethoven: Symphony No. 1 in C major, Op. 21, second movement (Andante cantabile con moto), bars 65–71 (wind instruments omitted)

The musical score for Example 9.6 shows two staves (treble and bass clef) in C minor. Bars 65-71 are shown. Above the staff, 'C minor' is written for bars 65-68 and 'D♭ major' for bars 69-71. Three chords are bracketed and labeled: 'chord 1' (bars 65-66), 'chord 2' (bars 67-68), and 'chord 3' (bars 69-70). Asterisks are placed above the notes in bars 66, 67, and 68. A star is also placed below the first chord of bar 71.

Example 9.6 shows an excerpt from the slow movement in F major of Beethoven’s First Symphony. The bars shown concern the opening phrase of the development. Just before, the exposition has ended with a cadence in the dominant key C major (not included in the example). The development starts in its parallel key C minor.

The * signs indicate the different stages of an increasing harmonic tension. Bars 65–68 (including the upbeat) consist of two broken C minor chords (chords 1 and 2) with top notes C and E♭, respectively. Considering Beethoven’s notation, the phrase continues with a broken dominant $\frac{7}{3}$ chord A♭–C–E♭–G♭ (chord 3) that leads to the new phrase in D♭ major from bar 71. However, its harmonic function is ambiguous, as is illustrated in example 9.7.

EXAMPLE 9.7 Harmonic reduction of bars 65–71 (a) and an alternative realization (b)

The harmonic reduction in Example 9.7 consists of two parts, (a) and (b). Part (a) shows the harmonic reduction of bars 65-71. It is divided into three sections: 'C minor' (bars 65-66), 'D♭ major' (bar 71), and 'C minor' (bars 67-68). Below the staff, figured bass notation is provided for each section. Part (b) shows an alternative realization of bars 69-71, also in 'C minor'. It includes figured bass notation and a label 'half cadence?' under the final chord.

Example (a) replaces the G♭ in bars 69–70 with the F♯, which modifies the dominant $\frac{7}{3}$ chord into an augmented $\frac{6}{3}$ chord. This enharmonic modification reveals the function of the chord within the key of C minor: the augmented $\frac{6}{3}$ chord is located on ⑥ in the descending RO. (Recall Section 6.6, examples 6.41 and 6.42.) The black notes show the implied resolution of this chord into the $\frac{5}{3}$ chord. The actual resolution, however, ignores this option and leads to the key D♭ major.

Example (b) shows an imaginary alternative, which is based on the resolution of the augmented $\frac{6}{3}$ chord in C minor. (This example has to be considered in conjunction with bars 65–68 of example 9.6.)

It is hard to describe the listener's expectation in general terms: do we expect something like the half cadence suggested in example (b)? In other words, is the actual modulation to $D\flat$ major surprising? Or do we tend to conceive chord 3 of example 9.6 as a broken dominant $\frac{7}{3}$ chord that leads to a remote and therefore somewhat unexpected key? The above analysis does not pretend to give a final answer to these questions. It merely aims to clarify the ambiguity of the chord in question: it leads away from the C minor tonic without immediately uncovering its new tonal orientation. As in Section 9.1, the metaphor of the black box is useful here. Its input is the C minor chord and its output the $D\flat$ major key, which is the actual starting point of the development section. Example 9.7(a) shows the reversed enharmonization process in comparison with the examples discussed in Section 9.1. The augmented $\frac{6}{3}$ is enharmonized into the dominant $\frac{7}{3}$ instead of the other way around.

EXAMPLE 9.8 Chopin: Mazurka in C major, Op. 24 No. 2, bars 53–64

The musical score for Example 9.8 consists of two systems of music. The first system, labeled 'C major' and 'Db major', covers bars 53 to 58. It begins in C major and modulates to $D\flat$ major. The tempo marking changes from *riten.* to *a tempo*. A circled 5 is placed under the bass line in bar 57, and a circled 1 is placed under the bass line in bar 58. A star is placed above the treble clef in bar 57. The second system, labeled 'Ab major', covers bars 59 to 64 and continues in $D\flat$ major.

With respect to its tonal structure, the C major Mazurka by Frédéric Chopin (1810–1849) is a remarkable piano composition. The first four bars of example 9.8 are the final bars of the opening section that sounds in C major entirely, thus without any modulation or even any chromatic tone. Hence all 56(!) bars have to be played on the white keys. In bar 57 the situation changes dramatically: from there the key $D\flat$ major includes all black keys.

Despite this ultimate segregation, both sections are harmonically connected by means of the chord in bar 57 (*), which seems a plain dominant $\frac{7}{3}$ chord on $\textcircled{5}$ in $D\flat$ major at first glance. However, like in the Beethoven excerpt of example 9.6, the chord can be interpreted in two ways. Example 9.9 reveals its harmonic ambiguity.

The example resembles the reduction of the Beethoven excerpt in example 9.7. They differ mainly with regard to the mode of the initial key, here C major, which makes the contrast with $D\flat$ major even sharper. Indeed, the tonal distance between C minor and $D\flat$ major (as in Beethoven)

EXAMPLE 9.9 Reduction of bars 56–58

C major 56 57 D \flat major 58

5/3 (1) 6/3 (6 b) 7/3 (5) 5/3 (1)

is two flats, and between C major and D \flat major (as in Chopin) five flats. Nevertheless, both modulations are based on a similar enharmonic equivalence.

In the reduction the F \sharp replaces the authentic G \flat in bar 57, which results in the augmented $\frac{6}{3}$ chord on $\textcircled{6}$ (molldur) in C major. The chord implies a progression toward the dominant $\frac{5}{3}$ chord; see the black notes. However, the augmented chord behaves like a dominant $\frac{7}{3}$ chord that proceeds to the tonic $\frac{5}{3}$ in D \flat major in bar 58.

One striking detail has to be mentioned. While in the Beethoven excerpt of example 9.6 the new phrase in D \flat major starts right after the enharmonization, in the Chopin excerpt the new phrase from bar 57 coincides with the enharmonization. In other words, the beginning of the phrase is tonally ambiguous; the new key is only established from the second bar of the phrase.

In Section 9.3 we will return to this Mazurka.

EXAMPLE 9.10 Schumann: “Am leuchtenden Sommermorgen” from *Dichterliebe*, Op. 48, bars 1–11

B \flat major

Aus leuch - ten - den Som - mer - mor - gen

geh' ich im Gar - ten her - um. Es flü - stern und

6 b -----> 5

6 b -----> 5

EXAMPLE 9.10 Continued

*On a radiant summer morning
I am walking around the garden.
The flowers whisper and talk,
yet I wander silently.*

Example 9.10 shows the opening section of Schumann’s song “Am leuchtenden Sommermorgen” in B♭ major. The vocal melody starts like a simple folk tune that corresponds fully with the lighthearted first text phrase. In bar 8, however, an unexpected modulation raises the melody a half tone to the key of C♭ major. (Note that the piano part is notated in B major.) As if nothing happened, the phrase ends in the main key again in bars 10–11. The temporary modulation to B/C♭ major seems motivated by the text: the “ich”-person and the flowers (“Es flüstern . . .”) speak in two different languages.

The broken-chord accompaniment contradicts the simplicity of the melody. Noteworthy is the abrupt opening chord of the introduction, the augmented $\frac{6}{3}$ chord on molldur ⑥(!), which resolves into a compound ⑤. (Evidently, the chord is only perceivable as such in retrospect, since it also sounds as a dominant $\frac{7}{3}$.) The harmonic progression recurs in bars 6–7. Subsequently, the chord sounds a third time in bar 8, yet differently notated and resolving in the aforementioned temporary key of B/C♭ major. Example 9.11 sheds light on this sudden switch.

EXAMPLE 9.11 Reduction of bars 1–3 (a) and 8–11 (b)

The piano introduction exhibits the perfect compound cadence shown in example (a). It starts with the augmented $\frac{6}{3}$ chord, which in the next bar proceeds to the cadential $\frac{6}{4}$ chord. Note that Schumann's notation of the C# (bracketed here) instead of the D \flat does justice to the voice leading of the tenor: the tone acts as a leading tone to the D.

Example (b) shows the augmented $\frac{6}{3}$ chord on the second half of bar 8, which is enharmonized into the dominant $\frac{7}{3}$ chord F#-A#-C#-E \flat . (Reading the five sharps of B major is preferable to the seven flats of C \flat major). Indeed, the dominant $\frac{7}{3}$ chord on ⑤ proceeds to the following B-chord on ① in bar 9. The latter scale degree is bracketed, because it represents a dominant $\frac{7}{3}$ chord at the same time, lavishly decorated in the first half of the bar. Ingenuous chromatic shifts (see the oblique lines) lead back to the main key of B \flat major in bars 10–11.

An interesting aspect of the enharmonization is its preceding conditioning. The previous occurrences of the chord in question, in bars 1 and 6, have set the standard of the augmented $\frac{6}{3}$ that proceeds to the cadential $\frac{6}{4}$. The chord in bar 8, however, contradicts this standard through its resolution as a dominant $\frac{7}{3}$ chord. Unlike Beethoven (example 9.6) and Chopin (example 9.8), Schumann makes the chord's ambiguity explicit by juxtaposing both applications.

EXAMPLE 9.12 Prototypes of enharmonization (augm. $\frac{6}{3}$ \rightarrow dom. $\frac{7}{3}$) starting in minor (a, b) and major (c, d)

The musical score for Example 9.12 is divided into four parts: (a), (b), (c), and (d). Each part shows a piano score with two staves (treble and bass clef) and includes chord labels above the staff and scale degree annotations below the staff.

- Part (a):** Starts with an A minor chord. The augmented $\frac{6}{3}$ chord is formed by scale degrees 5, 6, 6 \sharp , and 7. It resolves to a dominant $\frac{7}{3}$ chord in B \flat major, formed by scale degrees 5, 6 \flat , 7, and 5. The final cadence is labeled as a Neapolitan cadence.
- Part (b):** Starts with an A minor chord. The augmented $\frac{6}{3}$ chord is formed by scale degrees 5, 6, 6 \sharp , and 7. It resolves to a dominant $\frac{7}{3}$ chord in B \flat major, formed by scale degrees 5, 6 \flat , 7, and 5. The final cadence is labeled as a Neapolitan cadence.
- Part (c):** Starts with a C major chord. The augmented $\frac{6}{3}$ chord is formed by scale degrees 5, 6, 6 \sharp , and 7. It resolves to a dominant $\frac{7}{3}$ chord in D \flat major, formed by scale degrees 5, 6 \flat , 7, and 5. A voice exchange is indicated between the bass and tenor voices.
- Part (d):** Starts with a C# minor chord. The augmented $\frac{6}{3}$ chord is formed by scale degrees 5, 6, 6 \sharp , and 7. It resolves to a dominant $\frac{7}{3}$ chord in C# minor, formed by scale degrees 5, 6 \flat , 7, and 5.

Example 9.12 contains four enharmonizations of the augmented $\frac{6}{3}$ chord into the dominant $\frac{7}{3}$ chord.

In example (a) the enharmonization D#-E \flat in bar 2 results in the enharmonization of the augmented $\frac{6}{3}$ chord in A minor into the dominant $\frac{7}{3}$ chord in B \flat major. The phrase closes by means of a compound cadence, including the augmented $\frac{6}{3}$ chord on molldur ⑥ \flat .

Example (b) shows a similar enharmonization, which leads to $B\flat$ major once more. Yet the $\overset{6}{\underset{3}{5}}$ chord on ④ on the second beat of bar 2 serves as the start of the Neapolitan cadence in A minor.

Example (c) contains a modulation from C major to $D\flat$ major. In bar 3 the augmented $\overset{6}{\underset{3}{5}}$ on molldur ⑥ in C major is enharmonized into the dominant $\overset{7}{\underset{3}{5}}$ on ⑤ in $D\flat$ major. The dominant chord resolves to the $D\flat$ major tonic in bar 4, which is the start of a compound imperfect cadence. Note the presence of the molldur $\overset{6}{\underset{3}{5}}$ ($A\flat$) in bar 2 that undertakes a voice exchange with the bass; see the oblique lines. The use of molldur carefully anticipates the augmented $\overset{6}{\underset{3}{5}}$ chord.

The * sign in example (d) shows an alternative reading of the same enharmonization, yet here concerning the modulation to $C\sharp$ minor. This key is the enharmonic parallel of $D\flat$ major. Evidently, the four sharps of $C\sharp$ are preferable to the eight flats of $D\flat$ minor.

Terms to remember

- The enharmonization of the augmented $\overset{6}{\underset{3}{5}}$ chord into the dominant $\overset{7}{\underset{3}{5}}$ results in a key that is a half tone higher than the initial key.
- Both initial and resulting keys can be major or minor.
- The resulting key may be conceived as “Neapolitan” in the initial key.

Instructions for the exercises

- The voice exchange in bars 3–4 requires the contrary motion $D-C\sharp-B$ in the upper voice. The figured-bass numerals in bar 5 indicate the enharmonization of the augmented $\overset{6}{\underset{3}{5}}$ into the dominant $\overset{7}{\underset{3}{5}}$. Realize the bass tones $G-A-B$ in bars 6–7 in correspondence with the beginning of the exercise. The figured bass in bar 8 strongly suggests a fluent voice leading.
- Determine the keys and the appropriate schema in bars 1–3. Which enharmonization is required? Create a powerful cadence (with a somewhat irregular soprano) by means of the prescribed tonicization.
- Determine the keys and the required enharmonization. The given tones in bars 3–4 enable the Neapolitan turn in the soprano.
- The diminutions in the upper voice contain many clues for a correct realization, such the chromatic Monte in bars 9–11. You may keep the bass and the middle voices as simple as possible. The harmonic rhythm moves sometimes in half notes and sometimes in quarter notes. The * signs indicate enharmonizations in both directions, from the augmented $\overset{6}{\underset{3}{5}}$ to the dominant $\overset{7}{\underset{3}{5}}$ and vice versa. Bars 13–16 are a varied recapitulation of bars 1–4. Bar 13 requires a $\overset{6}{\underset{4}{5}}$ chord on ⑤ that proceeds irregularly.
- This exercise shares features with two different dances by Schubert (from his *Erste Walzer*: Nos. 14 and 16). The * signs indicate enharmonizations in both directions. Determine the keys before you start your realization. Bars 25–28 feature a soprano with

somewhat free voice leading. You may allow yourself some freedom in the voice leading of the middle voices too, particularly at the big leap in bars 26–27.

Suggestion for further analysis

Schubert: “Irrlicht” from *Winterreise* D 911, bars 27–36

9.3 ENHARMONIZATIONS OF THE DIMINISHED SEVENTH CHORD

EXAMPLE 9.13 Beethoven: Piano Sonata in C minor, Op. 13, “Pathétique,” first movement (Grave–Allegro di molto e con brio), bars 133–139

Example 9.13 shows an excerpt from Beethoven’s “Pathétique” Sonata; see also Section 5.2 and example 5.15 for a short discussion of the slow introduction and an analysis of the main theme. The fragment in question here concerns the remarkable transition that connects the end of the exposition with the beginning of the development, the *Allegro molto e con brio*. The indication *Tempo I* refers to the introduction (Grave).

Bars 133–134 are a transposition of the opening bars of the sonata. The prominent role of the diminished seventh chord (*) is noteworthy: in the first three bars the chord sounds no fewer than six times. Bar 135 repeats the preceding bar until the third beat, where a surprising half-tone bass

step C–B \flat leads to the ⑤ pedal point in the remote key of E minor and eventually to the start of the development.

Example 9.14 zooms in on bars 134–135, and illuminates the modulation from G minor to E minor.

EXAMPLE 9.14 Reduction of bars 134–135

The image shows a musical score for two bars, 134 and 135. Bar 134 is in G minor and bar 135 is in E minor. The score includes chord symbols and figured bass notation below the staves.

Bar 134 (G minor):
 Chord 1: vii° (voice exchange) on ⑥ (6/4 2#)
 Chord 2: vii° (voice exchange) on ⑤ (6/4 2#)
 Chord 3: vii° (voice exchange) on ④ (6/4 2#)
 Chord 4: Tonic on ③ (6/3)

Bar 135 (E minor):
 Chord 1: vii° (voice exchange) on ⑥ (6/4 2#)
 Chord 2: vii° (voice exchange) on ⑤ (6/4 2#)
 Chord 3: vii° (voice exchange) on ④ (6/4 2#)
 Chord 4: Dominant on ⑤ (7/3#)
 Chord 5: Tonic on ⑥ (6/4)

Bar 134 contains two members of the diminished seventh family (vii°) in G minor, namely vii° on ⑥ and vii° on ④. The two chords are joined by means of voice exchange: the bass line E \flat –D–C \flat and the upper voice C–D–E \flat are in contrary motion. (Note that the intermediate vii° chord on ⑤ is the result of this voice exchange and does not imply any structural harmony.) The vii° chord on ④ proceeds to the tonic vii° on ③ by the resolution of the diminished seventh F \sharp –E \flat and the augmented fourth C–F \sharp ; see the oblique lines.

Bar 135 repeats the voice exchange between the two vii° family members. However, Beethoven's notation of the third chord (*) differs from that of the preceding bar: the D \sharp replaces the E \flat . Although the enharmonization does not influence the chord's sound, it changes its harmonic function. The D \sharp modifies the chord into a diminished vii° chord on ⑥ in E minor. This becomes clear only afterwards by the ⑥–⑤ bass step, which results in the dominant vii° chord on B \flat . As is mentioned before, this chord is the start of the dominant pedal point that leads to the beginning of the development.

EXAMPLE 9.15 Chopin: Mazurka in C major, Op. 24 No. 2, bars 80–91

The image shows a musical score for two bars, 80 and 91. The score is in Eb minor and includes chord symbols and figured bass notation below the staves.

Bar 80 (Eb minor):
 Chord 1: vii° (voice exchange) on ⑥ (6/4 2#)
 Chord 2: vii° (voice exchange) on ⑤ (6/4 2#)
 Chord 3: vii° (voice exchange) on ④ (6/4 2#)
 Chord 4: Tonic on ③ (6/3)

Bar 91 (Eb minor):
 Chord 1: vii° (voice exchange) on ⑥ (6/4 2#)
 Chord 2: vii° (voice exchange) on ⑤ (6/4 2#)
 Chord 3: vii° (voice exchange) on ④ (6/4 2#)
 Chord 4: Tonic on ③ (6/3)

EXAMPLE 9.15 continued

The musical score for Example 9.15 continued shows bars 86-88. The key signature is A minor. A bracket labeled 'A minor' spans from bar 86 to the end of the excerpt. A bracket labeled 'recap' spans from bar 86 to bar 88. A bracket labeled 'enharmonization' spans from bar 86 to bar 87, with circled numbers 6, 2, and 1 indicating specific notes or chords. The score includes treble and bass staves with various musical notations such as triplets and arpeggiated bass lines.

Example 9.15 shows an excerpt from Chopin’s Mazurka in C major that was discussed previously in Section 9.2; see example 9.8. It concerns the transition from the (“black keys”) middle section to the (“white keys”) recapitulation. In tonal terms, the transition bridges the remote keys of $E\flat$ minor and A minor: in the circle of fifths these keys are diametrically opposed to each other.

The left hand repeatedly features the arpeggiated bass leap $F-C\flat$, which is somewhat ambiguous with respect to harmony. The following analysis interprets the $C\flat$ as the structural bass tone and attributes the F to one of the middle voices. An alternative reading of the tone F as the structural bass tone is also possible, yet further discussion lies beyond the scope of this section.

The transition phrase of bars 80–87 consists of two groups of four bars. From bar 80 the repeated left-hand tone $C\flat$ (⑥---⑥) anticipates the alto cadence ⑤–④–③ in bars 82–83, which weakly closes the first group. The second group starts like the first one but departs from bar 86. The twofold enharmonization $A\flat-G\sharp$ and $C\flat-B\sharp$ in bars 86–87 leads to the key of A minor, which announces the recapitulation.

Example 9.16 juxtaposes bars 82–83 and 86–88, which both appear as crucial stages in this enharmonization process.

EXAMPLE 9.16 Reduction of bars 82–83 (a) and 86–88 (b)

The musical score for Example 9.16 shows reductions of bars 82–83 (a) and 86–88 (b). Part (a) is in $E\flat$ minor and part (b) is in A minor. A bracket labeled 'recap' spans from bar 86 to the end of the excerpt. Figured bass notation is provided below the bass staff, with circled numbers 1, 2, 3, 4, 5, and 6 indicating specific notes or chords. A bracket labeled 'vii°' spans from bar 82 to bar 83. The score includes treble and bass staves with various musical notations such as slurs and ties.

Bar 82 features two family members of the diminished seventh chord (vii°) in $E\flat$ minor. The voice exchange between the bass and the alto ($C\flat-B\flat-A\flat$ and vice versa) joins the $\frac{6}{2}$ chord on the

first beat to the $\frac{6}{4}$ chord on the third beat. The latter chord proceeds to the tonic $\frac{6}{3}$ on ③ in bar 83; the oblique lines indicate the resolutions.

Bar 86 starts with the same diminished $\frac{6}{4}$ chord, but the chord is treated differently. The enharmonizations $C\flat-B\sharp$ in the bass and $A\flat-G\sharp$ in the alto inaudibly modify the chord into the diminished $\frac{6}{3}$ in A minor. (Compared to the original score the enharmonizations in bar 86 are brought forward slightly for the sake of clarity.) Subsequently, the chord proceeds to the dominant $\frac{6}{4}$ chord in bar 87 through the half-tone step $F-E\sharp$ in the tenor; see the oblique line. This chord eventually leads to the A minor tonic at the beginning of the recapitulation in bar 88. In retrospect we can perceive a function change of the bass tone from ⑥ ($C\flat$) in $E\flat$ minor to ② ($B\sharp$) in A minor.

EXAMPLE 9.17 The diminished seventh chord: its octave division (a) and its enharmonic equivalents (b)

Figure 9.17 shows the musical notation for Example 9.17. Part (a) illustrates the octave division of the diminished seventh chord in $E\flat$ minor, showing intervals of three minor thirds (m3) and an augmented second (A2). Part (b) shows four enharmonic equivalents of the diminished seventh chord, labeled (1) through (4), with their constituent notes and figured bass notation below them.

Example 9.17 presents the diminished seventh chord with respect to its inherent enharmonic potential.

Example (a) unfolds the diminished seventh chord (vii°) in $E\flat$ minor. As is mentioned in Section 7.1 (see example 7.2), the chord consists of three minor thirds. Moreover, the $C\flat$ forms an augmented second with the high D, the octave transposition of the root. Since this interval is the enharmonic equivalent of the minor third, the diminished seventh chord divides the octave into four equal parts. This feature gives the chord its enharmonic potential.

Example (b) juxtaposes the four positions of the diminished seventh chord that all sound equal but refer to four different major and minor keys.

- (1) Our starting point is the $\frac{7}{3}$ chord in $E\flat$ minor or major. The chord proceeds to the dominant $\frac{6}{3}$ by the resolution of the seventh (see the oblique line), or directly to the tonic $\frac{5}{3}$ over the bass ⑦(\flat)–①.
- (2) The enharmonization of $C\flat$ into $B\sharp$ results in the diminished $\frac{6}{3}$ chord in C minor or major. The chord resolves to the dominant $\frac{6}{4}$, or directly to the tonic $\frac{5}{3}$ over the bass ②–①.
- (3) The additional enharmonization $A\flat-G\sharp$ results in the diminished $\frac{6}{4}$ chord in A minor or major. The chord proceeds directly or indirectly, via the dominant $\frac{6}{4}$, to the tonic $\frac{6}{3}$ over the bass ④–③.
- (4) The last enharmonization is $F-E\sharp$, which results in the diminished $\frac{6}{4}$ chord in $F\sharp$ minor or major. The chord leads to the dominant $\frac{7}{3}$, or, less frequently, to the tonic $\frac{6}{4}$ over the bass ⑥–⑤.

In conclusion, the sound of a diminished seventh chord incorporates four different positions in four different keys. The application of the chord in the major mode (including molldur $\hat{6}$)

increases the number of possible implications to eight. As we will see below, the inclusion of the diminished seventh chord as a secondary dominant enables innumerable interpretations.

EXAMPLE 9.18 Beethoven: Symphony No. 2 in D major, second movement (Larghetto), bars 108–117

The musical score for Example 9.18 consists of two systems. The first system covers bars 108 to 112. Above the staff, boxes indicate the key signature: 'C major' for bar 108 and 'D minor' for bars 109-112. The notation includes a diminished seventh chord in bar 109, with 'pt' (passing tones) indicated for the notes D and A on the third beat. Below the staff, circled numbers 6 and 6 are placed under bars 109 and 110 respectively, connected by a dashed line. The second system covers bars 113 to 117. A box above the staff indicates the key signature 'E minor' for bars 113-114. Below the staff, circled numbers 6, 4#, 5, and 1 are placed under bars 113, 114, 115, and 116 respectively, with a dashed line connecting 6 and 4#.

The Larghetto in A major of Beethoven’s Second Symphony is an example of a slow-movement sonata form. Example 9.18 shows an excerpt from the development, which follows a half cadence in C major. Bar 108 can still be heard as the dominant of C major, but the following bars dissolve any feeling of tonal stability.

Indeed, bars 109–112 unfold the diminished seventh chord $C\sharp-E-G\flat-B\flat$ in D minor. (Although the passing tones D and A on the third beats contribute to the perception of the key, they may be ignored with respect to the harmony.) However, a D minor tonic never appears. Instead, the $B\flat$ in bar 111 is enharmonized into the $A\sharp$ in bars 113–114, which in turn starts a surprising compound cadence in E minor. Thus, looking backwards, the enharmonization $B\flat-A\sharp$ causes a function change from 6 in D minor to 4# in E minor.

Example 9.19 illustrates the harmonic structure from bar 109.

EXAMPLE 9.19 Reduction of bars 109–117

The musical score for Example 9.19 is a reduction of bars 109-117. It is divided into three sections: '109-112' in D minor, '113-114' in E minor, and '115'. Above the staff, boxes indicate the key signature: 'D minor' for bars 109-112 and 'E minor' for bars 113-114. The notation shows a diminished seventh chord in bar 109, which is reduced to a series of dyads. Below the staff, circled numbers 6, 4#, 5, and 1 are placed under bars 109, 113, 115, and 116 respectively, with a dashed line connecting 6 and 4#.

The first bar of the reduction represents the unfolded diminished seventh chord in bars 109–112. Although the bass actually moves from G to B \flat and vice versa, the reduction presents the B \flat as the sole structural bass tone ⑥ in D minor. As has already been mentioned, the enharmonization B \flat –A \sharp creates a change of function: the chord appears to be the start of a compound cadence in E minor.

Imagine the enharmonization process as a black box. Example 9.20 provides an inside view and illustrates the function change of the six-bar-long diminished seventh chord.

EXAMPLE 9.20 Implications of the diminished seventh chord in bar 113–114

The input of the black box concerns the diminished $\frac{7}{4}$ on B \flat (a), which implies a ⑥–⑤ progression toward the dominant $\frac{5}{3}$ chord in D minor, indicated by the black notes. The diminished $\frac{7}{3}$ on A \sharp (b) implies a ⑦–① progression to the tonic $\frac{5}{3}$ chord in B major or minor. The black notes show this progression in B major. (Recall that the G \sharp of the diminished $\frac{7}{3}$ chord is molldur $\hat{6}$ in this key.)

The output of the black box is the diminished $\frac{7}{3}$ chord (c) on A \sharp , which leads to the cadential $\frac{6}{4}$ chord on ⑤ in E minor. One might regard this as a tonicization of V. Indeed, the diminished $\frac{7}{3}$ acts as a secondary dominant, even though the $\frac{6}{4}$ chord delays the secondary B major tonic. Probably because of the inconvenience of this indirect resolution the diminished seventh chord on ④ \sharp is generally accepted as a standardized chromatic component of the key, without reference to a temporary key. From now on we will therefore label this chord simply a diminished $\frac{7}{3}$ on ④ \sharp .

EXAMPLE 9.21 Beethoven: bars 117–128 (continuation of example 9.18)

EXAMPLE 9.21 continued

F major

----- ④ ----- ⑥ ----- ⑥^b ----- 6/4 ----- 7/3 ----- 5/3 ----- ① -----
----- compound cadence -----

Example 9.21 presents the continuation of the phrase and complements example 9.18. The new phrase starts with a minor-major switch: the incomplete E minor chord on the first beat of bar 117 transforms into the complete E major $\frac{5}{3}$ chord, which appears to be the dominant of A minor. Bars 118–124 are comparable to bars 108–112 in example 9.18, given the unfolded diminished seventh chord G#–B–D–F \flat . The two passages differ mainly by means of invertible counterpoint: the melodic passing-tone figures in the outer voices have changed places.

The structural bass descends chromatically from D via D \flat to C \sharp in bars 120–126. In bar 124 the function of the D changes inaudibly, from ④ in A minor to ⑥ in F major. This change in function is a result of the enharmonization of G# on the first beat of the bar into A \flat on the next sixteenth, which is only perceivable in retrospect. The new key becomes manifest only through the cadential $\frac{6}{4}$ chord on ⑤ in bar 126, which announces the end of the phrase. Example 9.22 illustrates the harmonic structure from bar 119.

EXAMPLE 9.22 Reduction of bars 118–128

A minor F major

119-123 124

6/4[#] 3 6[#]/5^b 3 6[#]/3 6/4 — 7/3 5/3
④ ④ ----- ⑥ ⑥^b ⑤ ①

The reduction starts with the diminished $\frac{6}{4}$ chord in A minor in bars 119–123. The notation of bar 124 relocates the enharmonization G#–A \flat onto the third beat, thus highlighting the harmonic similarity of the first two beats. The enharmonization modifies the chord into a diminished seventh chord B–D–F–A \flat (the note names are ranked according to the root position). Once more, imagine the enharmonization as a black box. Example 9.23 shows its inside view.

EXAMPLE 9.23 Implications of the diminished seventh chord in bar 124

The diminished $\frac{6}{4}$ (a) is the input of the black box. The chord implies a ④–③ progression toward the A minor tonic $\frac{6}{3}$, represented by the black notes. Its enharmonic equivalent, the diminished $\frac{6}{3}$ (b), might be conceived as a dominant function in C major or minor. However, the example places the chord on ⑥ in F major and relates it to the bracketed dominant $\frac{6}{3}$ that is proper to the descending RO of this key. (Recall Section 4.4, example 4.21 and Section 6.6, example 6.39(b).) The chord’s prototypical raised sixth is the B \sharp . Note that the raised tone concerns the chromatic alteration of the fourth scale tone, comparable to the diminished $\frac{7}{3}$ on ④ \sharp in example 9.20.

The diminished $\frac{6}{3}$ chord (c) is the output of the black box, and leads to the cadential $\frac{6}{4}$ chord over the chromatic bass ⑥–⑥ \flat –⑤. The molldur ⑥ (the D \flat) modifies the diminished $\frac{6}{3}$ into the augmented $\frac{6}{3}$, which in turn provides a powerful arrival on the dominant of the F major compound cadence. (The terms diminished and augmented seem deficient in this context, since they unjustly suggest an opposition between the two chords. In fact, the augmented $\frac{6}{3}$ appears as an alteration of the diminished $\frac{6}{3}$. Unfortunately, these terminological deficiencies are sometimes inevitable.)

EXAMPLE 9.24 Prototypes of the enharmonization of the diminished seventh chord

Finally, example 9.24 shows four prototypes, all starting in A minor, with different enharmonizations of the diminished seventh chord. These enharmonizations enable modulations to remote keys.

Example (a) features the modulation from A minor to E \flat major by means of the enharmonization of the diminished $\frac{7}{3}$ on $\text{D}\sharp$ in A minor into $\frac{6}{3}$ on A in E \flat major. The latter chord proceeds to $\frac{6}{3}$ on C , which is the start of a compound imperfect cadence.

In example (b) the enharmonization G \sharp -A \flat results in a modulation to C minor. The diminished $\frac{7}{3}$ on $\text{D}\sharp$ becomes $\frac{6}{2}$ on C in C minor; the latter proceeds to the dominant $\frac{7}{3}$ on G .

Example (c) features a modulation from A minor to F major. The diminished $\frac{7}{3}$ on D is enharmonized into the diminished $\frac{7}{3}$ on $\text{D}\sharp$ in F major. This chord proceeds to the cadential $\frac{6}{4}$ chord on C .

Example (d) is comparable to the Beethoven excerpt of example 9.21. The diminished $\frac{7}{3}$ on $\text{D}\sharp$ is enharmonized into $\frac{6}{3}$ on B in B major (including the raised sixth E \sharp). The chromatic bass step G \sharp -G \natural (molldur) generates the augmented $\frac{6}{3}$ chord, which eventually leads to the cadential $\frac{6}{4}$ chord on C .

Terms to remember

- The diminished seventh chord divides the octave into four equal parts: three minor thirds and one augmented second. This feature enables various enharmonizations of the chord, since each minor third can be enharmonized into an augmented second and vice versa.
- Due to its inherent enharmonization potential the sound of a diminished seventh chord includes four different positions that refer to four different major and minor keys.
- The diminished seventh chord proceeds directly to the tonic, or indirectly via the dominant seventh chord (see also Section 7.1).
- The diminished $\frac{7}{3}$ chord on $\text{D}\sharp$ may be conceived as a standardized chromatic chord without reference to a temporary key.
- A special case is the progression of the diminished $\frac{6}{3}$ to the augmented $\frac{6}{3}$ through the descending half-tone bass step $\text{C}\flat$ - C .

Instructions for the exercises

- Determine the enharmonization in bar 3 before you start. Realize the enharmonization in double-pitch notation.
- The exercise starts with tonicizations in Descending Thirds. The bass tone D (*) refers to the imaginary secondary tonic C minor, and requires a diminished seventh chord. The subsequent double cadence starts with a dominant $\frac{7}{3}$ chord.
- The markings beneath the staves will guide you through the exercise. The three segments in bars 10–13 form a modulating sequence: the second segment is an exact transposition of the first. The third segment starts similarly, but deviates because of the enharmonization D \flat -C \sharp .

The chord on the first beat of bar 13 must be the enharmonic equivalent of the preceding chord. The exercise shares its enharmonizations with the Beethoven examples 9.18 and 9.21.

- d. The * signs indicate the application of diminished seventh chords, some of them subject to enharmonization. Note that bars 11–14 refer thematically to bars 1–4.

Suggestion for further analysis

Haydn: String Quartet in G major, Op. 54 No. 1, second movement (Allegretto), bars 34–52

9.4 ENHARMONIZATIONS OF THE AUGMENTED FIFTH TRIAD

EXAMPLE 9.25 Schubert: Piano Sonata in B \flat major, D 960, first movement (Molto moderato), bars 174–185

Example 9.25 shows an excerpt from Schubert's last piano sonata, composed a few months before his death. It concerns the final development section, which eventually leads to the beginning of the recapitulation. The melody sounds in the upper voice in bars 174–179, and recurs almost literally in the lower voice in bars 180–185. The melodic motifs grow organically from the previous section (not included in the example), which in turn refers to the secondary theme of the sonata.

The left- and right-hand triads form the core of the harmonic structure, which is remarkably static due to the omnipresence of the tones F and A. The triads alternate as though double-minded between the relative keys D minor and F major. The * signs indicate the pivots between the two keys. In short, each C# (as $\hat{7}^\#$) implies D minor and each D \flat (as $\hat{6}^\flat$) F major.

The undulating melody does not always necessarily contribute to the harmony. So for instance, it is hard to define the position of the F major triad ($\frac{6}{4}$, $\frac{6}{3}$, or $\frac{5}{3}$) in bar 183. For this reason the following analysis, which further explores the enharmonic equivalences, does not take this melodic aspect into account.

Example 9.26 illustrates the harmonic structure of the entire excerpt.

EXAMPLE 9.26 Reduction of bars 174–178 (a) and 180–184 (b)

Examples (a) and (b) are related by means of invertible counterpoint: the bass in example (a) is equivalent to the upper voice in example (b).

In example (a) the half-tone step D–C# in bars 174–175 transforms the $\frac{5}{3}$ chord D–F–A into the $\frac{6}{4}$ chord C#–F–A. The latter returns to the original $\frac{5}{3}$ chord in bar 176. This neighbor-tone progression seems to repeat; but instead of an immediate return the half-tone step continues by another half-tone step to C \natural in bar 177. This implies the enharmonization of C# into D \flat . This enharmonization, only audible in retrospect, causes the modulation from D minor to F major. Bars 177–178 show the reversed order: D \flat is enharmonized into C#, which returns to D \natural .

Example (b) exhibits a comparable harmonic structure. As is mentioned before, the left-hand melody sounding below the triads hinders a univocal notion of the structural bass line. Therefore the circled numerals are somewhat arbitrary.

The above-discussed triads of C#–F–A and D \flat –F–A are generally called augmented, because of the augmented fifth of the root position. This term is somewhat misleading, since the augmented triad is by no means related to the family of augmented sixth chords (that is, including the augmented sixth). In order to avoid any misunderstanding, we will call the chord the augmented fifth triad from now. Example 9.27 shows its features.

EXAMPLE 9.27 The augmented fifth triad: its octave division (a) and its enharmonic equivalents (b)

Example (a) unfolds the augmented fifth triad on ③ in D minor. The root position consists of the augmented fifth F–C♯ that is divided into two major thirds. The complementary diminished fourth C♯–F enharmonically equals the major third. Because of this enharmonic equivalency the augmented fifth triad divides the octave into three equal parts.

Example (b) shows the three positions of the chord that form the family of the augmented fifth triad in D minor. Note that the $\frac{5}{3}$ chord occurs on ③, the $\frac{6}{3}$ chord on ⑤ and the $\frac{6}{4}$ chord on ⑦♯.

Example (c) juxtaposes the three enharmonic positions of the augmented fifth triad. They refer to (at least) three different keys.

- (1) Our starting point is the $\frac{5}{3}$ chord F–A–C♯. As has been mentioned, its most obvious location is on ③ in D minor. The leading-tone resolution C♯–D results in the $\frac{6}{3}$ chord on the same scale degree.
- (2) The enharmonization C♯–D♭ creates the $\frac{6}{3}$ chord F–A–D♭. Its most obvious location is on ⑤ in B♭. The leading-tone resolution A♭–B♭ results in the $\frac{6}{4}$ chord on the same degree.
- (3) The supplementary enharmonization F–E♯ creates the $\frac{6}{4}$ chord E♯–A–C♯ on ⑦♯ in F♯ minor. The leading-tone resolution E♯–F♯ results in the $\frac{5}{3}$ chord on ①.

As a matter of fact, the same augmented fifth triad can be conceived in different keys. For instance, the second chord of example (c), the augmented fifth $\frac{6}{3}$ chord F–A–D♭, appears in F major (including molldur $\hat{6}$) in example 9.26(b). Similarly, the first chord of example (c), the augmented fifth $\frac{5}{3}$ chord F–A–C♯, can lead to A major through the half-tone bass step F–E. Due to these multiple implications the augmented fifth triad is one of the most ambiguous chords of the tonal language.

EXAMPLE 9.28 Brahms: “Wie Melodien zieht es mir”, Op. 105 No. 1, bars 28–36

28 A major

Und den - noch ruht im Rei - me ver - bor - gen wohl ein

① ④ ④ (with Neapolitan)

plagal cadence

32 F major

Duft, den mild aus stil - lem Kei - me ein feuch - tes Au - ge ruft,

① ③ ④ ③ ⑤ ①

alto cadence compound imperfect cadence

*And, for all that, in this rhyme
there lies hidden at least a scent of it,
which, from a silent bud,
is gently coaxed by a tearful eye.*

Brahms's song "Wie Melodien zieht es mir" consists of three varied strophes. Each strophe starts in the main key of A major and modulates to a different key. Example 9.28 shows the beginning of the third strophe. Like the previous ones, this strophe starts with an irregular five-bar half-phrase (3 + 2 bars). The harmony is based on a large-scale plagal cadence: the bass moves from ① to ④ in bars 28–30, and returns from ④ to ① in bars 31–32. The Neapolitan $\hat{6}$ chord in bar 31 (including the molldur $\hat{6}$ in the vocal part) gives the cadence its special affection.

The second half-phrase, from the upbeat of bar 33, shows a grouping of 2 + 2 bars. The half-phrase starts with a weak alto cadence (on ③–④–③), but from the upbeat of bar 35 it turns into a surprising modulation to the remote key F major. The phrase gently closes by means of an imperfect cadence. The half-tone bass step $C\sharp-C\flat$ is somewhat enigmatic: see the question mark underneath the fourth beat of bar 34. The reduction in example 9.29 clarifies this relationship.

EXAMPLE 9.29 Reduction of bars 32–36

The image shows a musical score reduction for Example 9.29, covering bars 32 to 36. The score is written in two staves: treble and bass clef. The key signature is A major (three sharps) for bars 32-34 and F major (one flat) for bars 35-36. The bass line is annotated with figured bass numbers and fingerings. A bracket labeled "alto cadence" spans bars 33-34, and another bracket labeled "compound imperfect cadence" spans bars 35-36. A dashed line connects the bass line of bar 34 to bar 35, indicating a modulation.

The notes in cue size add an imaginary fourth voice to the three-part texture of bars 33–34. Most significant here is the alto shift $E-F\flat$ in bar 34 (actually in the right hand of the piano part). This half-tone step modifies the A major $\hat{6}$ chord into the augmented fifth $\hat{6}$ chord $C\sharp-F\flat-A$. Due to the ambiguity of the chord its resolution is hardly predictable. In any case, the chord proceeds to the cadential $\hat{6}$ chord in F major. In retrospect this progression implies the enharmonization $C\sharp-D\flat$, and thus the enharmonization of the augmented fifth $\hat{6}$ on ③ in A major into the augmented fifth $\hat{5}$ on $\hat{6}\flat$ (molldur) in F major. As the reduction illustrates, the half-tone bass step $D\flat-C\flat$ leads to the cadential $\hat{6}$ chord in bar 35. The somewhat unusual doubling of the sixth A instead of the bass tone stems from the common-tones relationship with the preceding chord. Eventually, the $G\sharp$ in the soprano chromatically alters the dominant $\hat{7}$ chord on ⑤ and leads to the third of the subsequent tonic $\hat{5}$.

Theoretically speaking, there are many sorts of augmented fifth triad enharmonizations. Compositional practice, however, seems to give preference to enharmonizations in which the bass

EXAMPLE 9.30 Prototypes of the enharmonization of the augmented fifth triad

Figure 9.30 shows three prototypes of the enharmonization of the augmented fifth triad, labeled a, b, and c. Each prototype consists of two staves (treble and bass) and a series of figured bass notations below. Asterisks (*) mark the augmented fifth triads in each example.

Example (a): A minor to C major. The augmented fifth triad is marked with an asterisk in the first bar. The figured bass notation below is: $\frac{5}{3}$ ①, $\frac{6}{4}$ ⑦#, $\frac{5}{3}$ ①, $\frac{6}{4}$ ⑦#, $\frac{5}{3}$ ⑥b, $\frac{6}{4}$ ⑤, $\frac{7}{3}$ ⑤, $\frac{5}{3}$ ①.

Example (b): C major to Ab major. The augmented fifth triad is marked with an asterisk in the first bar. The figured bass notation below is: $\frac{5}{3}$ ①, $\frac{6}{3}$ ②, $\frac{6}{3}$ ③, $\frac{6}{3\#}$ ③*.

Example (c): C major to E major. The augmented fifth triad is marked with an asterisk in the first bar. The figured bass notation below is: $\frac{6}{3}$ ④, $\frac{6}{3\#}$ ③, $\frac{5}{3}$ ⑥b, $\frac{6}{4}$ ⑤, $\frac{7}{3}$ ①, $\frac{5}{3}$ ①, $\frac{6b}{4}$ ①, $\frac{5}{3}$ ①, $\frac{6b}{3}$ ①, $\frac{5\#}{3}$ ⑥b, $\frac{6}{4}$ ⑤, $\frac{7}{3}$ ①, $\frac{5}{3}$ ①.

moves a half-tone step down. Example 9.30 shows three prototypes. Each augmented fifth family member is marked with a * sign.

Example (a) starts with the neighbor tone bass motion A–G#–A in A minor, which generates the augmented fifth $\frac{6}{4}$ chord on ⑦#. In the next bar the enharmonization G#–Ab modifies the augmented fifth $\frac{6}{4}$ into the augmented fifth $\frac{5}{3}$ chord on ⑥b (molldur) in C major. The half-tone bass step Ab–G leads to the cadential $\frac{6}{4}$. Note its otherwise unusual doubling of the fourth and its resolution.

Example (b) features a modulation to the remote key Ab major. The augmented fifth $\frac{6}{3}$ chord on ③ results from the chromatic alteration G–G#. The chord recurs in bar 3 and undergoes a twofold enharmonization: E–Fb and G#–Ab. This modifies the chord into the augmented fifth $\frac{5}{3}$ chord on ⑥b in Ab major. Similar to example (a), the half-tone bass step Fb–Eb leads to the cadential $\frac{6}{4}$.

Example (c) modulates from C major to E major. The phrase starts with a double neighbor-tone motion in the soprano and the alto. The soprano tone Ab represents the molldur $\hat{6}$ in C major. Subsequently, the enharmonization Ab–G# generates the modulation to E major. The half-tone bass step C–B leads to the cadential $\frac{6}{4}$.

Finally, note that in each example the bass tone of the augmented fifth triad proceeds to the dominant of the new key by a half-tone step down. The remaining chord tones sustain.

Terms to remember

- The augmented fifth triad divides the octave into three equal parts, namely two major thirds and one diminished fourth. This feature enables various enharmonizations of the chord, since each major third can be enharmonized into a diminished fourth and vice versa.

- Due to its inherent enharmonization potential one augmented fifth triad (whether notated as $\frac{5}{3}$, $\frac{6}{3}$ or $\frac{6}{4}$) can refer to various major and minor keys.
- Often the enharmonized augmented fifth triad proceeds by a half-tone bass step down to the dominant of the new key.

Instructions for the exercises

- This exercise opens with a three-part Fenaroli, starting on ③. Decide in which voice the $\hat{5}$ pedal point will sound. The augmented fifth triad enharmonizations appear in bars 3 and 7. Try to create a fluent melody. Realize bars 5–6 in four-part chorale notation.
- The augmented fifth enharmonizations appear in bars 6 and 13. Moreover, bar 12 contains the enharmonization of the dominant $\frac{7}{3}$ into the augmented $\frac{6}{3}$. The tied $F\sharp$ in bar 3 is a suspension that resolves onto the chord tone E (7–6). The exercise has to be realized in four voices throughout. The $F\sharp$ in bar 14 produces the half-diminished seventh chord $G\sharp-B-D-F\sharp$.

Suggestion for further analysis

Chopin: Ballade No. 1 in G minor, Op. 23, bars 56–67

9.5 THE OMNIBUS

EXAMPLE 9.31 Beethoven: Symphony No. 5 in C minor, Op. 67, first movement (Allegro con brio), bars 71–94

E \flat major

The musical score is presented in two systems. The first system covers bars 71 to 80. It features a treble and bass staff. Above the treble staff, a bracket labeled 'segment 1' spans bars 71-76, and a bracket labeled 'segment 2 [F minor]' spans bars 77-80. A circled 1 is placed below bar 76, and a circled 2 is placed below bar 80. A horizontal line labeled 'Monte' spans from the beginning of bar 71 to the end of bar 80. The second system covers bars 81 to 94. It features a treble and bass staff. Above the treble staff, a bracket labeled 'segment 3 [A \flat major]' spans bars 81-86, and a bracket labeled 'segment 4?' spans bars 87-94. Circled numbers 4, 4 \sharp , and 5 are placed below bars 86, 90, and 94 respectively.

EXAMPLE 9.31 Continued

88

⑥^b ⑥^b ⑦

Example 9.31 shows an excerpt from the first movement of Beethoven's famous Fifth Symphony. It concerns the secondary theme in $E\flat$ major. Bars 71–74 are the third presentation of a four-bar-long thematic idea (bars 63–66, not included in the example). The following bars develop this idea, principally by means of a chromatic Monte. The second and the third segment of this sequence repeat the initial segment, and generate tonicizations of ii and IV , thus hinting at the temporary keys of F minor and $A\flat$ major, respectively.

In bar 83 the Monte seems to continue, but from here the melody sticks to the repeated three-tone pattern $E\flat$ – F – $G\flat$ and vice versa. The chromatic bass ascent from bar 84 accompanies this immobile upper voice, and eventually leads to the dominant $\frac{6}{3}$ chord on ⑦ in bar 94, which is the springboard to the closing phrase of the secondary theme. Example 9.32 illustrates the harmonic structure of bars 83–94.

EXAMPLE 9.32 Reduction of bars 83–94

$E\flat$ major

83 86 88 90 94

$\frac{7\flat}{3}$ $\frac{6\flat}{4}$ $\frac{6\flat}{3}$ — $\frac{6}{3}$

④^b ⑤ ⑥^b — ⑦

voice exchange

The oblique lines highlight the voice exchange between the bass and the tenor, from A to C and vice versa. (Note that the voice exchange is not exact, due to the inserted bass tone $C\flat$.) This voice exchange causes an inversion of the diminished $\frac{7}{3}$ on $A\sharp$ into the diminished $\frac{6}{3}$ on $C\sharp$. As has been discussed in Section 9.3 (see for instance examples 9.20 and 9.23), these two diminished seventh family members may be considered as standard chromatic chords in the key $E\flat$ major, without any reference to a temporary foreign key. The same applies to the augmented $\frac{6}{3}$ chord on $C\flat$, which appears as a chromatic variant of the diminished $\frac{6}{3}$ ($C\flat$ versus $C\sharp$).

The voice exchange traverses the minor $\frac{6}{4}$ chord on ⑤, thus bypassing a possible point of repose. The diatonic bass step C–D eventually leads to the dominant $\frac{6}{3}$, which acts as a firm anchor in this blurred harmonic passage.

EXAMPLE 9.33 Schubert: “Der Wegweiser,” from *Winterreise*, D 911, bars 55–67

55 G minor -----> ?

Ei - nen Wei - ser sch ik ste - hen un - ver - rückt vor mei - nem Blick, ei - ne Stra - ße muß ich

62 G minor

ge - hen, ei - ne Stra - ße muß ich ge - hen, die noch kei - - ner - ging zu - rück.

Neapolitan cadence

*I see a sign post standing fixed before my gaze,
I must travel a road from which no one ever returned.*

“Der Wegweiser” is the twentieth song of Schubert’s song cycle *Winterreise*. The excerpt shown in example 9.33 concerns the fourth and last strophe of Wilhelm Müller’s poem. Subsequently the strophe is repeated and musically varied (not included in the example) before the song closes.

The phrase starts and ends in the main key of G minor, but a great part of it is tonally unclear. Note for instance the peculiar simultaneous notation of $D\flat$ and $C\sharp$ in bars 63–64. This blurred tonality is the result of the chromatic bass on the one hand, and the continually repeated tones G, $B\flat$, and $D\flat$ in the vocal part on the other. Only the dominant $\frac{6}{3}$ in bar 65 clears the fog, and leads to a firm close to the phrase by means of a Neapolitan cadence.

Example 9.34 gives the reduction of the phrase from bar 57. The notation departs from Schubert’s original at different points. All deviations concern enharmonic notations, and aim to enhance the understanding of the complex harmonic relationships.

EXAMPLE 9.34 Reduction of bars 57–65

a. 57-60 b. 60-62 c. 62-64 d. 64-65

G minor [Bb minor] [C# minor] G minor

7/3# 6/4 6# 5/3 — — 7/3# 6/4 6# 5/3 7/3# 6/4 6# 5/3 7/3# 6/3 7/3# 6/3

④# ⑤ ⑥(b) ⑥b — ④b ⑤ ⑥b — ④x ⑤ ⑥ — ② ⑦#

Chain of Dominants

The reduction divides the phrase into four interlocking units, of which each final chord is the initial chord of the next unit at the same time. Units a, b, and c share the procedure of voice exchange between the bass and the alto, the bass and the soprano, and bass and the tenor successively; see the oblique lines. The phrase starts in G minor (a), and hints at the temporary keys B \flat minor (b) and C \sharp minor (c) before it returns to G minor (d).

Unit a (bars 57–60) is similar to the Beethoven reduction of example 9.32. (Note that the C \sharp in the alto replaces Schubert's original D \flat ; see bars 59–60 in example 9.33.) The key of G minor, firmly established in the preceding bars, resounds in the minor $\frac{6}{4}$ chord on ⑤. Around this chord the bass and the alto perform a voice exchange, which links the two diminished seventh family members $\frac{7}{3}$ on ④ \sharp and $\frac{6}{3}$ on ⑥ \flat . As in example 9.32 the voice exchange is not exact, due to the inserted augmented $\frac{6}{3}$ on ⑥(b).

As mentioned above, unit b (bars 60–62) starts with the final chord of unit a. The enharmonization C \sharp –D \flat in the alto refers to the temporary key of B \flat minor, which resounds in the minor $\frac{6}{4}$ chord on ⑤. The enharmonization transforms the $\frac{6}{3}$ chord on ⑥ \flat in G minor into $\frac{7}{3}$ on ④ \flat in B \flat minor. Around the central $\frac{6}{4}$ chord the bass and the soprano perform a voice exchange that links the diminished $\frac{7}{3}$ on ④ \sharp to the diminished $\frac{6}{3}$ on ⑥ \flat . Note that, unlike unit a, the voice exchange is exact, because the whole-tone bass step ⑤–⑥ \flat lacks an intermediate half-tone fill.

Similarly, unit c (bars 62–64) turns around the central minor $\frac{6}{4}$ chord, which represents the temporary key of C \sharp minor. This key requires a threefold enharmonization that transforms the diminished $\frac{6}{3}$ on ⑥ \flat in B \flat minor into the diminished $\frac{7}{3}$ on ④ \times in C \sharp minor. The (inexact) voice exchange links the chord to the augmented $\frac{6}{3}$ on ⑥. (Note that the F \times in the tenor replaces the authentic G \flat ; see bar 64 in example 9.33. Moreover, the reduction “revises” the peculiar combination of D \flat and C \sharp in the same bar.)

Finally, unit d (bars 64–65) suddenly returns to G minor. The enharmonization of the augmented $\frac{6}{3}$ chord of the preceding unit into the dominant $\frac{7}{3}$ chord on A enables this return to the main key. Indeed, this chord “falls” into the dominant $\frac{6}{3}$ on F \sharp ; together they form a small Chain of Dominants.

The vocal part (see bars 64–65 in example 9.33) emphasizes the arrival in G minor by means of the leading-tone resolution C \sharp –D, despite its obscure notation D \flat –D \flat . In any case, the melodic half-tone step evokes a feeling of delight.

Interlocking voice-exchange patterns like those discussed above became increasingly popular in the nineteenth century. We will see below that their roots lie as far back as the third quarter of the eighteenth century at least. At that time the schema was known as the *Teufelsmühle* (devil's mill). Today it is generally called the Omnibus.

Example 9.35 provides the prototype of the ascending Omnibus.

EXAMPLE 9.35 Prototype of the ascending Omnibus

The image shows a musical score for Example 9.35, titled 'Prototype of the ascending Omnibus'. It consists of four units, each in a different key: C minor, E-flat minor, F-sharp minor, and A minor. Each unit is represented by a pair of staves (treble and bass). The notes are arranged in a way that creates a continuous interlocking of voice exchange patterns. Below the bass staff, there are two rows of chord symbols and numbers. The first row shows $\frac{7}{3}$, $\frac{6}{4}$, $\frac{6\#}{3}$, and a dash. The second row shows circled numbers 4#, 5, 6, 6# with oblique lines connecting them between units, indicating the enharmonic relationships between the units.

As the above analysis of Schubert's song shows, the Omnibus lacks a clear, unambiguous tonal center. Instead, it exhibits a succession of temporary keys that sound mainly through the central $\frac{6}{4}$ chords, around which the voice exchanges (see the oblique lines) take place. For the sake of clarity, the prototype shown in example 9.35 is divided into four units; nonetheless the Omnibus is a continuous interlocking of voice exchange patterns. The chords in black notes, all of them augmented $\frac{6}{3}$ chords, are optional: they color the harmonic process without essentially changing it.

An essential feature of the Omnibus is the indirect inversion of the diminished $\frac{7}{3}$ into the diminished $\frac{6}{3}$ by means of voice exchange. Each voice exchange unit is tightly connected to the next through the enharmonization of the diminished seventh chord: thus, for instance, $\frac{6}{3}$ on $\textcircled{6}\flat$ in C minor becomes $\frac{7}{3}$ on $\textcircled{4}\flat$ in E \flat minor. This enharmonized chord is the start of a new unit, and so forth. This implies that the initial and final chords of each unit share the sound of the diminished $\frac{7}{3}$ chord F \sharp -A-C-E \flat and its enharmonic equivalents.

Two further remarks need to be made.

First, the voice exchange always takes place between the bass on the one hand, and the soprano, tenor, and alto successively on the other. The remaining voice pair performs a sustained harmonic third or sixth. Thus the tenor and the alto perform the third C-E \flat in the first unit, the alto and the soprano the third E \flat -G \flat in the second unit, the soprano and the tenor the sixth F \sharp -A in the third unit, and the tenor and the alto the third A-C in the fourth unit.

Second, the bass tones, including the optional black notes, create a complete chromatic scale from F \sharp to F \sharp . Without these optional tones the bass performs a regular series of half and whole tones: F \sharp -G-A-B \flat -C, and so forth. This diatonic, but in essence non-tonal scale is called octatonic, since it consists of eight different tones. We will return to this issue later.

The Adagio in A major of Haydn's "Farewell" Symphony features a free, loosely structured slow-movement sonata form. The excerpt shown in example 9.36 is a fragment from the secondary theme of the recapitulation, in which the final close is repeatedly delayed. This process starts with

EXAMPLE 9.36 Haydn: Symphony No. 45 in F# minor, "Farewell," second movement (Adagio), bars 160–176

the fermata in bar 163. The highly ambiguous diminished seventh chord in that bar, notated as $\frac{6}{4}_2$ on ⓐ ($G\sharp$) in B minor, enables various continuations. Even so the sequential repeat from the next bar would have been unpredictable, were it not that a similar sequence has also occurred in the exposition. From bar 167, however, the phrase departs from the exposition and enters, so to speak, a tonal no-man's land. Based on a chromatically descending bass (*), the passage eventually arrives at the weak half cadence in A minor in bar 176.

In retrospect, the compound ⓑ ($\frac{6}{4}-\frac{5}{3}$) in that bar appears to be the resolution of the augmented $\frac{6}{3}$ chord on ⓐ in bar 174. Note that the $D\sharp$ is already present from bar 166; see the + signs. The lengthy prolongation of this chromatic leading tone is a crucial element of the harmonic structure. Example 9.37 zooms in on this aspect. For the sake of simplicity, the $\frac{3}{4}$ time signature of the reduction replaces the $\frac{3}{8}$ bars of the score. Each $\frac{3}{4}$ bar represents two $\frac{3}{8}$ bars.

The phrase starts with a chromatic shift of the diminished seventh chord over the chromatic bass step $A\sharp-A\flat$. The deviating interval structure, $\frac{7}{3}$ versus $\frac{6}{2}$, is inaudible and therefore not relevant here. From bar 166 the notation of the reduction departs from that of the score, in that the upper third $C-E\flat$ replaces the original $B\sharp-D\sharp$.

EXAMPLE 9.37 Reduction of bars 164–176 (meter in double bars)

This enharmonization aims to uncover the harmonic coherence of the phrase. First, it clarifies the minor $\frac{6}{4}$ chord in bars 170–171: the original notation is outright obscure. Second, it reveals the voice exchange between the bass and the tenor in bars 166–173; see the oblique lines. (Note that the voice exchange is not exact, due to the insertion of the augmented $\frac{6}{3}$ chord on the bass tone $A\flat$.) The voice exchange links the diminished $\frac{6}{3}$ on A in bars 166–167 (on the third beat in the reduction) to the diminished $\frac{7}{3}$ on $F\sharp$ in bars 172–173 (on the first and second beat). The temporary key of C minor resounds in the central minor $\frac{6}{4}$ chord.

This voice exchange on a descending bass is the reversed variant of the ascending Omnibus shown in example 9.35. A comparison with the first unit of this example makes clear that Haydn’s voice exchange is the retrograde version of the ascending Omnibus: Haydn’s bass $A\sharp-A\flat-G\sharp-F\sharp$ versus the bass of the ascending Omnibus $F\sharp-G\sharp-A\flat-A\sharp$.

The enharmonization $E\flat-D\sharp$ in bars 172–173 reveals the start of a new, although incomplete voice-exchange unit; see the dashed lines. The diminished $\frac{6}{3}$ on $F\sharp$ (on the third beat) leads via the augmented $\frac{6}{3}$ to the minor $\frac{6}{4}$ chord in bar 176. Here the voice exchange ends prematurely, due to the cadential function of the $\frac{6}{4}$ chord.

A striking feature of the descending Omnibus in bars 166–176 is the sustained chromatic leading tone $D\sharp$, whether notated as such or as $E\flat$. It ultimately resolves into the E in bar 176. This leading-tone resolution and the accompanying chromatic bass that descends from A (bar 166) to E (bar 176) form the framework of the harmonic structure. The Omnibus presents itself as a highly expressive means to fill this.

EXAMPLE 9.38 Prototype of the descending Omnibus

The descending Omnibus shown in example 9.38 is the exact retrograde of the ascending Omnibus of example 9.35. Put differently, the schema can be applied forward as well as backward. The oblique lines indicate the voice exchange between the bass and the successive upper voices. The two remaining voices perform a sustained third or sixth, so for instance the tenor and the alto (A–C) in the first unit.

A further exploration of the descending schema is superfluous: all that has been said about the ascending Omnibus also applies to the descending variant.

EXAMPLE 9.39 Tchaikovsky: Symphony No. 6 in B minor, Op. 74, “Pathétique,” first movement (Adagio–Allegro non troppo), bars 259–263 (key signature omitted)

The image shows a musical score for two systems. The first system, starting at bar 259, consists of two staves (treble and bass clef). It is divided into five segments labeled 'segment 1' through 'segment 5' above the staff. Below the staff, three brackets labeled 'voice exchange 1', 'voice exchange 2', and 'voice exchange 3' indicate exchanges between the bass and upper voices. The second system, starting at bar 261, also consists of two staves. It is divided into four segments labeled 'segment 6' through 'segment 9' above the staff. Below the staff, two brackets labeled 'voice exchange 4' and 'voice exchange 5' indicate exchanges. The music features a chromatic bass line and a melodic line in the upper voice with various intervals and triplets.

An extraordinary example of the Omnibus will bring this chapter to an end. Example 9.40 shows an excerpt from the first movement of Tchaikovsky’s “Pathétique” Symphony, which concerns the extended main theme of the recapitulation.

Although the main key of B minor is the prevailing key of the theme, the fragment shown resists a clear tonal orientation. For this reason a key indication, as well as the original two-sharps key signature, is omitted. The fragment is based on a chromatic bass ascent from D in bar 258 to $G\flat$ in bar 262. The upper voice, which develops the opening motif of the main theme, ascends continuously in small sequential segments. The consistent succession of whole and half tones that is formed by the first three notes of each melodic segment is noteworthy. This melodic sequence spans no less than two octaves. Example 9.40 places all of the notes in a row.

EXAMPLE 9.40 The octatonic scale

The image shows a single staff of music representing the octatonic scale. The notes are numbered 1 through 8, with the final note marked with a circled 1. The notes are: 1 (D), 2 (E), 3 (F), 4 (G), 5 (A), 6 (B), 7 (C), 8 (D). Below the staff, a series of brackets indicates the intervals between the notes: 1/1, 1/2, 1/1, 1/2, 1/1, 1/2, 1/1, 1/2.

The example presents the previously mentioned octatonic scale, which is the eight-tone scale that systematically divides the octave in whole and half tones. Theoretically speaking, the scale can start on any tone, due to its lack of a clear and univocal tonic. The scale is based on the enharmonic system: in other words, F# equals Gb, G# equals Ab, and so forth.

A thorough discussion of the scale and its applications lies beyond the scope of this study. Here it may be sufficient to mention Tchaikovsky's younger colleague Nikolaj Rimsky-Korsakov (1844–1908) as one of the first composers who systematically explored the potential of the octatonic scale. Many later composers, among them Scriabin, Ravel, Stravinsky, and Messiaen, further developed the system in their own ways.

Despite the non-tonal nature of the octatonic scale, the Tchaikovsky excerpt in example 9.39 does not really abandon the major-minor system. An indication of this is the chain of voice-exchange units, indicated by the oblique lines. The fact that these units do not coincide with the segments of the melodic sequence increases the complexity of the passage significantly. Example 9.41 clarifies its harmonic structure and reveals a continuous succession of tonal centers.

EXAMPLE 9.41 Harmonic structure of bars 258–262

For the sake of comprehensibility the reduction ignores the sequential melodic upper voice, which somewhat obscures the harmonic structure. Rather, the reduction emphasizes the chain of voice-exchange units, by consistently locating the voice exchange between the bass and the soprano.

The first unit turns around the minor $\frac{6}{4}$ chord that resounds the temporary key of A minor. It resembles the A minor unit in example 9.35, but it differs by the tone F (*) on the first and the third beat, which comes in place of F#. The resulting chord of D#–F–A–C is an alteration of the diminished seventh chord. Meanwhile, the chord shares all tones with the augmented $\frac{6}{3}$ on F on the third beat. From this perspective the chord may be conceived as a family member of the augmented $\frac{6}{3}$. Both interpretations seem equally valid; the inversion of $\frac{7}{3}$ on ④ into $\frac{6}{3}$ on ⑥ is essential.

The next units transpose the first exactly, and pass through the temporary keys of C minor, Eb minor, and F# minor. The fifth unit eventually returns to A minor, and is an octave transposition of the first.

Terms to remember

- The Omnibus is based on the voice-exchange pattern around the minor $\frac{6}{4}$ on ⑤. Its prototypical shape implies an inversion of the diminished $\frac{7}{3}$ on the raised ④# into the diminished $\frac{6}{3}$ on the raised ⑥ or vice versa.

- The Omnibus can be ascending as well as descending.
- The succession of interlocking voice-exchange units results in a succession of temporary keys in ascending or descending minor thirds. The bass can move according to the chromatic scale or the octatonic scale, which implies an alternation of whole- and half-tone steps.
- The augmented $\frac{6}{3}$ on $\text{C}\flat$ (in the minor mode) and its family member $\frac{7}{3}$ on $\text{C}\sharp$ can replace the diminished $\frac{6}{3}$ and $\frac{7}{3}$, respectively.

Instructions for the exercises

- The exercise opens with a discant cadence. The diminished $\frac{6}{4}$ on the tied G in bar 4 starts an Omnibus, which hints at the temporary key of $\text{B}\flat$ minor and ends in the main key of G minor. The figured-bass numerals will guide you.
- The Third Down Second Up sequence leads automatically to the relative key of G major. The chromatically descending soprano replaces the more prototypical tied notes. The bass in bars 6–7 suggests a chromatic Monte. However, bar 7 is the start of an ascending Omnibus, which ends with a climactic diminished seventh chord on $\text{A}\sharp$ in bar 11. After the fermata the tension decreases gradually.
- This exercise is after the coda (bars 208–264) from Chopin's Ballade No. 1 in G minor, Op. 23. Apart from some rhythmic details the bass is copied almost literally, yet the final cadence is shortened rigorously. The melodic hints follow the melodic structure of the Ballade. Obviously, the exercise completely neglects the bravura piano style of the composition. The many schema indications will guide you through this challenging exercise. The quarter-note bass patterns in bars 22 and 24 invite a voice exchange with one of the upper voices.

Suggestion for further analysis

Franz Liszt (1811–1886): *Liebstraum* No. 3, bars 47–50

APPENDIX I

Chord Construction

Harmony, *Counterpoint, Partimento* has so far offered little information about chord construction. (The main exceptions to this are the diminished seventh chord and the augmented fifth triad, since the interval structure of both chords is the basis of their enharmonic potential.) The reason for this omission is the horizontal perspective that is present in all chapters. Chords have mostly been presented as the result of the simultaneous movement of voices. Notwithstanding this approach a concise exploration of chord construction seems appropriate. This depends largely on two aspects.

First, chords are determined by the constitution of intervals. For instance, the $\frac{6}{3}$ chord consists of a third and a sixth. Second, chords are determined by the type of their inherent intervals. For instance, the major $\frac{5}{3}$ chord consists of a major third and a perfect fifth, the dominant seventh chord of a major $\frac{5}{3}$ chord and a minor seventh, and so forth. The interval and chord types depend entirely on their position within the scale, if we leave to one side chromatic alterations.

Finally, chords can be inverted, for instance by means of invertible counterpoint or by a mere shuffling of chord tones. In Chapter 6 the concept of chord families was introduced in order to unify chords that are related by means of inversion in whatever way.

Below we will systematically examine this vertical aspect of harmony, starting with two-part intervals and continuing with three- and four-part chords.

HARMONIC INTERVALS

Example I.1 shows the thirds and sixths on the different degrees of the major and minor scales. The sixths on the lower staff can be conceived as inversions of the thirds on the higher staff and vice

EXAMPLE I.1 Major and minor thirds and sixths in major (a) and minor (b)

Example I.1 consists of two parts, (a) and (b), each with two staves of music. Part (a) is for C major. The top staff shows intervals: M, m, m, M, M, m, m, M. The bottom staff shows inverted intervals: m, M, M, m, m, M, M, m. Part (b) is for A minor. The top staff shows intervals: m, m, M, M, M, m, m, m. The bottom staff shows inverted intervals: M, M, m, m, m, M, M, M. The labels 'C major' and 'A minor' are in boxes above the staves.

versa, by means of invertible counterpoint. The letters “M” and “m” stand for major and minor, respectively.

- a. The major scale regulates the interval types: the first scale degree (C) supports a major third, the second scale degree (D) a minor third, and so on. On the lower staff the thirds are inverted into sixths. Note that the inversions change the interval types: a major third becomes a minor sixth and a minor third a major sixth.
- b. The same applies to the minor scale. The example shows the intervals that are based on the melodic scale, with the raised $\hat{6}$ and $\hat{7}$ (F# and G#). Evidently, the harmonic and natural scales generate different interval types.

Comparable series can be made using seconds and sevenths, or fourth and fifths. Most seconds are major or minor. The inversion of a major second results in a minor seventh, and the inversion of a minor second in a major seventh. The augmented second occurs between $\hat{6}$ and $\hat{7}\#$ of the harmonic scale (F and G# in A minor); its inversion is the diminished seventh.

Most fourths are perfect; they can be inverted into perfect fifths. The major scale includes an augmented fourth or diminished fifth between $\hat{4}$ and $\hat{7}$, and the harmonic minor scale between $\hat{4}$ and $\hat{7}\#$ and between $\hat{2}$ and $\hat{6}$.

EXAMPLE I.2 Augmented and diminished intervals with their resolutions

Example I.2 shows three parts (a, b, c) on a single staff. Part (a) is labeled 'C major/ A minor' and shows resolutions: d5 to M3, A4 to m6. Part (b) is labeled 'A minor' and shows resolutions: d5 to m3, A4 to M6. Part (c) shows resolutions: d7 to P5, A2 to P4. The intervals are labeled below the notes.

Example I.2 shows the augmented and diminished intervals in the major and (harmonic) minor modes with their resolutions. The letters “d”, “A”, and “P” stand for diminished, augmented, and perfect, respectively.

- a. In C major the diminished fifth B–F resolves into the major third C–E. Its inversion, the augmented fourth F–B, resolves into the minor sixth E–C. In general, these progressions consist of the voice-leading patterns $\hat{7} - \hat{1}$ and $\hat{4} - \hat{3}$. The intervals occur in A minor too; if so, the progressions consist of the patterns $\hat{2} - \hat{3}$ and $\hat{6} - \hat{5}$.

- b. In A minor the diminished fifth G \sharp -D resolves into the minor third A-C, and the augmented fourth into the major sixth C-A. The voice-leading patterns are $\hat{7}\sharp-\hat{1}$ and $\hat{4}-\hat{3}$.
- c. In A minor the diminished seventh G \sharp -F resolves into the perfect fifth A-E, and the augmented second F-G \sharp into the perfect fourth E-A. The voice leading patterns are $\hat{7}\sharp-\hat{1}$ and $\hat{6}-\hat{5}$.

Not all possible intervals in the minor mode are mentioned here, for instance the diminished fourth between $\hat{7}\sharp$ and $\hat{3}$ (G \sharp -C in A minor) or the augmented fourth between $\hat{3}$ and $\hat{6}\sharp$ (C-F \sharp in A-minor). The existence of three versions of the minor scale, namely harmonic, melodic, and natural, brings forth many possibilities.

Chromatic tones produce new intervals. Among these the augmented sixth and its inversion, the diminished third, should be mentioned; see example I.3.

EXAMPLE I.3 The augmented sixth and the diminished third with their resolutions

A minor

A6 P8 d3 P1

The augmented sixth F-D \sharp in A minor arises from the chromatic alteration of D to D \sharp ($\hat{4}\sharp$). The dissonant interval resolves into the octave. Its inversion, the diminished third, resolves into the unison.

TRIADS

Triads are constitutions of three intervals. For instance, the major triad C-E-G in close position contains the major third C-E, the minor third E-G, and the perfect fifth C-G. The diatonic major and minor scales include four different types of triad: major (M), minor (m), diminished (d), and augmented fifth (A).

EXAMPLE I.4 Triads in major (a) and minor (b)

a. C major

① ② ③ ④ ⑤ ⑥ ⑦
M m m M M m d

b. A minor

① ② ③ ④ ⑤ ⑥ ⑦ \sharp
m d A m M M d

Example I.4 shows the triads that occur in the C major and the harmonic A minor scales. Each triad type is determined by its position in the scale. Evidently, the different versions of the minor scale generate different types. For the sake of simplicity, the melodic and natural minor scales are left to one side.

- The major scale generates major, minor, and diminished triads. Major triads occur on ①, ④, and ⑤, and consist of a major and a minor third (bottom-up) and a perfect fifth. Minor triads occur on ②, ③, and ⑥, and consist of a minor and a major third (bottom-up) and a perfect fifth. The diminished triad occurs on ⑦, with two minor thirds and a diminished fifth.
- The given triads arise from the harmonic scale. Minor triads occur on ① and ④, major triads on ⑤ and ⑥, diminished triads on ② and ⑦ \sharp , and the augmented fifth triad on ③. As has been mentioned, the melodic and natural minor scales produce different triads. For instance, the natural scale contains major triads on ③ and ⑦ \flat .

EXAMPLE I.5 Triad families: major (a), minor (b), diminished (c), and augmented fifth (d)

Example I.5 illustrates four triad families in three positions each. The notation is as follows:

- (a) Major triad:** Root position (5/3), first inversion (6/3), and second inversion (6/4).
- (b) Minor triad:** Root position (5/3), first inversion (6/3), and second inversion (6/4).
- (c) Diminished triad:** Root position (5/3), first inversion (6/3), and second inversion (6/4).
- (d) Augmented-fifth triad:** Root position (5 \sharp /3), first inversion (6/3 \sharp), and second inversion (6/4).

Example I.5 shows the four types of triad as they occur in example I.4, each in three different positions. For the sake of comparison all $\frac{5}{3}$ chords are built on C. According to the concept of chord inversion, each $\frac{5}{3}$ chord is the root position, each $\frac{6}{3}$ chord its first inversion and each $\frac{6}{4}$ chord its second inversion. Consequently, the root (or fundamental) of the $\frac{5}{3}$ chord is also the root of the $\frac{6}{3}$ and $\frac{6}{4}$ chords. Although the method presented in this book takes a cautious stance with regard to chord inversion, the concept explains the similarity in sound between, say, the $\frac{5}{3}$ chord on ① and the $\frac{6}{3}$ chord on ③. For this reason the method introduces the concept of chord families. The chords in black notes add open (or spread) chord positions to the basic chords in close position.

- The family of the major triad C–E–G. The family occurs as I in C major, IV in G major and V in F major on the one hand, and as V in F minor and VI in E minor (referring to the harmonic scale) on the other.
- The family of the minor triad C–E \flat –G. The family occurs as ii in B \flat major, iii in A \flat major and vi in E \flat major on the one hand, and as i in C minor and iv in G minor on the other.

- c. The family of the diminished triad C–E \flat –G \flat . The family occurs as vii $^{\circ}$ in D \flat major, and as ii $^{\circ}$ in B \flat minor and vii $^{\circ}$ in D \flat minor.
- d. The family of the augmented fifth triad C–E–G \sharp . The family occurs as III $^+$ in A minor.

The inclusion of chromatic tones, the molldur $\hat{6}$ in the major scale and the Neapolitan $\hat{2}$ in the minor scale, generate different chord families. One of these altered chords, the augmented $\frac{6}{3}$ chord, needs to be mentioned here.

EXAMPLE I.6 The augmented $\frac{6}{3}$ chord in minor (a) and major (b)

The image shows two musical staves, (a) and (b), illustrating the augmented $\frac{6}{3}$ chord. Staff (a) is for A minor and staff (b) is for C major. Both staves show the chord in open position with notes on the treble clef. In (a), the notes are A \flat (6 \sharp), C (3), and E (6). In (b), the notes are C (6 \flat), E (3), and G (6). Oblique lines connect the augmented sixth notes to the octave notes, showing their resolution. Below each staff, the chord symbols are given as $\frac{6\sharp}{3}$ and $\frac{(5)}{3\sharp}$ for (a), and $\frac{6\flat}{3}$ and $\frac{(5)}{3}$ for (b).

Example I.6 shows the augmented $\frac{6}{3}$ chord. Its progression to the dominant $\frac{5}{3}$ chord is based on the resolution of the augmented sixth into the octave; see the oblique lines. The notes in cue size show the chord in open position. Theoretically speaking, the augmented $\frac{6}{3}$ chord forms a chord family together with its related $\frac{5}{3}$ and $\frac{6}{4}$ positions. In practice, however, these positions are so rare that they do not need to be mentioned here.

- a. The augmented $\frac{6}{3}$ chord on $\textcircled{6}$ in A minor. The chord arises through the chromatic $\hat{4}\sharp$ (D \sharp); see also example I.3. The major third F–A complements the chord. The augmented sixth F–D \sharp resolves into the octave E–E and the augmented fourth A–D \sharp into the minor sixth G \sharp –E.
- b. The augmented $\frac{6}{3}$ chord on $\textcircled{6}\flat$ (molldur) in C major. The chord arises through the twofold alteration $\hat{4}\sharp$ (F \sharp) and $\hat{6}\flat$ (A \flat). The augmented sixth A \flat –F \sharp resolves into the octave G–G and the augmented fourth C–F \sharp into the minor sixth B–G.

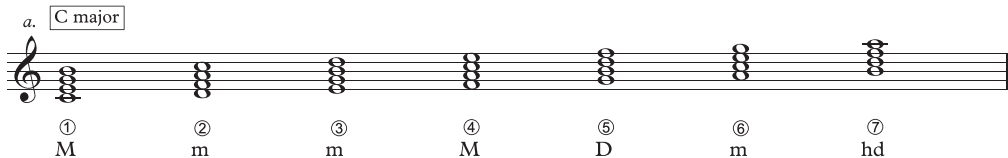
SEVENTH CHORDS

Traditionally, seventh chords are presented as triads with an added seventh. For instance, the dominant seventh chord consists of a major triad and a minor seventh. Aside from the dominant and the diminished seventh chords, this book treats the seventh almost always as a suspension. Nevertheless, an understanding of the construction and a certain sensitivity to the sounds of the seventh chords belong to standard theoretical knowledge.

Example I.7 shows the five different seventh-chord types in the major and minor mode: major (M), minor (m), dominant (D), half-diminished (hd), and diminished (d).

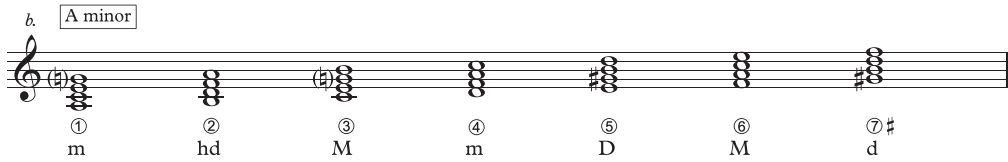
EXAMPLE I.7 Seventh chords in major (a) and minor (b)

a. C major



① M ② m ③ m ④ M ⑤ D ⑥ m ⑦ hd

b. A minor

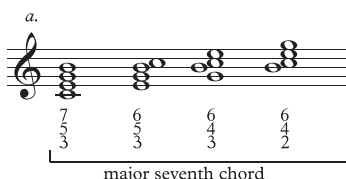


① m ② hd ③ M ④ m ⑤ D ⑥ M ⑦ d

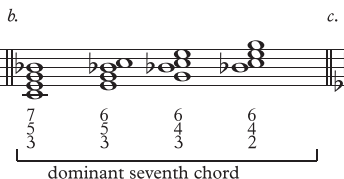
- a. The major mode generates major, minor, dominant, and half-diminished seventh chords. Major seventh chords occur on ① and ④, and consist of a major triad and a major seventh. Minor seventh chords occur on ②, ③, and ⑥, and consist of a minor triad and a minor seventh. The dominant seventh chord occurs on ⑤, and consists of a major triad and a minor seventh. The half-diminished seventh chord occurs on ⑦, and consists of a diminished triad and a minor seventh.
- b. In the minor example the seventh chords on ① and ③ stem from the natural scale, since these chords rarely contain a 7[#] (G[#] in A minor). The chords on ⑤ and ⑦[#] are taken from the harmonic scale. Minor seventh chords occur on ① and ④, major seventh chords on ③ and ⑥, the half-diminished seventh chord on ②, the dominant seventh chord on ⑤, and the diminished seventh chord on ⑦[#]. The diminished seventh chord consists of a diminished triad and a diminished seventh. Once more, the harmonic, melodic, and natural scales produce different seventh chords.

EXAMPLE I.8 Seventh-chord families: major (a), dominant (b), minor (c), half-diminished (d), and diminished (e)

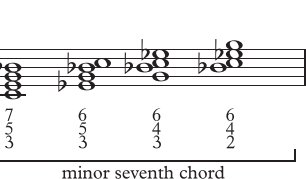
a. major seventh chord



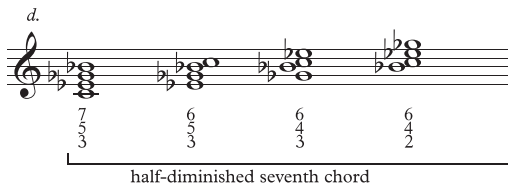
b. dominant seventh chord



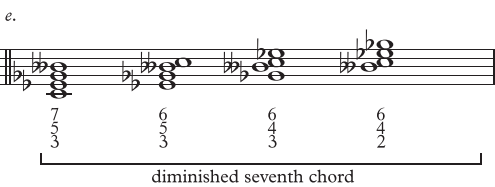
c. minor seventh chord



d. half-diminished seventh chord



e. diminished seventh chord



Example I.8 shows the five types of seventh chord, as they occur in example I.7, each in four different positions. For sake of comparison all $\frac{7}{3}$ chords are built on C. The concept of chord

inversion postulates that each $\frac{7}{3}$ chord is the root position, each $\frac{6}{3}$ chord the first inversion, each $\frac{4}{3}$ chord the second inversion, and each $\frac{2}{3}$ the third inversion. Consequently, the root of the $\frac{7}{3}$ chord is also the root of the $\frac{6}{3}$, $\frac{4}{3}$, and $\frac{2}{3}$ chords.

- a. The family of the major seventh chord C–E–G–B. The family occurs as I in C major and IV in G major on the one hand, and as III in A (natural) minor and VI in E (harmonic) minor on the other.
- b. The family of the dominant seventh chord C–E–G–B \flat . The family occurs as V in F major and F minor.
- c. The family of the minor seventh chord C–E \flat –G–B \flat . The family occurs as ii in B \flat major, iii in A \flat major, and vi in E \flat major on the one hand, and as i in C (natural) minor and iv in G minor on the other.
- d. The family of the half-diminished seventh chord C–E \flat –G \flat –B \flat . The family occurs as vii $^\circ$ in D \flat major and ii $^\circ$ in B \flat minor.
- e. The family of the diminished seventh chord C–E \flat –G \flat –B \flat . The family occurs as vii $^\circ$ in D \flat minor. (The more usual notation is B \sharp –D \sharp –F \sharp –A in C \sharp minor.)

Chromatic alterations produce new seventh chords. Among them the augmented $\frac{6}{3}$ and the augmented $\frac{4}{3}$ must be mentioned. These chords are closely related to the aforementioned augmented $\frac{6}{3}$ chord. Example I.9 illustrates this.

EXAMPLE I.9 The augmented sixth chords in minor (a) and major (b)

A minor
C major

$\frac{6\sharp}{3}$ $\frac{(5)}{3\sharp}$ $\frac{6\sharp}{3}$ $\frac{5\sharp}{3}$ $\frac{6\sharp}{3}$ $\frac{5\sharp}{3}$ $\frac{6\sharp}{3}$ $\frac{(5)}{3}$ $\frac{6\sharp}{3}$ $\frac{5\sharp}{3}$ $\frac{6\sharp}{3}$ $\frac{5\sharp}{3}$

⑥ ⑤ ⑥ ⑤ ⑥ ⑤ ⑥ \flat ⑤ ⑥ \flat ⑤ ⑥ \flat ⑤

All three augmented sixth chords arise from the alteration $\hat{4}\sharp$, and are based on the resolution of the augmented sixth into the octave; see the oblique lines.

- a. The augmented $\frac{6}{3}$, $\frac{5}{3}$, and $\frac{4}{3}$ chords in A minor. All chords occur on ⑥. The $\frac{6}{3}$ chord adds a perfect fifth (F–C) to the $\frac{6}{3}$ chord, and the $\frac{4}{3}$ an augmented fourth (F–B).
- b. The augmented $\frac{6}{3}$, $\frac{5}{3}$, and $\frac{4}{3}$ chords in C major. All chords occur on ⑥ \flat (molldur). The perfect fifth (A \flat –E \flat) in the $\frac{6}{3}$ chord also hints at the parallel minor key: like the A \flat , the E \flat may be regarded as molldur. The augmented sixth chords stem from the minor mode so to speak, but can be applied throughout in the major mode.

APPENDIX II

Cadences

The subject of the cadence runs throughout the current study. Emphasis is placed on its intrinsic metric and harmonic-contrapuntal quality rather than on its function within the structure of a composition. An understanding of this aspect may be provided by structural analysis.

This appendix brings together all the information concerning the cadence that is spread among the different chapters. It starts with the two-part cadence, which consists of two voices that achieve their goal (the tonic) by stepwise motion. Subsequently, the various types of three-part cadence are juxtaposed. An important distinction here concerns the bass that can achieve its tonal goal by stepwise motion or by means of a ⑤–① leap. Finally, the appendix presents the four-part cadence as the completion of the three-part cadence. The fourth voice may be seen as a supplement to the three-part framework, even though the four-part cadence became normative during the course of the eighteenth century.

THE TWO-PART CADENCE

Example II.1 shows a number of two-part *perfect* cadences. “Perfect” implies a close on the tonic in both voices. The figured-bass numerals and the circled numerals label the essential components of the cadences. The following list provides concise descriptions of each cadence; they apply to both major and minor.

EXAMPLE II.1 The two-part perfect cadence

C major

A minor

- a. Simple cadence with 6–8 interval progression (6 \sharp –8 in the minor mode). Traditionally the ②–① step has been attributed to the tenor. In early polyphonic styles up to the sixteenth century, the tenor (from Lat. *tenere*, i.e., to hold) often performs a well-known tune (the *cantus firmus*), which usually ends with a step down to the *finalis*. This cadence pattern is therefore called a *tenor cadence*.
- b. Simple cadence with 3–1 interval progression. The ⑦–① leading-tone resolution (⑦ \sharp –① in the minor) has traditionally been given to the discant (or soprano). For this reason this type of cadence is called a *discant cadence*.
- c. Compound tenor cadence with 7–6–8 (7–6 \sharp –8 in minor) progression. Note the suspension pattern in the upper voice.
- d. Compound discant cadence with 2–3–1 progression. Note the suspension pattern in the lower voice.

EXAMPLE II.2 The two-part imperfect cadence

C major

A minor

Example II.2 shows the *imperfect* cadence. “Imperfect” implies an upper voice that closes on $\hat{3}$ or a lower voice that closes on $\textcircled{3}$. The descriptions below apply to both major and minor cadences.

- Imperfect compound cadence ending with interval progression 2–3–3. The upper voice closes on $\hat{3}$. Note the suspensions in the lower voice: this suspension pattern implies a discant cadence.
- Imperfect compound tenor cadence ending with interval progression 7–6–6 (7–6 \sharp –6 in minor). The lower voice closes on $\textcircled{3}$. Note the suspensions in the upper voice. The $\textcircled{2}$ – $\textcircled{3}$ bass step may be seen as a variation of the normative $\textcircled{2}$ – $\textcircled{1}$; both cadences may be considered as tenor cadences.

EXAMPLE II.3 The double cadence

Example II.3 shows two variants of the *double cadence*, which implies a succession of a simple and a compound cadence. A crucial feature of the double cadence is the twofold leading-tone resolution; see the oblique lines.

a. C major

Interval progression: 3 3 2—3 1
 Circled numbers: $\textcircled{7}$ $\textcircled{1}$ $\textcircled{7}$ $\textcircled{1}$
 Labels: simple, compound, double cadence

b. A minor

Interval progression: 3 \sharp 4 \sharp 6 7—6 \sharp 8
 Circled numbers: $\textcircled{4}$ $\textcircled{3}$ $\textcircled{2}$ $\textcircled{1}$
 Labels: simple, compound, double cadence

Example II.3 shows two variants of the *double cadence*, which implies a succession of a simple and a compound cadence. A crucial feature of the double cadence is the twofold leading-tone resolution; see the oblique lines.

- Double cadence with twofold leading-tone resolution in the lower voice. Note that the simple cadence “ends” on $\textcircled{1}$ on a weak beat; this tone is the preparation of the following suspension at the same time.
- Double cadence with twofold leading-tone resolution in the upper voice. The augmented fourth D–G \sharp in bar 2 causes an additional suspension pattern.

THE THREE-PART CADENCE

Roughly speaking, there are two types of three-part cadence. The first is the tenor cadence, based on the $\textcircled{2}$ – $\textcircled{1}$ step in the lowest voice. The second type is based on the $\textcircled{5}$ – $\textcircled{1}$ bass leap, which can be a falling fifth or a rising fourth. All variants can be perfect or imperfect on the one hand, and simple, compound, or double on the other. Let us first focus on the three-part tenor cadence.

EXAMPLE II.4 The three-part tenor cadence

C major

A minor

Example II.4 shows the perfect tenor cadence: both bass and upper voices end on the tonic. The final $\frac{8}{3}$ chord on ① may be considered as an incomplete $\frac{5}{3}$ chord. The penultimate sound of each example is a diminished $\frac{6}{3}$ chord (see Appendix I) in the major as well as the minor mode. This chord is treated as a consonance; see for instance example (b), in which the $\frac{6}{3}$ chord on ② results from the resolution of the preceding $\frac{7}{3}$ chord.

- a. Simple tenor cadence. The final chord progression is $\frac{6}{3}-\frac{8}{3}$. (The figured-bass numerals label the final chord as an incomplete $\frac{5}{3}$ chord.)
- b. Compound cadence. Note the suspension pattern in the upper voice. The final chord progression is $\frac{7}{3}-\frac{6}{3}-\frac{8}{3}$.
- c. Double cadence with twofold leading-tone resolution in the upper voice; see the oblique lines. The final chord progression is $\frac{7}{3}-\frac{6}{3}-\frac{8}{3}$.

EXAMPLE II.5 The Phrygian half cadence

A minor

A particular variant of the three-part tenor cadence is the *Phrygian cadence*, shown in example II.5. This variant occurs exclusively in the minor mode. The closing ⑥–⑤ step is a half tone, which recalls the half-tone step ②–① of the Phrygian mode. Due to its close on ⑤ the Phrygian cadence acts as a *half cadence*. The half cadence ends on the penultimate sound of the cadence, so to speak: the final tonic is missing.

- a. Compound Phrygian half-cadence, Baroque style. Frequently this variant closes the slow movement of a Baroque sonata, as an “upbeat” to the following fast movement. The step-wise descending motion from ① to ⑤ ends with a compound cadence pattern.
- b. Compound Phrygian half-cadence, Classical style. The augmented sixth F–D# (*) replaces the major sixth F–D of example (a). The raised sixth (i.e., 4# of the key A minor) causes the augmented 5/3 chord. The chord creates a powerful close on the dominant, for instance at the end of a transition section.

EXAMPLE II.6 The cadence ending on ⑤–①

The image shows musical notation for four variations (a-d) of a cadence ending on ⑤–①. The first two variations (a and b) are in C major, and the last two (c and d) are in A minor. Each variation consists of a treble staff and a bass staff. Below the bass staff, there are two rows of symbols: the top row shows chord symbols (e.g., 5/3, 5/3, 5/3) and the bottom row shows scale degrees (e.g., ①, ⑤, ①). Variation (a) is labeled 'C major' and shows a simple cadence. Variation (b) is also labeled 'C major' and shows a cadence with an augmented sixth chord. Variation (c) is labeled 'A minor' and shows a cadence with an augmented sixth chord. Variation (d) is also labeled 'A minor' and shows a cadence with an augmented sixth chord. The notation includes dynamic markings (p, s, r) and articulation (p, s, r) in the treble staff.

In principle, each cadence in example II.6 is based on a ①–⑤–① bass. The bass leap has been highly normative since the end of the fifteenth century; for this reason no distinct term (for instance, “bass cadence”) is used. Complete and incomplete chords alternate. Note that the 5/3 chord on ⑤ is always complete.

- a. Perfect simple cadence. The nature of the leaping bass is harmonic rather than melodic: it divides the octave into a fifth and a fourth. For this reason a rising fifth may replace the falling fourth ①–⑤, and a rising fourth the falling fifth ⑤–①: this does not modify the cadence essentially. Note the parallel sixths in the two upper voices.
- b. Imperfect simple cadence. The minor-mode cadence offers a version that can serve well as an opening gesture because of its energetic upper voice 1̂–2̂–3̂.

- c. Perfect compound cadence. The ⑤ supports a dissonant $\frac{5}{4}$ and a consonant $\frac{5}{3}$ chord. Note that the two upper voices perform a 7–6–8 interval progression, in accordance with the two-part compound cadence. The 7–6 resolution is a 4–3 resolution on the bass at the same time.
- d. Imperfect compound cadence. The suspension sounds in the middle voice.

EXAMPLE II.7 The compound cadence ending on ④–⑤–①

C major

a. $\frac{5}{3}$ ① $\frac{6}{5}$ — $\frac{5}{3}$ ④ ⑤ $\frac{(5)}{3}$ ①

b. $\frac{5}{3}$ ① $\frac{6}{(3)}$ ③ $\frac{6}{5}$ — $\frac{5}{3}$ ④ ⑤ $\frac{(5)}{3}$ ①

A minor

a. $\frac{5}{3}$ ① $\frac{6}{4}$ — $\frac{5}{3\sharp}$ ④ ⑤ $\frac{(5)}{3}$ ①

b. $\frac{5}{3}$ ① $\frac{6}{(3)}$ ③ $\frac{6}{5}$ — $\frac{5}{3\sharp}$ ④ ⑤ $\frac{(5)}{3}$ ①

Example II.7 shows the variant of the compound cadence that is based on the ①–④–⑤–① bass motion.

- a. Perfect compound cadence with $\frac{6}{5}$ on ④. Similar to example II.6(c) the upper voice performs a 7–6 suspension together with the middle voice. The bass step ④–⑤ supports this pattern. Note that the soprano suspension forms a consonant perfect fifth with the bass.
- b. Imperfect compound cadence with $\frac{6}{5}$ on ④. Similar to example II.6(d) the middle voice performs a 2–3 suspension together with the upper voice.

EXAMPLE II.8 The three-part double cadence

C major

a. $\frac{5}{3}$ ① $\frac{6}{(3)}$ ③ $\frac{5}{3}$ ⑤ $\frac{6}{4}$ $\frac{5}{4}$ — $\frac{5}{3}$ $\frac{(5)}{3}$ ①

b. $\frac{6}{3}$ ⑦ $\frac{6}{3}$ ⑥ $\frac{7}{3}$ — $\frac{6}{4}$ $\frac{5}{4}$ — $\frac{5}{3}$ 8 ①

simple compound double cadence

simple compound double cadence

EXAMPLE II.8 Continued

a. A minor

b. * p s r

① ③ ⑤ ① ① ⑥ ⑤ ①

simple compound simple compound

double cadence double cadence

Example II.8 shows the three-part double cadence, which adds a sustained ⑤ to the two-part framework given in example II.3. The sustained bass acts as a pedal point that supports four distinct sounds. The ascending oblique lines indicate the twofold leading-tone resolutions.

- a. Perfect double cadence. The first stage of the sustained ⑤ is the progression $\frac{5}{3} - \frac{6}{4}$. Since the $\frac{6}{4}$ chord hints at the tonic, the progression suggests a weak simple cadence. At the same time the $\frac{6}{4}$ chord provides the preparation for the next suspension. The second stage is the resolution of this suspension, resulting in the compound progression $\frac{5}{4} - \frac{5}{3}$.
- b. Perfect double cadence with twofold suspension pattern. The “simple” stage of ⑤ includes a first suspension pattern. In C major this results in the resolution of the diminished fifth B–F (*) into the major third C–E, and in A minor in the augmented fourth D–G# (*) into the major sixth C–A. The oblique lines indicate these resolutions. Note that this procedure implies the progression $\frac{7}{3} - \frac{6}{4}$. The seventh is prepared as normal. The “compound” stage of the double cadence is in accordance with example (a).

EXAMPLE II.9 The Galant cadence

a. C major

b.

c.

① ③ ④ ⑤ ① ① ④ ⑤ ① ③ ④ ⑤ ①

a. A minor

b.

c.

③ ① ④ ⑤ ① ③ ④ ⑤ ① ① ④ ⑤ ①

Example II.9 shows the *Galant cadence*. The two upper voices move largely in parallel sixths or thirds over the ④–⑤–① bass.

- Perfect simple Galant cadence. The upper voices essentially move in parallel sixths. This results in an incomplete $\frac{6}{3}$ chord (with the third missing) on ④. The cadence is simple because of the consonant $\frac{5}{3}$ chord on ⑤.
- Perfect compound Galant cadence. The upper voices move stepwise in parallel sixths. The stepwise motion results in a $\frac{6}{4}$ chord on ⑤. This chord is conceived as a dissonant chord with a double resolution 4–3 and 6–5; see the oblique lines. The $\frac{6}{4}$ chord occurs on the strong beat and the subsequent $\frac{5}{3}$ chord on the weak beat. The fourth and the sixth are accented passing tones.
- Imperfect compound Galant cadence. The parallel sixths of example (b) are inverted into parallel thirds.

EXAMPLE II.10 The Neapolitan cadence

The musical score for Example II.10 is in A minor and is divided into three sections: a, b, and c. Section a shows a simple Neapolitan cadence with a Neapolitan turn. Section b shows a compound Neapolitan cadence. Section c shows a compound Neapolitan cadence with inverted parallel thirds. The score includes figured bass notation below the notes, indicating the harmonic structure and the Neapolitan turn (Bb-G#).

The *Neapolitan cadence*, shown in example II.10, is a particular variant of the Galant cadence. Its striking feature is the lowered $\hat{2}$, which recalls the Phrygian mode. The cadence occurs mainly in the minor mode; major-mode occurrences are relatively rare.

- Simple Neapolitan cadence. The “Neapolitan” $\hat{2}$ (the B \flat in bar 2) falls by a diminished third to the leading tone (the G \sharp). This melodic pattern is called the *Neapolitan turn*. Note the chromatic cross relation between B \flat in the upper voice and B \sharp in the middle voice.
- Compound Neapolitan cadence. The diminished third B \flat –G \sharp is filled by the accented passing tone A, which results in the $\frac{6}{4}$ chord on ⑤. Remind that $\frac{6}{4}$ always occurs on the strong beat.
- Compound Neapolitan cadence. The parallel sixths of example (b) are inverted into parallel thirds. Consequently, the Neapolitan turn occurs in the middle voice.

Example II.11 shows the *deceptive cadence*, which means that the penultimate ⑤ does not proceed to the expected ① but to an alternative scale degree. Often this concerns the bass step ⑤–⑥.

EXAMPLE II.11 The deceptive cadence

a. C major

b.

a. A minor

b.

- a. Deceptive compound cadence. Bars 1–2 strongly suggest a final $\frac{5}{3}$ chord on ①. Instead the bass moves to ⑥. The two upper voices close with a 3–1 interval progression; see the oblique lines. The upper voice has to step down: a step up (D–E in C major or B–C in A minor) would cause parallel fifths with the bass.
- b. Deceptive compound Galant cadence. The upper voices close with a 6–8 interval progression.

THE FOUR-PART CADENCE

The four-part cadence does not differ essentially from the three-part cadence. All three-part cadences have their four-part equivalents. Evidently, the added fourth voice completes chords and provides a richer sound. Instead of presenting all cadence types again, this section discusses some features that are typical of four-part harmony.

EXAMPLE II.12 The four-part simple cadence

a. C major

b.

a. A minor

b.

An important issue of four-part harmony is the doubling of tones. In the simple cadences exposed in example II.12, all bass tones are doubled.

- a. Perfect simple cadence in close position. All voices perform their most natural patterns: the bass $\hat{1}-\hat{5}-\hat{1}$, the soprano $\hat{1}-\hat{7}(\#)-\hat{1}$ (the discant pattern), the tenor $\hat{3}-\hat{2}-\hat{3}$ (as a variation of $\hat{3}-\hat{2}-\hat{1}$), and the alto the static $\hat{5}-\hat{5}-\hat{5}$. Therefore this cadence may be regarded as the standard version of the four-part simple cadence. Note that all $\frac{5}{3}$ chords are complete.
- b. Imperfect simple cadence in open or spread position. The tenor and the soprano have changed places, so the soprano follows the tenor pattern $3-\hat{2}-\hat{3}$ and the tenor the discant pattern $\hat{1}-\hat{7}(\#)-\hat{1}$.

EXAMPLE II.13 The four-part compound cadence

The musical score for Example II.13 is divided into two systems: C major and A minor. Each system contains two parts, 'a' and 'b'. Part 'a' shows a perfect compound cadence with a passing tone (pt) in the alto voice. Part 'b' shows a perfect compound cadence with a passing tone (pt) in the tenor voice. The notation includes vocal parts (p, s, r) and a passing tone (pt). Below the notes are figured bass notations and circled numbers 1-5 indicating voice positions.

Example II.13 shows the compound cadence, in which all voices perform their most natural patterns.

- a. Perfect compound cadence with $\frac{5}{4}$ on $\hat{5}$. The passing tone (pt) produces a new, stereotypical alto pattern $\hat{5}-\hat{4}-\hat{3}$. This pattern results in a dominant $\frac{7}{3}$ chord on $\hat{5}$ and an incomplete $\frac{5}{3}$ chord on $\hat{1}$. The oblique lines indicate the resolution of the augmented fourth into the sixth.
- b. Perfect compound cadence with $\frac{6}{3}$ on $\hat{4}$. The alto follows the pattern $\hat{5}-\hat{6}-\hat{5}-\hat{4}-\hat{3}$; the passing tone appears as a quarter note, which makes the dominant $\frac{7}{3}$ more transient than in example (a).

EXAMPLE II.14 The tenor cadence (a), the discant cadence (b), and the alto cadence (c)

The musical score for Example II.14 is in C major and is divided into three parts: 'a', 'b', and 'c'. Part 'a' shows a tenor cadence with a passing tone (pt) in the tenor voice. Part 'b' shows a discant cadence with a passing tone (pt) in the tenor voice. Part 'c' shows an alto cadence with a passing tone (pt) in the alto voice. The notation includes vocal parts (p, s, r) and a passing tone (pt). Below the notes are figured bass notations and circled numbers 1-7 indicating voice positions.

EXAMPLE II.14 Continued

A minor

a. p s r

b. p s r

c. pt

③ ② ③ ⑤ ③ ① ① ② ⑦# ① ③ ⑤ ④ ③

Example II.14 shows three cadence types with different bass patterns. None of these cadences are powerful enough to close a composition or even a section, but they may mark the beginning or end of a phrase or part of it.

- Compound tenor cadence. The bass follows the cadential pattern ③–②–① that is typical of the tenor (compare the tenor in example II.13). The tenor cadence can occur as the (rather weak) end of a phrase.
- Compound discant cadence. The suspension pattern, more typical in the soprano, sounds in the bass (compare the soprano in example II.13). The discant cadence frequently acts as the opening gesture of a composition.
- Simple alto cadence. The bass follows the alto pattern ⑤–④–③ (compare the alto in example II.13). The alto cadence is the weakest cadence type; often it is followed by a more powerful cadence.

EXAMPLE II.15 The deceptive cadence

C major

A minor

Neapolitan turn

a. p s r pt

b. ap pt

① ⑥ ④ ⑤ ⑥ ③ ④ ⑤ ⑦# ③ ⑥

Example II.15 shows the four-part deceptive cadence. Both examples end with a ⑤–⑥ bass step.

- Deceptive compound cadence. The passing tone at the end of bar 2 gives rise to a transient dominant $\frac{7}{3}$ chord. The augmented fourth F–B resolves into the minor sixth E–C. Apart from the bass, all the voices follow their most natural patterns. Thus it is only the bass step ⑤–⑥ that makes the cadence deceptive. Note that this procedure results in the doubling of the third in the final chord on ⑥.
- Deceptive Neapolitan cadence. Bar 2 shows the resolution of the $\frac{6}{4}$ chord into the dominant $\frac{7}{3}$. Once more all the voices but the bass follow their natural pattern.

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WORKBOOK

d.

imperfect cadence

e.

perfect cadence

f.

perfect cadence

g.

5

imperfect cadence

1.2. Alternation of Thirds and Sixths

a.

3 6 3 6
3-6 progression

8

3 6 6 3
3-6 progression

5 6 8
perfect cadence

b.

3 6 - 3
3-6 progression

3 3
perfect cadence

5

3 3
perfect cadence

imperfect cadence

c.

3 3 3 3 3 3 3 3 6 3 6 3 6 8
perfect cadence

d.

① ③ ② ⑥ ③ ⑦ ④ ⑥ ③ ⑦ ② ⑥ ① ⑤

Third Down Second Up

e.

① ③ ② ⑥ ③ ⑦ ④ ⑥ ③ ⑦ ② ⑥

Third Down Second Up

8

① ③ ② ⑥ ③ ⑦ ④ ⑥ ③ ⑦ ② ⑥ ① ⑤

perfect cadence

f.

① ③ ② ⑥ ③ ⑦ ④ ⑥ ③ ⑦ ② ⑥ ① ⑤

3-6 progression

half cadence

7

① ③ ② ⑥ ③ ⑦ ④ ⑥ ③ ⑦ ② ⑥ ① ⑤

Second Up Third Down

(after Durante)

5g

A major

3-6 progression

8

D major

B minor

15

A major

Third Down Second Up

22

29

6 6 6 6

36

3 6 6 8

1.3. Suspensions: Sevenths and Seconds

a.

8 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 8

perfect compound cadence

b.

perfect compound cadence

c.

3 - 2 3 2 3 3 6 7 6 7 6 7 6 8

perfect compound cadence

d.

perfect compound cadence

6

perfect compound cadence

(after Durante)

e.

C minor G minor

5

C minor

9

f.

Bb major F major

compound cadence

6

Bb major

10

1.4. Variants of Suspension Patterns

a.

3 6 7 3 7 3 7 3 7 3 7 3 8
perfect compound cadence

b.

3 6# 6 3 3 6 2 6 2 6
Fenaroli

6

2 6 2 6 2 6 7 3 2 3 1
perfect compound cadence

c.

Fenaroli 2-6 and 7-3

8

perfect compound cadence

(after Durante)

d. G minor

5 3 * * *

3 Bb major

* * *

5 G minor

* 6 3 *

e. D major A major (after Durante)

(3) 2 6 (3) compound cadence

4 D major

7 3 compound cadence

Chapter 2 Three-Part Scale Realization

2.1. The Fauxbourdon

a.

b.

c.

5

2.2. The Monte and the 7-6 Fauxbourdon

a.

5 6 etc.

8

5 6 7 6 etc.

b.

Monte

8

7-6 Fauxbourdon

c.

*

d.

Musical notation for exercise d, measures 1-7. Treble clef, key signature of two sharps (F# and C#), common time. Bass clef, key signature of two sharps (F# and C#), common time. The bass line starts with a half note G2, followed by quarter notes A2, B2, C3, D3, E3, F3, G3.

8

Musical notation for exercise d, measures 8-14. Treble clef, key signature of two sharps (F# and C#), common time. Bass clef, key signature of two sharps (F# and C#), common time. The bass line continues with quarter notes G3, F3, E3, D3, C3, B2, A2, G2.

e.

Musical notation for exercise e, measures 1-5. Treble clef, key signature of two flats (Bb and Eb), common time. Bass clef, key signature of two flats (Bb and Eb), common time. The bass line starts with a half note G2, followed by quarter notes F2, Eb2, D2, C2, B1, Ab1, G1.

6

Musical notation for exercise e, measures 6-10. Treble clef, key signature of two flats (Bb and Eb), common time. Bass clef, key signature of two flats (Bb and Eb), common time. The bass line continues with quarter notes G1, Ab1, Bb1, C2, D2, Eb2, F2, G2.

Phrygian half cadence

11

Musical notation for exercise e, measures 11-14. Treble clef, key signature of two flats (Bb and Eb), common time. Bass clef, key signature of two flats (Bb and Eb), common time. The bass line continues with quarter notes G2, F2, Eb2, D2, C2, B1, Ab1, G1.

2.3. The Stepwise Romanesca

a.

5 6 5 6 5 6 7 6 5

b.

Monte

5

stepwise Romanesca compound cadence

c.

Monte

7

stepwise Romanesca compound cadence

2.4. Fifth Down Fourth Up

a.

5/3 7/3 7/3 etc.

b.

5/3 7 7 7 etc.

c.

Monte Fifth Down Fourth Up

d.

5/3 7 7 7

5

tempo di gavotta

(after Corelli)

e.

B minor

Fenaroli 7-6 Fauxbourdon Fifth Down

5

F# minor

Fourth Up 7-6 - - compound Phrygian half cadence Fenaroli

10

D major

perfect compound cadence stepwise

15

B minor

Romanesca - - - compound cadence

20

Fauxbourdon - - - - compound cadence

2.5. The Tied Bass

a.

$\frac{4}{2}$ $\frac{6}{3}$ $\frac{4}{2}$ $\frac{6}{3}$ etc. $\frac{6}{3}$ $\frac{7}{3}$ $\frac{6}{3}$ $\frac{8}{3}$

b.

5 6 etc. $\frac{4\#}{2}$ 6 etc.

c.

5

d.

stepwise Romanesca
Tied Bass
Fourth Up Fifth Down

B \flat major (after Fenaroli)

e.

discant cadence Monte

6 **F major**

cf. bars 1-3 Monte

11

etc.

16 **B \flat major**

Fourth Up Fifth Down

22

cf. bars 1-2

28

perfect compound cadence

Chapter 3 The Three-part Cadence

Exercise 1: A two-staff musical score in C major, 4/4 time. The bass line consists of a sequence of notes: C4, D4, E4, F4, G4, A4, B4, A4, G4, F4, E4, D4, C4. Brackets below the staff identify three sections: 'stepwise Romanesca' (C4-D4-E4-F4-G4), '7-6' (A4-B4-A4-G4), and 'perfect simple cadence' (F4-E4-D4-C4).

b.

Exercise 2: A two-staff musical score in C major, 4/4 time. The bass line consists of a sequence of notes: C4, D4, E4, F4, G4, A4, B4, A4, G4, F4, E4, D4, C4. A bracket below the staff identifies the final four notes (F4-E4-D4-C4) as a 'perfect simple cadence'.

c.

Exercise 3: A two-staff musical score in D major, 3/4 time. The bass line consists of a sequence of notes: D4, E4, F4, G4, A4, B4, A4, G4, F4, E4, D4. A bracket below the staff identifies the final four notes (F4-E4-D4-C4) as an 'imperfect simple cadence'.

d.

Exercise 4: A two-staff musical score in D major, 4/4 time. The bass line consists of a sequence of notes: D4, E4, F4, G4, A4, B4, A4, G4, F4, E4, D4. A bracket below the staff identifies the final four notes (F4-E4-D4-C4) as an 'imperfect simple cadence'.

e.

Exercise 5: A two-staff musical score in D major, 4/4 time. The bass line consists of a sequence of notes: D4, E4, F4, G4, A4, B4, A4, G4, F4, E4, D4. A bracket below the staff identifies the final four notes (F4-E4-D4-C4) as a 'perfect simple cadence'.

3.2. The Compound Cadence

a.

5/3 5/4 3/3 3 6/3 6/5 5/3 5

deceptive compound cadence perfect compound cadence

b.

imperfect simple cadence deceptive compound cadence perfect compound cadence

c.

stepwise Romanesca perfect compound cadence

d.

stepwise Romanesca imperfect compound cadence cf. bars 1-2 perfect compound cadence

e.

simple compound

double cadence

3.3. The Double Cadence

a.

deceptive cadence double cadence

b.

Monte double cadence

c.

d.

e.

Fauxbourdon

3.4. The Galant Cadence

a.

imperfect simple Galant cadence

b.

deceptive compound Galant cadence

compound Galant cadence

c.

flourishing

d.

A minor

C major

(after Telemann)

cadence

cadence

5

A minor

cadence

deceptive

cadence

3.5. The Neapolitan Cadence

a.

Fauxbourdon simple Neapolitan cadence

b.

c.

imperfect simple cadence deceptive compound cadence compound Neapolitan cadence

d.

G minor B \flat major (after Mattei)

6 5

8

Chapter 4 The Rule of the Octave

4.1. The Ascending Pentachord

a.

RO ascending pentachord double cadence

b.

5 7 6# 6 6 5 5 5 6 6 5# - 5
3 3 3 3 3 3# 3 3 3# 3 5 3# - 3

RO ascending pentachord perfect compound cadence

c.

F major

RO simple cadence Monte

5

C major

double cadence

9

F major

double cadence

4.2. The Descending Pentachord

a.

RO ascending pentachord RO descending pentachord

6

deceptive compound cadence Neapolitan cadence

b.

E minor G major

RO descending pentachord half cadence

6 5
4 3#

7

Fourth Up Fifth Down

11

E minor

deceptive cadence imperfect - - - - perfect cadence

4.3. The Ascending Tetrachord

a.

ascending RO imperfect compound cadence

b.

ascending RO 7-6 Fauxbourdon

6

descending pentachord Fauxbourdon - - - double cadence

c.

C major A minor F major D minor

ascending tetrachord similar similar similar

5

C major

similar ascending pentachord double cadence

4.4. The Descending Tetrachord

a.

6 7 6# 4/2 6 7 6

descending tetrachord descending pentachord

b.

RO RO

5

simple Galant cadence

c.

Monte descending RO imperfect compound cadence

d.

ascending pentachord imperfect simple cadence descending tetrachord double cadence

B minor D major

1.

5

F# minor 9

B minor 13

17

Chapter 5 Galant Schemata

5.1. The Leaping Romanesca

a.

leaping Romanesca Galant cadence

b.

leaping Romanesca double cadence

c.

leaping Romanesca Monte compound cadence

d.

leaping Romanesca imperfect simple cadence

6

leaping Romanesca double cadence

A minor (after Durante)

1. e.

5

.....

9

.....

13

.....

17

.....

21

.....

5.3. The Prinner

(after Handel's Hallelujah)

a.

D major

Prinner

A major

modulating Prinner

D major

7 6 (5)

b.

stepwise Romanesca

Prinner

modulating Prinner

Prinner

Prinner

5.4. The Monte Romanesca

a.

Monte Romanesca

b.

Monte Romanesca

4

leaping Romanesca

compound cadence

c.

5 3 4 3 etc.

canonic Monte Romanesca

4

7-6 Fauxbourdon, stepwise cadence

imperfect compound cadence

Quiescenza

(Mattei)

d.

4 3 4 3 4 3

5

4 3 7 6 6 9 8 6 6 5 4 3

e.

A minor E minor E major 2-3

canonic Monte Romanesca

5

C# minor compound cadence

10

14

9 8 4 3 9 8 4 3

leaping Romanesca

5.5. The Fenaroli

a.

6 4 6 3 6 3

Fenaroli modulating Prinrer RO Galant cadence Quiescenza

b.

Fenaroli Fifth Down Fourth Up

6

Fenaroli double cadence *

c.

5

B \flat minor **F minor** (after Durante)

d.

4th 6
2 3

6

7 6 5
3 5

A \flat major **F minor**

12

4 6
2 3

B \flat minor

17

22

5.6. The Folia

(after Durante)

D minor

1 2 3 4 5

6

A minor

7 3# 5 5

12

6 6 6 6 6 4 3#

18

D minor

6 6 6 6 6 4 3#

24

6 6 6 6 6 4 3#

29

6 6 6 6 6 4 3#

Part II

Chapter 6 Fundamentals of Four-Part Harmony

6.1. The Compound Cadence (II)

(Sala)

a.

C major G major
four voices *three voices*
 5 6 6 5 5 6 5 5 6 5 - 6 5 4# 6
 ① ③ ⑤ ① 3 3 3 3 3 3 - 6 5 2 6
 compound cadence compound cadence alto cadence modulating Prinner

5

four voices
 7 6#
 3 3
 ----- tenor cadence cf. bars 1-4

9

C major
three voices *four voices*
 6 (5) 4 6 4 6 7 6
 3 3 2 3 2 3 3 3
 Tied Bass ----- tenor cadence compound cadence compound cadence

b.

G major (after Fenaroli)
three voices *four voices*
three voices
 5 6 - 5 6 - 5 6 5 5
 3 3 - 3 3 - 3 3 3 3
 (im)perfect cadence

6 ┌ similar [.....]

6

12 [.....]

12

17 [.....] [..... Minor]

17

22 [.....]

22

28

28

6.2. The Galant Cadence (II)

(after Mattei)

a.

three voices

four voices

Galant cadence

(Mattei)

b.

three voices

5

four voices

Galant cadence

c.

B minor

three voices

four voices

three voices

four voices

Galant cadence

Galant cadence

5

(pt)

(pt)

(pt)

Fonte

Neapolitan cadence

6.3. The Discant Cadence

a. A minor four voices three voices

discant cadence perfect cadence Prinner (Tied Bass, Phrygian half cadence)

5 C major four voices A minor three voices

Monte

9 four voices

.....

b. F major two voices four voices (after Fenaroli) C major similar

6 F major three voices

5 5 5 5
⑤ ①

11 [G major] [A minor] [C major]

16 four voices two voices similar

21

26 two voices

31 four voices

6.4. The Dominant Seventh Chord

(after Solfèges d'Italie)

1 Bb major F major

a.

7 Bb major — *three voices*

13 — *four voices*

Eb major [F minor] (after Schubert)

b.

deceptive simple alto compound Galant half cadence

5 [F minor] * * *

deceptive simple deceptive Marpurg cadence

6.5. The Dominant Seventh Family

(after Fenaroli)

a.

four voices

4

8 three voices four voices

12 three voices four voices

(Durante)

b. A major E major

Galant cadence

5

9

13

17

(Fenaroli)

6

.....

two voices

four voices

(*)

compound alto cadence

Fenaroli

10

.....

Fenaroli

Fenaroli

14

.....

.....

chromatic Monte

18

.....

two voices

four voices

Fenaroli

Fenaroli

22

Fenaroli

Fenaroli

6.6. The Four-Part Rule of the Octave

a.

RO

5

RO imperfect compound cadence

b.

7

segment 1 segment 2

13

segment 3 voice exchange

(Fenaroli)

.....

c.

voice exchange

RO

cadence

5

.....

6/3 5/3 6/3 5/3 7/3 7/3

10

.....

15

20

.....

25

.....

6 3 - - 6 4 - - 5 5 3

30

.....

35

40

.....

45

Chapter 7 Beyond the Rule of the Octave

7.1. The Diminished Seventh Family

a. D minor

Meyer deceptive cadence

5

alto cadence Neapolitan cadence

b. D major

three voices four voices

stepwise Romanesca Prinner compound half cadence

5

three voices four voices

ap ap

5/3 6/3

compound Galant cadence

(after Fenaroli)

1 D minor
four voices three voices

5/3 * 6[#]3/3 6/3 6/3

5 four voices (bridge -----)

5/3# - 6/3 5/3 * 6/3^b/3

compound cadence

10 three voices four voices (bridge -----)

15 three voices four

* 5/3 5/3 6/3

19
voices

* 6/3

compound cadence

7.2. Fifth Down Fourth Up and Third Down Second Up

A minor (Durante)

a.

5

9

13

16

(after Fenaroli)

b.

Fifth Down Fourth Up compound cadence

4

7

9

compound

12

— three voices

Fenaroli cadence Fenaroli

15 *four voices*

Fifth Down Fourth Up

18

Third Down Second Up

compound

21 *three*

3

24 *voices* *four voices*

5 5 6 7 6 6 6#

compound

27

cadence cadence cadence

7.3. The Tied Bass (II)

(Insanguine)

A minor

a.

4

2 $\frac{1}{2}$

7

7 6 5 (7 5) (7 5)

10

13

3 \flat 7 3 \sharp

16

.....

3# 2# 6

19

5 4 3#

22

.....

7 3#

25

E minor

four voices

(Durante)

b.

6/4# 6/3

4 three voices A minor two voices (sixteenths)

(5)

7 three voices four voices

5 3 (5) 3 5 4 5 3

10 three voices

13 four voices

deceptive

16 three voices four voices

7.4. Descending Thirds

(Mattei)

a.

* * * *

4

(pt) double cadence

b.

Ab major (free after Schubert)

Descending Thirds ① simple Galant cadence

9

F minor Ab major

Descending Thirds ⑤ compound Galant cadence

C major

(after Sala)

c.

Descending Thirds

G major

5

C major

9

alto cadence

two voices

14

Fifth Down Fourth Up

four voices

18

7.5. The Folia (II)

a.

D minor F major A minor D minor

modulating Folia RO compound cadence

b.

.....

6

.....

c.

C minor (after Haydn)

three voices p s r

modulating Folia

6

..... C minor four voices

deceptive cadence compound cadence with augm. 6/5/3

Chapter 8 Chromaticism

8.1. The Fonte

a.

B \flat major

Romanesca $\frac{6}{3}$ compound cadence Fonte

7

deceptive perfect

b.

D major

three voices

(after Zingarelli)

Fonte

7

compound Galant half cadence

12

simple Galant cadence

(after Fenaroli)

c.

.....

.....

.....

Prinner

alto cadence

7 — four voices

.....

compound cadence

compound cadence

alto cadence

14

.....

compound cadence

compound cadence

.....

alto cadence

21

Fonte

27 — four voices

33 — three voices

three voices

four voices

deceptive

perfect

8.2. The Chromatic Monte

a.

6 5 6 - 5 6 6 5 6 - 5 6 - 5 6 6 (5) 6 5 (5)

b.

segment 1 segment 2 (C minor) etc.

^ 5 ^ 4 ^ 3 ^ 5 ^ 4 ^ 3

5

* * * *

simple Galant cadence

c.

^ 5 ^ 4 ^ 3

6

alto cadence imperfect compound cadence

1 *three voices*

① ② ⑦ ① Meyer Prinner

7 *four voices*

Galant cadence Fonte

13 *three voices* *four voices*

parallel thirds converging half cadence

19

chromatic Monte Galant cadence

C major

(Insanguine)

e.

Measures 1-3 of the piece. Treble clef, C major, common time. Bass clef accompaniment.

4

Measures 4-7. Treble clef, C major, common time. Bass clef accompaniment. Brackets labeled "alto cadence" under measures 6 and 7.

8

Measures 8-10. Treble clef, C major, common time. Bass clef accompaniment. Brackets labeled "alto cadence" under measures 9 and 10.

11

Measures 11-13. Treble clef, C major, common time. Bass clef accompaniment. Brackets labeled "alto cadence" under measures 12 and 13.

14

Measures 14-16. Treble clef, C major, common time. Bass clef accompaniment. Brackets labeled "alto cadence" under measures 15 and 16.

8.3. Tonicization in Descending Thirds

a.

tonicizations in Descending Thirds

6
3

6

Quiescenza

b.

suspension in alto

tonicizations - - - -

6

--- in Descending Thirds

Neapolitan cadence

c.

G major

three voices

four voices

(after Fenaroli)

D major

5

G major

three voices

tenor cadence compound cadence tonicizations ---

9

--- in Descending Thirds

Monte

13

E minor

four voices

compound cadence

17

G major

three voices

Fourth Up Fifth Down

20

four voices

8.4. The Chromatic Tetrachord: the Lamento

a.

6
3 7
3 6
3 7
3 6
3

6

four voices

3 6
5 3#

b.

Lamento

6

Lamento

c.

four voices

d. (Fenaroli)

Lamento compound cadence

4

alto cadence parallel thirds half cadence

7

compound cadence chromatic Monte

10

13

chromatic Monte

(Fenaroli)

d. D minor

cadence

6 chromatic tetrachord in soprano

cadence

11 * $\hat{3}$ $\hat{2}$ $\hat{1}$ $\hat{7\#}$

converging half cadence

16 chromatic tetrachord

chromatic tetrachord

21 in soprano

26

Musical score for exercise 26, consisting of two staves (treble and bass clef) in a key signature of one flat. The score spans five measures. A bracket under the last three measures (measures 3, 4, and 5) is labeled "converging half cadence". Above measure 5, there is a small box containing a dotted line ".....".

31

Musical score for exercise 31, consisting of two staves (treble and bass clef) in a key signature of one flat. The score spans five measures. Above measure 3, there is a small box containing a dotted line ".....".

36

Musical score for exercise 36, consisting of two staves (treble and bass clef) in a key signature of one flat. The score spans five measures. Above measure 3, there is a small box containing a dotted line ".....".

41

Musical score for exercise 41, consisting of two staves (treble and bass clef) in a key signature of one flat. The score spans five measures. A bracket under the last three measures (measures 3, 4, and 5) is labeled "compound cadence".

46

Musical score for exercise 46, consisting of two staves (treble and bass clef) in a key signature of one flat. The score spans five measures. The final measure (measure 5) ends with a double bar line.

8.6. The Chain of Dominants

a.

5

Monte

Chain of

Dominants

converging

Galant cadence

b.

four voices

Morte

Chain of Dominants (imitations in upper and

three voices

7

four voices

middle voices)

Neapolitan (converging) cadence

c.

G minor

Bb major (free after Mozart)

alto cadence

alto cadence

6

Chain of Dominants

11

Galant cadence Fonte

16

G minor

converging half cadence augmented sixth

22

[C minor]

Chain of Dominants alto cadence Galant cadence

28

Chain of Dominants alto cadence Galant cadence

(free after Mozart)

e.

Third Down Second Up compound cadence 7 7
3 3

7

converging half cadence chromatic Monte Fifth Down Fourth Up, ^6 ^5 ^4

13 3

Prinner cf. bars 1-2 6
4
2

19 E minor/major --- >

Chain of Dominants converging half cadence

26

Fifth Down Fourth Up, Prinner

9.2. The Augmented Sixth and the Dominant Seventh

a. F# minor

voice exchange

5 G major

b.

[V: 7] ①

c. Neapolitan turn

d. A major

Chain of Dominants half cadence

5 B \flat major

compound Galant cadence

9 B \flat minor

chromatic Monte

13 A major

[IV: ④ ③] compound cadence

e. (free after Schubert)

descending RO, half cadence

7

perfect compound cadence

12

perfect compound cadence

17

segment 1 segment 2 segment 3

22

rit..... *a tempo*

6/4 6/8

27

6/4 3/4

Chain of Dominants compound Galant cadence

9.3. Enharmonizations of the Diminished Seventh Chord

a. E minor

b. Bb major [G minor] [Eb major] [C minor]

c. F minor

6

11 E major

A minor

d.

*

6

.....

*

*

11

*

chromatic bass

16

.....

*

6/4

7/3

*

A minor

22

*

Quiescenza

9.4. Enharmonizations of the Augmented Fifth Triad

a.

E minor G major

three voices

Fenaroli Galant half cadence Fenaroli compound cadence

5

four voices three voices

E minor

Galant cadence

b.

D major

converging half cadence

7

.....

.....

.....

compound cadence Folia

12

D major

Folia

9.5. The Omnibus

a. G minor [B \flat minor]

5

G minor

Omnibus

b. chromatic soprano

Third Down Second Up half cadence

6 [.....] [.....] [.....] [.....] [.....]

Monte Omnibus

11 [.....]

voice exchange

(after Chopin)

c.

G minor

Neapolitan turn

compound cadence (with 7-7)

Neapolitan cadence

7

Neapolitan turn

[C minor]

G minor

Neapolitan cadence

RO

Galant cadence

13

[C minor]

G minor

6^b/₄

19

[C minor]

[Eb minor]

G minor

Omnibus

voice exchange,
alto cadence

24

voice exchange,
alto cadence

Galant cadence

Quiescenza

