FUNDAMENTALS, FUNCTION, AND FORM



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1.1: Introduction to Rhythm and Meter

1.1 Introduction

The duration of notes and silence—that is, how long a musical sound or pause is held—is an essential part of performing, composing, and experiencing music. Many of the chapters in this book are concerned primarily with matters of pitch: scales, intervals, and chords. But without a firm understanding of how these elements interact in time, they lose much of their meaning. Consider the following example in which the note durations of a well-known melody have been altered. See if you can identify the melody in its altered form.

(Don't worry if you are not yet familiar with musical notation! If you've never seen written music, try closing your eyes as you listen to the audio recording. Then open your eyes and try listening again. Many listeners find it easy enough to follow along visually with the score. Scan the music from left to right, moving from symbol to symbol as you hear each successive note in the recording.)

Example 1–1.

0:00 / 0:00

example_1-1

Chances are, the melody seemed unfamiliar. Even though the pitches are the same and appear in the same order, the melody is virtually unrecognizable. The following example restores the notes to their original durations:

Example 1–2. *Henry Mancini, "The Pink Panther."*

0:00 / 0:00

example_1-2

As you can see (and hear), the note durations and the manner in which they are organized make a big difference!

We use the words *rhythm* and *meter* to describe how music unfolds in time. In this chapter we will cover a number of rudimentary topics pertaining to rhythm and meter, beginning with the concept of the beat, and progressing through discussions of tempo, note values, and rests. We will conclude by looking at several more complex ways of notating rhythm.

Note: Several of the examples in this chapter include alternate audio recordings with click tracks added to clarify the beat. These have been omitted here, but like all of the examples in this and the remaining chapters, they are available in the online version of the book.

1.2 The beat

Central to both rhythm and meter is a musical characteristic referred to as the beat. A periodic—that is, regularly occurring—pulse that underlies a piece of music, the beat is something we have all experienced while listening. Virtually all Western music has an underlying pulse of this sort.

Listen to the following example while tapping along with your foot. Listen for a beat that is consistent throughout the excerpt. (Again, even if you are unfamiliar with all of the notation symbols, you should find it easy enough to follow along visually with the score.)

Example 1–3. *Wolfgang Amadeus Mozart, Piano Sonata No. 13 in Bb major (K.333), III. Allegretto grazioso, mm. 1–16.*

a.

0:00 / 0:00

example_1-3a

b. With click track:

0:00 / 0:00

If you were unable to identify a steady pulse while listening to this example, try listening to it again. Being familiar with a piece of music helps a great deal in analyzing it, particularly with regards to rhythm and meter. You may find that even with just two listenings, you will be quite familiar with this excerpt. If you are still having difficulty, try listening to the second audio clip which adds a click track highlighting the beat.

As you became aware of the steady beat in the example above, chances are you noticed several things. For one, certain beats seem stronger than others. In this case, the beats alternate between strong beats and weak beats. For another, the actual music only rarely just follows the beat. There are many different note durations in this excerpt—some are equal to the beat while others are shorter or longer. These observations form the basis for distinguishing between rhythm and meter, though it is important to keep in mind that both of these concepts are closely interrelated.

Note: You may have found that as you were tapping along to the example above, you found that there were several different pulses happening at once. Not to worry! As we will discuss in a moment, meter consists of a hierarchical set of pulses. In other words, if you heard a pulse that was rather quick, it's likely that you were tuned into a division of the beat instead of the beat itself. Generally speaking, the beat of a piece of music occurs at a moderate pace: not too fast, not too slow.

1.3 Rhythm and meter

When we talk about *meter*, we refer to how the basic beats are grouped. In Example 1–3, we saw and heard how every other beat was emphasized: strong-weak-strong-weak-strong, etc. We refer to this type of beat grouping as a duple meter because the beats are grouped in twos: one strong and one weak. The following example shows the strong and weak beats in the first four measures of the same excerpt. As above, a click track has been added in the second audio recording. The higher pitched click corresponds with the strong beats while the lower pitched click corresponds with the weak beats.

Example 1–4. Analysis of *Wolfgang Amadeus Mozart, Piano Sonata No. 13 in Bb major (K.333), II. Andante cantabile, mm. 1–4.*

a.

0:00 / 0:00



b. With click track:

0:00 / 0:00

As you can see in the notation, the strong-weak groups are separated with vertical lines. Each group is referred to as a *measure* (or *bar*) and the vertical lines as *measure lines* (or *bar lines*). The word measure is abbreviated "m." and measures is abbreviated "mm."

Listening to a different piece of music, we may find that every third beat is emphasized: strong-weak-weak-strong-weak-weak, etc. This type of beat grouping would be referred to as a *triple meter*. The following excerpt is in a triple meter. If you listen to the audio clip with the click track in Example 1–5, you will notice that the clicks correspond with the strong-weak-weak-strong-weak-weak beat pattern: high-low-low-high-low-low.

Example 1–5. *Clara Greenwood, The Waldemere Waltzes, No. 1 in F major, mm. 1–16.*

a.

0:00 / 0:00

example_1-5a

b. With click track:

0:00 / 0:00

Note: Did you notice that this excerpt does not begin on a strong beat? Instead, it begins with a partial measure called an *anacrusis*. This concept is explored in greater depth in Chapter 3. It is worth pointing out now, however, that these partial measures appearing at the beginning of a piece of music are not counted in the measure numbering. Hence, the excerpt above shows mm. 1–16 and not 1–17.

Compare Examples 1–4 and 1–5. Can you hear the difference in meter? Example 1–4 has the beats in groups of two while Example 1–5 has the beats in groups of three. *Quadruple meters*—those that organize the beats into groups of four—are also quite common. In fact, in Western music quadruple meter is the most common way of organizing the beat. The first beat of each group is generally the strongest. The third is also strong, but not quite as strong as the first. Beats two and four are relatively weak. The following example clarifies:

Example 1–6.

0:00 / 0:00

example_1-6

Because it sorts the beat into groups of four with every other beat being relatively strong, quadruple meter can easily be mistaken for duple meter. Hearing the difference between the two, in other words, can be challenging. (In some cases, the difference is one of personal opinion based on how the listener experiences a particular piece of music.)

Being able to hear and distinguish between these three common meter types—duple, triple, and quadruple—is essential to your understanding of how music works in time. Chapter 3 and Chapter 4 discuss meter in greater depth.

Note: Besides duple, triple, and quadruple meters, you will occasionally come across other, more complex meters. With these meters, you may find the beats organized into groups of five, seven, or more pulses per measure. In this book, however, we will focus on only the most common meters: those that group beats into sets of two, three, or four.

Rhythm, on the other hand, refers to the variety of note and rest durations that appear in the context of the meter. Notes can last for any length of time: a note can last for an entire beat or even multiple beats. Notes can be shorter than a beat as well. Most of the notes in the excerpts above, for example, don't last an entire beat. The remainder of this chapter will be devoted to rhythmic durations and how to notate them.

1.4 Note and rest durations

The *rhythm* of a piece of music specifies how long each note or pause between notes should last. This is not to be confused with *tempo*, which refers to the rate of the underlying beat. Rhythm typically occurs in the context of a specific meter and either conforms to or works against the underlying pulse of the meter.

In written music, we use a number of different symbols to represent various note durations:

Example 1–7. Note values.

0:00 / 0:00

example_1-7

As their names imply, the durations of all of these note values are proportional to one another. The following chart shows these relationships more clearly:

Example 1–8. Proportional note durations.

0:00 / 0:00

example_1-8

As you can see, one whole note lasts as long as two half notes, one half note lasts as long as two quarter notes, eight sixteenth notes last as long as two quarter notes, and so on. Listen to the following example to hear the relationship between quarter notes and half notes. For every half note, we hear two evenly-spaced quarter notes:

Example 1–9. Relative durations of quarter notes and half notes.

0:00 / 0:00

example_1-9

Each half note in Example 1–9 lasts exactly twice as long as each quarter note.

Notice that the symbols for quarter notes and eighth notes are quite similar—the only difference being the addition of the flag attached to the stem of the eighth note. Sixteenth notes have two flags. Shorter durations can be written by adding more flags to the stem: each additional flag divides the previous duration in half. (A thirty-second note, therefore, will have three flags, and so on.)

Note: Note durations longer than a whole note are possible as well. Double whole notes (written as a whole note with two vertical lines on either side: ||o||) last as long as two whole notes, but are not commonly used. We will discuss other ways of lengthening a note's duration momentarily.

Notes with flags (eighth notes, sixteenth notes, etc.) are sometimes connected by beams. This is done for a number of reasons—one of which, as discussed in Chapter 3 and Chapter 4, is to clarify the meter of a given piece. The following example shows how a group of flagged notes is equivalent to the same number of beamed notes:

Example 1–10.

0:00 / 0:00

example_1-10

As Example 1–10 demonstrates, separate notes with flags are heard and performed the same as if they were beamed together. Note that different durations can be beamed together as well, as in the third line of Example 1–10.

▼ Activity 1-1

Activity 1–1

Familiarity with the basic relationships between different note values will be immensely helpful in your study of music. Answer the following questions pertaining to the accompanying rhythms.

Exercise 1–1a:

Question

How many quarter notes would be equivalent to the duration of each measure of the following rhythm?

0:00 / 0:00

activity_1-1a

▼ Hint

Refer to the chart of rhythmic values shown above in Example 1–8. How many quarter notes would it take to achieve the same sum?

▼ Answer

2

Follow-up question

How many half notes would be equivalent to the duration of a single measure?

▼ Hint

Referring to Example 1–8, how many half notes are equivalent to two quarter notes?

▼ Answer

1

Exercise 1–1b:

Question

How many eighth notes would be equivalent to the duration of each measure of the following rhythm?

0:00 / 0:00

activity_1-1b

▼ Hint

Refer to the chart of rhythmic values shown above in Example 1–8. How many eighth notes would it take to achieve the same sum?

▼ Answer

6

Follow-up question

How many quarter notes would be equivalent to the duration of a single measure?

▼ Hint

Referring to Example 1–8, how many quarter notes are equivalent to six eighth notes?)

▼ Answer

3

Exercise 1–1c:

Question

How many half notes would be equivalent to the duration of each measure of the following rhythm?

0:00 / 0:00

activity_1-1c

▼ Hint

Refer to the chart of rhythmic values shown above in Example 1–8. How many half notes would it take to achieve the same sum?

▼ Answer

2

Follow-up question

How many eighth notes would be equivalent to the duration of a single measure?

▼ Hint

Referring to Example 1–8, how many eighth notes are equivalent to two half notes?

▼ Answer

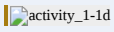
8

Exercise 1–1d:

Question

How many quarter notes would be equivalent to the duration of each measure of the following rhythm?

0:00 / 0:00



▼ Hint

Refer to the chart of rhythmic values shown above in Example 1–8. How many quarter notes would it take to achieve the same sum?

▼ Answer

3

Follow-up question

How many sixteenth notes would be equivalent to the duration of a single measure?

▼ Hint

Referring to Example 1–8, how many sixteenth notes are equivalent to three quarter notes?

▼ Answer

12

Any of the note values discussed above can represent the beat. A triple meter, for example, could consist of three quarter notes per measure just as easily as three eighth notes. This is discussed in greater detail in Chapter 3 and Chapter 4.

1.5 Rests

The symbols described in the previous section are used to write notes of varying duration. We also use a series of symbols to indicate varying lengths of *rests* (or pauses) in music. The following example shows the note values from Example 1–7 and the corresponding rests:

Example 1–11. Rest values.

0:00 / 0:00



Each of the rest values in Example 1–11 lasts as long as the corresponding note value, and all of the proportional relationships still apply. Note the similarity between eighth-note and sixteenth-note rests with their corresponding note symbols. Both rests consist of a diagonal slash with the same number of flags as found in the note symbols. (A thirty-second-note rest, therefore, would have three small flags attached to a diagonal slash.)

Note: Whole-note rests and half-note rests look very similar and it is easy to confuse the two. Both are written on the staff within the third space from the bottom. One way to remember the difference is that the whole-note rest is written below the line it is attached to, as though somebody dug a hole in that line. ("Whole" sounds like "hole.") Half-note rests, on the other hand, appear above the line they are attached to, as though that line was wearing a hat. ("Half" sounds similar to "hat.")

▼ Activity 1-2

Activity 1–2

Exercise 1–2:

Question

Replace each of the rests in the following example with a note of equal value:

0:00 / 0:00

activity_1-2

▼ Answer

0:00 / 0:00

activity_1-2_answer

1.6 Dots and ties

The symbols for note durations and rests discussed so far are very useful and capable of expressing a wide variety of rhythms. However, they are limited in that the relationships between different note values are based on simple 1-to-2 ratios. What if, for example, a composer wanted a rhythm consisting of a half-note (equal to two quarter notes) followed by a note whose duration was equal to three quarter notes. This likely situation would be impossible using only the symbols described so far. Fortunately, there are two ways of notating such durations.

Very frequently, you will encounter notes with a small dot immediately to the right. One such note appears at the very beginning of the excerpt in Example 1–3 (reproduced below):

Example 1–12. *Wolfgang Amadeus Mozart, Piano Sonata No. 13 in Bb major (K.333), III. Allegretto grazioso, mm. 1–4.*

0:00 / 0:00

example_1-12

The first note at the very top of the first measure of Example 1–12 is referred to as a *dotted quarter note*. Adding a dot to a note increases the duration of the note by half of the original note value. A dotted quarter note, in other words, lasts one and a half times as long as a normal quarter note. One half the duration of a quarter note is equal to an eighth note. Therefore, a dotted quarter note is equal to a regular quarter note plus an eighth note:

Example 1–13. Dotted note.

0:00 / 0:00

example_1-13

Any note value can be dotted. A dotted eighth note, for example, is equal to one and a half eighth notes (or, an eighth note plus a sixteenth note).

Rests can be dotted as well. Just as with dotted notes, adding a dot to a rest will increase its duration by half of the original value.

Note: You may occasionally come across notes with more than one dot. In a double-dotted note, the second dot adds half of the value of that added by the first dot. A double-dotted quarter note, for example, would be equal to a quarter note plus an eighth note plus a sixteenth note:

Example 1–14. Double-dotted note.

0:00 / 0:00

example_1-14

Each additional dot adds half the value of the previous dot. In a triple-dotted note, the third dot adds half the value of second dot. A triple-dotted quarter note, then, would be equal to a quarter note plus an eighth note, a sixteenth note, and a thirty-second note!

▼ Activity 1-3

Activity 1–3

Answer the following questions about dotted notes.

Exercise 1–3a:

Question

A dotted quarter note is equivalent to how many eighth notes?

▼ Answer

3

Exercise 1–3b:

Question

A dotted whole note is equivalent to how many half notes?

▼ Answer

3

Exercise 1–3c:

Question

A dotted half note is equivalent to how many eighth notes?

▼ Answer

6

Exercise 1–3d:

Question

A dotted whole note is equivalent to how many sixteenth notes?

▼ Answer

24

Another way of increasing a note's duration is through the use of *ties*. A tie is written as a curved line connecting two notes. The duration of the first note is increased by the duration of any notes tied to it. The following example demonstrates:

Example 1–15.

0:00 / 0:00



In Example 1–15, the initial half-note is tied to the following eighth-note. The initial note is heard as one long note, the duration of which is equal to a half note plus an eighth note. In other words, listening to Example 1–15, we hear three different notes: a long note followed by two shorter notes.

Any two note values can be tied together, making the tie a particularly versatile rhythmic tool. The duration created by the tie in Example 1–15, for instance, could not be expressed using dotted notes. Unlike dots, which can be added to notes or rests, ties cannot be used to increase the duration of a rest. Ties can be used to connect three or more notes as well.

Ties can be easily confused with *slurs*. Slurs are also written as curved lines connecting two (or more) notes. They serve a variety of purposes—phrase grouping, in particular—but are essentially used to indicate to the performer a grouping of notes for expressive purposes. The following example shows a tie and a slur:

Example 1–16.

0:00 / 0:00



Slurs are easily distinguished from ties because they connect *different* pitches. The concept of pitch—the perceived highness or lowness of a tone—is explored in greater depth in Chapter 5. For now, it will suffice to point out that the pitch of any particular note is indicated by its vertical position. A tie, because it is used to extend a single pitch, always connects two notes at the same pitch. The first two noteheads in Example 1–16 are written at the same vertical position. Therefore, they represent the same pitch and the curved line is a tie. The fourth notehead is written slightly higher than the one just before it. These two notes represent different pitches, and the second curved line is therefore a slur.

▼ Activity 1-4

Activity 1–4

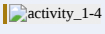
Exercise 1–4:

Question

The following excerpt contains several slurs and one tie. Where is the tie?

Wolfgang Amadeus Mozart, Piano Sonata No. 13 in Bb major (K.333), II. Andante cantabile, mm. 1–4.

0:00 / 0:00



▼ Hint

Remember, a slur connects two or more notes of different pitches, whereas a tie connects just two notes of the same pitch.

▼ Answer

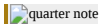
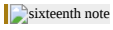
The tie connects the half note and the quarter note on the same line in m. 4.

1.7 Summary

Rhythm and meter are different—but closely-related—aspects of how music unfolds in time. Most Western music is characterized in part by a steady, underlying pulse commonly referred to as the *beat*. *Meter* refers to how these beats are organized, whether in groups of two (duple meter), three (triple meter), four (quadruple meter), or some other number. *Rhythm* refers to the actual durations of sounds and silence in the context of a particular meter.

In written music, we use a set of symbols to indicate various note durations:

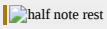
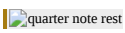
Table 2–1.

Name:	Symbol:
whole note	0:00 / 0:00 
half note	0:00 / 0:00 
quarter note	0:00 / 0:00 
eighth note	0:00 / 0:00 
sixteenth note	0:00 / 0:00 

And so on. Shorter durations can be written by adding extra flags. Longer durations are possible as well, but are not in common use. Any of these note values can represent the beat. Each of these note values also has a corresponding symbol to represent a rest of equal duration:

Table 2–2.

Name:	Symbol:
whole-note rest	0:00 / 0:00

Name:	Symbol:
half-note rest	0:00 / 0:00 
quarter-note rest	0:00 / 0:00 
eighth-note rest	0:00 / 0:00 
sixteenth-note rest	0:00 / 0:00 

And so on.

Versatile though the note value symbols are, they are not, by themselves, capable of expressing all possible durations. There are two common methods for increasing the duration of a given note. Adding a *dot* to a note increases its duration by half of the original value. Rests can be dotted as well. Connecting one note to another with a *tie* increases the value of the original note by the value of the added note. Rests cannot be tied.

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1.2: Beat Division

2.1 Introduction

Although rhythm and meter are inextricably linked—two closely-related facets of how music unfolds over time—the words are used to describe different things. Both are related to the *beat*—a steady, underlying pulse found in the majority of tonal Western art music. Rhythm refers to the variety of note and rest durations that appear in the context of the beat. Meter, on the other hand, refers to how the beats themselves are organized. Chapter 1 describes three different ways that beats can be grouped. Meters that sort the beat into groups of twos (alternating strong and weak beats) are known as duple meters. Meters that sort the beat into groups of three or four are referred to respectively as triple and quadruple meters.

But describing a type of meter with regards to how it groups the beats provides only one part of the equation. We will now discuss the varying ways in which the beat can be *divided*. The following chapters will go into greater depth with meters that regularly divide the beat into groups of two (Chapter 3) and groups of three (Chapter 4).

2.2 Beat division

Listen to the following excerpt. As you listen, tap along with your foot to find the beat. You should be able to hear two beats per measure—in other words, this excerpt is in a duple meter:

Example 2–1. *Maria Hester Park, Sonata in Eb major, III. Rondo Allegro, mm. 1–16*.

a.

0:00 / 0:00

example_2-1a

b. With click track:

0:00 / 0:00

Were you able to hear that this excerpt is in a duple meter? The basic, underlying pulse has a duration equal to that of a quarter note. These quarter-note beats are organized into groups of two by the measure lines. Notice how the notation emphasizes the duple meter: shorter durations (eighth notes and sixteenth notes) are grouped in a way that does not obscure the duple meter. We will return to this aspect of the notation momentarily.

As you may have noticed, the basic beat is not the only regular pulse. Listen to Example 2–1 again. This time, as you are tapping your foot to the beat tap your hand twice per beat. This faster pulse—twice as fast, in this case—is referred to as the *beat division*. The following example clarifies:

Example 2–2.

0:00 / 0:00

example_2-2

In this case, each quarter-note beat can be divided into two eighth notes. In other words, as your foot is tapping quarter notes along with the music, your hand should be tapping eighth notes. Meters like this, in which the beat is regularly divided into twos, are referred to as *simple meters*.

▼ Activity 2-1

Activity 2–1

Exercise 2–1:

Question

What would be the note value of the beat division for a simple meter in which the beat was equal to a half note?

▼ Hint

Remember, the beat division for a simple meter is equal to half the duration of the beat itself.

▼ Answer

quarter note

Now listen to the following excerpt. Again, you'll find that the meter has two beats per measure.

Example 2–5. *Wolfgang Amadeus Mozart, Piano Sonata No. 9 in D major (K.311), III. Rondo, mm. 1–16.*

a.

0:00 / 0:00



b. With click track:

0:00 / 0:00

In this case, however, if you try tapping the beat division with your hand while tapping the beat with your foot, you will find it is difficult to divide the beat in two. Tapping your hand three times for every foot tap is much more natural. In this meter, the beat is divided into three notes. The following example clarifies:

Example 2–4.

0:00 / 0:00



In this case, the beat is divided into threes. Each beat—the duration of which is equal to a dotted quarter note—is divided into three eighth notes. Meters such as this—in which the beat is divided into threes—are referred to as *compound meters*.

These two terms, *simple* and *compound*, indicate the manner in which the basic pulse is divided. They are usually used in conjunction with *duple*, *triple*, and *quadruple* to give a more or less complete description of any given meter. Both of the examples above have two beats per measure. In other words, they are both duple meters. They differ, however, in how those beats are divided. Example 2–1 divides each beat into two equal parts and is therefore referred to as being in a *simple duple* meter. Example 2–3, on the other hand, divides each beat into three equal parts and is therefore referred to as being in a *compound duple* meter.

The following six examples present a variety of meters. See if you can figure out what type of meter is used in each excerpt before reading on. (If you find you are having difficulty, each example also includes an extra audio clip with an added click track.)

Example 2–5. *Joseph Haydn, String Quartet in F minor (Hob.III:35), III. Adagio, mm. 1–8.*

a.

0:00 / 0:00



b. With click track:

0:00 / 0:00

Example 2–5 is written in a compound duple meter.

Example 2–6. *Cecilia Burney, Piano Sonata "Le séjour agréable" (Op. 2), mm. 1–16.*

a.

0:00 / 0:00



b. With click track:

0:00 / 0:00

Example 2–6 is written in a simple duple meter.

Example 2–7. *Wolfgang Amadeus Mozart, Violin Sonata in E minor (K.304/300c), I. Allegro, mm. 13–24.*

a.

0:00 / 0:00



b. With click track:

0:00 / 0:00

Example 2–7 is written in a simple duple meter.

Example 2–8. *Mel Bonis, Suite en trio (Op. 59), I. Allegretto, mm. 1–9.*

a.

0:00 / 0:00



b. With click track:

0:00 / 0:00

Example 2–8 is written in a simple quadruple meter.

Example 2–9. *Frances L. Hummell, Favorite Waltzes, Collection 4, 4. Swiss Waltz, mm. 1–16.*

a.

0:00 / 0:00



b. With click track:

0:00 / 0:00

Example 2–9 is written in a simple triple meter.

Example 2–10. *Ludwig van Beethoven, Piano Sonata No. 25 in G major (Op. 79), II. Andante, mm. 1–8.*

a.

0:00 / 0:00



b. With click track:

0:00 / 0:00

Example 2–10 is written in a compound triple meter.

▼ Activity 2-2

Activity 2–2

Listen to each of the following excerpts and determine if it is in a simple or a compound meter.

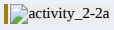
Exercise 2–2a:

Question

Is the following piece in a simple meter or a compound meter?

Wolfgang Amadeus Mozart, 12 Minuets (K.103), No. 3 in D major, mm. 1–10.

0:00 / 0:00



▼ Hint

Look for a division of the beat into shorter note values. Is the beat divided into two notes or three?

▼ Answer

simple

Exercise 2–2b:

Question

Is the following piece in a simple meter or a compound meter?

Fanny Hensel, 3 Mélodies (Op. 4), No. 3 in C-sharp minor, mm. 1-8.

0:00 / 0:00

activity_2-2b

▼ Hint

Look for a division of the beat into shorter note values. Is the beat divided into two notes or three?

▼ Answer

compound

Exercise 2–2c:

Question

Is the following piece in a simple meter or a compound meter?

Johann Sebastian Bach, Prelude and Fugue in E-flat major (BWV 876), mm. 1-12.

0:00 / 0:00

activity_2-2c

▼ Hint

Look for a division of the beat into shorter note values. Is the beat divided into two notes or three?

▼ Answer

compound

Exercise 2–2d:

Question

Is the following piece in a simple meter or a compound meter?

Wolfgang Amadeus Mozart, Violin Sonata in E-flat major (K.481), III Allegretto (Variation 1), mm. 1-8.

0:00 / 0:00

activity_2-2d

▼ Hint

Look for a division of the beat into shorter note values. Is the beat divided into two notes or three?

▼ Answer

simple

Note: You may have noticed that some of the excerpts above begin with an incomplete measure. Example 2–1 begins with an eighth note before the first measure line and Example 2–3 begins with a quarter note and an eighth note. As mentioned in Chapter

1, an incomplete measure at the start of a piece of music is referred to as an *anacrusis* or *pickup measure*. Even though the music begins on a weak beat (or off beat) with regards to the meter, we have no trouble identifying the first downbeat.

The following example provides another example of an anacrusis. (Note that the first *full* measure is labeled as m. 1.)

Example 2–11. *Brewster M. Higley and Daniel E. Kelley, "Home on the Range," mm. 1–7.*

0:00 / 0:00



Anacruses can be used with any type of meter, simple or compound. We will return to this topic once more in Chapter 3.

2.3 Summary

Meter refers to the organization of basic underlying pulses in music. In tonal Western art music, we define a particular meter based on two parameters: how the beats themselves are grouped and how they are regularly divided. Beats are generally organized into groups of two, three, or four beats per measure. We refer to these as *duple*, *triple*, and *quadruple* meters respectively. Beats are generally divided into sets of two or three notes. Meters in which the beat is regularly divided into two notes are referred to as *simple* meters. Those that divide the beat into three notes are referred to as *compound* meters. Simple and compound meters are discussed in greater depth in Chapter 3 and Chapter 4, respectively.

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1.3: Simple Meters

3.1 Introduction

Chapter 2 outlines the different ways in which the underlying pulse of a piece of music (the beat) can be regularly divided. In this chapter we will continue that discussion by looking at simple meters, those in which the beat is regularly divided into two equal durations. This chapter will also provide a brief description of beaming—a notational device that shows how beat subdivisions group into beats in any particular meter.

3.2 Simple meters and time signatures

Consider the following two examples:

Example 3–1. *Sophia Maria Westenholz, Theme and 10 Variations (Op. 2), mm. 1–20.*

0:00 / 0:00



Example 3–2. *Clara Schumann, Piano Trio in G minor (Op. 17), mm. 1–10.*

0:00 / 0:00



Despite the obvious differences in character, there is an important connection between Example 3–1 and 3–2. Each piece has two beats per measure and each beat tends to divide into two equal durations. Both of these pieces, then, are said to be in a simple duple meter. Any of the beat groupings mentioned in the previous chapter—duple, triple, or quadruple—can represent a simple meter. A simple triple meter, for example, would have three beats per measure, each of which would regularly divide into two equal durations.

You probably noticed that both of these examples—as well most of the examples in the previous chapter—include a pair of large numbers at the beginning of the first line of music. These numbers together are referred to as a *time signature* (or *meter signature*). They indicate to the performer the type of meter present in any given piece or passage of music.

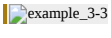
Note: The meter is not always consistent all the way through a piece. Sometimes it changes. In such cases, the new meter is typically indicated by a new time signature.

A time signature consists of two numbers, one stacked on top of the other. For simple meters, the top number represents the number of beats and the bottom number the note value of a single beat. In Examples 3–1 and 3–2, we saw the time signature 2/4 and called that meter “simple duple.” The top number, in this case 2, tells us there are two beats per measure (hence, “duple”). The bottom number, in this case 4, tells us that each beat has a duration equivalent to a quarter note.

Consider the following short piece:

Example 3–3. *Christian Petzold, Minuet in G major (from the Notebook for Anna Magdalena Bach, BWV Anh. 114), mm. 1–16.*

0:00 / 0:00



We see the time signature 3/4 at the beginning of Example 3–3. Here, the 3 indicates that there are three beats per measure and, once again, the 4 indicates that each beat is the length of a quarter note. As the shorter durations make clear, the meter is simple: each quarter note divides into two eighth notes.

Simple meters are generally very easy to recognize. Any time signature in which the top number is 2, 3, or 4 represents a simple meter.

Note: For simple meters, the general rule of thumb is that the top number of the time signature indicates the number of beats per measure (duple, triple, or quadruple) and the bottom number indicates the beat value. As we will discuss in Chapter 4, however, this rule of thumb does not apply to compound meters.

The following examples show several common simple-meter time signatures:

Example 3–4. Common simple-meter key signatures.

a. simple quadruple

0:00 / 0:00



b. simple triple

0:00 / 0:00



c. simple duple

0:00 / 0:00



d. simple duple

0:00 / 0:00



Note that Example 3–4c and Example 3–4d (2/4 and 2/2) are both simple duple meters. Both of them have two beats per measure. They differ only in the note value of the beat (a quarter note and a half note, respectively).

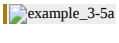
Note: The difference between 4/4 and 2/2 is subtle. Both time signatures have measures whose durations are equal to a single whole note (four quarter notes or two half notes). The difference lies in how the music is performed or heard. The former will have four distinct beats per measure, while the latter will have only two.

Frequently, you will encounter other, non-numeric symbols used as time signatures. These are shown in Example 3–5:

Example 3–5. Alternative time signatures.

a. “common time”

0:00 / 0:00



b. “cut time” (or “*alla breve*“)

0:00 / 0:00

example_3-5b

These time-signature symbols are often used as a shorthand way to write 4/4 or 2/2.

Note: The symbol used for common time resembles the letter “C”—the first letter of the word “common.” The symbol used for cut time has a vertical line, *cutting* the “C” in half. These mnemonic devices, though useful, are not grounded by any historical accuracy.

▼ Activity 3-1

Activity 3–1

For each of the following simple-meter time signatures, identify the number of beats per measure and the note value of a single beat.

Exercise 3–1a:

Question

How many beats per measure are indicated by the following time signature?

0:00 / 0:00

activity_3-1a

▼ Hint

Remember that for simple meters, the top number of the time signature indicates the number of beats per measure.

▼ Answer

4

Follow-up question

What is the note value of the beat, as indicated by this time signature?

▼ Hint

Remember that for simple meters, the bottom number of the time signature indicates the note value of the beat.

▼ Answer

half note

Exercise 3–1b:

Question

How many beats per measure are indicated by the following time signature?

0:00 / 0:00

activity_3-1b

▼ Hint

Remember that for simple meters, the top number of the time signature indicates the number of beats per measure.

▼ Answer

2

Follow-up question

What is the note value of the beat, as indicated by this time signature?

▼ Hint

Remember that for simple meters, the bottom number of the time signature indicates the note value of the beat.

▼ Answer

half note

Exercise 3–1c:

Question

How many beats per measure are indicated by the following time signature?

0:00 / 0:00

activity_3-1c

▼ Hint

Remember that for simple meters, the top number of the time signature indicates the number of beats per measure.

▼ Answer

2

Follow-up question

What is the note value of the beat, as indicated by this time signature?

▼ Hint

Remember that for simple meters, the bottom number of the time signature indicates the note value of the beat.

▼ Answer

eighth note

Exercise 3–1d:

Question

How many beats per measure are indicated by the following time signature?

0:00 / 0:00

activity_3-1d

▼ Hint

Remember that for simple meters, the top number of the time signature indicates the number of beats per measure.

▼ Answer

3

Follow-up question

What is the note value of the beat, as indicated by this time signature?

▼ Hint

Remember that for simple meters, the bottom number of the time signature indicates the note value of the beat.

▼ Answer

eighth note

3.3 Beaming

Note durations shorter than a quarter note—eighth notes, sixteenth notes, thirty-second notes, etc.—are written by adding flags to the stem. (Refer to Chapter 1 for more on rhythmic notation.) These flags can also be notated as beams: horizontal lines that connect two or more notes. Beams can be a helpful way to make a score appear less cluttered. They can also help emphasize the meter to the performer.

Beams are typically used to reflect the meter by grouping notes that occur within a single beat. Consider the following examples:

Example 3–6. Beaming in a simple meter.

a. incorrect

0:00 / 0:00



b. correct

0:00 / 0:00



Both of the rhythms in Example 3–6, if performed, would sound exactly the same. Although the corresponding note durations are identical, the beaming is quite different. Both rhythms are in simple duple meter, with two quarter notes per measure. The dashed lines divide each measure in half, making clear which beats belong to the first beat and which to the second in each measure.

As you can see, in Example 3–6a some of the beams connect notes over the dashed line. This obscures the meter, making it difficult to recognize that there are two beats per measure. (The first measure, for example, looks as though it has *three* beats.) In Example 3–6b, on the other hand, none of the beams cross a dashed line. The durations of each group of beamed notes add up to that of the beat—a quarter note in this case. It is much easier to recognize the duple meter in Example 3–6b.

Note: If you look closely, you will find that the beaming practice described above is not always followed in some scores. Composers will sometimes break and add beams to indicate phrasings and other expressive gestures. The beams in Example 3–2, for example, are not consistent throughout the excerpt.

▼ Activity 3-2

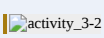
Activity 3–2

Exercise 3–2:

Question

Which of the measures in the following rhythm have beaming that obscures the meter rather than supports it?

0:00 / 0:00



▼ Answer

m. 2 and m. 4

3.4 Summary

The meter of a particular piece is generally indicated by the *time signature*—a stack of two numbers written on the first line of music, just to the right of the key signature. For simple meters, the top number indicates the number of beats per measure while the bottom indicates the note value of the assigned beat.

Beams—the horizontal lines that connect notes whose durations are shorter than a quarter note—can be used to help express the meter of a particular piece of music. Notes are typically grouped with beams *within* a single beat instead of across two or more beats. This makes the meter easier to recognize for both the performer and the analyst.

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1.4: Compound Meters

4.1 Introduction

Chapter 2 outlines the different ways in which the underlying pulse of a piece of music (the beat) can be regularly divided. Chapter 3 provides an introductory discussion of the nature of simple meters, those in which the beat is regularly divided into two equal notes. This chapter continues that discussion and explores *compound* meters, those in which the beat is regularly divided into three equal notes.

This chapter will also provide a brief discussion of *tuplets*—a type of beat division that strays from the norm for a given meter.

4.2 Compound meters

As discussed in Chapter 2, compound meters are characterized by how the beat is regularly divided into three equal durations. Consider the following excerpt. This piece is in a compound duple meter. There are two beats per measure (each equal in length to a dotted quarter note) and each beat is divided into three eighth notes:

Example 4–1. *Cécile Chaminade, Album des enfants (Op.123), 8. Barcarolle, mm. 1-8.*

0:00 / 0:00

example_4-1

Compound meters, like simple meters, are indicated with time signatures. Understanding compound time signatures, however, is not quite as straightforward as the examples seen in Chapter 3. For simple meters, the time signature conveys information about the *beat*: the top number indicates the number of beats per measure and the bottom number the note value of each beat. With compound meters, on the other hand, time signatures convey information about the *beat division*.

The feeling of subdividing the beat into three equal durations is the defining characteristic of a compound meter. Try listening to Example 4–2 while quickly counting “1 2 3 4 5 6” with each measure. You may find it difficult to keep up with the music, especially at this brisk tempo. Now try listening again while counting “1 da da 2 da da” with each measure. Notice how musical stresses in each measure line up so naturally with “1” and “2” in this second hearing. This difference explains why this piece would be best described as a duple meter with compound subdivision.

The following example also uses a compound meter:

Example 4–2. *Franz Schubert, Die Schöne Müllerin (D.795), 9. “Des Müllers Blumen,” mm. 7–14.*

0:00 / 0:00

example_4-2

Note: Chapter 2 discusses how beams can be used to group notes in a way that clarifies the meter. While the right hand of the piano part in Example 4–1 does just this (organizing the eighth notes into groups of three), the notated vocal part in the top staff does not. This is typical of vocal music, where beams are used primarily to group notes that belong to a single syllable of the text.

Take the time signature from the examples above: 6/8. As explained above, this is a compound duple meter. Each beat is equal to a dotted quarter note and each beat is regularly divided into three eighth notes:

Example 4–3. Compound beat division.

0:00 / 0:00

example_4-3

As you can see from Example 4–2, the numbers in the time signature refer to the beat *division*. Each measure of 6/8 has six eighth notes. In other words, to find the number of beats per measure, one must divide the top number by three. If the top number is 6, the

meter is duple. If the top number is 9 or 12, the meter is respectively triple or quadruple. These are the most common top numbers for compound-meter time signatures: 6, 9, and 12.

Since the bottom number indicates the duration of the beat division, one must add three of these note values together to get the beat unit. In the case of 6/8, the lower number indicates that the beat division is equal in duration to an eighth note. Three eighth notes add up to one dotted quarter note. The beat unit of a compound meter will always be a dotted note.

Note: A good rule of thumb to follow is that if the top number of a time signature is 2, 3, or 4, the meter is simple. If the top number is 6, 9, or 12 (any multiple of three, greater than three), the meter is compound.

▼ Activity 4-1

Activity 4–1

Identify each of the following time signatures as simple or compound and as duple, triple, or quadruple. Then identify the note value of the beat.

Exercise 4–1a:

Question

Does the following time signature represent a simple or compound meter?

0:00 / 0:00

activity_4-1a

▼ Hint

Remember, if the top number is 6, 9, or 12, the meter is compound.

▼ Answer

compound

Follow-up question

Is this meter duple, triple, or quadruple?

▼ Hint

For compound meters, divide the top number by three to determine the number of beats per measure.

▼ Answer

triple

Follow-up question

What is note value of a single beat?

▼ Hint

For compound meters, the beat unit is three times the length of the note value indicated by the bottom number of the time signature.

▼ Answer

dotted quarter note

Exercise 4–1b:

Question

Does the following time signature represent a simple or compound meter?

0:00 / 0:00

activity_4-1b

▼ Hint

Remember, if the top number is 6, 9, or 12, the meter is compound.

▼ Answer

simple

Follow-up question

Is this meter duple, triple, or quadruple?

▼ Answer

duple

Follow-up question

What is note value of a single beat?

▼ Answer

half note

Exercise 4–1c:

Question

Does the following time signature represent a simple or compound meter?

0:00 / 0:00

activity_4-1c

▼ Hint

Remember, if the top number is 6, 9, or 12, the meter is compound.

▼ Answer

simple

Follow-up question

Is this meter duple, triple, or quadruple?

▼ Answer

quadruple

Follow-up question

What is note value of a single beat?

▼ Answer

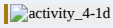
eighth note

Exercise 4–1d:

Question

Does the following time signature represent a simple or compound meter?

0:00 / 0:00



▼ Hint

Remember, if the top number is 6, 9, or 12, the meter is compound.

▼ Answer

simple

Follow-up question

Is this meter duple, triple, or quadruple?

▼ Answer

triple

Follow-up question

What is note value of a single beat?

▼ Answer

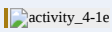
eighth note

Exercise 4–1e:

Question

Does the following time signature represent a simple or compound meter?

0:00 / 0:00



▼ Hint

Remember, if the top number is 6, 9, or 12, the meter is compound.

▼ Answer

compound

Follow-up question

Is this meter duple, triple, or quadruple?

▼ Hint

For compound meters, divide the top number by three to determine the number of beats per measure.

▼ Answer

quadruple

Follow-up question

What is note value of a single beat?

▼ Hint

For compound meters, the beat unit is three times the length of the note value indicated by the bottom number of the time signature.

▼ Answer

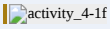
dotted eighth note

Exercise 4–1f:

Question

Does the following time signature represent a simple or compound meter?

0:00 / 0:00



▼ Hint

Remember, if the top number is 6, 9, or 12, the meter is compound.

▼ Answer

simple

Follow-up question

Is this meter duple, triple, or quadruple?

▼ Answer

quadruple

Follow-up question

What is note value of a single beat?

▼ Answer

quarter note

4.3 Tuplets

You will quite frequently encounter beat divisions that defy your expectations based on your observations about the meter. Consider the following example:

Example 4–4. *Joseph Haydn, Divertimento in C major (Hob.XVI:3), III. Menuetto, mm 1–8.*

0:00 / 0:00

This excerpt is notated in 3/4, a simple triple meter. As the time signature indicates, one beat has a value equal to a quarter note. Since 3/4 is a simple meter, the quarter note beat normally divides into two eighth notes. But, on the second and third beats of m. 6 (and the first beat of m. 7), three eighth notes are squeezed into each beat.

This rhythmic figuration is known as a triplet and is normally notated as it appears in Example 4–4 with a small 3 written above or below a group of beamed notes. Triplets such as these represent a temporary shift to the corresponding compound meter. If 3/4 is a

simple triple meter, 9/8 would be the corresponding *compound* triple meter:

Example 4–5.

a. beat division in 3/4

0:00 / 0:00

example_4-5a

b. beat division in 9/8

0:00 / 0:00

example_4-5b

In 3/4 each beat can be divided into *two* eighth notes. In 9/8 each beat can be divided into *three* eighth notes. A triplet, therefore, represents a kind of rhythmic borrowing from the corresponding compound meter. In other words, when we hear the triplets in mm. 6–7 of Example 4–3, it sounds as though Haydn has temporarily switched to a *compound* triple meter, where each beat is divided into three even eighth notes.

The generic term for this type of rhythmic alteration is a *tuplet*. In addition to triplets, another type of tuplet is a *duplet*. Duplets typically appear in pieces in compound meters, like the following:

Example 4–6. *Maurice Ravel, "Noël des jouets" (M.47) mm. 29–34.*

0:00 / 0:00

example_4-6

As the name implies, a duplet alters the rhythm so that two notes take up the space that would normally accommodate three. In this sense, a duplet can be thought of as the opposite of a triplet. The example above is in 6/8, a compound duple meter. In this meter a typical beat—a dotted quarter note—would be divided into three eighth notes. In mm. 32–33, however, we see that each beat is divided into *two* eighth notes (indicated by the bracketed 2 above each group). Each of these duplets fills the space of an entire beat, or, three eighth notes.

Tuplets can be a very versatile tool with regards to the rhythmic expressiveness of a composition and many other types can be found. The two types discussed here, triplets and duplets, are by far the most common.

▼ Activity 4-2

Activity 4–2

Exercise 4–2:

Question

Triplets and duplets can be thought of as beat divisions borrowed from the corresponding simple or compound meter. The following example shows a rhythm in 3/4 (a simple triple meter), which contains some triplets borrowed from 9/8 (the corresponding compound meter). Convert the rhythm to 9/8 by adjusting each rhythm accordingly. The first measure has been done for you. (As you can see, eighth notes become eighth note duplets and triplets become straight eighth notes.)

0:00 / 0:00

activity_4-2

▼ Answer

0:00 / 0:00

activity_4-2_answer

4.4 Summary

Compound meters are those in which the beat regularly divides into three even durations (as opposed to simple meters, which divide into two durations). Like simple meters, compound meters are usually expressed with time signatures, though in such cases the numbers convey information about the beat division as opposed to the beat itself.

The bottom number of a compound-meter time signature indicates the durational value of the beat division and the top number—usually 6, 9, or 12—indicates how many beat divisions make up one full measure. Since the top number refers to the beat division, one need simply divide it by three to determine how many beats appear in a single measure: 6 indicates a duple meter, 9 indicates a triple meter, and 12 indicates a quadruple meter. To determine the note value of the beat, one would add three beat division units together. The beat in a compound meter will therefore always be a dotted note.

Composers are not limited to the normal beat division of a given meter. They may—and often do—borrow the beat division from the corresponding simple or compound meter. These rhythmic figurations are known generically as *tuplets*. *Triplets* provide a compound-meter beat division in a simple-meter context (three notes in the space of two). *Duplets* do just the opposite: they provide a simple-meter beat division in a compound-meter context (two notes in the space of three).

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1.5: Pitch

5.1 Introduction

Up until now in this book we have concerned ourselves primarily with the duration and patterning of musical events (rhythm) and the way they are organized in time (meter). But there are many other ways to describe musical sounds—many other factors, in other words, that contribute to their acoustic identity and the way they relate to one another. We may, for example, speak of the loudness or softness of sound—what musicians refer to as *dynamics*. We might also speak of the various properties that allow a listener to distinguish between two notes played similarly on, say, a violin and a flute—one of a group of characteristics that fall under the category of musical *timbre*. In tonal Western art music, however, the most important of these factors is arguably *pitch*: the "highness" or "lowness" of musical tones.

We will begin this chapter by defining pitch in terms of musical acoustics. We will then outline a widely used system for naming and classifying pitches according to the way they sound. The chapter will conclude with a discussion of the different ways pitches may be written in staff notation as well as a more accurate method of identifying them by name.

5.2 Frequency

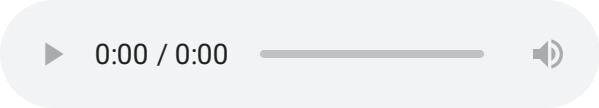
As mentioned above, the term *pitch* refers to the "highness" or "lowness" of a particular tone. The shrill whistling of a tea kettle is an example of a high pitch. The deep, resonating horn of an enormous freighter ship is an example of a low pitch. It is important to remember, though, that highness and lowness are relative—this is particularly important when describing musical tones, where subtle changes in pitch can have dramatic effects on a listener's experience. A high-pitched musical tone, in other words, may be described as low when compared to another, even higher pitched tone.

The terms "highness" and "lowness" are quite common in discussions of pitch. The image they suggest—of pitches placed along a vertical axis in physical space—is, however, just an analogy. When we talk about the high speed of a train, we are not referring to the elevation of the tracks and in music there is nothing inherent to a high pitch that places it physically above any other. Nonetheless, the vertical imagery is helpful, particularly when it comes to the way pitches are written in staff notation, as we will see momentarily.

Although a detailed discussion of musical acoustics is beyond the scope of this book, we may define pitch more accurately by considering the physical phenomena that produce sound. When an object vibrates, it sets the air around it into motion. The air molecules are compressed and decompressed in correspondence with the motion of the vibrating object. These tiny waves of pressure then emanate outward, away from their source. Human ears are capable of perceiving these vibrations in the air as sounds. If the pulses of compression happen regularly, they will be perceived as having pitch.

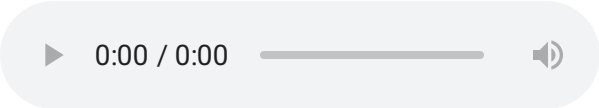
Pitch corresponds with the frequency of these vibrations: objects producing high pitches vibrate very quickly, objects producing low pitches less so. Pitch is measured in hertz (Hz), a unit indicating the number of vibrations happening over a time span of one second. Example 5–1 presents a 440 Hz tone, a pitch produced by vibrations happening 440 times every second:

Example 5–1.



Changing the frequency of the vibrations changes the pitch. When the vibrations happen more frequently, we perceive a higher pitch. Example 5–2 presents a 493.88 Hz tone. It sounds slightly "higher"—more urgent or energetic—than the tone in Example 5–1.

Example 5–2.



▼ Activity 5-1

Activity 5–1

Listen to each of the following pairs of pitches and determine which of the two is higher. (You will need to view this chapter in the online version of this book to complete this activity.)

Exercise 5–1a:

Question

Which of the following pitches is higher, the first or second?

0:00 / 0:00

▼ Hint

Does the pitch seem to rise or fall from the first note to the second?

▼ Answer

The first pitch is higher.

Exercise 5–1b:

Question

Which of the following pitches is higher, the first or second?

0:00 / 0:00

▼ Hint

Does the pitch seem to rise or fall from the first note to the second?

▼ Answer

The second pitch is higher.

Exercise 5–1c:

Question

Which of the following pitches is higher, the first or second?

0:00 / 0:00

▼ Hint

Does the pitch seem to rise or fall from the first note to the second?

▼ Answer

The second pitch is higher.

Exercise 5–1d:

Question

Which of the following pitches is higher, the first or second?

0:00 / 0:00

▼ Hint

Does the pitch seem to rise or fall from the first note to the second?

▼ Answer

The first pitch is higher.

Exercise 5–1e:

Question

Which of the following pitches is higher, the first or second?

0:00 / 0:00

▼ Hint

Does the pitch seem to rise or fall from the first note to the second?

▼ Answer

The first pitch is higher.

Exercise 5–1f:

Question

Which of the following pitches is higher, the first or second?

0:00 / 0:00

▼ Hint

Does the pitch seem to rise or fall from the first note to the second?

▼ Answer

The second pitch is higher.

There are an infinite number of pitches. It follows, then, that there are also an infinite number of pitches *between* any two pitches. Some pitches are so close in frequency that it is impossible to discern the difference between them. Furthermore, some pitches are either so high or so low in frequency that they are imperceptible to the human ear. Generally speaking, humans are capable of hearing pitches in the 20 Hz to 20,000 Hz range. In tonal Western art music, though, the pitches one encounters tend to be much more limited in range and in number.

5.3 Pitch names

A piano keyboard is a useful tool when it comes to conceptualizing and visualizing pitch in tonal Western art music. Each key on the keyboard, black and white, corresponds with a different pitch. The lowest pitch is located on the far left end of the keyboard and each key to the right plays a successively higher pitch. The 440 Hz pitch heard in Example 5–1 corresponds with one of the white keys around the middle of the keyboard, as shown by the arrow in Example 5–3:

Example 5–3.

0:00 / 0:00

example_5-3

Pitches are named using the letters. The indicated key/pitch in Example 5–3 is called “A.”

Note: Musicians refer to the 440 Hz pitch heard in Example 5–1 and shown in Example 5–3 as “A440.” This pitch is often used as an international standard for tuning instruments.

Moving from left to right along the keyboard, each of the white keys corresponds with a new letter from A up to G, after which the names cycle back to A. This pattern of letters continues in both directions indefinitely (including pitches above and below the range of the piano):

Example 5–4.

0:00 / 0:00

example_5-4

All of the white keys on a piano keyboard have a letter name, A through G. In addition to showing the letter names for all of the white keys on the keyboard, Example 5–4 identifies one key/pitch in particular. The C that lies five white keys to the left of A440 is known as “middle C,” so named because of its location in the middle of the keyboard. Middle C plays an important role in Western music theory and it is important that you be able to identify it on a piano. (On a standard 88-key piano, it is the fourth C from the left.)

Notice that the white keys and black keys on the keyboard follow a very specific pattern. Black keys are placed between some of the white keys in alternating groups of two and three. This pattern allows the player to quickly identify a particular pitch. (Imagine a keyboard with 88 keys that looked exactly the same!) Notice, too, that pitches/keys with the same name always appear in the same place relative to the black/white key pattern. It is important that you be able to identify pitches on the keyboard based solely on their position within this pattern.

▼ Activity 5-2

Activity 5–2

Identify the note letter name associated with each of the indicated piano keys.

Exercise 5–2a:

Question

What note letter name is associated with the dotted key on the keyboard below?

activity_5-2

▼ Answer

C

Exercise 5–2b:

Question

What note letter name is associated with the dotted key on the keyboard below?

activity_5-2b

▼ Answer

C

Exercise 5–2c:

Question

What note letter name is associated with the dotted key on the keyboard below?

activity_5-2c

▼ Answer

F

Exercise 5–2d:

Question

What note letter name is associated with the dotted key on the keyboard below?

activity_5-2d

▼ Answer

B

An *interval* is the perceived distance between two pitches. The size of an interval depends on the frequencies of the pitches in question. We will discuss intervals at greater length in Chapter 11, but there are two intervals in particular that will be useful here: *octaves* and *semitones*.

An octave is the interval between a pitch and the next pitch above or below it sharing the same name. The two As in the following example are an octave apart. (The audio file accompanying Example 5–5 plays the two As in succession, first the lower A, then the A an octave above.)

Example 5–5.

0:00 / 0:00

example_5-5

Pitches an octave apart share more than just a name: they also sound very similar. This is due in part to the ratio found between their respective frequencies. The lower of the two As in Example 5–5 is a pitch with a frequency of 440 Hz. The higher of the two As is 880 Hz, exactly double the frequency of the lower A. The next A above 880 Hz would have double the frequency again (1760 Hz) and so on. Try playing all of the As on a keyboard and notice how similar they sound. Try playing some other notes and notice the difference. The term *pitch class* refers to the complete group of all pitches related by one or more octaves. Pitch class A, for example, is a set of pitches that includes all of the As.

Note: There are eight white keys between and including the two As in the example above. The prefix “oct-” reflects this.

A semitone is the interval between adjacent keys on the keyboard. The pattern of black and white keys on the keyboard repeats every octave. If one were to play each successively higher key above the low A in Example 5–5, they would hear twelve pitches before arriving at the A an octave above it. An octave, in other words, is equal to twelve semitones.

Semitones appear on the keyboard between every B and the C above it, as well as every E and the F above it. But semitones also appear between adjacent pairs of white and black keys:

Example 5–6.

0:00 / 0:00

example_5-6

To hear the sound of a semitone, listen again to the pitches heard in Example 5–1 and Example 5–2. These two pitches are a semitone apart.

▼ Activity 5-3

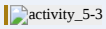
Activity 5–3

Identify each of the following intervals as either a semitone or an octave.

Exercise 5–3a:

Question

What type of interval appears between the two keys with dots?



▼ Hint

Remember, a semitone is the interval between two adjacent keys and an octave is the interval between one key and the next one above or below it sharing the same name.

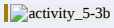
▼ Answer

semitone

Exercise 5–3b:

Question

What type of interval appears between the two keys with dots?



▼ Hint

Remember, a semitone is the interval between two adjacent keys and an octave is the interval between one key and the next one above or below it sharing the same name.

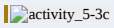
▼ Answer

octave

Exercise 5–3c:

Question

What type of interval appears between the two keys with dots?



▼ Hint

Remember, a semitone is the interval between two adjacent keys and an octave is the interval between one key and the next one above or below it sharing the same name.

▼ Answer

octave

Exercise 5–3d:

Question

What type of interval appears between the two keys with dots?



▼ Hint

Remember, a semitone is the interval between two adjacent keys and an octave is the interval between one key and the next one above or below it sharing the same name.

▼ Answer

semitone

The black keys on the keyboard—and their corresponding pitches—are named according to one of the adjacent white keys. Symbols called *accidentals* are used to indicate this kind of adjacency. A sharp symbol (#) indicates that the pitch in question is a semitone *higher* than a reference pitch. A flat symbol (b) indicates that the pitch in question is a semitone *lower* than a reference pitch. The following example shows the location of a Bb and an F# on the piano keyboard:

Example 5–7.

0:00 / 0:00

example_5-7

A natural symbol (§) is used to clarify when a pitch is unaffected by sharps or flats. A C, in other words, may also be referred to as C§. When distinguishing C and C#, for example, one might use the label C§ to help avoid confusion. (Note that black keys can never be labeled with a natural sign.)

One potentially confusing aspect of this system is that it allows for pitches to be named in more than one way. The black key between A and B, for example, may be referred to as A# or Bb. When two names refer to the same pitch, those names are said to be *enharmonically equivalent*. They may sound the same, but they are *spelled* differently. The following example shows the common names given to all of the pitches corresponding with keys on the keyboard:

Example 5–8.

0:00 / 0:00

example_5-8

Complicating matters further, sharps and flats are not exclusive to black keys. A C, for example, is enharmonically equivalent to a B# and an E is enharmonically equivalent to Fb. Enharmonically equivalent names might seem redundant and therefore superfluous—particularly when we think of them abstractly, as we are doing here. In a musical context, however, these names become much more meaningfully valuable. The way a pitch is spelled—that is, the way it is labeled with a pitch-letter name—indicates how it sounds and functions in relation to the notes around it. D# and an Eb might refer to the same pitch, but in a musical context these labels might *mean* something very different.

▼ Activity 5-4

Activity 5–4

Identify enharmonic equivalents for each of the following pitch classes.

Exercise 5–4a:

Question

What pitch letter name is enharmonically equivalent to C#? (Answer using a sharp, flat, or natural symbol.)

▼ Hint

Enharmonically equivalent pitches can be played by the same key on a piano keyboard.

▼ Answer

Db.

Exercise 5–4b:

Question

What pitch letter name is enharmonically equivalent to Gb? (Answer using a sharp, flat, or natural symbol.)

▼ Hint

Enharmonically equivalent pitches can be played by the same key on a piano keyboard.

▼ Answer

F#

Exercise 5–4c:

Question

What pitch letter name is enharmonically equivalent to E#? (Answer using a sharp, flat, or natural symbol.)

▼ Hint

Enharmonically equivalent pitches can be played by the same key on a piano keyboard.

▼ Answer

F§

Exercise 5–4d:

Question

What pitch letter name is enharmonically equivalent to B§? (Answer using a sharp, flat, or natural symbol.)

▼ Hint

Enharmonically equivalent pitches can be played by the same key on a piano keyboard.

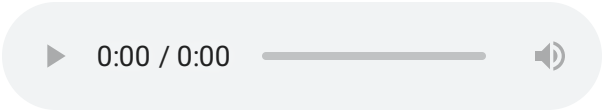
▼ Answer

Cb

5.4 Staff notation

Pitch can also be represented using staff notation. A staff is a set of horizontal lines upon which notes are written. (The plural of "staff" is "staves.") The number of lines in a staff is variable, but the standard is five. The distance between adjacent lines is exactly the same as the height of a notehead. Noteheads may be placed directly on one of the lines or in one of the spaces, completely filling the gap between two lines:

Example 5–9.



example_5-9

The location of a notehead on a staff corresponds with the pitch of the note: higher notes appear toward the top and above the staff, lower notes at the bottom and below. Each successive line and space corresponds with a pitch letter name. Starting on the lower of the two notes Example 5–9, count the number of lines and spaces it takes to get to the higher note. You will find that the higher note is eight steps above the lower. The pitches represented by these two notes, then, would be an octave apart.

The staff may be extended up and down with one or more small lines called *ledger lines*. (The spacing of the ledger lines continues the spacing of the staff lines.)

Example 5–10.

0:00 / 0:00

example_5-10

A single staff, however, is incapable of showing all 88 of the pitches that a piano can play—at least, not without an unmanageable number of ledger lines! Instead, a staff is designed to be versatile. It shows pitch in a relative way. We can see, for example, that the two pitches in Example 5–9 are an octave apart, but we do not know what pitches they are. In order to notate specific pitches, we need an extra symbol.

A *clef* is a large symbol that appears at the very beginning of a staff. The purpose of a clef is to assign one of the lines or spaces on a staff to a specific pitch. One of most commonly encountered clefs is the *treble clef*. The treble clef symbol includes a little swirl around the second line from the bottom of the staff and specifies that this line corresponds with the G just above middle C. (The symbol is derived from a stylized cursive "G" and is sometimes known as a "G clef.")

Example 5–11.

0:00 / 0:00

example_5-11

With one of the lines assigned to a specific pitch, all of the remaining lines and spaces become similarly linked. The following example shows four notes on a staff with a treble clef and the location of the corresponding keys on a piano keyboard. Each note, in other words, now indicates a specific pitch:

Example 5–12.

a. four notes on a treble staff

0:00 / 0:00

example_5-12a

b. the same four notes on a piano keyboard

example_5-12b

Note: Because the treble clef is so common, you will find it helpful to memorize the pitch-letter names associated with each of the lines and spaces. From bottom to top, the lines are E, G, B, D, and F. Music students have traditionally learned the mnemonic "**E**very **G**ood **B**oy **D**oes **F**ine" to remember these letter name assignments. The spaces, again from bottom to top, spell out a word: "**FACE**."

▼ Activity 5-5

Activity 5–5

In the following exercises, you will see notes written on a treble staff. Identify each pitch by its note-letter name.

Exercise 5–5a:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-5

▼ Hint

As indicated by the swirl in the clef, the second line from the bottom of the treble staff is G.

▼ Answer

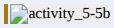
C

Exercise 5–5b:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00



▼ Hint

As indicated by the swirl in the clef, the second line from the bottom of the treble staff is G.

▼ Answer

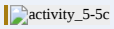
D

Exercise 5–5c:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00



▼ Hint

As indicated by the swirl in the clef, the second line from the bottom of the treble staff is G.

▼ Answer

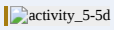
G

Exercise 5–5d:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00



▼ Hint

As indicated by the swirl in the clef, the second line from the bottom of the treble staff is G.

▼ Answer

G

Exercise 5–5e:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-5e

▼ Hint

As indicated by the swirl in the clef, the second line from the bottom of the treble staff is G.

▼ Answer

D

Exercise 5–5f:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-5f

▼ Hint

As indicated by the swirl in the clef, the second line from the bottom of the treble staff is G.

▼ Answer

C

The *bass clef* occurs almost as frequently as the treble clef. The bass clef symbol includes two dots centered around the second line from the top of the staff and specifies that this line corresponds with the F just below middle C. (The symbol is derived from a stylized cursive “F” and is sometimes known as an “F clef.”)

Example 5–13.

0:00 / 0:00

example_5-13

Again, with one of the lines assigned to a specific pitch, all of the remaining lines and spaces become similarly linked. The following example shows the same four noteheads as Example 5–13, now with a bass clef at the beginning of the staff:

Example 5–14.

a. four notes on a bass staff

0:00 / 0:00

example_5-14a

b. the same four notes on a piano keyboard

example_5-14b

Notice that with a bass clef instead of a treble clef, these same four noteheads refer to very different pitches.

Note: The lines of the bass clef from bottom to top are G, B, D, F, and A. You can remember this with the mnemonic "**G**ood **B**urritos **D**on't **F**all **A**part." The spaces—A, C, E, and G—can be remembered with "**A**ll **C**ows **E**at **G**rass."

Treble and bass clefs often appear together on a pair of staves called a *grand staff*:

Example 5–15.

0:00 / 0:00

example_5-15

Notice that with ledger lines there are multiple ways of writing the same pitch on a grand staff. Both of the noteheads in Example 5–15 refer to middle C. Next to a treble clef, middle C is on the first ledger line below the staff. Next to a bass clef, middle C is on the first ledger line above the staff.

Note: The stems on the notes in Example 5–9 point in different directions. Generally speaking, if a notehead is below the middle line, the stem should point up. If a notehead is above the middle line, the stem should point down. When a notehead is directly on the middle line, the stem will generally point down but may point in either direction. When two or more notes are beamed together, the stem direction is usually determined by the notehead furthest from the middle line:

Example 5–16.

0:00 / 0:00

example_5-16

Stem direction is also used to differentiate between voices in a condensed score where multiple parts are written on the same staff.

Example 5–17. *Johann Sebastian Bach, Aus meines Herzens Grunde (BWV 269), mm. 1–7.*

0:00 / 0:00

example_5-17

This example shows a very common format for writing four-part music on a single grand staff. The soprano and alto parts are on the upper staff and the tenor and bass parts are on the lower staff. This format is often referred to as "soprano-alto-tenor-bass," or SATB for short.

▼ Activity 5-6

Activity 5–6

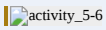
In the following exercises, you will see notes written on a grand staff. Identify each pitch by its note-letter name.

Exercise 5–6a:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00



▼ Hint

Use the mnemonic devices for remembering the lines and spaces in bass and treble clefs.

▼ Answer

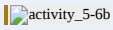
E

Exercise 5–6b:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00



▼ Hint

Use the mnemonic devices for remembering the lines and spaces in bass and treble clefs.

▼ Answer

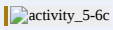
B

Exercise 5–6c:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00



▼ Hint

Use the mnemonic devices for remembering the lines and spaces in bass and treble clefs.

▼ Answer

C

Exercise 5–6d:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-6d

▼ Hint

Use the mnemonic devices for remembering the lines and spaces in bass and treble clefs.

▼ Answer

(middle) C

Exercise 5–6e:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-6e

▼ Hint

Use the mnemonic devices for remembering the lines and spaces in bass and treble clefs.

▼ Answer

F

Exercise 5–6f:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-6f

▼ Hint

Use the mnemonic devices for remembering the lines and spaces in bass and treble clefs.

▼ Answer

B

A third type of clef—the C clef, which is derived from a stylized “C”—specifies the location of middle C as one of the lines on a staff. Unlike the G- and F- clefs, which generally appear in the same position on a staff, C clefs tend to appear in different places. When the C clef is centered on the middle line of the staff it is referred to as an “alto clef”; when it is centered on the second line from the top of the staff it is referred to as a “tenor clef”

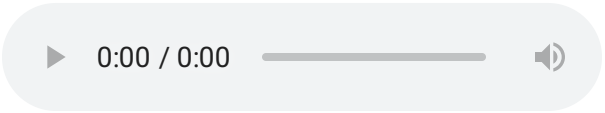
Example 5–18.

a. alto clef

0:00 / 0:00

example_5-18a

b. tenor clef





▼ Activity 5-7

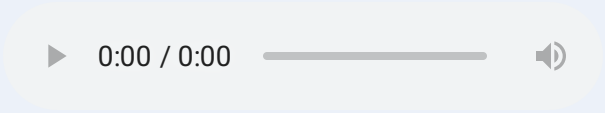
Activity 5–7

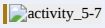
In the following exercises, you will see notes written next to a C clef (alto or tenor). Identify each pitch by its note-letter name.

Exercise 5–7a:

Question

What is the note-letter name for the following pitch?





▼ Hint

Remember, the C clef symbol is centered on a line corresponding with middle C.

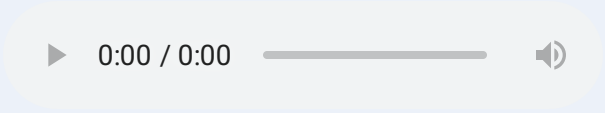
▼ Answer

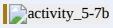
F

Exercise 5–7b:

Question

What is the note-letter name for the following pitch?





▼ Hint

Remember, the C clef symbol is centered on a line corresponding with middle C.

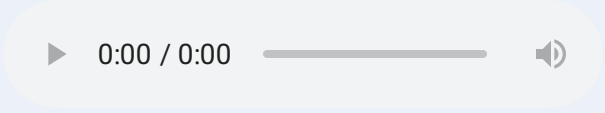
▼ Answer

G

Exercise 5–7c:

Question

What is the note-letter name for the following pitch?



activity_5-7c

▼ Hint

Remember, the C clef symbol is centered on a line corresponding with middle C.

▼ Answer

G

Exercise 5–7d:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-7d

▼ Hint

Remember, the C clef symbol is centered on a line corresponding with middle C.

▼ Answer

B

Exercise 5–7e:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-7e

▼ Hint

Remember, the C clef symbol is centered on a line corresponding with middle C.

▼ Answer

C

Exercise 5–7f:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-7f

▼ Hint

Remember, the C clef symbol is centered on a line corresponding with middle C.

▼ Answer

F

Note: Using the four clefs described above, we are able to write all of the pitches under the square bracket in the following diagram without using any ledger lines:

Example 5–19.

0:00 / 0:00



The pitches in this range—not too high and not too low—are among the most commonly encountered in tonal Western art music. The treble, bass, alto, and tenor clefs, then, are sufficient for a majority of notes.

There are, however, many other clefs that you might encounter from time to time. Composers use these clefs when a note is so high or low that the number of ledger lines needed to write it becomes impractical. These clefs are useful, too, when the range of notes used in a composition does not fit comfortably in any one of the four clefs listed above. Most of these clefs use the same symbols as the clefs described above. Some of them add an “8” (or “15”) to show that all of the noteheads have been displaced one (or more) octaves. The following example shows the location of a single pitch, middle C, on a wide variety of clefs:

Example 5–20.

0:00 / 0:00



Most of these clefs are far less common than the treble, bass, alto, and tenor clefs.

Accidentals may be written on the staff as well. In the following example, a sharp symbol turns an F into F# and a flat symbol turns a D into Db:

Example 5–21.

0:00 / 0:00



Notice how the accidentals are lined up with the noteheads. The small rectangle in the middle of the sharp sign and the little loop at the bottom of the flat sign are lined up either directly on a line or between two staff lines, just like noteheads. Notice, too, that accidentals in staff notation are placed to the left of the noteheads they affect—unlike with pitch letter names, where accidentals are placed after the letter (e.g., “A#“).

▼ Activity 5-8

Activity 5–8

Identify the note-letter names for each of the following pitches

Exercise 5–8a:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-8

▼ Answer

G#

Exercise 5–8b:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-8b

▼ Answer

Db

Exercise 5–8c:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-8c

▼ Answer

Ab

Exercise 5–8d:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-8d

▼ Answer

E#

Exercise 5–8e:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-8e

▼ Answer

C#

Exercise 5–8f:

Question

What is the note-letter name for the following pitch?

0:00 / 0:00

activity_5-8f

▼ Answer

Fb

By convention, accidentals apply to all other noteheads appearing on that line or space for the remainder of the measure in which it appears unless otherwise indicated. Consider the accidentals in the fourth measure of the violin part in the following example (the note-letter names are written above the staff):

Example 5–22. *Mathilde Heim-Brem, Kleines Vortragsstück, mm. 1–9.*

0:00 / 0:00

example_5-22

There are three noteheads in the lowest staff space in m. 4 of the violin part. The note on the downbeat is an F#, as indicated by the accidental. The third note in the measure is also an F# because the accidental applies to all following notes in the same space for the remainder of the measure. This effect may be canceled out, however, by another accidental. The last note of the measure, then, is once again F§, as specified by the accidental.

In some cases, a composer or publisher will include redundant accidentals as helpful reminders to performers. Consider the five notes in the vocal part, mm. 17–18 in the following example:

Example 5–23. *Guy d'Hardelot (née Helen Guy), "Roses of Forgiveness," mm. 12–22.*

0:00 / 0:00

example_5-23

In m. 17, all four notes in the voice part are to be sung as Ab. The natural symbol in m. 18 is not entirely necessary, since the flat symbol in m. 17 applies only until the end of the bar. It is included here as a helpful reminder to the singer that the note should not be Ab like in the previous measure. Accidentals such as these are called "courtesy accidentals" and are sometimes—though not always—written in parentheses as in Example 5–22.

There are two other accidentals besides sharps, flats, and naturals that you are likely to encounter. A double sharp symbol (x) indicates that the pitch in question is two semitones higher than a reference pitch. And finally, a double flat symbol (bb) indicates that the pitch in question is two semitones lower than a reference pitch. Sharp, flat, and natural symbols occur quite frequently, double sharps and double flats less so.

Note: These extra accidentals allow for even more possibilities of enharmonic equivalence. A Gx, for example, is enharmonically equivalent to an A§ and a Cbb is enharmonically equivalent to an A#:

Example 5–24.

0:00 / 0:00



This may seem confusing at first, but you will feel more comfortable with the idea as your understanding of the musical implications of notation deepens.

▼ Activity 5-9

Activity 5–9

In each of the following exercises you will be asked to identify by name some of the notes in an excerpt from a song.

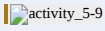
Exercise 5–9a:

Question

Identify each of the pitches in the voice part of the following excerpt. Use pitch-letter names and include an accidental (sharp, flat, or natural) with every note:

Mary Knight Wood, "Ashes of Roses," mm. 21–26.

0:00 / 0:00



▼ Hint

Remember, accidentals apply to all notes in a measure on the same line or space (unless canceled out by another accidental).

▼ Answer

m. 21: E§,A§,E§

m. 22: F§,G§,A§

m. 23: F#,B§,F#

m. 24: G§,A§,A#

m. 25: B§,A§,G§

m. 26: G§,C§

Exercise 5–9b:

Question

Identify each of the pitches in the voice part of the following excerpt. Use pitch-letter names and include an accidental (sharp, flat, or natural) with every note:

Lili Boulanger, Clairières dans le ciel, "11. Par ce que j'ai souffert," mm. 11–15.

0:00 / 0:00

activity_5-9b

▼ Hint

Remember, accidentals apply to all notes in a measure on the same line or space (unless canceled out by another accidental).

▼ Answer

m. 11: Bb,B§

m. 12: Bb,Bb,Bb,B§

m. 13: A#,A#,B§,Fx,G#

m. 14: D#,D§,D§

m. 15: D#,A#,G#,D§

5.5 Scientific pitch notation

Before concluding this chapter, there is one more system for naming pitches that is worth describing. In the discussion above, we used unique names for two specific pitches: middle C and A440. By itself, though, the name “C” specifies a pitch class. It does not specify any one C in particular. “C” might refer to middle C or it might refer to any other “C.” As you can imagine, it would be helpful to have a system that would allow us to quickly name or identify any specific pitch.

Scientific pitch notation does just that by combining pitch letter names with numbers. In this system, middle C is labeled “C4.” The C an octave below middle C is labeled “C3,” the C an octave above middle C is labeled “C5,” and so on:

Example 5–25.

0:00 / 0:00

example_5-25

All other pitches are numbered according to the number of the next lower C. The E on the bottom line of the treble clef, for example, would be E4 since it lies above C4 (and below C5). The G at the top of the bass staff would be G3 for the same reason. This system allows quick and accurate naming of all available pitches.

▼ Activity 5-10

Activity 5–10

Identify the following pitches using scientific pitch notation.

Exercise 5–10a:

Question

What is the scientific pitch name for middle C?

▼ Answer

C4

Exercise 5–10b:

Question

What is the scientific pitch name for A440?

▼ Answer

A4

Exercise 5–10c:

Question

What is the scientific pitch name for the bottom line of the bass clef staff?

▼ Answer

G2

Exercise 5–10d:

Question

What is the scientific pitch name for top space of an treble clef staff?

▼ Answer

E5

5.6 Summary

The term pitch refers to the frequency of sound or the perceived highness or lowness of a musical tone. An interval is the perceived distance between two pitches. An octave is the interval between one pitch and another pitch that doubles the frequency of the first. In tonal Western art music, the octave is broken up into twelve smaller intervals called semitones.

The pitches used in tonal Western art music are easily visualized using a piano keyboard. White keys and their corresponding frequencies are labeled with letters, A through G. Black keys and their corresponding frequencies are labeled according to their proximity to white keys using accidentals: sharp symbols (#) or flat symbols (b). Natural symbols (§) are sometimes used for clarity when referring to pitches that are neither sharp nor flat. The pattern of white and black keys—and, therefore, the pattern of pitch-letter names—repeats every octave.

A staff is a set of five lines upon which notes are written. A staff by itself can show the relative distance between two pitches, but cannot indicate specific pitches. A clef—a symbol appearing at the beginning of a staff—links one line of the staff to a specific pitch, thereby linking all of the other lines and spaces to specific pitches. Treble and bass clefs are very common while C clefs (alto and tenor) are slightly less common. A grand staff is a pair of staves, the top with a treble clef and the bottom with a bass clef.

There are multiple, redundant ways to write pitches, both in letter names and in staff notation. Different spellings that refer to the same sound are said to be enharmonically equivalent. Double sharp symbols (x) and double flat symbols (bb) increase the number of possibilities for enharmonic equivalence. Scientific pitch notation extends the pitch-letter naming system with numbers to indicate specific pitches.

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1.6: Major Scales

6.1 Introduction

The example below shows the beginning of the first movement of a piano sonata.

Example 6–1. *Maria Hester Park, Piano Sonata (Op. 7), I. Allegro spirito, mm. 1–8.*

0:00 / 0:00



Consider the gesture found in mm. 1–2. Starting on a low C, a series of sixteenth notes sweeps up through three full octaves, one staff position at a time (with an extra middle C halfway through). This type of figure is known as a *scale*—more specifically, a major scale.

The major scale is a cornerstone of pitch organization and structure in tonal music. It consists of an ordered collection of seven pitch classes. The sound of a major scale is one with which you are very likely quite familiar. The following example shows a reduced version of the scale found in Example 6–1:

Example 6–2. C-major scale.

0:00 / 0:00



The beginning (and end) of a scale is referred to as the *tonic* or *keynote*. We refer to the major scale found in these examples as a C-major scale because it begins and ends on the keynote C. All of the other notes in the scale are organized around this note.

The high C that ends the major scale in Example 6–2 can also act as the beginning of its own major scale. The following example demonstrates:

Example 6–3. Two octaves of C-major scale.

0:00 / 0:00



Like the scale in Example 6–1, this C-major scale begins on middle C and continues upwards beyond just a single octave. Similarly, middle C could also act as the high end of a C-major scale an octave below. The major scale (and other scales) can therefore continue indefinitely in both directions.

In this chapter, we will begin by examining how a major scale is organized and how to construct one. We will then go on to look at the relationships between its various members and how to refer to them individually.

6.2 Spelling a major scale

For study, scales are typically written in ascending order, spanning a single octave. When notating a scale, we begin with the keynote and use each of the seven note letter names (A, B, C, D, E, F, and G) until we return to the keynote. This is referred to as the *spelling* of the scale and is demonstrated in the following example:

Example 6–4. Spelling a C-major scale.

a. correct:

0:00 / 0:00

example_6-4a

b. incorrect:

0:00 / 0:00

example_6-4b

As you can see from Example 6–4a, the only repeated note letter name is the keynote (in this case, C) for a single octave of a major scale. To repeat any other note letter name would be incorrect, as in Example 6–4b which uses the letter E twice.

Note: At this point, the specific spelling of a scale may seem arbitrary. After all, E# and F are enharmonically equivalent, and the two scales shown in Example 6–4 sound identical. However, the specific spelling of an individual pitch has a direct effect on the implied musical meaning of that note—a concept that will become clearer in later chapters.

▼ Activity 6-1

Activity 6–1

Exercise 6–1:

Question

Which of the following scales is spelled incorrectly?

a.

0:00 / 0:00

activity_6-1a

b.

0:00 / 0:00

activity_6-1b

c.

0:00 / 0:00

activity_6-1c

d.

0:00 / 0:00

activity_6-1d

▼ Answer

c.

0:00 / 0:00

activity_6-1c

This scale is spelled incorrectly. Although this scale is spelled in ascending order and begins and ends on the keynote, the letter G is used twice (G and G#).

6.3 Pitch relations in the major scale

Major scales—and minor scales, as we will discuss shortly—are named after their keynotes: C-major scales have C as their keynote, Ab-major scales have Ab as their keynote, and so on. While the keynote may be the most important and defining pitch of any given scale, it is the organization of the remaining notes—the other six *scale degrees*—that give each scale its unique identity.

In Chapter 5 we introduced the concept of an interval as the perceived distance between two pitches. There, we discussed two different intervals: semitones and octaves. An octave is the distance from one pitch to the next pitch above or below it that has the same letter name—for example, middle C to the next C above (or below) it. A semitone, on the other hand, is the distance between a pitch and the very next pitch above or below it—middle C and the B directly below it, for example. An octave is equal in size to twelve semitones.

Semitones are represented by adjacent keys on the piano keyboard:

Example 6–5. Half steps.

example_6-5

Example 6–5 shows that semitones can be formed between two white keys (blue dots) or between a white key and a black key (red dots). In either case, the two pitches are right next to each other; there is no pitch in between.

An interval that is twice the size of a semitone is known as a *whole tone* (sometimes just *tone*). The following figure shows three examples of whole tones on a piano keyboard:

Example 6–6. Whole steps.

example_6-6

Every whole tone has exactly one key (pitch class) in the middle. Notice that a whole tone can occur between two black keys (blue dots), two white keys (red dots), or a black and a white key (green dots).

We refer to the intervals formed by consecutive scale degrees as *steps*. Some of the steps in a major scale are a semitone in size. Semitone steps are known as *half steps*. In the C-major scale from Example 6–2, the step from E up to F is a half step. The step from B up to the keynote C is also a half step. All of the remaining steps—C to D, D to E, etc.—are a whole tone in size and so these steps are known as *whole steps*.

Note: As implied by the preceding paragraph, the terms “half step” and “semitone” are not interchangeable. All half steps are one semitone in size, but not all semitones are half steps. Because a major scale must use all seven pitch letters, the two pitches forming a step *must be spelled with consecutive letters*. In other words, B and C are a half step apart, but F and F# are not because the names are not spelled with consecutive letters. (G and A are considered consecutive.)

Similarly, all whole steps are one whole tone in size, but not all whole tones are whole steps. If the blue dots in Example 6-5 were spelled as C# and D#, they would be considered a whole step apart. If, on the other hand, they were spelled C# and Eb, they would not be considered a whole step apart since C and E are not consecutive letters.

Every major scale features the exact same pattern of whole steps (W) and half steps (H): W-W-H-W-W-W-H.

Example 6–7.

a. Whole steps and half steps in major scales in C major

0:00 / 0:00

example_6-7a

b. Whole steps and half steps in major scales in G major

0:00 / 0:00

example_6-7b

Play or listen to the two scales in Example 6–7. Notice how similar they sound even though they begin on different pitches and contain different pitch classes (C major has F, while G major uses F#). It is because both scales follow the same pattern of whole steps and half steps that they sound so similar.

If we divide the major scale into two *tetrachords* (groups of four consecutive notes), we find that each tetrachord follows the same pattern of whole steps and half steps:

Example 6–8.

0:00 / 0:00

example_6-8

As Example 6–8 demonstrates, the major scale can be divided into two tetrachords, each of which follows the W-W-H pattern. The two tetrachords are themselves separated by a whole step. In C major, the lower tetrachord contains C, D, E, and F, while the upper contains G, A, B, and C. (The triangular brackets in Example 6–8 are a common shorthand way of indicating half-steps.)

▼ Activity 6-2

Activity 6–2

The exercises below refer to the following tetrachord:

0:00 / 0:00

activity_6-2

Exercise 6–2a:

Question

For which major scale would these four notes form the lower tetrachord?

0:00 / 0:00

activity_6-2a

▼ Hint

The lower tetrachord of any major scale has the keynote as its lowest pitch.

▼ Answer

F major. F-G-A-Bb form the lower tetrachord of an F-major scale.

Follow-up question

Complete the F-major scale by adding the upper tetrachord:

0:00 / 0:00

activity_6-2a

▼ Hint

Remember to follow the correct pattern of whole steps and half steps starting with the keynote.

▼ Answer

0:00 / 0:00

activity_6-2a_answer

Exercise 6–2b:

Question

For which major scale would these four notes form the upper tetrachord:

0:00 / 0:00

activity_6-2b

▼ Hint

The upper tetrachord of any major has the keynote as its highest pitch.

▼ Answer

Bb major. F-G-A-Bb form the upper tetrachord of a Bb-major scale.

Follow-up question

Complete the Bb-major scale by adding the lower tetrachord:

0:00 / 0:00

activity_6-2b

▼ Hint

Remember to follow the correct pattern of whole steps and half steps starting with the keynote.

▼ Answer

0:00 / 0:00

activity_6-2b_answer

The half steps in a major scale are always found in the same place. One is found between the third and fourth scale degrees and the other between the seventh and eighth scale degrees. The following example shows a C-major scale on the piano keyboard:

Example 6–9.

example_6-9

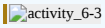
Visualizing C major is particularly useful as it uses only white keys. This makes the two half-steps very easy to see. Notice that on the piano keyboard, the keys E and F (the third and fourth white keys) have no black key in between them. The same is true for B and C. These two pairs of notes correspond to the half steps shown in Example 6–5.

▼ Activity 6-3

Activity 6–3

Every major scale has two half steps. Identify the half steps in the following G-major scale:

0:00 / 0:00



Exercise 6–3a:

Question

Name one pair of consecutive notes that form a half step in a G-major scale.

▼ Answer

B/C or F#/G

Exercise 6–3b:

Question

Now identify the other pair of consecutive notes that form a half step in the G-major scale.

▼ Answer

B/C or F#/G (the other answer from Exercise 6–3a)

6.4 Building a major scale

There are several ways of building a major scale like those we've discussed so far. One way is to take advantage of the fact that every major scale follows the same pattern of whole steps and half steps.

Let's say you were asked to build an Ab-major scale (a major scale beginning on Ab). A good place to start would be to write Ab on the staff:

Example 6–10.

0:00 / 0:00



Note: When writing music on a staff, accidentals are always placed to the left of the note they're applied to, as in Example 6–8. When referring to them in written prose—as in the text of this chapter—they are written as you would say them out loud, with the accidental coming just after the pitch-letter name: "Ab major."

Since the major scale uses each of the pitch-letter names only once before reaching the tonic note again, we can fill in the rest of the noteheads to help ensure that we're spelling the scale correctly. Don't worry about accidentals yet—those will come in the next step.

Example 6–11.

0:00 / 0:00

example_6-11

As we've seen, every major scale follows the same pattern of whole steps and half steps. You may find it helpful at first to write the pattern above or below your scale:

Example 6–12.

0:00 / 0:00

example_6-12

Once the noteheads are in place, completing the major scale is simply a matter of working from left to right and making sure each note conforms to the pattern. The step from Ab to B is larger than it should be: Ab to B is three semitones instead of two. Since we can't change the initial Ab, our only alternative is to lower the B to Bb.Ab to Bb—a whole step—is the first step of the Ab-major scale. Moving from Bb to C is already a whole step, so C needs no accidental. Then we see that C to D is a semitone larger than the half step we need it to be. Lowering D to Db will solve this problem. And so on, until we arrive back at the keynote (if your scale began with an accidental, don't forget to put one on the ending keynote as well!):

Example 6–13.

0:00 / 0:00

example_6-13

As Example 6–13 shows, the Ab-major scale requires four flats (Bb,Eb,Ab, and Db) to conform to the pattern of whole steps and half steps. Other scales will require sharps to maintain the pattern, but major scales will never use both sharps and flats in the same scale.

Note: If you are already familiar with the concept of key signatures—a topic we will discuss in Chapter 8 and Chapter 9—you may find this method of building a scale to be tedious and inefficient. However, while it is true that key signatures provide a handy means of quickly determining all the notes in a scale, they do little to reinforce the structure of that scale. It is recommended that you use the method described above at least until you feel confident in your familiarity with the pattern of whole and half steps that define the scale at hand.

▼ Activity 6-4

Activity 6–4

$$\hat{2} \tag{1.6.1}$$

Exercise 6–4a:

Question

Build a Bb-major scale:

0:00 / 0:00

activity_6-4a

▼ Hint

Use the pattern of whole steps and half steps to determine each consecutive step of the scale.

▼ Answer

0:00 / 0:00

activity_6-4a_answer

Exercise 6–4b:

Question

Build a D-major scale:

0:00 / 0:00

activity_6-4b

▼ Hint

Use the pattern of whole steps and half steps to determine each consecutive step of the scale.

▼ Answer

0:00 / 0:00

activity_6-4b_answer

Exercise 6–4c:

Question

Build an E-major scale:

0:00 / 0:00

activity_6-4c

▼ Hint

Use the pattern of whole steps and half steps to determine each consecutive step of the scale.

▼ Answer

0:00 / 0:00

activity_6-4c_answer

Exercise 6–4d:

Question

Build an F#-major scale:

0:00 / 0:00

activity_6-4d

▼ Hint

Use the pattern of whole steps and half steps to determine each consecutive step of the scale.

▼ Answer

0:00 / 0:00

activity_6-4d_answer

6.5 Scale degree labels

Because the pattern of whole steps and half steps discussed above is the same for every major scale, we can use labels to identify each scale degree with respect to a given keynote. The three main types of labels that we will give scale degrees in this chapter are *scale degree numbers*, *solfège syllables*, and *scale degree names*.

$$\hat{1} \tag{1.6.2}$$

Example 6–14. Major scale with scale degree numbers.

0:00 / 0:00

example_6-14

$$\hat{8} \tag{1.6.3}$$

▼ Activity 6-5

Activity 6–5

For each of the following exercises you will be given a pitch and told what major scale degree it represents. It is up to you to fill in the remainder of the scale. The keynote of the scale may or may not have an accidental.

Exercise 6–5a:

Question

$$\hat{3} \tag{1.6.4}$$

0:00 / 0:00

activity_6-5a

▼ Hint

Keep in mind that the keynote of the scale may or may not have an accidental.

▼ Answer

0:00 / 0:00

activity_6-5a_answer

G is the third degree of an Eb-major scale.

Exercise 6–5b:

Question

$$\hat{4} \tag{1.6.5}$$

0:00 / 0:00

activity_6-5b

▼ Hint

Keep in mind that the keynote of the scale may or may not have an accidental.

▼ Answer

0:00 / 0:00

activity_6-5b_answer

G is the fourth degree of a D-major scale.

Exercise 6–5c:

Question

$$\hat{2} \tag{1.6.6}$$

0:00 / 0:00

activity_6-5c

▼ Hint

Keep in mind that the keynote of the scale may or may not have an accidental.

▼ Answer

0:00 / 0:00

activity_6-5c_answer

Eb is the second degree of a Db–major scale.

Exercise 6–5d:

Question

$$\hat{6} \tag{1.6.7}$$

0:00 / 0:00

activity_6-5d

▼ Hint

Keep in mind that the keynote of the scale may or may not have an accidental.

▼ Answer

0:00 / 0:00

activity_6-5d_answer

G# is the sixth degree of a B-major scale.

When singing, it is convenient to give each scale degree a single-syllable name. *Solfège syllables*, as they are commonly called, are most often used when practicing vocal performance, but can also be used to refer to scale degrees in general.

Example 6–15. Major scale with solfège syllables.

0:00 / 0:00

example_6-15

As popularized by the Broadway musical *The Sound of Music*, solfège syllables are particularly useful for how they help familiarize us with the relationships between various scale degrees. Becoming acquainted with solfège syllables will be a tremendous help in memorizing and performing music.

Our final system for labeling scale degrees gives each a name according to its position relative to the keynote and its function within the scale:

Example 6–16. Major scale with scale degree names.

0:00 / 0:00

example_6-16

The tonic—another, common name for the keynote—is central to this system. In other words, all of the other labels indicate the position of the scale degrees relative to the tonic. The dominant is four steps above the tonic, the subdominant is four steps below the (upper) tonic. The mediant is two steps above the tonic, the submediant is two steps below the (upper) tonic. The supertonic, as the name implies, is just above the tonic, while the leading tone is a semitone below. These names will be particularly useful when it comes to discussing functional harmony.

It may seem redundant to have three labeling systems for the scale degrees, but each has a different and useful purpose. It is essential that you familiarize yourself with all three and be able to use them interchangeably.

Example 6–17. Three ways to label scale degrees.

0:00 / 0:00

example_6-17

▼ Activity 6-6

Activity 6–6

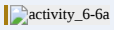
Identify the solège syllable, scale degree number, or scale degree name as specified for each of the following scales:

Exercise 6–6a:

Question

What is the scale degree number for the note indicated by the arrow in the following Eb-major scale?

0:00 / 0:00



▼ Answer

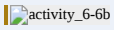
7

Exercise 6–6b:

Question

What is the solfège syllable for the note indicated by the arrow in the following A-major scale?

0:00 / 0:00



▼ Answer

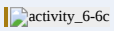
re

Exercise 6–6c:

Question

What is the solfège syllable for the note indicated by the arrow in the following D-major scale?

0:00 / 0:00



▼ Answer

mi

Exercise 6–6d:

Question

What is the scale-degree name for the note indicated by the arrow in the following F-major scale?

0:00 / 0:00

activity_6-6d

▼ Answer

dominant

6.6 Summary

The *major scale*, one of the most important building blocks of tonal music, consists of seven distinct pitch classes called *scale degrees* arranged in a specific pattern. It begins and ends with the most important pitch, the *keynote* (or tonic), by which we name the scale. Each pitch letter name is used only once (except for the keynote, which is typically repeated at the end of the scale).

Every major scale is built of two *tetrachords* separated by a whole step, each of which follows the same pattern of whole steps and half steps internally: W-W-H. The overall pattern of a major scale, therefore, is: W-W-H-W-W-W-H. Every major scale follows this same pattern and it is this specific pattern that gives the major scale its unique sound.

$$\hat{1} \tag{1.6.8}$$

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1.7: Minor Scales

7.1 Introduction

In tonal music, the major scale is undoubtedly the most important and frequently used organization of pitches:

Example 7–1.

0:00 / 0:00

example_7-1

As you know from Chapter 6, the major scale is built using a specific pattern of whole steps and half steps: W-W-H-W-W-W-H. This pattern is used in every manifestation of the major scale.

The *diatonic minor scale*, on the other hand, is built using a different pattern of whole steps and half steps. As a result, it has a distinct and recognizable sound. In this brief chapter we will discuss the construction of a minor scale and its relationship to the major scale that begins on the same pitch class.

Note: Unlike the major scale, which is typically found only in the form described above, there are several common variants of the minor scale. We will discuss these variants at length in Chapter 17. For the time being, however, we will differentiate between these altered versions and the basic form of the scale by here using the term "*diatonic* minor scale."

7.2 The diatonic minor scale

Because the major scale is so prevalent in tonal music, it is helpful to think of minor scales as being derived from the major scale that begins on the same pitch class—what is commonly referred to as the *parallel* major. Compare Example 7–2 and Example 7–3:

Example 7–2. The C major scale.

0:00 / 0:00

example_7-2

Example 7–3. The diatonic C minor scale.

0:00 / 0:00

example_7-3

$$\hat{1} \tag{1.7.1}$$

▼ Activity 7-1

Activity 7–1

$$\hat{3} \tag{1.7.2}$$

Take the following D-major scale, for example:

0:00 / 0:00

activity_7-1

The parallel minor scale would therefore have F# lowered to F§,B§ lowered to Bb, and C# lowered to C§:

0:00 / 0:00

activity_7-1_answer

Exercise 7–1a:

Question

G-major scale:

0:00 / 0:00

activity_7-1a

Adjust the pitches as necessary to create a G-minor scale.

▼ Hint

$$\hat{3} \tag{1.7.3}$$

▼ Answer

0:00 / 0:00

activity_7-1a_answer

Exercise 7–1b:

Question

Eb-major scale:

0:00 / 0:00

activity_7-1b

Adjust the pitches as necessary to create an Eb-minor scale.

▼ Hint

$$\hat{3} \tag{1.7.4}$$

▼ Answer

0:00 / 0:00

activity_7-1b_answer

Exercise 7–1c:

Question

E-major scale:

0:00 / 0:00

activity_7-1c

Adjust the pitches as necessary to create a E-minor scale.

▼ Hint

$$\hat{3} \tag{1.7.5}$$

▼ Answer

0:00 / 0:00

activity_7-1c_answer

Exercise 7–1d:

Question

Bb-major scale:

0:00 / 0:00

activity_7-1d

Adjust the pitches as necessary to create a Bb-minor scale.

▼ Hint

$$\hat{3} \tag{1.7.6}$$

▼ Answer

0:00 / 0:00

activity_7-1d_answer

$$\hat{3} \tag{1.7.7}$$

7.3 Summary

$$\hat{3} \tag{1.7.8}$$

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1.8: Major Keys and Key Signatures

8.1 Introduction

In tonal Western art music, when a piece tends primarily to use the pitches of a single major or minor scale, it is said to be *in* that major or minor key. Such pieces typically have groups of sharps or flats called *key signatures*. The following example has a Db-major key signature (five flats). It appears just after each clef on each staff:

Example 8–1. *Amalia Hjelm, 5 Songs, 5. "Sång till qvällens stjerna," mm. 1–5*.

0:00 / 0:00



These key signatures provide a convenient alternative to writing out all of the necessary accidentals for a given key. Instead of writing a b before every B, E, A, D, and G (as necessitated by the Db-major scale), the key signature instructs the performer that every B, E, A, D, and G on the staff are to be lowered a semitone unless otherwise noted. Compare Example 8–1 with the following, which writes out the required accidentals instead of using a key signature. Notice how much more cluttered the score appears:

Example 8–2. *Amalia Hjelm, 5 Songs, 5. "Sång till qvällens stjerna," mm. 1–5*, no key signature.

0:00 / 0:00



In this chapter, we will discuss how a key is established using the pitches of a major scale, how to determine a major key from a given key signature, and how to write key signatures on bass and treble clefs. We will also look at relationships between major scales and how to organize them with regards to one another.

8.2 Major keys

Chapter 6 discusses the role of the tonic (the keynote) as the most prominent note of a major scale. When a piece is in a major key it takes the pitches from that major scale and gives the tonic a position of primary importance. The remaining scale degrees are treated according to a hierarchy relative to the tonic.

Consider the following melody:

Example 8–3. *"Ah! vous dirai-je, maman" ("Twinkle, Twinkle, Little Star")* in C major.

0:00 / 0:00



As you can see, this melody uses the pitches C, D, E, F, G, and A. All of these pitches belong to the C major scale (C, D, E, F, G, A, and B). This is a very good indication that this melody is in the key of C major. But all of these pitches also belong to the F major scale (F, G, A , Bb, C, D, and E). To determine the key of this melody—C major or F major—we need to decide which note sounds most like the tonic. Listen to the melody again and consider which pitch, C or F, sounds more stable—in other words, which pitch sounds more restful, more like a musical destination and less like an attraction along the way.

It is likely that you heard the pitch C as having greater stability. Simply looking at the melody, we can see that C occupies a more stable position than the pitch class F. The excerpt begins and ends on C, and C holds a prominent position at the end of m. 2 and the beginning of m. 5. Whenever F appears, on the other hand, it is given a shorter note-value, and is always within a descending stepwise passage toward C. Because the pitch class C is the most stable-sounding pitch in the melody, Example 8–3 is in the key of C major.

The melody from Example 8–3 can be written in any major key. The following example *transposes* it (rewrites it at a different pitch level) to E major by raising each note up two whole steps, putting E in the most stable position. The melody sounds the same, only higher:

Example 8–4. *“Ah! vous dirai-je, maman” (“Twinkle, Twinkle, Little Star”)*in E major.

0:00 / 0:00



▼ Activity 8-1

Activity 8–1

Identify the key of each of the following melodies by considering which scale is represented by the present pitches and by looking for points of stability that might be the tonic note.

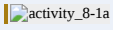
Exercise 8–1a:

Question

In what key is the following melody?

“Ah! vous dirai-je, maman” (“Twinkle, Twinkle, Little Star”).

0:00 / 0:00



▼ Hint

Look for stable pitches that might be the tonic.

▼ Answer

Bb major

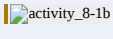
Exercise 8–1b:

Question

In what key is the following melody?

Johann Sebastian Bach, “Aus meines Herzens Grunde” (BWV 269), mm. 1–7.

0:00 / 0:00



▼ Hint

Look for stable pitches that might be the tonic.

▼ Answer

A major

Exercise 8–1c:

Question

In what key is the following melody?

Louise Farrenc, Les Italiennes (Op. 14), 3. "Cavatine de Carafa's Berenice," mm. 1-8.

0:00 / 0:00

activity_8-1c

▼ Hint

Look for stable pitches that might be the tonic. (Note that the melody might not begin on the tonic!)

▼ Answer

F major

Exercise 8–1d:

Question

In what key is the following melody?

Joseph Bologne Saint-Georges, Amant anonime, Act II, Scene III, Ariette, mm. 20-27.

0:00 / 0:00

activity_8-1d

▼ Hint

Look for stable pitches that might be the tonic. (Note that the melody might not begin on the tonic!)

▼ Answer

Bb major

Exercise 8–1e:

Question

In what key is the following melody?

Fanny Hensel, Gartenlieder (Op. 3), 1. "Hörst du nicht die Bäume rauschen," mm. 1-8.

0:00 / 0:00

activity_8-1e

▼ Hint

Look for stable pitches that might be the tonic. (Note that the melody might not begin on the tonic!)

▼ Answer

B major

Exercise 8–1f:

Question

In what key is the following melody?

Samuel Coleridge-Taylor, "The Lord is My Strength," mm. 5-20.

0:00 / 0:00

activity_8-1f

▼ Hint

Look for stable pitches that might be the tonic. (Note that the melody might not begin on the tonic!)

▼ Answer

Bb major

8.3 Key signatures

Each major scale contains a distinct set of seven pitch classes. (Again, see Chapter 6 for a lengthier discussion of the major scale.) One major scale may share as many as six pitches with another, as we saw in Example 8–3, but not all. (Two major scales that share seven pitch classes in common are considered to be the same scale.) Since each major scale is unique in this way, a piece in a major key will draw from the same pitches as its corresponding major scale. These sharps and flats used in the corresponding major scale are usually written at the beginning of each line in a *key signature*.

The *key signature* is a collection of sharps or flats that indicates which notes should be raised or lowered so that they belong to the key. In C major, there are no sharps or flats in the key signature, just as there are no sharps or flats in the C major scale. In keys other than C major, the key signature is written to the right of the clef, just before the time signature, at the beginning of each line of music. In Example 8–4 we transposed "Ah! vous dirai-je, maman" ("Twinkle, Twinkle, Little Star") to the key of E major. The following example shows the same melody in E major but here makes use of a key signature instead of writing out all the accidentals:

Example 8–5. *"Ah! vous dirai-je, maman" ("Twinkle, Twinkle, Little Star")* in E major.

a. without key signature

0:00 / 0:00

example_8-5a

b. with key signature

0:00 / 0:00

example_8-5b

E major has four sharps (F#,C#,G#, and D#), all of which appear in the key signature. (Even though D# is not used in this melody, the accidental is left in the key signature. Doing so makes it clear that this excerpt is in E major.) Sharps or flats in the key signature affect more than just the notes whose line or space they share:

Example 8–6.

0:00 / 0:00

example_8-6

The first sharp of the key signature in Example 8–6 (centered on the top line of the staff) applies to the note on the same line, making it F#. Likewise, the second sharp of the key signature (centered on the third space on the staff) applies to the note on the same space, making it C#. The accidentals appearing in the key signature apply to *every* instance of that pitch class. The F and C in

the second half of Example 8–6 are both sharp even though the key signature does not include an accidental on their respective space and line.

Note: The sharps in the key signature are centered on the line or space of the note to which they apply. As you will see momentarily, the same is true of key signatures using flats. The head of the flat accidental is centered on the line or space of the note it affects.

▼ Activity 8-2

Activity 8–2

Identify the major key represented by each of the following key signatures:

Exercise 8–2a:

Question

Which major key does the following key signature represent?

0:00 / 0:00

activity_8-2a

▼ Hint

Which major scale has two sharps?

▼ Answer

D major

Exercise 8–2b:

Question

Which major key does the following key signature represent?

0:00 / 0:00

activity_8-2b

▼ Hint

Which major scale has two flats?

▼ Answer

Bb major

Exercise 8–2c:

Question

Which major key does the following key signature represent?

0:00 / 0:00

activity_8-2c

▼ Hint

Which major scale has three sharps?

▼ Answer

A major

Exercise 8–2d:

Question

Which major key does the following key signature represent?

0:00 / 0:00

activity_8-2d

▼ Hint

Which major scale has three flats?

▼ Answer

Eb major

Pitches specified by the key signature can be canceled out by an accidental next to a note, as in the following example:

Example 8–7. *Wolfgang Amadeus Mozart, Piano Sonata No. 4 in Eb major (K.282), mm. 1–4.*

0:00 / 0:00

example_8-7

This piece is in Eb major, which has three flats (Bb,Eb, and Ab) as specified by the key signature. The natural sign (§) next to the A on the last eighth note of the first measure cancels out the Ab of the key signature. This canceling out of Ab lasts only as long as the measure in which the accidental appears. By the second measure, all As should again be flatted according to the key signature.

Note: You will frequently come across accidentals that may seem unnecessary. The flat next to the A on the fourth beat of m. 2, for instance, seems superfluous, given the Ab in the key signature. Such accidentals are referred to as *courtesy accidentals*. They occur after a previous accidental altered a given pitch (in this case, the A§ at the end of the first measure) to remind the performer that a scale degree has gone back to normal as specified by the key signature. Courtesy accidentals are sometimes placed in parentheses, although you will see that this practice is far from consistent as you go from one score, composer, or publisher to the next.

8.4 Writing key signatures

In Chapter 6 we discussed how one octave of a major scale can be divided into two tetrachords, an upper and a lower, each of which follows the same a W-W-H step pattern. In C major, for example, the lower tetrachord would be (C, D, E, F) and the upper (G, A, B, C). Since the pattern of whole steps and half steps is identical in each major tetrachord, they can both be used interchangeably as either the upper or lower tetrachord of a major scale. The upper tetrachord of a C-major scale (G, A, B, C) could, for example, also serve as the lower tetrachord of a G-major scale:

Example 8–8.

0:00 / 0:00

example_8-8

Notice how similar these two scales are. They have six pitch classes in common (G, A, B, C, D, and E), differing in only one note: C major has F, while G major has F#. Scales like these that share six out of their seven pitch classes are referred to as *closely-related*. Their key signatures, therefore, will differ by only one accidental. (C major has no sharps, G major has one sharp.)

The following example shows the key signatures for C and G major, and takes the process one step further, using the upper tetrachord of G major (D, E, F#, G) as the lower tetrachord of D-major. Each subsequent scale, in other words, begins on the fifth degree of the scale before it (as shown by the arrows):

Example 8–9.

a. sharp key signatures

0:00 / 0:00



b. sharp key scales

0:00 / 0:00



$$\hat{5} \tag{1.8.1}$$

The following example shows all of the sharp key signatures up through seven sharps—from C major, in which none of the notes require an accidental, to C# major, in which every note is sharped:

Example 8–10. Sharp key signatures.

0:00 / 0:00



The sharps or flats in a key signature must be written in a particular order and position on the staff. Notice how none of the sharps are written on ledger lines and that the key signatures are adjusted depending on which clef is assigned to the staff. It is important that you memorize not only the order in which particular sharps are added to the key signature (F#,C#,G#,D#,A#,E#,B#), but also the pattern in which they are added on the staff.

Note: You may find it helpful to come up with mnemonic devices to help remember these patterns. The order of sharps as they are added to a key signature, for example, can be remembered by the sentence: "**F**at **C**ats **G**o **D**own **A**lleys **E**ating **B**irds."

There is also a useful, quite easy trick for determining the tonic of a sharp key. In every sharp key, the right-most accidental of the key signature is the leading tone of the key. Say the key signature has five sharps: F#,C#,G#,D#,A#.A# is the leading tone for the B major scale. Therefore, the key is B major.

▼ Activity 8-3

Activity 8–3

Write out each of the following sharp key signatures on the staff provided. Be sure to write each sharp on the appropriate line and in the correct order.

Exercise 8–3a:

Question

Write out a G-major key signature:

0:00 / 0:00

activity_8-3a

▼ Hint

G major has one sharp.

▼ Answer

0:00 / 0:00

activity_8-3a_answer

Exercise 8–3b:

Question

Write out an F#-major key signature:

0:00 / 0:00

activity_8-3b

▼ Hint

F# major has six sharps.

▼ Answer

0:00 / 0:00

activity_8-3b_answer

Exercise 8–3c:

Question

Write out a D-major key signature:

0:00 / 0:00

activity_8-3c

▼ Hint

D major has two sharps.

▼ Answer

0:00 / 0:00

activity_8-3c_answer

Exercise 8–3d:

Question

Write out an E-major key signature:

0:00 / 0:00

activity_8-3d

▼ Hint

E major has four sharps.

▼ Answer

0:00 / 0:00

activity_8-3d_answer

$$\hat{5} \qquad (1.8.2)$$

Example 8–11b.

a. flat key signatures

0:00 / 0:00

example_8-11a

b. flat key scales

0:00 / 0:00

example_8-11b

The following example shows all of the flat key signatures up to seven flats:

Example 8–12. Flat key signatures.

0:00 / 0:00

example_8-12

Again, it is essential that you remember the order in which flats are added to key signatures and the pattern in which they are notated on the staff.

Note: The order of flats as they are added to a key signature can be reversing the mnemonic for sharp keys: "**B**efore **E**ating **AD**onut, **G**et **C**offee **F**irst."

The second to last accidental in a flat key signature will tell you the key. Eb major, for example, has three flats: Bb,Eb, and Ab. The second to last (Eb) is the tonic of the key!

▼ Activity 8-4

Activity 8–4

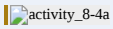
Write out each of the following flat key signatures. Be sure to write each flat on the appropriate line and in the correct order.

Exercise 8–4a:

Question

Write out an Ab-major key signature:

0:00 / 0:00

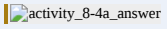


▼ Hint

Ab major has four flats.

▼ Answer

0:00 / 0:00

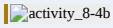


Exercise 8–4b:

Question

Write out an F-major key signature:

0:00 / 0:00

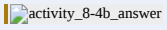


▼ Hint

F major has one flat.

▼ Answer

0:00 / 0:00

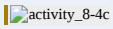


Exercise 8–4c:

Question

Write out a Db-major key signature:

0:00 / 0:00



▼ Hint

Db major has five flats.

▼ Answer

0:00 / 0:00

activity_8-4c_answer

Exercise 8–4d:

Question

Write out an Eb-major key signature:

0:00 / 0:00

activity_8-4d

▼ Hint

Eb major has three flats.

▼ Answer

0:00 / 0:00

activity_8-4d_answer

Although treble and bass clefs are the most commonly encountered, it is also helpful to be able to write and recognize key signatures written next to other clefs. The following example shows where each sharp and flat would be written in a key signature next to treble, bass, alto, and tenor clefs. For key signatures requiring less than seven sharps or flats, simply follow the pattern as far as needed:

Example 8–13.

0:00 / 0:00

example_8-13

Notice that, for the most part, the placement pattern of sharps and flats remains the same, regardless of the clef. The symbols are simply moved up or down to match the arrangement of pitch letter names on the lines and spaces of the staff as indicated by the clef. The only exception is the set of sharp key signatures written beside a tenor clef (the last key signature on the first line). Here a small adjustment is made: the first and third sharps are shifted down an octave to avoid using ledger lines in the key signature.

As we saw in Example 8–10 and Example 8–12, we typically divide keys into two categories: “sharp keys” (those whose key signatures consist of sharps) and “flat keys” (those whose key signatures consist of flats). In tonal music, you will never see a key signature with a mixture of sharps and flats. You may, however, encounter natural signs in a key signature when the accidentals of a previous key signature must be canceled out as in the following excerpt where the key changes to E major in m. 17:

Example 8–14. *Frédéric Chopin, Etude No. 10, Op. 10, mm. 16–17.*

0:00 / 0:00

example_8-14

8.5 Summary

A piece that draws primarily from the pitches of a single major scale is said to be *in* that major key. Within a key, pitch classes are organized hierarchically—primarily around the tonic which is heard as the most stable and grounding degree of the scale. A piece in G major, for example, will use pitch classes from the G major scale but will treat the pitch class G as the most conclusive sounding resting point. Other scale degrees will be treated accordingly, relative to the tonic.

A *key signature* is a symbol—a collection of sharps or flats—that indicates the key of a particular piece or passage. Key signatures are written just to the right of the clef and appear at the beginning of each line of music. A sharp or flat indicated by the key signature applies to every instance of that pitch-letter name, not just those on the line or space on which it is written. They remain in effect throughout the entire piece unless they are canceled out by an accidental or a new key signature. Key signatures are always written in a particular pattern on the staff and must be adjusted to match the clef.

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1.9: Minor Keys and Key Signatures

9.1 Introduction

Chapter 8 discusses how pieces that draw primarily from the pitches of a major scale are said to be in that major key. Similarly, pieces that draw primarily from the pitches of a *minor* scale—a scale based on the W-H-W-W-H-W-W pattern of whole steps and half steps—are said to be in that *minor* key. Minor key signatures can likewise be derived from the accidentals of the corresponding *diatonic* minor scale.

In this chapter we will discuss how a minor key is constructed and established as well as how minor key signatures are written and used. (We will return to this topic once more in Chapter 16, when we discuss variant forms of the minor scale.)

9.2 Minor keys

$$\hat{3} \tag{1.9.1}$$

Example 9–1.

0:00 / 0:00

example_9-1

$$\hat{1} \tag{1.9.2}$$

The following melody is adapted from Chopin's second piano sonata. It is in a minor key:

Example 9–2. *Frédéric Chopin, Piano Sonata No.2 (Op. 35), III. Marche funèbre, mm. 1-10* (in A minor).

0:00 / 0:00

example_9-2

As with major keys, a melody or piece is said to be in a minor key if it uses primarily the pitches of a minor scale and gives the tonic a position of primary importance. This melody is in A minor: it begins and ends on A and uses the pitches of the diatonic A-minor scale (A, B, C, D, E, F, and G). The tonic, A, is the most important pitch in this melody. It serves as a stable starting point and brings a sense of closure when it returns at the end. All of the other pitches are organized hierarchically around A and have varying levels of stability. The Cs in mm. 5-8, for example, bring a sense of arrival. They sound stable, but not as stable as the final A.

Were the melody in Example 9–2 to be transposed to a different minor key, the new tonic would be heard in the same way even though the pitch level would be different:

Example 9–3. *Frédéric Chopin, Piano Sonata No.2 (Op. 35), III. Marche funèbre, mm. 1-10* (in Bb minor).

0:00 / 0:00

example_9-3

Example 9–3 transposes the melody to Bb minor (the original key, as written by Chopin). It now has a new set of pitches (those of the Bb-minor scale) and Bb is heard as the new tonic.

Now consider the following melody:

Example 9–4 *Louise Reichardt, 12 German & Italian Romantic Songs, 3. "Durch die bunten Rosenhecken," mm. 1-8.*

0:00 / 0:00

example_9-4

This melody is in F minor. For the most part, it uses the pitches of an F minor scale. Note, however, that it also includes E§ in m. 6. The presence of E§ does not prevent the listener from hearing F as the tonic. In fact, it helps make the arrival on F sound more conclusive. Unlike their major counterparts, minor scales are used in several variant forms which include one or more pitch classes from outside the diatonic scale. We will discuss these altered versions of minor in Chapter 17. The remaining sections of this chapter will be concerned only with the unaltered diatonic minor.

▼ Activity 9-1

Activity 9–1

Identify the key of each of the following melodies in minor:

Exercise 9–1a:

Question

To which minor key has the Chopin melody been transposed below?

Frédéric Chopin, Piano Sonata No.2 (Op. 35), III. Marche funèbre, mm. 1-10 (transposed).

0:00 / 0:00

activity_9-1a

▼ Hint

Look to the beginning and end of the melody for important stable notes that might represent the tonic.

▼ Answer

E minor

Exercise 9–1b:

Question

The following melody is in which minor key?

Franz Schubert, Winterreise (D.911), 14. "Der Greise Kopf," mm. 4–8.

0:00 / 0:00

activity_9-1b

▼ Hint

Look to the beginning and end of the melody for important stable notes that might represent the tonic. Note that there may be pitches that do not belong to the the corresponding diatonic minor scale.

▼ Answer

C minor

9.3 Minor key signatures

Like major keys, minor keys are represented with key signatures. These contain the same sharps and flats as the diatonic minor scale. The following example adds an F-minor key signature to the melody from Example 9–4:

Example 9–5 *Louise Reichardt, 12 German & Italian Romantic Songs, 3. "Durch die bunten Rosenhecken," mm. 1-8.*

0:00 / 0:00

example_9-5

$\hat{6}$ (1.9.3)

Minor key signatures also come in two varieties: those with sharps and and those flats. The following examples show all of the minor key signatures up to seven sharps or flats:

Example 9–6.

0:00 / 0:00

example_9-6

Example 9–7.

0:00 / 0:00

example_9-7

As you can see, minor key signatures look just like major key signatures. The accidentals are written in the same order and pattern on the staff.

▼ Activity 9-2

Activity 9–2

Write each of the following minor key signatures as requested on the staff provided.

Exercise 9–2a:

Question

Write a D-minor key signature:

0:00 / 0:00

activity_9-2a

▼ Answer

0:00 / 0:00

activity_9-2a_answer

Exercise 9–2b:

Question

Write a B-minor key signature:

0:00 / 0:00

activity_9-2b

▼ Answer

0:00 / 0:00

activity_9-2b_answer

Exercise 9–2c:

Question

Write a Bb-minor key signature:

0:00 / 0:00

activity_9-2c

▼ Answer

0:00 / 0:00

activity_9-2c_answer

Exercise 9–2d:

Question

Write a C#-minor key signature:

0:00 / 0:00

activity_9-2d

▼ Answer

0:00 / 0:00

activity_9-2d_answer

9.4 Parallel and relative keys

Parallel keys, as discussed in Chapter 7, are keys that share the same tonic. C major and C minor, for example, are parallel keys: Example 9–8.

0:00 / 0:00



$$\hat{3} \tag{1.9.4}$$

▼ Activity 9-3

Activity 9–3

Answer the following questions regarding parallel keys and their key signatures.

Exercise 9–3a:

Question

How many sharps or flats does the key signature for A major have?

▼ Answer

3 sharps

Follow-up question

What is the parallel minor of A major?

▼ Hint

Remember, parallel keys have the same tonic.

▼ Answer

A minor

Follow-up question

How many sharps or flats does the key signature for the parallel minor of A major have?

▼ Answer

0 sharps and 0 flats

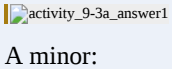
Follow-up question

Write out the key signatures for A major and its parallel minor:

▼ Answer

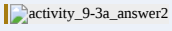
A major:

0:00 / 0:00



A minor:

0:00 / 0:00



Exercise 9–3b:

Question

How many sharps or flats does the key signature for E major have?

▼ Answer

4 sharps

Follow-up question

What is the parallel minor of E major?

▼ Hint

Remember, parallel keys have the same tonic.

▼ Answer

E minor

Follow-up question

How many sharps or flats does the key signature for the parallel minor of E major have?

▼ Answer

1 sharp

Follow-up question

Write out the key signatures for E major and its parallel minor.

▼ Answer

E major:

0:00 / 0:00

activity_9-3b_answer1

E minor:

0:00 / 0:00

activity_9-3b_answer2

Parallel keys have a strong relationship with one another. Despite having only four of their seven scale degrees in common, the shared tonic tends to lead listeners to hear them as different versions of the same key as opposed to being completely foreign to one another. There are, however, some pairs of major and minor keys that have the exact same key signature. These are known as *relative keys* and they too have a strong relationship with one another. Eb major and C minor, for example, both have three flats in their key signature:

Example 9–9.

0:00 / 0:00

example_9-9

$$\hat{6} \tag{1.9.5}$$

$$\hat{1} \tag{1.9.6}$$

▼ Activity 9-4

Activity 9–4

Answer the following questions regarding relative keys and their key signatures.

Exercise 9–4a:

Question

What is the relative major of G minor?

▼ Hint

Remember, the tonic of the relative major is a minor third above the tonic of a minor key.

▼ Answer

Bb major

Follow-up question

How many sharps or flats does their shared key signature have?

▼ Answer

2 flats

Follow-up question

Write out the key signature for G minor and its relative major on the staff provided:

0:00 / 0:00

activity_9-4a

▼ Answer

0:00 / 0:00

activity_9-4a_answer

Exercise 9–4b:

Question

What is the relative major of B minor?

▼ Hint

Remember, the tonic of the relative major is a minor third above the tonic of a minor key.

▼ Answer

D major

Follow-up question

How many sharps or flats does their shared key signature have?

▼ Answer

2 sharps

Follow-up question

Write out the key signature for B minor and its relative major on the staff provided:

0:00 / 0:00

activity_9-4b

▼ Answer

0:00 / 0:00

activity_9-4b_answer

9.5 Summary

$$\hat{3} \tag{1.9.7}$$

As with major keys, minor keys are based on the pitches of the corresponding scale and are indicated by key signatures at the beginning of each new line of music. Minor key signatures are derived from the diatonic version of the minor scale. Minor key signatures look just like major key signatures and follow the same pattern and placement on the staff.

Minor keys can be closely related to major keys in several different ways. *Parallel keys*—C major and C minor, for example—share the same tonic. *Relative keys*—C minor and Eb major, for example—have different tonics but share the same key signature. Every key signature, then, can be used to represent two different (relative) keys.

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1.10: The Circle of Fifths

10.1 Introduction

$$\hat{5} \tag{1.10.1}$$

In this chapter we will discuss the various types of relationships that occur between keys. We will introduce a widely-used diagram known as the *circle of fifths* to provide a visual representation of these relationships.

10.2 The circle of fifths

The following diagram arranges the sharp keys around the edge of a circle. (The accidentals for each corresponding key signature are also indicated.)

Example 10–1. The circle of fifths, sharp keys only.



This diagram, commonly referred to as the *circle of fifths*, is a useful way of visualizing key relationships. The diagram gets its name from the fact that as we move clockwise around the circle, each new key is built on the fifth scale degree of the one that came before it. C major is placed at the top of the diagram because it requires no accidentals. Each clockwise step also adds one more sharp to the key signatures. Moving from D major to A major, for example, requires the addition of one more sharp:

Example 10–2.

a. D major key signatures

0:00 / 0:00



b. A major key signatures

0:00 / 0:00



We can add flat keys to the circle as well. Increasingly flat keys will move *counterclockwise* around the circle:

Example 10–3. The circle of fifths, all major keys.



$$\hat{4} \tag{1.10.2}$$

Example 10–4.

a. Eb major key signature

0:00 / 0:00



a. Ab major key signature

0:00 / 0:00

example_10-4b

$$\hat{4} \tag{1.10.3}$$

Note: As discussed in Chapter 8, there are several handy tricks for quickly figuring out the tonic of a key based on its key signature. For sharp keys, the right-most accidental of the key signature is the leading tone of the key. For flat keys, the right-most accidental of the key signature is scale degree \hat4 in that key.

Notice as well that there is some overlap at the bottom of the circle. These keys—which tend to be used less frequently than those with fewer accidentals—are enharmonically equivalent. C# major and Db major, for example, both begin on the same pitch class, but are spelled differently.

You should be familiar enough with the relationships between major keys and their key signatures to be able to reproduce the circle of fifths from memory.

▼ Activity 10-1

Activity 10–1

Answer the following questions using the circle of fifths,

activity_10-1

Exercise 10–1a:

Question

How many pitch classes do A major and E major have in common?

▼ Hint

How many steps around the circle are there between these two keys? Each step represents one different pitch.

▼ Answer

6

Exercise 10–1b:

Question

How many pitch classes do F major and G major have in common?

▼ Hint

How many steps around the circle are there between these two keys? Each step represents one different pitch.

▼ Answer

5

Exercise 10–1c:

Question

How many pitch classes do Eb major and A major have in common?

▼ Hint

How many steps around the circle are there between these two keys? Each step represents one different pitch.

▼ Answer

1

Exercise 10–1d:

Question

How many pitch classes do Bb major and D major have in common?

▼ Hint

How many steps around the circle are there between these two keys? Each step represents one different pitch.

▼ Answer

3

10.3 Minor keys and the circle of fifths

Minor keys can be added to the circle as well. Each minor key is paired with its relative major (the key with which it shares a key signature). A minor, therefore, is placed at the top of the circle, paired with C major because it, too, has no sharps or flats in its key signature:

Example 10–5. The complete circle of fifths.



$$\hat{5} \tag{1.10.4}$$

$$\hat{2} \tag{1.10.5}$$

10.4 Summary

All keys, major and minor, can be arranged on a *circle of fifths* to show the relationships between them. Relative keys are paired together because they share the same key signature. C major and A minor, for example, appear at the top of the circle and have no accidentals in their key signatures.

$$\hat{5} \tag{1.10.6}$$

The circle of fifths is particularly useful in showing the closeness of various keys with regards to their key signatures. C major and G major are closely-related, differing by only one pitch class. C major and F# major, on the other hand, are not closely-related and differ by six pitch classes. It is important to keep in mind that parallel keys, while not adjacent on the circle of fifths, are *heard* as related because they share the same tonic.

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CHAPTER OVERVIEW

2: Diatonic Polyphony and Functional Harmony

2.1: Intervals
2.2: Basic Two-Voice Interval Progressions
2.3: Triads
2.4: Three- and Four-Voice Progressions
2.5: Nonharmonic Tones
2.6: Minor Scale Variants
2.7: The vii° Chord
2.8: Seventh Chords
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2.11: Figured Bass
2.12: Phrases, Cadences, and Harmonic Function
2.13: Auxiliary Sonorities
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2.15: Diatonic Descending-fifth Sequences
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2.1: Intervals

11.1 Introduction

The preceding chapters have dealt primarily with musical events happening one at a time. The rhythms, pitches, and scales discussed so far, in other words, might all be performed by a single individual. In tonal Western art music, however, voices rarely sound alone. Soloists are provided accompaniment, melodies converse with other melodies, and orchestras full of unique sounds contribute to massive symphonic textures. For many practitioners, this joining of individual voices is the essence of the art.

This chapter will consider the structure and effect of intervals, combinations of pitches heard either together or in close proximity. Of course, this is not a new topic. In Chapter 5 we defined two types of intervals: octaves and semitones. In Chapter 6 we discussed the intervals found between successive major scale degrees and noticed how these steps are equal in size to either semitones and whole tones. The present chapter will expand this discussion. Our main focus will be to describe a system for identifying, classifying, and labeling intervals of any size and type. Along the way, we will explore how various intervals relate to each other and to broader contexts such as scales and keys. Finally, we will discuss how intervals may be manipulated—expanded, contracted, and inverted—to create new intervals. All of these skills and ideas will provide a solid foundation for the chapters that follow.

11.2 Interval size

An *interval* is the distance a listener perceives between two pitches. When the two pitches sound simultaneously, we refer to it as a *harmonic interval*:

Example 11–1.

0:00 / 0:00

example_11-1

When they sound one after the other, we refer to it as a *melodic interval*:

Example 11–2.

0:00 / 0:00

example_11-2

Some intervals, such as semitones, whole tones, and octaves, have special names related to their acoustic properties or relationship to a scale. Useful though these names are, they do not tell us much about how such intervals relate to one another. (What does a whole tone sound like? The name tells us nothing in this regard.) In the widely-used system described here, all intervals are classified—and subsequently labeled—according to their *size* and *quality*, or aesthetic effect. We will begin our discussion with interval size, the more straightforward of these two attributes.

Imagine two voices singing different steps of a C-major scale, say, C and D. If the voice singing the D raised the pitch to the next scale degree, E, while the other stayed on C, we would say that the interval heard between the two voices grew larger in size. When we speak of an interval's size, we are concerned with the distance between the notes as they appear in a scale, on a staff, or in the cycle of pitch letter names A through G.

The size of an interval specifies the number of staff lines and spaces—or pitch letter names—spanned by the two notes. C and D, a whole tone apart, are adjacent to one another on the staff. Together, they span two staff positions and therefore the size of this interval is called a *second*. C and E have either a line or space between them and therefore span three staff positions. They are said to be a *third* apart. The following example shows all of the interval sizes up to an octave:

Example 11–3.

0:00 / 0:00

example_11-3

(Despite not technically being an interval, the unison is included in Example 11–3 for reasons that will become clear momentarily.)

$$\hat{1} \tag{2.1.1}$$

▼ Activity 11-1

Activity 11–1

Identify the size of each of the following intervals.

Exercise 11–1a:

Question

What is the size (unison, second, third, etc.) of this interval?

0:00 / 0:00

activity_11-1a

▼ Hint

To determine the size of an interval, count the number of lines and spaces it spans on the staff. (Don’t forget to include the lines and spaces occupied by the notes themselves!)

▼ Answer

fourth

Exercise 11–1b:

Question

What is the size (unison, second, third, etc.) of this interval?

0:00 / 0:00

activity_11-1b

▼ Hint

To determine the size of an interval, count the number of lines and spaces it spans on the staff. (Don’t forget to include the lines and spaces occupied by the notes themselves!)

▼ Answer

seventh

Exercise 11–1c:

Question

What is the size (unison, second, third, etc.) of this interval?

0:00 / 0:00

activity_11-1c

▼ Hint

To determine the size of an interval, count the number of lines and spaces it spans on the staff. (Don’t forget to include the lines and spaces occupied by the notes themselves!)

▼ Answer

second

Exercise 11–1d:

Question

What is the size (unison, second, third, etc.) of this interval?

0:00 / 0:00

activity_11-1d

▼ Hint

To determine the size of an interval, count the number of lines and spaces it spans on the staff. (Don’t forget to include the lines and spaces occupied by the notes themselves!)

▼ Answer

fifth

Exercise 11–1e:

Question

What is the size (unison, second, third, etc.) of this interval?

0:00 / 0:00

activity_11-1e

▼ Hint

To determine the size of an interval, count the number of lines and spaces it spans on the staff. (Don’t forget to include the lines and spaces occupied by the notes themselves!)

▼ Answer

third

Exercise 11–1f:

Question

What is the size (unison, second, third, etc.) of this interval?

0:00 / 0:00

activity_11-1f

▼ Hint

To determine the size of an interval, count the number of lines and spaces it spans on the staff. (Don't forget to include the lines and spaces occupied by the notes themselves!)

▼ Answer

octave

By definition, an interval cannot be smaller than a unison. It can, however, be larger than an octave. When it comes to naming larger intervals, there are two options. One might, as suggested above, simply count the span of staff positions or scale steps between the two notes. The interval from a C up *ten* scale steps to E would then be called a *tenth*.

On the other hand, despite the large distance between the two pitches, this interval sounds a lot like the third shown in Example 11–3:

Example 11–4.

0:00 / 0:00

example_11-4

The difference between these two intervals is that in the second case the upper note, E, has been displaced by an octave. Intervals that are smaller than an octave are called *simple intervals*. Intervals that are greater than an octave are called *compound intervals* since they consist of a simple interval plus one or more octave displacements. Both of the intervals in Example 11–4, then, are thirds. The first one is a simple third and the second one is a compound third.

For the sake of highlighting the relationship between corresponding compound and simple intervals, we often refer to large intervals as though the two pitches were an octave or less apart.

Example 11–5.

0:00 / 0:00

example_11-5

The intervals in Example 11–5 are, in turn, an octave, a ninth (or compound second), tenth (or compound third), and eleventh (or compound fourth).

▼ Activity 11-2

Activity 11–2

Several intervals have been put in boxes in the score below. Identify each interval as either simple or compound:

Caterina Assandra, O quam suavis est Domino spiritus tuus, mm. 24–38.

0:00 / 0:00

activity_11-2

Exercise 11–2a:

Question

Is the interval in box "a" simple or compound?

▼ Hint

Intervals up to and including an octave are considered simple.

▼ Answer

compound

Exercise 11–2b:

Question

Is the interval in box “b” simple or compound?

▼ Hint

Intervals up to and including an octave are considered simple.

▼ Answer

simple

Exercise 11–2c:

Question

Is the interval in box “c” simple or compound?

▼ Hint

Intervals up to and including an octave are considered simple.

▼ Answer

simple

Exercise 11–2d:

Question

Is the interval in box “d” simple or compound?

▼ Hint

Intervals up to and including an octave are considered simple.

▼ Answer

simple

Exercise 11–2e:

Question

Is the interval in box “e” simple or compound?

▼ Hint

Intervals up to and including an octave are considered simple.

▼ Answer

compound

Exercise 11–2f:

Question

Is the interval in box “f” simple or compound?

▼ Hint

Intervals up to and including an octave are considered simple.

▼ Answer

simple

Interval size is unaffected by accidentals.

Example 11–6.

0:00 / 0:00



All of the intervals in the example above are sixths, even though they sound very different. The presence of the accidentals does not change the fact that each of these intervals spans six staff positions.

As Example 11–6 makes clear, interval size is directly related to the spelling of the individual pitches. There is always, however, more than one enharmonically equivalent way to spell a pitch. Since intervals are made of pitches, it follows that there are multiple ways of enharmonically spelling an interval. If the Abb in Example 11–6 were spelled as G and if the Cx were spelled as D, the interval would still sound exactly the same. Written this way, though, it would be considered a fourth instead of a sixth:

Example 11–7.

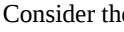
0:00 / 0:00



Enharmonic equivalence allows for some counter-intuitive scenarios. In the following example, the interval shown between the two staves is a unison, since both voices are on middle C. If one of these voices were changed to C#, the interval would still be a type of unison, even though there are two distinct pitches:

Example 11–8.

0:00 / 0:00



11.3 Interval quality

Consider the following two intervals:

Example 11–9.

0:00 / 0:00



Both of these intervals have the same size; they are both thirds. Despite the similarity in notation, they sound quite different. We address such difference by identifying the *quality* of an interval. Interval size is a generic classification; multiple (different) intervals can have the same size. The four intervals in Example 11–6 were all of the same size, but had different qualities. Combining interval size with interval quality allows us to specify the exact distance between—and spelling of—two notes.

In terms of naming intervals, quality is related—though not entirely tied—to how blended or stable the two pitches sound together. Pitches that sound stable and harmonious together are said to be *consonant*. An octave is an example of a consonant interval. The two pitches in an octave blend together so well, in fact, that it can be difficult for some listeners to distinguish them. On the other

hand, intervals that sound unstable and agitated—as though the pitches are rubbing against one another—are said to be *dissonant*. A semitone is an example of a dissonant interval.

The following example presents three dissonant intervals followed by three consonant intervals above middle C:

Example 11–10

a. three dissonant intervals

0:00 / 0:00

example_11-10a

b. three consonant intervals

0:00 / 0:00

example_11-10b

Most listeners will hear the first three intervals as dissonant and the next three as consonant. Consonance and dissonance, however, are relative terms. An interval might sound consonant in comparison to one interval but dissonant in comparison to another. Furthermore, the application of these terms is dependent on a listener's subjective experience. What one listener hears as dissonant, another might hear as consonant and vice versa.

Note: As you can see, the terms *consonant* and *dissonant* are difficult to pin down. The way a listener hears a musical sound is subjective and very much tied to cultural preference and prior listening experience. It should come as no surprise, then, that throughout history music theorists have disagreed when classifying intervals into categories based on these criteria. In this book, we will use the terms "dissonant" and "dissonance" to refer to sonorities that sound unstable or foreign to the immediate musical context. Correspondingly, "consonant" and "consonance" will here refer to sonorities that sound stable and harmonious with the immediate musical context.

Based loosely on a scale of consonance and dissonance, there are two broad categories for different sizes of intervals: *perfect* intervals and *imperfect* intervals. Perfect intervals tend to sound more consonant. Unisons, fourths, fifths, and octaves (along with the corresponding compound intervals) are perfect intervals. All of the remaining interval sizes tend to sound less consonant. Seconds, thirds, sixths, and sevenths (along with the corresponding compound intervals) are imperfect intervals. The following table summarizes:

Table 11–1

Perfect interval sizes:	Imperfect interval sizes:
unisons (U), fourths (4), fifths (5), octaves (8), and compound versions of the same	seconds (2), thirds (3), sixths (6), sevenths (7), and compound versions of the same

▼ Activity 11-3

Activity 11–3

Several intervals are surrounded by boxes in the score below. Identify each interval as either perfect or imperfect:

Anna Bon, Flute Sonata in D major (Op. 1, No. 4), III. Allegro assai, mm. 1-11 (transposed).

0:00 / 0:00

activity_11-3

Exercise 11–3a:

Question

Is the interval in box “a” perfect or imperfect?

▼ Hint

The perfect intervals are unisons, fourths, fifths, octaves, and the corresponding compound intervals.

▼ Answer

perfect

Exercise 11–3b:

Question

Is the interval in box “b” perfect or imperfect?

▼ Hint

The perfect intervals are unisons, fourths, fifths, octaves, and the corresponding compound intervals.

▼ Answer

imperfect

Exercise 11–3c:

Question

Is the interval in box “c” perfect or imperfect?

▼ Hint

The perfect intervals are unisons, fourths, fifths, octaves, and the corresponding compound intervals.

▼ Answer

perfect

Exercise 11–3d:

Question

Is the interval in box “d” perfect or imperfect?

▼ Hint

The perfect intervals are unisons, fourths, fifths, octaves, and the corresponding compound intervals.

▼ Answer

imperfect

Exercise 11–3e:

Question

Is the interval in box “e” perfect or imperfect?

▼ Hint

The perfect intervals are unisons, fourths, fifths, octaves, and the corresponding compound intervals.

▼ Answer

imperfect

Exercise 11–3f:

Question

Is the interval in box “f” perfect or imperfect?

▼ Hint

The perfect intervals are unisons, fourths, fifths, octaves, and the corresponding compound intervals.

▼ Answer

perfect

Within the *imperfect* category, intervals tend to be one of two qualities: *major* or *minor*. A minor interval is a semitone smaller than the corresponding major interval. Recall the two thirds from Example 11–9:

Example 11–11.

0:00 / 0:00



The first of these thirds is a major third. We abbreviate “major” with an uppercase “M,” so the interval is labeled “M3.” The second of the two thirds is a semitone smaller, a minor third. We abbreviate “minor” with a lowercase “m,” so that interval is labeled “m3.” A minor interval is always a semitone smaller than the major interval of the same size: a m6 is a semitone smaller than a M6, a m2 is a semitone smaller than a M2, and so on.

Minor intervals are often said to sound somewhat darker or more somber than the corresponding major intervals which are often said to sound brighter and more cheerful. Listen again to the two thirds in the example above and think about how you would describe the difference in quality. Keep in mind, though, that the current discussion is somewhat abstract. One’s subjective aesthetic experience of an interval is very much tied to the musical context. In other words, minor intervals can sound cheerful and major intervals somber under certain circumstances.

Within the *perfect* category, intervals tend to be *perfect* in quality. (Here, the quality name matches the category name.) The following example presents three perfect intervals above middle C:

Example 11–12.

0:00 / 0:00



Each of these intervals is perfect in quality. We abbreviate “perfect” with an uppercase “P,” so the intervals are labeled “P4,” “P5,” and “P8.” Compare the effect of these intervals with the effect of the thirds heard above. Perfect intervals are often described as sounding bold, stately, or serious. More importantly, they sound stable.

As with determining interval size, it is very helpful to think of a major scale when determining interval quality. All of the intervals formed by scale degrees above the keynote are either major or perfect in quality. In other words, the imperfect intervals—the second, third, sixth, and seventh above the keynote—are all major: M2, M3, M6, and M7. Meanwhile, the perfect intervals—the fourth, fifth, and octave above the keynote—are all perfect in quality: P4, P5, and P8:

Example 11–13.

0:00 / 0:00

example_11-13

Now consider the same intervals in a minor scale:

Example 11–14

0:00 / 0:00

example_11-14

$$\hat{3} \tag{2.1.2}$$

Note: The fact that all of the intervals above the keynote in a major scale are either major or perfect is particularly handy when either identifying or writing intervals. When determining the size and quality of an interval, imagine a major scale built on the lower of the two notes. If the upper note belongs to that scale, the interval will be either major or perfect in quality depending on its size. When writing an interval above any given note, imagine a major scale with that note as the keynote and find the corresponding scale degree. Then, adjust the major or perfect interval as needed.

▼ Activity 11-4

Activity 11–4

Identify the quality of each of the following imperfect intervals.

Exercise 11–4a:

Question

What is the quality of this third?

0:00 / 0:00

activity_11-4a

▼ Hint

To determine if an imperfect interval is major, imagine a major scale using the lower note as its tonic. If the upper note is a member of this scale, then the quality of this interval is major.

▼ Answer

minor (m)

Exercise 11–4b:

Question

What is the quality of this sixth?

0:00 / 0:00

activity_11-4b

▼ Hint

To determine if an imperfect interval is major, imagine a major scale using the lower note as its tonic. If the upper note is a member of this scale, then the quality of this interval is major.

▼ Answer

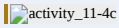
minor (m)

Exercise 11–4c:

Question

What is the quality of this seventh?

0:00 / 0:00



▼ Hint

To determine if an imperfect interval is major, imagine a major scale using the lower note as its tonic. If the upper note is a member of this scale, then the quality of this interval is major.

▼ Answer

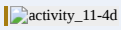
major (M)

Exercise 11–4d:

Question

What is the quality of this second?

0:00 / 0:00



▼ Hint

To determine if an imperfect interval is major, imagine a major scale using the lower note as its tonic. If the upper note is a member of this scale, then the quality of this interval is major.

▼ Answer

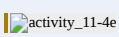
major (M)

Exercise 11–4e:

Question

What is the quality of this compound third?

0:00 / 0:00



▼ Hint

To determine if an imperfect interval is major, imagine a major scale using the lower note as its tonic. If the upper note is a member of this scale, then the quality of this interval is major.

▼ Answer

minor (m)

Exercise 11–4f:

Question

What is the quality of this seventh?

0:00 / 0:00



▼ Hint

To determine if an imperfect interval is major, imagine a major scale using the lower note as its tonic. If the upper note is a member of this scale, then the quality of this interval is major.

▼ Answer

major (M)

Intervals in the perfect category are normally perfect in quality while intervals in the imperfect category are normally either major or minor in quality. Any of these intervals, however, may also be made larger or smaller, typically by adding accidentals. The term *diminished* is used to identify an interval that is a semitone smaller than normal and the term *augmented* is used to identify an interval that is a semitone larger than normal.

Take, for example, the four fifths shown below:

Example 11–15.

0:00 / 0:00



The first fifth is the same perfect fifth shown in the examples above (C and G). The next fifth, with its Gb instead of G§, is a semitone smaller than the more normal perfect fifth and is therefore said to be diminished. We abbreviate “diminished” with a lowercase “d,” so the interval is labeled “d5.” The next fifth raises the C to C# and restores the G§. It, too, is a semitone smaller than the perfect fifth and so is also labeled “d5.” Finally, the last fifth—C to G#—is a semitone larger than a perfect fifth and is therefore said to be augmented. We abbreviate “augmented” with a capital “A,” so the interval is labeled “A5.”

The same principle applies to imperfect intervals, though here the matter is complicated by the fact that there are two normal qualities: major and minor. An imperfect interval that is a semitone smaller than the corresponding minor interval is diminished. An interval that is a semitone larger than the corresponding major interval is augmented. The following example shows four sixths in order of increasing size:

Example 11–16.

0:00 / 0:00



The minor sixth (A and F) is a semitone smaller than the major sixth (A and F#). The diminished sixth (A# and F) is a semitone smaller still, while the augmented sixth (Ab and F#) is a semitone larger than the major sixth.

The following example shows the semitone differences between the different interval qualities:

Example 11–17.

example_11-17

Note: You may occasionally encounter interval qualities other than those listed here. An interval that is a semitone smaller than the diminished interval of the same size, for example, is said to be *doubly diminished*. (The same principle also allows for *doubly augmented* intervals.) Such interval qualities usually require uncommon accidentals and appear far less frequently than the ones discussed here.

▼ Activity 11-5

Activity 11–5

Identify each of the following intervals by size and quality.

Exercise 11–5a:

Question

What is the size and quality of the following interval?

0:00 / 0:00

activity_11-5a

▼ Hint

Think of a major scale with the lower note as its keynote. Find the corresponding scale degree and know that the interval it forms with the keynote is either major (if its size is imperfect) or perfect (if its size is perfect). Compare this known interval to the interval shown here.

▼ Answer

M6

Exercise 11–5b:

Question

What is the size and quality of the following interval?

0:00 / 0:00

activity_11-5b

▼ Hint

Think of a major scale with the lower note as its keynote. Find the corresponding scale degree and know that the interval it forms with the keynote is either major (if it is imperfect) or perfect (if it is perfect). Compare this known interval to the interval shown here.

▼ Answer

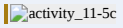
P4

Exercise 11–5c:

Question

What is the size and quality of the following interval?

0:00 / 0:00



▼ Hint

Think of a major scale with the lower note as its keynote. Find the corresponding scale degree and know that the interval it forms with the keynote is either major (if it is imperfect) or perfect (if it is perfect). Compare this known interval to the interval shown here.

▼ Answer

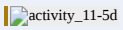
P8

Exercise 11–5d:

Question

What is the size and quality of the following interval?

0:00 / 0:00



▼ Hint

Think of a major scale with the lower note as its keynote. Find the corresponding scale degree and know that the interval it forms with the keynote is either major (if it is imperfect) or perfect (if it is perfect). Compare this known interval to the interval shown here.

▼ Answer

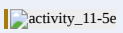
A4

Exercise 11–5e:

Question

What is the size and quality of the following interval?

0:00 / 0:00



▼ Hint

Think of a major scale with the lower note as its keynote. Find the corresponding scale degree and know that the interval it forms with the keynote is either major (if it is imperfect) or perfect (if it is perfect). Compare this known interval to the interval shown here.

▼ Answer

M3

Exercise 11–5f:

Question

What is the size and quality of the following interval?

0:00 / 0:00

activity_11-5f

▼ Hint

Think of a major scale with the lower note as its keynote. Find the corresponding scale degree and know that the interval it forms with the keynote is either major (if it is imperfect) or perfect (if it is perfect). Compare this known interval to the interval shown here.

▼ Answer

d5

▼ Activity 11-6

Activity 11–6

In each of the following exercises, you are presented with a single note and directions for creating an interval. Add the appropriate note to complete the interval.

Exercise 11–6a:

Question

Write a note that is a P5 above the given note.

0:00 / 0:00

activity_11-6a

▼ Hint

Begin by adding the appropriate notehead. Check the quality formed by the natural notehead and adjust the new note with accidentals as necessary.

▼ Answer

0:00 / 0:00

activity_11-6a_answer

Exercise 11–6b:

Question

Write a note that is a m6 above the given note.

0:00 / 0:00

activity_11-6b

▼ Hint

Begin by adding the appropriate notehead. Check the quality formed by the natural notehead and adjust the new note with accidentals as necessary.

▼ Answer

0:00 / 0:00

activity_11-6b_answer

Exercise 11–6c:

Question

Write a note that is a d5 above the given note.

0:00 / 0:00

activity_11-6c

▼ Hint

Begin by adding the appropriate notehead. Check the quality formed by the natural notehead and adjust the new note with accidentals as necessary.

▼ Answer

0:00 / 0:00

activity_11-6c_answer

Exercise 11–6d:

Question

Write a note that is a P4 below the given note.

0:00 / 0:00

activity_11-6d

▼ Hint

Begin by adding the appropriate notehead. Check the quality formed by the natural notehead and adjust the new note with accidentals as necessary.

▼ Answer

0:00 / 0:00

activity_11-6d_answer

Exercise 11–6e:

Question

Write a note that is a M2 below the given note.

0:00 / 0:00

activity_11-6e

▼ Hint

Begin by adding the appropriate notehead. Check the quality formed by the natural notehead and adjust the new note with accidentals as necessary.

▼ Answer

0:00 / 0:00

activity_11-6e_answer

Exercise 11–6f:

Question

Write a note that is a A6 below the given note.

0:00 / 0:00

activity_11-6f

▼ Hint

Begin by adding the appropriate notehead. Check the quality formed by the natural notehead and adjust the new note with accidentals as necessary.

▼ Answer

0:00 / 0:00

activity_11-6f_answer

11.4 Interval size in semitones

Thinking about intervals as they relate to scales will strengthen your understanding of how different combinations of pitches function within a given key. (The convention for labeling interval size is, after all, directly related to the relationships found

between various scale degrees and the keynote.) It will also be helpful to familiarize yourself with the exact size of common intervals in terms of how many semitones they span.

The following table shows all of the most common intervals along with their size in semitones:

Table 11–2

Interval:	Number of semitones:
PU	0
m2 (semitone)	1
M2 (whole tone)	2
m3	3
M3	4
P4	5
A4, d5 (tritone)	6
P5	7
m6	8
M6	9
m7	10
M7	11
P8 (octave)	12

Note that this table does not show the less common enharmonic equivalents of these intervals. A diminished third (d3), for example, is enharmonically equivalent to a major second (M2)—both are two semitones in size.

Notice, too, that some intervals are listed along with their common nicknames: semitone, whole tone, etc. There is one nickname in Table 11–2, however, that we have not yet discussed. All of the intervals from zero to twelve semitones may be written as minor, major, or perfect in quality with the exception of one. Two pitches, six semitones apart, cannot be written as a minor, major, or perfect interval. This interval, commonly known as a *tritone* typically appears as either an augmented fourth (A4) or a diminished fifth (d5):

Example 11–18.

0:00 / 0:00

example_11-18

$$\hat{1} \tag{2.1.3}$$

Note: The name “tritone” is derived from the size of the interval. Table 11–2 shows that this interval is equal in size to 6 semitones. Since a whole tone (or “tone”) is equal in size to two semitones, it follows that a tritone is equal in size to three whole tones, hence, “*tri*-tone.”

▼ Activity 11-7

Activity 11–7

Answer the following questions regarding the size of various intervals.

Exercise 11–7a:

Question

How many semitones are in a minor sixth?

▼ Answer

8

Exercise 11–7b:

Question

A perfect fifth is how many semitones larger than a perfect fourth?

▼ Answer

2

Exercise 11–7c:

Question

$$\hat{1} \tag{2.1.4}$$

▼ Answer

4

Exercise 11–7d:

Question

What common interval is one semitone larger than a major seventh?

▼ Answer

P8

11.5 Interval inversion

When the two pitches in an interval switch position—that is, when the lower note is raised one or more octaves so that it sounds above the upper note—the resultant interval sounds different, but noticeably similar to the original. Take, for example, the major third between C and E. If we move the C up an octave, the result is a minor sixth:

Example 11–19.

0:00 / 0:00

example_11-19

We call such a rearrangement of notes an *inversion*. Because of the similarity in quality and effect, we may think of these two intervals as forming a kind of pair. The major third between C and E inverts, in other words, to a minor sixth. Invert the interval again and we see that this works both ways: if we were to take the lower note of the minor sixth (E) and raise *it* an octave, the interval would invert back to a major third. This is true of any major third or minor sixth.

Other intervals can be inverted too. A minor second inverts to a major seventh (and vice versa):

Example 11–20.

0:00 / 0:00

example_11-20

A perfect fourth inverts to a perfect fifth (and vice versa)

Example 11–21.

0:00 / 0:00

example_11-21

And a tritone inverts to another tritone:

Example 11–22.

0:00 / 0:00

example_11-22

The following table shows the results that come from inverting common intervals. (The inversion of a unison or octave is negligible since these intervals consist of two members of the same pitch class. These have therefore been left off of the table.)

Table 11–3

Interval:	Inversion:
m2	M7
M2	m7
m3	M6
M3	m6
P4	P5
A4	d5
d5	A4
P5	P4
m6	M3
M6	m3
m7	M2
M7	m2

Note: The result of inverting an interval is very predictable. The quality of an inverted perfect interval will also be perfect. The quality of an inverted minor interval will be major (and vice versa). And finally, the quality of a diminished interval will be augmented (and vice versa). Furthermore, the interval sizes will always add up to nine.

With a little arithmetic and by memorizing the following table, you will be able to quickly determine the size and quality of any inverted interval:

Table 11–4

d ↔ A

m ↔ M
P ↔ P

A M7, for example, inverts to a m2 since seven and two add up to nine and since major intervals invert to minor. Similarly, a diminished third will invert to an augmented sixth for the same reasons.

▼ Activity 11-8

Activity 11–8

Invert each of the following intervals.

Exercise 11–8a:

Question

Invert the following interval and identify its size and quality.

0:00 / 0:00

activity_11-8a

▼ Hint

To invert an interval, raise the lower note up an octave so that it appears above the other note.

▼ Answer

0:00 / 0:00

activity_11-8a_answer

Exercise 11–8b:

Question

Invert the following interval and identify its size and quality.

0:00 / 0:00

activity_11-8b

▼ Hint

To invert an interval, raise the lower note up an octave so that it appears above the other note.

▼ Answer

0:00 / 0:00

activity_11-8b_answer

Exercise 11–8c:

Question

Invert the following interval and identify its size and quality.

0:00 / 0:00

activity_11-8c

▼ Hint

To invert an interval, raise the lower note up an octave so that it appears above the other note.

▼ Answer

0:00 / 0:00

activity_11-8c_answer

Exercise 11–8d:

Question

Invert the following interval and identify its size and quality.

0:00 / 0:00

activity_11-8d

▼ Hint

To invert an interval, raise the lower note up an octave so that it appears above the other note.

▼ Answer

0:00 / 0:00

activity_11-8d_answer

Exercise 11–8e:

Question

Invert the following interval and identify its size and quality.

0:00 / 0:00

activity_11-8e

▼ Hint

To invert an interval, raise the lower note up an octave so that it appears above the other note.

▼ Answer

0:00 / 0:00

activity_11-8e_answer

Exercise 11–8f:

Question

Invert the following interval and identify its size and quality.

0:00 / 0:00

activity_11-8f

▼ Hint

To invert an interval, raise the lower note up an octave so that it appears above the other note.

▼ Answer

0:00 / 0:00

activity_11-8f_answer

11.6 Summary

An *interval* is the perceived distance between two pitches. Intervals are named/labeled according to two criteria: *size* and *quality*. The size of an interval is determined by the number of scale steps, staff positions, or pitch letter names spanned by the two notes. *Simple intervals* are those that are less than or equal to an octave in size. *Compound intervals* are greater than an octave in size. Compound intervals are usually named after their simple versions, as though the two notes were brought one or more octaves closer together.

The *quality* of an interval reflects its aesthetic effect. To determine the potential qualities for any given interval size, one must first know whether the interval size in question is *perfect* or *imperfect*. Perfect intervals include unisons, fourths, fifths, octaves, and their corresponding compound intervals. Imperfect intervals include seconds, thirds, sixths, sevenths, and their corresponding compound intervals. Perfect intervals are typically perfect in quality, but may also be diminished (a semitone smaller than perfect) or augmented (a semitone larger than perfect). Imperfect intervals are typically major or minor in quality—with minor being a semitone smaller than major—but may also be diminished (a semitone smaller than minor) or augmented (a semitone larger than major).

The major scale is a helpful tool since all of the intervals formed by scale degrees above the key note are predictably major or perfect. This knowledge, combined with an awareness of each common interval's size in semitones, is very useful in identifying and writing intervals.

Intervals may be *inverted* (moving the lower note to the upper position or vice versa). The size of the resulting interval is very predictable since inversionally-related interval sizes always add up to nine. The resulting interval quality is likewise predictable since minor always inverts to major (and vice versa), augmented inverts to diminished (and vice versa), and perfect inverts to perfect.

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2.2: Basic Two-Voice Interval Progressions

12.1 Introduction

Consider the following excerpts and in each case take note of the interaction that occurs between the melodies of the individual parts:

Example 12–1 *Orlande de Lassus, Oculus non vidit, mm. 1-18.*

0:00 / 0:00

example_12-1

Example 12–2 *Halina Krzyżanowska, String Quartet (Op. 44), mm. 1-16.*

0:00 / 0:00

example_12-2

Example 12–1 is taken from a sixteenth century vocal composition by Orlande de Lassus. It begins with a single voice. When the second voice joins, three bars later, it imitates the melody heard at the beginning. As the piece progresses, the two voices are heard winding around one another, trading ideas in a kind of musical conversation. The excerpt shown in Example 12–2 comes from a string quartet by Halina Krzyżanowska. It begins with the four instruments playing at the same time. In terms of rhythm and pitch, their parts move in and out of alignment as they cooperatively shape a pair of musical phrases. Although the excerpt shown Example 12–2 was written nearly three and a half centuries later and sounds remarkably different, we may observe that it follows the same guiding principle as the excerpt in Example 12–1. Like Lassus, Krzyżanowska weaves simultaneously sounding melodies together to form a complex but harmonious musical texture. This bringing together of multiple melodic voices is known as *polyphony* and for many musicians, composers, teachers, and scholars, it is the very foundation tonal Western art music.

It is important to note that melodies like those heard in the examples above are not combined haphazardly. In most polyphonic tonal music the composer takes great care to consider the various harmonic sonorities that occur as the melodies move forward together. These composers, then, strike a careful balance: on the one hand they want each individual melody to retain and project a sense of independence, on the other hand they want all of the melodies to blend together and create harmonic cohesion.

The purpose of this chapter is to familiarize you with the concept and handling of polyphony in tonal Western art music. *Interval progressions*—patterns of intervals played in succession—form the backbone of this particular style and a firm understanding of how they work will enhance your experience of the music you hear, perform, analyze, and create. This chapter will outline and describe a series of standard progressions. You may think of the list presented here as a basic catalog of polyphonic building blocks. We will begin our discussion of interval progressions by revisiting the concepts of consonance and dissonance. The remainder of the chapter will describe the different ways in which two voices might move in relation to one another and the various interval progressions that employ these types of motion. (In subsequent chapters you will be given an opportunity to expand these progressions by adding a third and fourth voice—see, for example, Chapter 14.)

12.2 Consonance and dissonance

For now, we will consider only consonant intervals: the perfect consonances (unison, perfect fifth, and perfect octave), and imperfect consonances (minor/major thirds and minor/major sixths).

Example 12–3. Consonant intervals.

0:00 / 0:00

example_12-3

We will not yet consider dissonant intervals (minor/major seconds, minor/major sevenths, augmented or diminished intervals) and so the following sonorities will for now be excluded:

Example 12–4. Dissonant.

0:00 / 0:00



Notice that one of the intervals in Example 12–6 is perfect. The perfect fourth (P4) is a special case. Although considered consonant by some definitions, it is traditionally treated as a dissonance in two-voice textures. When only two voices are present, they are not permitted to form a perfect fourth or any other dissonance.

▼ Activity 12-1

Activity 12–1

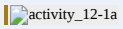
To fully understand basic interval progressions, it is essential that you first have a firm understanding of the intervals themselves. In this activity, you will identify a series of intervals and specify whether they are consonant or dissonant.

Exercise 12–1a:

Question

Identify the following interval:

0:00 / 0:00



▼ Answer

major second (M2)

Follow-up question

Is this interval consonant or dissonant in two-voice textures?

▼ Answer

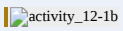
dissonant

Exercise 12–1b:

Question

Identify the following interval:

0:00 / 0:00



▼ Answer

perfect fifth (P5)

Follow-up question

Is this interval consonant or dissonant in two-voice textures?

▼ Answer

consonant

Exercise 12–1c:

Question

Identify the following interval:

0:00 / 0:00

activity_12-1c

▼ Answer

minor seventh (m7)

Follow-up question

Is this interval consonant or dissonant in two-voice textures?

▼ Answer

dissonant

Exercise 12–1d:

Question

Identify the following interval:

0:00 / 0:00

activity_12-1d

▼ Answer

perfect octave (P8)

Follow-up question

Is this interval consonant or dissonant in two-voice textures?

▼ Answer

consonant

Exercise 12–1e:

Question

Identify the following interval:

0:00 / 0:00

activity_12-1e

▼ Answer

perfect fourth (P4)

Follow-up question

Is this interval consonant or dissonant in two-voice textures?

▼ Answer

dissonant

Exercise 12–1f:

Question

Identify the following interval:

0:00 / 0:00

activity_12-1f

▼ Answer

major third (M3)

Follow-up question

Is this interval consonant or dissonant in two-voice textures?

▼ Answer

consonant

12.3 Parallel motion

When two voices move simultaneously in the same direction, while keeping the intervallic distance between them constant, we say they are moving in *parallel motion*. This type of motion is common in Western polyphony, though with some regulation since it tends to diminish the perceived independence of the voices. Parallel motion is typically used only with certain intervals. The following progressions, for example, are quite common:

Example 12–5.

0:00 / 0:00

example_12-5

Example 12–6.

0:00 / 0:00

example_12-6

Note that we are not concerned with the exact quality of these imperfect consonances. The intervallic motion shown in Example 12–7, for example, is considered parallel even though it moves from a major third to a minor third.

Both of the progressions shown above also commonly appear in reverse:

Example 12–7.

0:00 / 0:00

example_12-7

Example 12–8.

0:00 / 0:00

example_12-8

These examples show the same standard interval progressions as those discussed above, but now with descending motion in both voices. The interval progressions outlined in the remainder of this chapter are similarly reversible and from this point on, each progression will be presented alongside the reversed version.

Parallel thirds and parallel sixths are consonant but also allow the listener to identify the individual voices. They are therefore ubiquitous in tonal Western art music. Voices forming perfect intervals (unison, fifth, octave), on the other hand, blend together so well that many practitioners feel they suppress the listener's sense of differentiation among voices.

When pairs of voices maintain perfect intervals as they move up or down, a listener may begin to lose the sense that they are actually hearing more than one pitch at a time. In other words, the individual melodic voices risk losing their independence. In this style of music, then, parallel motion is strictly avoided between two voices forming a perfect interval. The following interval progressions, then, are almost always avoided in this style:

Example 12–9.

0:00 / 0:00

example_12-9

Example 12–10.

0:00 / 0:00

example_12-10

Example 12–11.

0:00 / 0:00

example_12-11

Note: Many texts and teachers describe parallel unisons, fifths, and octaves as being "forbidden." But although they are strictly avoided in this style of music, they are quite common in many other styles. Aesthetic preferences differ wildly from individual to individual, community to community, time to time, and from one part of the world to another. Keep in mind that this book is concerned primarily with tonal Western art music and these ideas are intended to enhance your understanding of that particular historical style. It is important to understand that differences between the music discussed here and other musical styles that may not follow the same conventions should not be interpreted as an indication of any one music's superiority over another.

Although this chapter is concerned with consonant intervals only, it is here worth mentioning one interval progression that contains a dissonance. As mentioned above, parallel motion from one perfect fifth to another is not permissible in this style. Motion from a perfect fifth to a *diminished* fifth, on the other hand, is:

Example 12–12.

0:00 / 0:00

example_12-12

For reasons that will become clearer later on in Chapter 16, the interval progression shown in Example 12–17 *is* allowed in this style. Movement between these intervals in the opposite direction—where the perfect fifth arrives via stepwise motion in both voices—is considered forbidden and should be avoided in two-voice textures:

Example 12–13.

0:00 / 0:00

example_12-13

Note: As we will see in later chapters, the d5–P5 progression does appear in textures with more than two voices. (See, for example, Chapter 17.)

▼ Activity 12-2

Activity 12–2

Certain types of parallel interval progressions are allowed in two-voice textures while others are considered forbidden when writing in this style. In this activity, you will be presented with various types of parallel interval progressions. It is up to you to determine which are permissible and which should be avoided.

Exercise 12–2a:

Question

Is the following parallel interval progression permissible or forbidden in this style?

0:00 / 0:00

activity_12-2a

▼ Answer

Forbidden. Parallel fifths are not allowed in this style.

Exercise 12–2b:

Question

Is the following parallel interval progression permissible or forbidden in this style?

0:00 / 0:00

activity_12-2b

▼ Answer

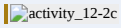
Permissible. Parallel thirds are allowed in this style.

Exercise 12–2c:

Question

Is the following parallel interval progression permissible or forbidden in this style?

0:00 / 0:00



▼ Answer

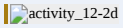
Forbidden. Parallel octaves are not allowed in this style.

Exercise 12–2d:

Question

Is the following parallel interval progression permissible or forbidden in this style?

0:00 / 0:00



▼ Answer

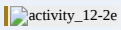
Permissible. Parallel thirds are allowed in this style, even with chromatic alterations.

Exercise 12–2e:

Question

Is the following parallel interval progression permissible or forbidden in this style?

0:00 / 0:00



▼ Answer

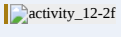
Forbidden. Parallel fifths are not allowed in this style.

Exercise 12–2f:

Question

Is the following parallel interval progression permissible or forbidden in this style?

0:00 / 0:00



▼ Answer

Permissible. Parallel sixths are allowed in this style.

12.4 Contrary motion

When one melodic voice ascends while another descends, we say that the two voices are moving in *contrary motion*:

Example 12–14.

0:00 / 0:00

example_12-14

Many composers of early polyphonic music showed a preference for this type of motion since it projects a sense of melodic independence. The two voices—though singing together—maintain their own identity, leading to a richer, more interesting texture.

Because of the acoustic properties described above, the group of standard progressions involving parallel motion is relatively small. By contrast, the group of interval progressions where voices move in contrary motion is much larger. It will be helpful, then, to divide this group into three categories:

- Both voices move by step
- One voice moves by step, the other by leap
- Both voices move by leap

Both voices move by step

We will begin by looking at interval progressions where each voice moves by step in contrary motion. These progressions may start from a unison, a third or a sixth. In each case, the two voices begin with a consonant interval and move in opposite directions (contrary motion). A unison expands to a third, a third to a perfect fifth, and a sixth to an octave, as shown here.

Example 12–15.

0:00 / 0:00

example_12-15

Example 12–16.

0:00 / 0:00

example_12-16

Example 12–17.

0:00 / 0:00

example_12-17

Notice that there is no standard interval progression in which the voices expand outwards by step from a perfect fifth. If two voices forming a fifth were to move away from each other by step, the result would be a seventh, which is a dissonance and is not permitted here.

These interval progressions can also appear as compound intervals. In other words, the 1–3 interval progression shown in Example 12–19 (and reproduced in Example 12–25a) can also be written as an octave followed by a tenth. The interval progressions shown in Example 12–25a and Example 12–25b, in other words, are generally considered to be equivalent:

Example 12–18.

a. 1–3

0:00 / 0:00

example_12-18a

b. 8–10

0:00 / 0:00

example_12-18b

All of the interval progressions presented in this chapter are also valid in their compound forms. For the sake of clarity, however, interval progressions will here be listed only in their simple forms. Compound intervals will only be used for naming progressions when the intervals expand from smaller than an octave to greater than an octave or vice versa.

▼ Activity 12-3

Activity 12–3

This activity will give you the opportunity to complete a short interval progression. For each exercise, provide a second interval so that both voices move by step in contrary motion. For example, the following minor third…

0:00 / 0:00

activity_12-3

…could move in stepwise, contrary motion to either a perfect fifth…

0:00 / 0:00

activity_12-3_answer1

…or a unison:

0:00 / 0:00

activity_12-3_answer2

Exercise 12–3a:

Question

Continue the following interval progression with stepwise, contrary motion:

0:00 / 0:00

activity_12-3a

▼ Hint

Remember, for this exercise both voices must move by step in opposite directions.

▼ Answer

upper voice to G# and lower voice to B or upper voice B and lower voice to G#

Exercise 12–3b:

Question

Continue the following interval progression with stepwise, contrary motion:

0:00 / 0:00

activity_12-3b

▼ Hint

Remember, for this exercise both voices must move by step in opposite directions. Also, the second interval must be consonant.

▼ Answer

upper voice to Ab and lower voice to F

Exercise 12–3c:

Question

Continue the following interval progression with stepwise, contrary motion:

0:00 / 0:00

activity_12-3c

▼ Hint

Remember, for this exercise both voices must move by step in opposite directions.

▼ Answer

upper voice to F# and lower voice to B or both voices to D

Exercise 12–3d:

Question

Continue the following interval progression with stepwise, contrary motion:

0:00 / 0:00

activity_12-3d

▼ Hint

Remember, for this exercise both voices must move by step in opposite directions. Also, the upper voice in the second interval should not cross below the lower voice.

▼ Answer

upper voice to Eb and lower voice to C

One voice moves by step, the other by leap:

The second category of contrary-motion interval progressions includes those in which one voice moves by step and the other by leap. One example is a perfect fifth expanding to a perfect octave:

Example 12–19.

0:00 / 0:00



In the first part of this example, the upper voice ascends by step from B to C while the lower voice leaps from E down to C. The same progression in reverse is, of course, also valid.

These roles could also be reversed. In the following example, the upper voice leaps, while the lower voice descends by step:

Example 12–20.

0:00 / 0:00



A third expands to a sixth in the same way, with a step in one voice and a leap in the other:

Example 12–21.

0:00 / 0:00



Example 12–22

0:00 / 0:00



Both voices move by leap:

Finally, there is the third category of contrary motion in which both voices move by leap. The only permitted progression in this category is the 6–10 (and 10–6) progression:

Example 12–23.

0:00 / 0:00



Notice that the while the soprano moves from B to D, the bass does just the opposite: D to B. This swapping of pitch classes is known as a *voice exchange*. Voice exchanges are a common technique in music of this style. In analysis, they are often highlighted by using a pair of crossed lines, as shown in Example 12–34.

▼ Activity 12-4

Activity 12–4

There are usually several different possibilities for following a given interval in a basic interval progression. In this activity, you will become more familiar with this multiplicity of successions by completing an interval progression in four different ways.

Exercise 12–4:

Question

Complete the following interval progression in four unique and valid ways by providing voices for the second beat moving in either parallel or contrary motion.

0:00 / 0:00

activity_12-4

▼ Answer

Possible answers: upper voice to B / lower voice to D; upper voice to G / lower voice to B; upper voice to G / lower voice to E; upper voice to F / lower voice to D; upper voice to B / lower voice to B; or upper voice to C / lower voice to A.

12.5 Similar motion

A second large category of interval progressions includes those where the two voices move in *similar motion*. In each of these progressions, one voice moves by step, the other by leap in the same direction. In the following example, we see the two voices forming a third expanding to a fifth, with both moving in the same direction.

Example 12–24.

0:00 / 0:00

example_12-24

Like the second category of contrary-motion progressions, the roles of the two voices may be reversed. In the previous example, the upper voice moved by step while the lower voice moved by leap. In the following example, it is the lower voice that moves by step and the upper by leap:

Example 12–25.

0:00 / 0:00

example_12-25

There are two other such similar-motion interval progressions, 5–6 (and its reverses):

Example 12–26.

0:00 / 0:00

example_12-26

Example 12–27.

0:00 / 0:00

example_12-27

and 6–8 (and its reverses):

Example 12–28.

0:00 / 0:00

example_12-28

Example 12–29.

0:00 / 0:00

example_12-29

There is one special type of similar-motion interval progression which in three- and four-voice settings, occurs mainly between the lowest voice—the bass—and one of the voices sounding above it. In this progression, the upper voice moves by step while the bass leaps by fifth in the same direction:

Example 12–30.

0:00 / 0:00

example_12-30

▼ Activity 12-5

Activity 12–5

As you saw in the previous activity, there are often several possibilities for following an interval. In this activity, you will complete an interval progression in four different ways using similar motion.

Exercise 12–5:

Question

Complete the following interval progression in four unique and valid ways by providing voices for the second beat moving using similar motion only.

0:00 / 0:00

activity_12-5

▼ Answer

Possible answers: upper voice to G / lower voice to G; upper voice to G / lower voice to B; upper voice to C / lower voice to E; upper voice to B / lower voice to G; or upper voice to E / lower voice to C.

12.6 Oblique motion

The last type of motion for interval progressions is *oblique motion*, where one voice remains stationary while the other moves against it by step (or leap). The 5–6 progression is typical:

Example 12–31.

0:00 / 0:00

example_12-31

▼ Activity 12-6

Activity 12–6

Being able to recognize the various basic interval progressions will help you immeasurably in your study of tonal Western art music. In this activity, you will identify various basic interval progressions and classify them as exhibiting parallel, contrary, similar, or oblique motion.

Exercise 12–6a:

Question

Identify all of the intervals in the following two-voice progression:

0:00 / 0:00

activity_12-6

▼ Answer

0:00 / 0:00

activity_12-6a_answer

Follow-up question

Now label each pair of intervals as having parallel, contrary, similar, or oblique motion.

▼ Answer

0:00 / 0:00

activity_12-6b_answer

▼ Activity 12-7

Activity 12–7

Basic interval progressions form the basis of tonal Western art music. In this activity, you will identify basic interval progressions in an excerpt from an actual composition. You may notice that not all of the voices seem to follow basic interval progressions exactly. This will be clarified in later chapters.

Exercise 12–7a:

Question

Identify the basic interval progression highlighted by the red notes:

Maria Xaveria Peruchona, Sacri Concerti de Mottetti (Op. 1), 8. O superbi mundi machina, mm. 43–51.

0:00 / 0:00

activity_12-7a

▼ Answer

The *canto primo* and *canto secondo* parts are moving in parallel thirds (3–3).

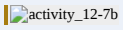
Exercise 12–7b:

Question

Identify the basic interval progression highlighted by the red notes:

Maria Xaveria Peruchona, Sacri Concerti de Mottetti (Op. 1), 8. O superbi mundi machina, mm. 43–51.

0:00 / 0:00



▼ Answer

The *canto secondo* and *basso* parts are moving in contrary motion from a sixth to an octave (6–8).

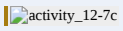
Exercise 12–7c:

Question

Identify the basic interval progression highlighted by the red notes:

Maria Xaveria Peruchona, Sacri Concerti de Mottetti (Op. 1), 8. O superbi mundi machina, mm. 43–51.

0:00 / 0:00



▼ Answer

The *canto primo* and *canto secondo* parts are moving in contrary motion from a third to a sixth (3–6).

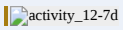
Exercise 12–7d:

Question

Identify the basic interval progression highlighted by the red notes:

Maria Xaveria Peruchona, Sacri Concerti de Mottetti (Op. 1), 8. O superbi mundi machina, mm. 43–51.

0:00 / 0:00



▼ Answer

The *canto secondo* and *basso* parts are moving through parallel sixths (6–6).

Exercise 12–7e:

Question

Identify the basic interval progression highlighted by the red notes:

Maria Xaveria Peruchona, Sacri Concerti de Mottetti (Op. 1), 8. O superbi mundi machina, mm. 43–51.

0:00 / 0:00

activity_12-7e

▼ Answer

The *canto primo* and *canto secondo* parts move by oblique motion from a sixth to a fifth (6–5).

Exercise 12–7f:

Question

Identify the basic interval progression highlighted by the red notes:

Maria Xaveria Peruchona, Sacri Concerti de Mottetti (Op. 1), 8. O superbi mundi machina, mm. 43–51.

0:00 / 0:00

activity_12-7f

▼ Answer

The *canto primo* and *canto secondo* parts are moving through parallel thirds (3–3).

12.7 Summary

The *standard interval progressions* presented in this chapter form the backbone of *polyphony* in tonal Western art music. These progressions are categorized by the type of motion found between the voices: *parallel*, *contrary*, and *oblique*. This list may seem daunting at first and for that reason we have included an overview summarizing them all by category. A complete list may be found in Appendix A. With time and some practice, you will easily become familiar with all of them.

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2.3: Triads

13.1 Introduction

In Chapter 12 we outlined the various considerations surrounding interval progressions—the series of pitch combinations that result when melodic lines sound simultaneously. Our discussion so far has been limited to musical textures consisting of just two voices. Chapter 14 will expand this discussion to include progressions with more than two voices, but let us preview what a four-voice texture might look and sound like here:

Example 13–1. *Johann Joseph Fux, Gradus ad Parnassum, Fig. 170.*

0:00 / 0:00



This short piece—actually a sample exercise from a composition manual by Johann Joseph Fux—consists of four voices in F major. For the most part, each pair of voices follows the conventions discussed in Chapter 12. Given that all four voices follow the same simple rhythm, we may describe the passage as a series of polyphonic sonorities. The following example reduces these sonorities to their unique pitch classes and arranges each of them on a single staff with the noteheads as close together as possible:

Example 13–2. Reduction of *Johann Joseph Fux, Gradus ad Parnassum, Fig. 170.*

0:00 / 0:00



With the exception of the final measure, all of the sonorities in Example 13–2 look and sound remarkably similar: three-note stacks of thirds differing only in their position on the staff. Harmonies such as these are known as *triads* and they appear in virtually every piece of tonal Western art music.

In this chapter we will discuss the construction of triads and the different types one encounters. We also will describe a widely-used system for labeling triads in a key using Roman numerals and the various analytical applications in which these labels come in handy.

13.2 Structure and spelling

A *chord* or *harmony* is a musical sonority consisting of two or more pitches. (Most people reserve these terms for sonorities with three or more pitches, though an interval may also be considered a type of chord.) A *triad*, as the name implies, is a type of chord made up of three unique pitch classes. Not all three-note chords are triads, however. For a chord to be a triad, the pitches contained therein must combine to create specific intervals.

When written as closely as possible on a staff, the two upper notes of a triad must form a third and a fifth—or compound third and fifth—above the lowest note. The three chord members have names that correspond with their position in the chord:

Example 13–3.

0:00 / 0:00



When a triad is written in the manner shown above—as a stack of thirds with the three notes occupying consecutive lines or spaces on the staff—the lowest note is called the *root*. The name is easy to remember since the root provides a stable support for the rest of the chord, just like the roots of a tree. The other notes are named according to the interval they form above the root: the *third* is a third above the root and the *fifth* is a fifth above the root. These names stay with their respective pitch-classes, regardless of how the chord is *voiced* (arranged on the staff):

Example 13–4.

0:00 / 0:00



This chord has the same pitch classes as the one in Example 13–3. Therefore, G is still considered to be the root. Likewise, B and D are still the third and fifth, respectively, even though they are now positioned below the root.

▼ Activity 13-1

Activity 13–1

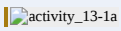
Identify the root in each of the following triads.

Exercise 13–1a:

Question

What is the root of the triad below?

0:00 / 0:00



▼ Hint

When the three notes of a triad are written on three successive lines or spaces, the lowest note will be the root.

▼ Answer

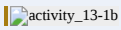
D

Exercise 13–1b:

Question

What is the root of the triad below?

0:00 / 0:00



▼ Hint

When the three notes of a triad are written on three successive lines or spaces, the lowest note will be the root.

▼ Answer

C

Exercise 13–1c:

Question

What is the root of the triad below?

0:00 / 0:00

activity_13-1c

▼ Hint

When the three notes of a triad are written on three successive lines or spaces, the lowest note will be the root.

▼ Answer

E

Exercise 13–1d:

Question

What is the root of the triad below?

0:00 / 0:00

activity_13-1d

▼ Hint

When the three notes of a triad are written on three successive lines or spaces, the lowest note will be the root.

▼ Answer

F

Exercise 13–1e:

Question

What is the root of the triad below?

0:00 / 0:00

activity_13-1e

▼ Hint

When the three notes of a triad are written on three successive lines or spaces, the lowest note will be the root.

▼ Answer

A

Exercise 13–1f:

Question

What is the root of the triad below?

0:00 / 0:00

activity_13-1f

▼ Hint

When the three notes of a triad are written on three successive lines or spaces, the lowest note will be the root.

▼ Answer

Db

Although there are only three chord members in a triad, this type of harmony frequently appears in textures with more than three voices. (Recall the example from the introduction to this chapter, where a series of triads appears as a result of combining *four* melodic lines.) When a chord member appears more than once in a voicing, we say that it has been *doubled*. The following example shows the same triad as above but here voiced in SATB format (see Chapter 5):

Example 13–5.

0:00 / 0:00

example_13-5

Despite the fact that there are four voices, the chord in Example 13–5 is still considered a triad. It presents four pitches, but only three unique pitch *classes* and in this regard is the same as Example 13–3 and Example 13–4. Notice that both the bass and soprano have G, the root of the chord. We would say, then, that the root of the chord has been doubled.

▼ Activity 13-2

Activity 13–2

The excerpt below is written for four voices. This means that any triads will necessarily have at least one chord member doubled. Identify the doubled note in each of the boxed triads.

Fanny Hensel, Gartenlieder (Op. 3), 1. "Hörst du nicht die Bäume rauschen, mm. 1–5.

0:00 / 0:00

activity_13-2

Exercise 13–2a:

Question

Which chord member has been doubled in box "a"?

▼ Hint

First find the doubled pitch class, then determine if it is the root, third, or fifth of the triad.

▼ Answer

third (D#)

Exercise 13–2b:

Question

Which chord member has been doubled in box "b"?

▼ Hint

First find the doubled pitch class, then determine if it is the root, third, or fifth of the triad.

▼ Answer

root (F#)

Exercise 13–2c:

Question

Which chord member has been doubled in box “c”?

▼ Hint

First find the doubled pitch class, then determine if it is the root, third, or fifth of the triad.

▼ Answer

root (C#)

Exercise 13–2d:

Question

Which chord member has been doubled in box “d”?

▼ Hint

First find the doubled pitch class, then determine if it is the root, third, or fifth of the triad.

▼ Answer

root (F#)

Exercise 13–2e:

Question

Which chord member has been doubled in box “e”?

▼ Hint

First find the doubled pitch class, then determine if it is the root, third, or fifth of the triad.

▼ Answer

fifth (F#)

Exercise 13–2f:

Question

Which chord member has been doubled in box “f”?

▼ Hint

First find the doubled pitch class, then determine if it is the root, third, or fifth of the triad.

▼ Answer

B (root)

13.3 Triad qualities

As with intervals, triads come in different qualities. Triads may be major, minor, diminished, or augmented. To determine the quality of a triad, one must consider the qualities of the intervals contained therein.

The following example shows a *major* triad and a *minor* triad built on the same root:

Example 13–6.

a. major triad

0:00 / 0:00



b. minor triad

0:00 / 0:00



Both of the triads in Example 13–6 are consonant and stable. This is largely due to the fact that both chords feature a perfect fifth between the root and fifth. The difference between major and minor triads lies in the quality of the interval from the root to the third. In a major triad, the interval from the root to the third is a major third; in a minor triad it is a minor third.

In addition to the intervals formed with the root, there is another interval heard between the third and the fifth. Notice that in major and minor triads, the quality of this third is the opposite of the quality of the whole chord. In other words, a major triad has a minor third between the third and the fifth and a minor triad has a major third in the same place. In addition to thinking of a triad as consisting of a third and a fifth above a root, it is also helpful to think of it as two thirds stacked one on top of the other.

Note: A *tertian* harmony is one that is constructed as a stack of thirds. Triads are tertian harmonies. If one were to add another third on top of a triad, that note would be a seventh above the root. This type of tertian harmony is discussed in Chapter 18.

Triads are named according to their root and quality. The triad in Example 13–6a, for example, is a G-major triad and the triad in Example 13–6b is a G-minor triad. Triads may be built on any note. The following example shows an Eb-major triad:

Example 13–7.

0:00 / 0:00



Notice that an Eb-major triad requires two accidentals to preserve the exact interval qualities shared by all major triads.

A triad with a minor third and a diminished fifth above the root is considered *diminished*. The following example shows a G-diminished triad:

Example 13–8.

0:00 / 0:00

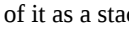


This triad is much more dissonant than the major and minor triads heard above. It has the same minor third between the root and third as the minor triad, but here the perfect fifth has been replaced with a dissonant tritone: a diminished fifth. (You may also think of it as a stack of two minor thirds.) As a result, this chord is much less stable. We will discuss this chord at length in Chapter 16.

A triad with a major third and an augmented fifth above the root is considered *augmented*. The following example shows a G-augmented triad:

Example 13–9.

0:00 / 0:00



Like a diminished triad, an augmented triad is dissonant. Like a major triad, it has a major third between the root and third. But here we find another major third stacked on top, making the framing fifth augmented. Of the four triad qualities, augmented triads are the outliers. They have a very peculiar sound and, as we will see momentarily, they differ from the other triad qualities in that they cannot be constructed using only diatonic pitches. As a result, they appear far less frequently than major, minor, and diminished triads. We will look at a few examples of this rare chord in Chapter 34.

Note: Triad names are often abbreviated. An uppercase pitch letter name with an uppercase "M"—or an uppercase pitch letter name by itself—indicates a major triad ("GM" and "G" are short for "G major"). An uppercase pitch letter name with a lowercase "m"—or a lowercase pitch letter name by itself—indicates a minor triad ("Gm" and "g" are short for "G minor"). A raised degree sign (°) attached to pitch letter name indicates a diminished triad ("G°" is short for "G diminished"). Finally, a raised plus sign (+) attached to a pitch letter name indicates an augmented triad ("G+" is short for "G augmented").

Table 13–1 summarizes the intervallic content of the four triad qualities:

Table 13–1

Triad quality:	Interval between root and third:	Interval between third and fifth:	Interval between root and fifth:
major	M3	m3	P5
minor	m3	M3	P5
diminished	m3	m3	d5
augmented	M3	M3	A5

▼ Activity 13-3

Activity 13–3

Identify the quality of each of the following triads.

Exercise 13–3a:

Question

What is the quality of the triad below?

0:00 / 0:00

activity_13-3a

▼ Hint

Rewrite the triad in root position and consider the intervals heard above the bass. Consult Table 13–1 to determine the quality.

▼ Answer

minor

Exercise 13–3b:

Question

What is the quality of the triad below?

0:00 / 0:00

activity_13-3b

▼ Hint

Rewrite the triad in root position and consider the intervals heard above the bass. Consult Table 13–1 to determine the quality.

▼ Answer

major

Exercise 13–3c:

Question

What is the quality of the triad below?

0:00 / 0:00

activity_13-3c

▼ Hint

Rewrite the triad in root position and consider the intervals heard above the bass. Consult Table 13–1 to determine the quality.

▼ Answer

diminished

Exercise 13–3d:

Question

What is the quality of the triad below?

0:00 / 0:00

activity_13-3d

▼ Hint

Rewrite the triad in root position and consider the intervals heard above the bass. Consult Table 13–1 to determine the quality.

▼ Answer

minor

Exercise 13–3e:

Question

What is the quality of the triad below?

0:00 / 0:00

activity_13-3e

▼ Hint

Rewrite the triad in root position and consider the intervals heard above the bass. Consult Table 13–1 to determine the quality.

▼ Answer

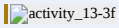
augmented

Exercise 13–3f:

Question

What is the quality of the triad below?

0:00 / 0:00



▼ Hint

Rewrite the triad in root position and consider the intervals heard above the bass. Consult Table 13–1 to determine the quality.

▼ Answer

major

▼ Activity 13-4

Activity 13–4

In each of the following exercises, you will be asked to spell a triad given the root and quality.

Exercise 13–4a:

Question

Which three pitch classes are used to spell an E-major triad?

▼ Hint

Write the noteheads on a piece of staff paper and add accidentals where necessary.

▼ Answer

root: E, third: G#, fifth: B

Exercise 13–4b:

Question

Which three pitch classes are used to spell an A-diminished triad?

▼ Hint

Write the noteheads on a piece of staff paper and add accidentals where necessary.

▼ Answer

root: A, third: C, fifth: Eb

Exercise 13–4c:

Question

Which three pitch classes are used to spell a Bb-major triad?

▼ Hint

Write the noteheads on a piece of staff paper and add accidentals where necessary.

▼ Answer

root: Bb, third: D, fifth: F

Exercise 13–4d:

Question

Which three pitch classes are used to spell a G-augmented triad?

▼ Hint

Write the noteheads on a piece of staff paper and add accidentals where necessary.

▼ Answer

root: G, third: B, fifth: D#

Exercise 13–4e:

Question

Which three pitch classes are used to spell a C#-minor triad?

▼ Hint

Write the noteheads on a piece of staff paper and add accidentals where necessary.

▼ Answer

root: C#, third: E, fifth: G#

Exercise 13–4f:

Question

Which three pitch classes are used to spell an Eb-major triad?

▼ Hint

Write the noteheads on a piece of staff paper and add accidentals where necessary.

▼ Answer

root: Eb, third: G, fifth: Bb

13.4 The natural triads

It is important that you be able to quickly and accurately identify or construct triads. One useful step in acquiring this skill is memorizing all of the natural triads—that is, all of the triads that can be constructed using the white keys on a piano keyboard.

Consider, for example, a triad built on C using only natural pitches, no sharp or flat pitches. The following example shows such a triad in staff notation and shows the location of the corresponding piano keys:

Example 13–10

a.

0:00 / 0:00

example_13-10a

b.

0:00 / 0:00

example_13-10b

This chord—built using the pitches C, E, and G—is a C-major triad. With this in mind, it is very easy to identify the following chord:

Example 13–11.

a.

0:00 / 0:00

example_13-11a

b.

0:00 / 0:00

example_13-11b

This triad is very similar to the C-major triad shown above. It has the same root and fifth. The only difference is that the third lies a semitone lower, making the interval between the root and third a minor third. By comparing it with the C-major triad shown above, it is clear that the chord in Example 13–11 is a minor triad.

The following table summarizes all of the natural triads:

Table 13–2

Root:	Third:	Fifth:	Triad:
A	C	E	A minor
B	D	F	B diminished
C	E	G	C major
D	F	A	D minor
E	G	B	E minor
F	A	C	F major
G	B	D	G major

Notice that all of the natural triads are either major or minor with the exception of one: the natural triad built on B is diminished. Notice, too, that there are no augmented triads in Table 13–2. An augmented triad will always require at least one accidental.

▼ Activity 13-5

Activity 13–5

In each of the following exercises, you will be asked to identify the chord that results from adding one or more accidentals to a natural triad.

Exercise 13–5a:

Question

The natural triad built on E (E, G, and B) is minor. What chord would result from raising the third one semitone?

▼ Hint

Try playing the chord on a piano and identifying the quality by ear.

▼ Answer

E major (E, G#, B)

Exercise 13–5b:

Question

The natural triad built on G (G, B, and D) is major. What chord would result from lowering the third one semitone?

▼ Hint

Try playing the chord on a piano and identifying the quality by ear.

▼ Answer

G minor (G, Bb, D)

Exercise 13–5c:

Question

The natural triad built on A (A, C, and E) is minor. What chord would result from lowering both the root and the fifth?

▼ Hint

Try playing the chord on a piano and identifying the quality by ear.

▼ Answer

Ab major (Ab, C, Eb)

Exercise 13–5d:

Question

The natural triad built on B (B, D, and F) is diminished. What chord would result from raising the fifth one semitone?

▼ Hint

Try playing the chord on a piano and identifying the quality by ear.

▼ Answer

B minor (B, D, F#)

Exercise 13–5e:

Question

The natural triad built on B (B, D, and F) is diminished. What chord would result from lowering the root one semitone?

▼ Hint

Try playing the chord on a piano and identifying the quality by ear.

▼ Answer

Bb major (Bb, D, F)

Exercise 13–5f:

Question

The natural triad built on D (D, F, and A) is minor. What chord would result from lowering the root one semitone?

▼ Hint

Try playing the chord on a piano and identifying the quality by ear.

▼ Answer

Dbaugmented (Db, F, A)

13.5 Figured bass and inversions

Of the three chord members, the root of a triad is considered to be the strongest and most essential. In terms of voicing, the bass note—the lowest sounding note—is often heard as supporting the notes that appear above it. When these two things align—that is, when the root of a triad appears in the bass—we tend to hear the chord as being very grounded: the most stable chord member is in the most stable part of the chord. Of course, the third and fifth may appear in the bass as well, in which cases the chord will sound comparatively less stable.

The *position* of a chord is determined by the chord member sounding in the bass. Since there are three chord members in a triad, there are three possible positions. A triad with the root in the bass is said to be in *root position*. Triads with the third or fifth in the bass are said to be *inverted* since the root appears higher up with at least one of the chord's intervals inverted. A *first inversion* triad has the third in the bass while a *second inversion* triad has the fifth in the bass.

The following example shows all three positions of a C-major triad.

Example 13–12.

0:00 / 0:00

example_13-12

Notice that we have also included a small stack of Arabic numbers (1, 2, 3, etc.) under each chord. These numbers—collectively refereed to as *figured bass*—indicate the sizes of the intervals appearing above the bass note and, therefore, the position of the chord. (See Chapter 21 for a more in depth discussion of figured bass.) Each chord position has a unique set of numbers. A root position triad has the root in the bass with the other notes of the triad forming a third and fifth above it. The complete figured-bass signature is thus 5/3. A first inversion triad inverts the interval between the root and third of the chord (C and E in this case) to a sixth and retains the third between the third and the fifth (E and G), hence the figured-bass signature 6/3. A second inversion triad inverts both of the original intervals and therefore contains a fourth and a sixth above the bass, thus the figured-bass signature 6/4. You will frequently encounter triads referred to by their interval content ("six-three triad" instead of "first-inversion triad").

Note: For the sake of clarity, each of the chords in the example above is written using only three notes. Doublings have no bearing on the position of the chord. Similarly, the relative locations of the upper voices do not affect the chord's position. If the E in the root-position triad above was written higher than the G, it would still be a root-position triad.

▼ Activity 13-6

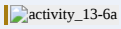
Activity 13–6

In this activity, you will be presented with a series of triads in SATB setting. For each exercise, choose the appropriate figured bass signature (5/3,6/3, or 6/4) to represent the inversion of the triad.

Exercise 13–6a:

Question

0:00 / 0:00



Which figured bass signature would be used to represent this chord?

▼ Hint

Remember, the figured bass signature represents the intervals that appear above the bass. Disregarding octave doublings, make sure your answer accounts for all the intervals formed with the bass.

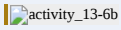
▼ Answer

6/3

Exercise 13–6b:

Question

0:00 / 0:00



Which figured bass signature would be used to represent this chord?

▼ Hint

Remember, the figured bass signature represents the intervals that appear above the bass. Disregarding octave doublings, make sure your answer accounts for all the intervals formed with the bass.

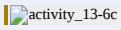
▼ Answer

6/4

Exercise 13–6c:

Question

0:00 / 0:00



Which figured bass signature would be used to represent this chord?

▼ Hint

Remember, the figured bass signature represents the intervals that appear above the bass. Disregarding octave doublings, make sure your answer accounts for all the intervals formed with the bass.

▼ Answer

6/3

Exercise 13–6d:

Question

0:00 / 0:00

activity_13-6d

Which figured bass signature would be used to represent this chord?

▼ Hint

Remember, the figured bass signature represents the intervals that appear above the bass. Disregarding octave doublings, make sure your answer accounts for all the intervals formed with the bass.

▼ Answer

5/3

Figured bass originated as a shorthand technique, so the figures used to indicate chord inversions are often abbreviated. Root-position triads are so common that they are generally represented with no figure at all. They are also occasionally indicated with only 5 (the third above the bass is assumed). The following example shows three ways of representing a C-major triad in root position:

Example 13–13.

0:00 / 0:00

example_13-13

First-inversion triads also appear quite frequently, so the 6/3 figure is often abbreviated to just 6, with the third taken for granted. Both of the figures in Example 13–14 can be used to indicate a C-major triad in first inversion:

Example 13–14.

0:00 / 0:00

example_13-14

Second inversion triads are always represented with 6/4.

The following excerpt shows how figured bass can be used to indicate inversions:

Example 13–15. Reduction of *Johann Sebastian Bach, "Nun danket alle Gott" (BWV 386), mm. 1–2.*

0:00 / 0:00

example_13-15

The first three chords are all A-major triads. The first and second are both in root position even though the bass leaps up an octave. As the bass continues to leap up from A to C# in the first full measure, the figures change from 5/3 to 6/3 indicating the progression from a root position A-major triad to a first inversion A-major triad. A similar situation happens with the two D-major triads on beats three and four of that same measure.

The following table summarizes the various figures for triads and lists the common abbreviations:

Table 13–3.

Position:	Figured Bass:	Common Abbreviations:

Position:	Figured Bass:	Common Abbreviations:
root position	5/3	5 or no figure
first inversion	6/3	6
second inversion	6/4	

Note the absence of 6/4 chords in Example 13–15. Second inversion triads are considered unstable in this style of music and therefore appear far less frequently. We will discuss second-inversion triads at greater length in Chapter 23. You should nonetheless be familiar with all three rows of figured bass symbols in Table 13–3.

13.6 Triads in a key

$$\hat{1} \tag{2.3.1}$$

Example 13–16.

0:00 / 0:00

example_13-16

Notice the similarity in sound between the C-major scale and C-major triad. Every major and minor triad shares this relationship with the corresponding key. But do not let this relationship lead you to confuse scale degrees and chord member names. The terms root, third, and fifth refer to the position of a note within a triad and do not necessarily correspond with scale degree numbers. In fact, we can build triads using any scale degree as the root. The following example shows all of the diatonic triads in C major:

Example 13–17.

0:00 / 0:00

example_13-17

In Chapter 6, we discussed several different ways of labeling scale degrees. The set of scale degree names can also be used to label chords in the context of a key:

Example 13–18.

0:00 / 0:00

example_13-18

These labels are particularly useful when talking about how various chords relate to the key. We may use them, for instance, to point out that an E-minor chord is the mediant of C major. These terms are similarly used for describing key relationships. One could say, for example, that the key of G major is the dominant of C major.

Minor keys have a different ordering of chord qualities:

Example 13–19.

0:00 / 0:00

example_13-19

You may notice that with regard to the qualities of the triads, the pattern in minor is the same as major, but beginning in a different place. (Beginning with the mediant in minor, you'll find the same pattern of qualities as begins on the tonic in major.) This

similarity is a result of the relationship between relative keys. We will return to minor-key chord qualities in Chapter 17, when we discuss common alterations made to the natural minor scale.

▼ Activity 13-7

Activity 13–7

The following questions will test your knowledge of how certain chords relate to keys.

Exercise 13–7a:

Question

An E-minor chord is what in the key of C major?

▼ Hint

Chords in a key are identified by the scale degree that corresponds with the root.

▼ Answer

E minor is the mediant of C major.

Exercise 13–7b:

Question

An E-minor chord is what in the key of G major?

▼ Hint

Chords in a key are identified by the scale degree that corresponds with the root.

▼ Answer

E minor is the submediant (relative minor) of G major.

Exercise 13–7c:

Question

An A-diminished triad is the leading tone chord in which major key?

▼ Hint

Chords in a key are identified by the scale degree that corresponds with the root.

▼ Answer

A diminished is the leading tone chord in Bb major.

Exercise 13–7d:

Question

An E-minor triad is the supertonic in which major key?

▼ Hint

Chords in a key are identified by the scale degree that corresponds with the root.

▼ Answer

D major

Exercise 13–7e:

Question

What is the dominant chord of E major?

▼ Hint

Try playing the chord on a piano and identifying the quality by ear.

▼ Answer

B major is the dominant of E major.

Exercise 13–7f:

Question

What is the subdominant chord of F major?

▼ Hint

Try playing the chord on a piano and identifying the quality by ear.

▼ Answer

Bb major is the subdominant of F major.

13.7 Roman numerals

Roman numerals are a useful, shorthand way of naming and analyzing chords, and of showing their relationships to a tonic. They are a popular tool in the harmonic analysis of tonal music because they convey two vital pieces of information in a single symbol, indicating both the root and the quality of a chord. The number symbolized by the Roman numeral corresponds to the scale degree serving as the root of the chord. The quality is indicated by the case of the Roman numeral: upper case indicates major triads, lower case minor triads. As discussed above, a raised degree sign (^{o}) attached to a lower-case Roman numeral indicates a diminished triad and a raised plus sign ($^{+}$) attached to an upper-case Roman numeral indicates an augmented triad.

It is imperative that you familiarize yourself with the qualities of diatonic triads in both major and minor keys. The following example shows the pattern of major, minor, and diminished triads in a major key:

Example 13–20.

0:00 / 0:00



$$\hat{1} \tag{2.3.2}$$

For easy demonstration, Example 13–20 is in C major, but the pattern of triad qualities is identical for all major keys. Roman numerals always refer to the scale degrees of the key at hand. If Example 13–20 were transposed to E major, the Roman numerals would stay the same:

Example 13–21.

0:00 / 0:00



Minor keys, on the other hand, have their own pattern of major, minor, and diminished triads:

Example 13–22.

0:00 / 0:00

example_13-22

Again, the pattern in minor is the same as major, but beginning in a different place. (Beginning with III in minor, you'll find the same pattern of qualities as begins on I in major.)

Note: The Roman numeral system described here is just one of several commonly used methods for identifying chords. In other texts you may encounter analyses that use only uppercase Roman numerals. In such cases, it is assumed that the reader will be familiar enough with the qualities of diatonic chords that they will know that "VI" in a major key indicates a minor triad unless otherwise specified.

Another widely-used system—the so called "Nashville number" system—uses Arabic numerals instead of Roman numerals. In the context of G major, for example, "4" is used to indicate a C-major triad. Many jazz musicians are familiar with a more straightforward system. There, chords are specified by their pitch content alone with no reference to the scale degree on which they are built. A "D," for instance, indicates a D-major triad. Extra letters and symbols are used to indicate other chord qualities: "Em," for example, refers to an E-minor triad. This system is sometimes called the "slash chord" system in reference to how inversions are indicated. If the chord is not in root position, a slash followed by a note letter name is used to specify which chord member is in the bass. "Em/G," for example, refers to an E-minor triad in which G is the lowest sounding note—in other words, an E-minor triad in first inversion.

Switching from one system to another can be confusing at first. But with patience and perseverance you will find that all of these systems can be both useful and intuitive. Each method has advantages and disadvantages for different kinds of music and no system is universally perfect.

As we have seen, Roman numerals are succinct and informative in themselves: they indicate both the root and quality of a given harmony. Beyond this, a Roman numeral may be combined with a figured bass signature to provide an even more thorough summary of a chord. The figured bass, by specifying the intervals heard above the bass note, indicates the position of the triad while the Roman numeral indicates the scale degree of the root and the quality of the chord. The following example shows a first-inversion D-major chord in the context of G major:

Example 13–23.

0:00 / 0:00

example_13-23

$$\hat{5} \tag{2.3.3}$$

This combination of analytical tools allows us to summarize the harmonic content of a piece or passage very efficiently. Consider the following analysis:

Example 13–24. *Giovanni Pierluigi da Palestrina, Missa Inviolata, III. "Credo in unum Deum," mm. 73–81.*

0:00 / 0:00

example_13-24

$$\hat{6} \tag{2.3.4}$$

Note: Note that some of the notes—we have put them in parentheses—do not belong to the chord with which they sound. They are melodic embellishments that enliven the musical surface. These *nonharmonic tones* are discussed in greater detail in Chapter 15.

Aside from efficiently cataloging the pitch content of each chord, the Roman numerals allow us to make a number of quick observations about the whole passage. The first set of chords—up to the rest at the end of m. 76—begins with the tonic (I) and ends with the dominant (V). The second set of chords (mm. 77–81) does the opposite: it begins with a long V chord and works its way

back to I. Most of the chords are in root position, adding to the excerpt's stability and finality. Some chord progressions are common to both sets of chords, including ii–IV and IV–V.

▼ Activity 13-8

Activity 13–8

Exercise 13–8:

Question

Add a Roman numeral in F major to each of the chords in the music below The first and last Roman numerals have been provided for you.

Johann Joseph Fux, Gradus ad Parnassum, Fig. 170.

0:00 / 0:00

activity_13-8

▼ Answer

Johann Joseph Fux, Gradus ad Parnassum, Fig. 170.

0:00 / 0:00

activity_13-8_answer

▼ Activity 13-9

Activity 13–9

Write out each of the indicated chords.

Exercise 13–9a:

Question

Write the following chord in Eb major:

0:00 / 0:00

activity_13-9a

▼ Hint

The root of the chord is the scale degree indicated by the Roman numeral. The quality of the chord is indicated by the case of the Roman numeral. The position is indicated by the bass figures next to the Roman numeral.

▼ Answer

0:00 / 0:00

activity_13-9a_answer

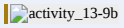
Answers will vary, but pitch content and bass pitch class must be the same.

Exercise 13–9b:

Question

Write the following chord in G major:

0:00 / 0:00

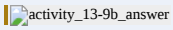


▼ Hint

The root of the chord is the scale degree indicated by the Roman numeral. The quality of the chord is indicated by the case of the Roman numeral. The position is indicated by the bass figures next to the Roman numeral.

▼ Answer

0:00 / 0:00



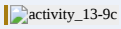
Answers will vary, but pitch content and bass pitch class must be the same.

Exercise 13–9c:

Question

Write the following chord in Bb major:

0:00 / 0:00

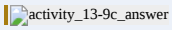


▼ Hint

The root of the chord is the scale degree indicated by the Roman numeral. The quality of the chord is indicated by the case of the Roman numeral. The position is indicated by the bass figures next to the Roman numeral.

▼ Answer

0:00 / 0:00



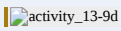
Answers will vary, but pitch content and bass pitch class must be the same.

Exercise 13–9d:

Question

Write the following chord in D major:

0:00 / 0:00

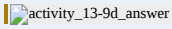


▼ Hint

The root of the chord is the scale degree indicated by the Roman numeral. The quality of the chord is indicated by the case of the Roman numeral. The position is indicated by the bass figures next to the Roman numeral.

▼ Answer

0:00 / 0:00



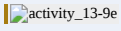
Answers will vary, but pitch content and bass pitch class must be the same.

Exercise 13–9e:

Question

Write the following chord in A major:

0:00 / 0:00

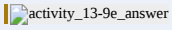


▼ Hint

The root of the chord is the scale degree indicated by the Roman numeral. The quality of the chord is indicated by the case of the Roman numeral. The position is indicated by the bass figures next to the Roman numeral.

▼ Answer

0:00 / 0:00



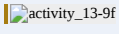
Answers will vary, but pitch content and bass pitch class must be the same.

Exercise 13–9f:

Question

Write the following chord in Ab major:

0:00 / 0:00



▼ Hint

The root of the chord is the scale degree indicated by the Roman numeral. The quality of the chord is indicated by the case of the Roman numeral. The position is indicated by the bass figures next to the Roman numeral.

▼ Answer

0:00 / 0:00

activity_13-9f_answer

Answers will vary, but pitch content and bass pitch class must be the same.

13.8 Summary

A *triad* is a type of chord consisting of three unique pitch classes. When the three pitches are written on consecutive lines or spaces on a staff, we refer to the lowest note as the root and the upper notes as the *third* and *fifth*, based on the intervals they form above the root. There are many ways to voice a triad: the positions of the three chord members may be rearranged and any of them may be doubled. The names of the chord members, however, stay with their corresponding pitch classes, regardless of how the chord is voiced.

Like intervals, triads come in different qualities. *Major* and *minor* triads are consonant. They feature a perfect fifth between the root and chordal fifth and are named after the major or minor third between the root and chordal third. *Diminished* and *augmented* triads are dissonant. A diminished triad has a minor third and diminished fifth above the root while an augmented triad has a major third and augmented fifth above the root. Of the four triad qualities, augmented triads are outliers since they cannot be constructed using only diatonic pitches and will therefore always require at least one accidental. Major, minor, and diminished triads, on the other hand, can be constructed using only white (natural) keys on a piano and appear in every major or minor key.

The *position* of a triad is determined by the bass voice. If the root is in the bass, the chord is said to be in *root position*. If the third or fifth is in the bass, the chord is said to be in *first* or *second inversion*, respectively. We indicate a chord's position with a *figured bass signature*—a stack of Arabic numerals corresponding with the sizes of the intervals heard above the bass. The figure 5/3 (or 5 or no figure at all) is used to indicate a triad in root position, and 6/3 (or 6) and 6/4 are used to represent triads in, respectively, first and second inversions.

$$\hat{1} \tag{2.3.5}$$

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2.4: Three- and Four-Voice Progressions

14.1 Introduction

In this follow-up to Chapter 12, you will be given an opportunity to expand basic interval progressions by adding more voices. Whereas Chapter 12 was concerned with two-part textures and therefore dealt only with progressions of intervals, the addition of a third (and fourth) voice opens up the possibility of writing complete triads.

In this chapter we will continue the now familiar convention of labeling interval progressions generically with Arabic numerals (1, 2, 3, etc.), but more importantly we will also place each of these progressions in the context of a key. In doing so, our discussion becomes less abstract and more closely-related to the sounds one encounters in actual tonal compositions. We will use Roman numerals (I, ii, iii, etc.) to indicate the harmonies suggested by the sounding notes—even when the written chord is incomplete. If you are not familiar with the construction of triads and the concept of labeling them with Roman numerals, it is suggested that you review the material in Chapter 13 before proceeding.

This chapter will begin with a brief aside, discussing how different scale degrees sound and function in relationship to one another. We will then move on to techniques and considerations for adding a third voice to a two-part texture. Working with three voices will raise your sensitivity to the behavior of interval progressions in tonal music, providing a helpful intermediate step on the way to handling more complex textures. Once the three-part texture is secure, we will add a fourth voice. We will see how these principles apply to what many teachers and musicians see as the standard format for tonal part-writing and the harmonic foundation for many other compositional styles: chorale-style textures with separate parts for soprano, alto, tenor, and bass voices (SATB). Along the way, we will analyze compositions from a variety of composers to show how interval progressions work in traditional repertoire.

14.2 Tendency tones

In this chapter we will be looking at how different melodies work and relate to one another in the context of a key. In order to do so, we must consider how different *scale degrees* work and relate to one another in the context of a *scale*.

$$\hat{7} \tag{2.4.1}$$

Example 14–1.

0:00 / 0:00

example_14-1

$$\hat{7} \tag{2.4.2}$$

$$\hat{1} \tag{2.4.3}$$

$$\hat{2} \tag{2.4.4}$$

Example 14–2.

0:00 / 0:00

example_14-2

Several tendency tones lie a half step away from a tone of greater stability. Scale degree 7, for example, forms a dissonant minor second with the tonic while scale degree 4 forms a minor second with scale degree 3. In the diatonic minor scale (see Chapter 7), scale degree 6 is a tendency tone that resolves to 5 for the very same reason. In such cases, where the stable tone is so close, the urgency to resolve seems stronger.

(Note that while Example 14–2 shows a major scale, the same tendencies are present in the natural minor scale. Scale degree 7 in minor is exceptional. See Chapter 17 for a detailed discussion of how composers address this discrepancy.)

$\hat{2}$ (2.4.5)

14.3 Basic interval progressions in three voices

Working initially with three voices will clarify how basic interval progressions behave in complex textures. The examples below will begin with a two-voice, soprano/bass framework. We will then add a third voice, creating standard interval progressions with each of these framing voices. Working with three simultaneous interval progressions requires careful planning and close attention to the conventions described in Chapter 12. As we will see later on, a four-voiced texture has a total of six interval progressions between voices! Limiting ourselves, for the time being, to just three voices will help us ease into more complex textures.

This part of the chapter is broken into three sections examining three common types of progressions. These three types are based on root motion between two chords: by fifth (as in V–I), by third (as in I–vi or I–iii) and by step (as in IV–V).

14.4 Root motion by fifth

We begin with the following example of a V–I progression:

Example 14–3.

0:00 / 0:00

example_14-3

Above, you see a common interval progression in two voices. Roman numerals indicate which chords are used. V–I is a progression which illustrates root movement by fifth since the chord roots—in this case G and C—are a fifth apart. We will now add a third, inner voice to this progression. The movement of the third voice will be decided by the standard interval progressions.

There are three important constraints to follow when adding a third voice:

- The added pitches must be members of the given chords. (In this case, for example, the added voice above the V must be a member of the V chord: G, B, or D. The added voice above the I chord must likewise be a C, E, or G.)
- The added pitches must form valid interval progressions with at least one of the given voices.
- The added pitches must not form parallel fifths, octaves, or unisons with any of the given voices.

For the time being, since we are only working with three voices, do not worry about creating complete triads. Tripled roots and open-fifth sonorities are acceptable for now. Complete triads will become more of a concern further on, when we create four-voice textures. For now, though, try to include the third of the triad whenever possible while creating valid interval progressions. The result will be a richer, fuller harmony.

Keeping the three constraints above in mind, let us try adding a third voice to the Example 14–3. Since the V chord already has a root (G) and fifth (D) let us start by adding a B:

Example 14–4.

0:00 / 0:00

example_14-4

The next step, after picking a first pitch, is to survey the list of standard interval progressions. By adding a B to the V chord, we've created an interval of a third with the soprano voice. On the next beat, the soprano ascends away from the middle voice. Ask yourself which of the standard interval progressions begins with a third. 3–1 begins with a third, but since the soprano in our example ascends, the two parts cannot converge onto a unison. What about a 3–5 progression?

Example 14–5.

0:00 / 0:00

example_14-5

At first glance, this might seem like a good answer. But remember, one of the three constraints requires that added voices must be members of the given chords. The pitch A is not a member of the I chord in this key, so B–A is not a valid inner voice.

What if our middle voice ascended by step, forming parallel thirds with the soprano?

Example 14–6.

0:00 / 0:00



In this case, both of the added pitches are chord members: B is the third of V and C is the root of I. The 3–3 progression is also valid. Furthermore, B is the leading tone in this key and has a tendency to resolve to the tonic C.

What if we chose a different starting pitch for our added voice? Let us try to find a valid middle voice that begins with G, the root of the V chord:

Example 14–7.

0:00 / 0:00



This G forms a fifth with the upper voice. What are some potential interval progressions that begin with a fifth and have the upper voice ascending by step? We know that the added voice cannot also ascend by step, because this would lead to parallel fifths. One possibility is the oblique 5–6 progression:

Example 14–8.

0:00 / 0:00



In this case, the added voice maintains the pitch G, which is a member of both the V and I chords. This is a valid added voice.

▼ Activity 14-1

Activity 14–1

As you will see with multi-voice progressions, there is often more than one possible outcome for a given setup.

Exercise 14–1:

Question

Taking the setup from Example 14–7, can you think of another pitch (other than sustaining G) that the middle voice could move to?

0:00 / 0:00



▼ Answer

The middle voice could move from G up a fourth to C, creating a 5–3 progression with the soprano. (**Note:** Moving down to E will create a 5–8 progression with the soprano. While the 5–8 progression is valid, it is typically found between the bass and one of the upper voices.)

Now we will add a middle voice to a slightly longer passage. Here we have a short progression of four chords, each with falling-fifth root motion:

Example 14–9.

0:00 / 0:00

example_14-9

Let us begin by adding a C as a middle voice, creating a sixth with the soprano:

Example 14–10.

0:00 / 0:00

example_14-10

We can see that on the next beat, the soprano sustains its A. With this sustained pitch, we know that the interval progression must have oblique motion. What is the only standard interval progression that exhibits oblique motion?

▼ Activity 14-2

Activity 14–2

Exercise 14–2:

Question

What is the only standard interval progression that exhibits oblique motion?

▼ Answer

5–6 or 6–5

The sixth must contract to a fifth:

Example 14–11.

0:00 / 0:00

example_14-11

$$\hat{7} \tag{2.4.6}$$

Example 14–12.

0:00 / 0:00

example_14-12

Play or listen to Example 14–12 and notice how the soprano and alto become locked in with one another. They lose their independence. It is for this reason that parallel octaves are not permitted in this style.

With a leap to B off the table, you might be tempted to have the alto leap up to G in m. 2. Moving up a fourth to G will create a valid interval progression with the soprano (5–3), but beware of the parallel fifths created with the bass:

Example 14–13.

0:00 / 0:00



At this point, there aren't very many options left! What pitch(es) could the middle voice move to on the downbeat of m. 2?

▼ Activity 14-3

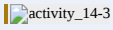
Activity 14–3

Exercise 14–3:

Question

Using basic interval progressions, what pitch could the middle voice move to and be a member of the V chord?

0:00 / 0:00



▼ Answer

The best answer would be for the middle voice to hold on D. By sustaining D, the middle voice creates another oblique interval progression with the soprano.

The best option is for the middle voice to remain on D, creating another oblique progression with the soprano:

Example 14–14.

0:00 / 0:00



Finally, as the progression moves from V to I, the soprano ascends from the leading tone to the tonic pitch. There are two valid pitches that the middle voice could move to. What are they?

▼ Activity 14-4

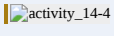
Activity 14–4

Exercise 14–4:

Question

There are two valid pitches that the middle voice could move to, what are they?

0:00 / 0:00



▼ Answer

The middle voice could step up to E creating parallel sixths with the soprano. It could also step down to C creating a 6–8 with the soprano and a 5–8 with the bass.

Of the two options, E or C, C is the better choice because of the stronger sense of resolution created by the valid interval progressions with both the soprano and the bass:

Example 14–15.

0:00 / 0:00

example_14-15

Note: You may have noticed in the examples above that the lowest voice—the bass—is far more disjunct than the voices above it. As the alto and soprano parts progress from one chord to the next they either move by step or remain singing the same pitch. The bass part, on the other hands, leaps up and down by fourths and fifths. This is quite common. In most multi-voiced settings, the upper voices (soprano, alto, and tenor) tend to have smooth, often repetitive melodic lines while the bass jumps up and down as required by the harmonic progression. Of course, these types of melodic motion are not mutually exclusive—upper voices may leap and basses may move by step.

14.5 Root motion by third

So far, all of the progressions to which we've added a third voice have had root motions of a fifth. Let us now try adding a voice to a progression in which the roots move by a third:

Example 14–16.

0:00 / 0:00

example_14-16

As mentioned earlier, it is a good idea to include the third of the chord whenever possible. Doing so creates a fuller sounding harmony. Here, we've added the third of the I chord (E) as the middle voice:

Example 14–17.

0:00 / 0:00

example_14-17

To what pitch could the middle voice move that both belongs to the chord and forms valid interval progressions?

▼ Activity 14-5

Activity 14–5

Exercise 14–5:

Question

What pitch could the middle voice move to that both belongs to the chord and forms valid interval progressions?

0:00 / 0:00

activity_14-5

▼ Answer

Moving down a third to C is the best choice since it is a member of the vi chord and creates valid interval progressions with both the bass (3–3) and the soprano (3–6). (**Note:** there are other possibilities to move to members of the vi chord, but they do not create valid interval progressions with the outer voices.)

C is the best choice, forming a 3–3 progression with the bass and a 3–6 with the soprano:

Example 14–18.

0:00 / 0:00

example_14-18

The same process could be applied to a progression in which the root motion *ascends* by a third. The following example shows a completed, three-voice progression:

Example 14–19.

0:00 / 0:00

example_14-19

Here, the root-progression moves up by a third from I to iii. The outer voices form the familiar 8–5 progression. To these, an inner voice has been added, consisting of the third of the I chord (E) moving to the third of the iii chord (G). This inner voice forms valid interval progressions with both the soprano (6–3) and the bass (3–3).

14.6 Root motion by step (step progression)

Finally, there is one other type of progression to consider: root motion by step. This type of progression is slightly more difficult because of a greater risk of parallel fifths and octaves. Let us start with a typical step progression:

Example 14–20.

0:00 / 0:00

example_14-20

Here we have a IV–V progression with the outer voice framework forming a 5–3 progression. Let's try adding a middle voice beginning on F:

Example 14–21.

0:00 / 0:00

example_14-21

Noting that this F lies a fifth below the soprano C, it might be tempting to have the middle voice step up to form a 5–3 progression between these two voices. While the two upper voices form a valid interval progression, this motion in the middle voice creates parallel octaves with the bass:

Example 14–22.

0:00 / 0:00

example_14-22

As noted above, parallel fifths and octaves are a common threat in step progressions. The best way to avoid those problematic interval progressions is to strive for contrary motion between the bass and the upper voices. In this case, the middle voice may descend to D:

Example 14–23.

0:00 / 0:00

example_14-23

Having the middle voice descend from F to D creates valid interval progressions with both the bass and soprano.

▼ Activity 14-6

Activity 14–6

Exercise 14–6:

Question

The progression given in Example 14–20 could also have a middle voice beginning on A (the third of the IV chord). What member of the V chord could this A move to while forming valid interval progressions?

0:00 / 0:00

activity_14-6

▼ Answer

Stepping down to G will create valid interval progressions with the soprano (3–3) and the bass (3–1). (**Note:** While stepping up to B might seem to be a valid answer as it creates valid interval progressions with both the bass and the soprano, it leads to a doubled leading tone in the V chord. Since B has such a strong pull to C in C major, this will lead to a parallel unison.)

14.7 Analysis of a three-part composition using basic interval patterns

Three-part compositions are not very common. Historically, when composers wrote for more than two voices they opted for the fuller, richer sound of a four-part texture, as described in the closing sections this chapter. Nonetheless, examples do exist. Consider the following excerpt from a three-part madrigal by Giovanni Pierluigi da Palestrina:

Example 14–24 *Giovanni Pierluigi da Palestrina, "Rex Virtutis", mm. 13-15*.

0:00 / 0:00

example_14-24

Example 14–25 shows the basic interval progressions present between each pair of voices from Example 14–24:

Example 14–25 *Giovanni Pierluigi da Palestrina, "Rex Virtutis", mm. 13-15*, analysis.

a. top and bottom voices.

0:00 / 0:00

example_14-25a

b. top and middle voices

0:00 / 0:00

example_14-25b

c. middle and bottom voices

0:00 / 0:00

example_14-25c

In Example 14–25a, we see that the interval progression heard between the outer voices consists mainly of perfect fifths and octaves. A dissonant seventh in m. 14 fills in the motion from an octave to a fifth as IV moves to V. (See Chapter 15 for a detailed discussion of such dissonant and nonharmonic tones.) Example 14–25b shows that the top and middle voices move almost exclusively in parallel thirds. A dissonant fourth in m. 14 breaks up the monotony before the two voices converge on a unison at the end. Finally, in Example 14–25c, we see a great deal of intervallic variety between the middle and bottom voices. Overall, each voice is distinct, projecting its own musical identity while blending harmoniously with the other two.

14.8 Basic interval progressions and four-part textures

The principles outlined above form the foundation of voice leading in tonal music. To demonstrate, we will now examine several chorale-style SATB passages to see how standard interval progressions work in a four-voice texture. Consider, for example, the following four-voice progression:

Example 14–26.

0:00 / 0:00

example_14-26

This short passage can be broken down to show that each inner voice forms a standard interval progression with at least one other voice. Let us begin with just the outer voices:

Example 14–27.

0:00 / 0:00

example_14-27

This is a very common outer-voice framework for a I–V–I progression. We can add an inner voice by having the soprano act as the upper part of a standard interval progression. In the following example, the alto voice is added, forming first a 6–5 progression with the soprano and then a 5–6:

Example 14–28.

0:00 / 0:00

example_14-28

The tenor voice can be added in a similar way. In this case, the tenor follows the soprano in parallel tenths:

Example 14–29.

0:00 / 0:00

example_14-29

And so we have created a four-voice texture for this I–V–I progression. It is worth noting that the intervals between the tenor and alto also follow a standard interval progressions (5–6–5). This will not always be the case. Consider the following example:

Example 14–30.

0:00 / 0:00

example_14-30

Just as before, the added voices form standard interval progressions. In this case, the alto part creates parallel sixths with the soprano…

Example 14–31.

0:00 / 0:00

example_14-31

…and the tenor part forms a 6–5–6 with the alto part:

Example 14–32.

0:00 / 0:00

example_14-32

However, this example differs from the previous one in one important respect. Look at the intervals between the soprano and the tenor parts. These two parts form a 4–3–4 progression. Neither 4–3 nor 3–4 is a standard interval progression. In fact, perfect fourths do not appear at all among the basic interval progressions. As explained earlier, fourths are considered dissonant in two-voice textures and are therefore best avoided. However, that rule must now be amended for textures with three or more voices.

When perfect fourths come about as the byproduct of adding additional voices, they are valid and common between any voice pairs not involving the bass. (Perfect fourths involving the bass require a further qualification of the rule regarding their use. This is discussed in Chapter 23.) In other words, they are allowed between a pair of upper voices.

In such situations, the fourths are referred to as *resultant* intervals—byproducts (results) of standard interval progressions between other voices. This is because when perfect fourths occur between upper voices, they are actually inversions of (consonant) perfect fifths. A fourth formed with the bass, on the other hand, is in almost all cases a dissonant fourth, the result of a melodic event. (We will return to this subject in Chapter 15 on nonharmonic tones.) It is important that you be able to distinguish resultant intervals from those that are part of standard interval progressions.

▼ Activity 14-7

Activity 14–7

Exercise 14–7:

Question

In this activity, you will complete the two inner voices of a I–V progression in G major. The first pitches have been provided:

0:00 / 0:00

activity_14-7

▼ Hint

Remember, both voices must be members of the V chord and form valid interval progressions.

▼ Answer

B in alto moves down by step to A and G in tenor moves down by step to F#.

Note: Various forms of the completed progression shown in Example 14–30 and Example 14–32 are quite common in Western art music. Consider the very similar voice-leading found in the following passage:

Example 14–33 *Maria Teresa Agnesi, Ulisse in Campania, Part I, 2. Coro, mm. 1-6.*

a. original:

0:00 / 0:00



b. reduction and analysis:

0:00 / 0:00



The first three chords in this excerpt are shown in reduced form in Example 14–33b. Other than the decorative F# (indicated by a small, parenthesized notehead) and the leap up in the lowest voice as V moves to I, the voice-leading is the same as in Example 14–30 and Example 14–32, though here the upper voices have been rearranged.

Again, every pair of voices in this passage follows standard interval progressions. The soprano creates an 8–3–8 pattern with the bass while moving in parallel sixths with the tenor. The alto voice sustains an A, creating an oblique 5–8–5 progression with the bass while forming resultant dissonances with the soprano (4–3–4) and the tenor (3–4–3). Finally, the tenor and bass move first in contrary motion from a third to a fifth and then in similar motion back to a third.

(Notice that the same progressions may be found several more times later in the same excerpt!)

In Example 14–26 through Example 14–32, we considered standard interval progressions at work in a progression with root motion of a fifth. The same situation exists with progressions of chords whose roots are a third or a step apart. In the following example, let us determine how the inner voices move in a step progression:

Example 14–34.

0:00 / 0:00



The bass and soprano, in this case, form a 10–8 progression:

Example 14–35.

0:00 / 0:00



It is particularly important to be wary of parallel fifths and octaves when moving between chords whose roots are a step apart. If our tenor voice were to start on C and move up by step, it would create parallel fifths with the bass:

Example 14–36.

0:00 / 0:00

example_14-36

The tenor line from Example 14–34 is much better. It forms a 5–3 progression with the bass and a 6–6 progression with the soprano:

Example 14–37.

0:00 / 0:00

example_14-37

It might be tempting at this point to write in an alto line that moves by step from F up to G. This, however, would create parallel octaves with the bass:

Example 14–38.

0:00 / 0:00

example_14-38

A much better solution would be to have the alto line move from F down a third to D, forming an 8–5 progression with the bass:

Example 14–39.

0:00 / 0:00

example_14-39

The 3–4 progression between the soprano and alto and the 4–3 progression between the alto and tenor are, as in Example 14–32, resultant intervals.

You may have noticed that in the example above the upper voices all move in contrary motion to the bass, two of them by step, the other by a leap of a third. Following this model is generally a good idea when moving between two triads whose roots are a step apart. Doing so will help avoid the parallel fifths and octaves seen in Example 14–36 and Example 14–38.

Note: As with the I–V–I progression discussed above, IV–V is ubiquitous in Western art music. Consider the following measures taken from *The Chorale Book for England*:

Example 14–40 *Anonymous, The Chorale Book for England, 13. "Lord Jesus Christ Be Present Now!," mm. 13-16.*

0:00 / 0:00

example_14-40

Just before the end of this excerpt, we find a IV–V progression used to harmonize the text "keep Thy." As in our example, the composer has matched the ascending step in the bass (Bb to C) with each of the upper voices moving in contrary motion down to the nearest chord tone: the soprano and alto voices step down from F to E and D to C, respectively, while the tenor leaps down a third from Bb to G. A resultant dissonance is found in the 3–4 progression between the tenor and alto.

(Another progression featuring stepwise root motion may be found in the previous measure. There, a V chord moves to vi under the text "truth and." Again, the bass steps up while the upper voices move down. Notice, too, that a Bb is used to fill in the third as the tenor moves from C down to A.)

▼ Activity 14-8

Activity 14–8

Exercise 14–8:

Question

In this activity, you will analyze the voice leading in a progression from V to vi. Fill in the blanks that follow the progression:

0:00 / 0:00

activity_14-8

Voice pair:	Interval progression:
Bass and soprano:	
Bass and alto:	
Bass and tenor:	
Tenor and soprano:	
Tenor and alto:	
Alto and soprano:	

▼ Answer

Voice pair:	Interval progression:
Bass and soprano:	3–1
Bass and alto:	5–3
Bass and tenor:	8–5
Tenor and soprano:	3–4
Tenor and alto:	5–6
Alto and soprano:	6–6

Follow-up question

Do any of these progressions contain resultant intervals?

▼ Answer

Yes: the tenor and soprano.

14.9 Analysis of a four-part composition using basic interval patterns

Now that we are able to build four-part textures using basic interval patterns, we can analyze larger pieces of music. Consider the following chorale by Johann Sebastian Bach:

Example 14–41. *Johann Sebastian Bach, Halt im Gedächtnis Jesum Christ (BWV 67), 7. "Du Friedefürst, Herr Jesu Christ."*

0:00 / 0:00

example_14-41

Analyzing the entire chorale may seem daunting at first, so let us begin with the first phrase:

Example 14–42. *Johann Sebastian Bach, Halt im Gedächtnis Jesum Christ (BWV 67), 7. "Du Friedefürst, Herr Jesu Christ," mm. 1–2.*

0:00 / 0:00

example_14-42

If we consider only the outer voices we can see the standard interval progressions that form the basis of this chord progression:

Example 14–43. *Johann Sebastian Bach, Halt im Gedächtnis Jesum Christ (BWV 67), 7. "Du Friedefürst, Herr Jesu Christ," mm. 1–2.*

0:00 / 0:00

example_14-43

As you can see, all of the intervals between the soprano and bass form valid interval progressions. Even the decorative passing eighth note in the bass takes advantage of the oblique 5–6 progression.

Adding the alto voice, we see that most of the intervals formed with the bass or soprano are valid:

Example 14–44. *Johann Sebastian Bach, Halt im Gedächtnis Jesum Christ (BWV 67), 7. "Du Friedefürst, Herr Jesu Christ," mm. 1–2.*

0:00 / 0:00

example_14-44

For the most part, the alto voice harmonizes the soprano with parallel thirds. At the end of the first measure, however, the intervals between the alto and soprano diverge to form fourths. These dissonant intervals are justified by the interval progressions formed by the alto and the bass. These are all valid progressions and we can see that the alto is harmonizing the bass at the end of m. 1 (8–10–10–10). The dissonant fourths, therefore, are resultant intervals.

When we add the remaining voice, the tenor, we can see that it forms valid interval progressions with the soprano (except for the dissonant seventh on beat two of the second measure) and the bass:

Example 14–45. *Johann Sebastian Bach, Halt im Gedächtnis Jesum Christ (BWV 67), 7. "Du Friedefürst, Herr Jesu Christ," mm. 1–2.*

0:00 / 0:00

example_14-45

Except for the third on the downbeat of m.1 and the 5–3–5 at the end of the same measure, the intervals formed between the alto and bass are mostly resultant intervals.

▼ Activity 14-9

Activity 14–9

In this activity, you will analyze the interval progressions of the second phrase of the same chorale.

Exercise 14–9:

Question

Identify the interval progressions between the tenor and the soprano voices:

Johann Sebastian Bach, Halt im Gedächtnis Jesum Christ (BWV 67), 7. "Du Friedefürst, Herr Jesu Christ," mm. 1–2.

0:00 / 0:00

activity_14-9

▼ Answer

8, 6, 6, 4, 5, and 6

Follow-up question

Do any of these progressions contain resultant intervals?

▼ Answer

Yes: the fourth on beat three of the first complete measure.

14.10 Summary

The standard interval progressions discussed in Chapter 12 form the basis of multi-voiced tonal music. A great deal of multi-part music is found in chorale-style SATB setting. Keeping track of four voices at once can be a formidable task, so familiarity with the workings of two- and three-voice progressions will aid in the writing and analysis of more complex textures.

In three-voice textures it is possible to maintain valid interval progressions between all voice pairs. This is not always the case with four-voice textures. Because of the increased number of inter-voice relationships, dissonant, *resultant intervals* are often formed. These dissonances arise as the result of valid interval progressions between other voice pairs and are effectively covered up by the consonances.

These basic interval progressions are the foundation of multi-voiced textures and govern many complex compositions. By breaking an SATB setting down first into its outer voices and then adding the inner voices, you will be able to trace these fundamental progressions and explain the resultant dissonances that inevitably occur.

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2.5: Nonharmonic Tones

15.1 Introduction

When analyzing tonal music, you will frequently find pitches that are dissonant against the harmonies with which they occur. Pitches that do not belong to the prevailing harmony are called *nonharmonic tones*. In tonal music, nonharmonic tones are used to embellish chords, to allow for distinctive profiles of melodic lines, and in general to animate the musical texture.

Being able to identify and name nonharmonic tones will be indispensable to your understanding of tonal harmony. Without a firm grasp of the types and nature of nonharmonic tones, harmonic analysis becomes confusing and potentially nonsensical. A clear understanding of nonharmonic tones is crucial for distinguishing between structural harmonies and what we will call *auxiliary sonorities*, chords that consist partially or wholly of nonharmonic tones (see Chapter 23).

In this chapter we will discuss four types of nonharmonic tones. In the first section we will focus on nonharmonic tones that arise from melodic motion: *passing tones* and *neighbor tones*. We will then discuss nonharmonic tones that arise from rhythmic action: *suspensions* and *anticipations*.

15.2 Melodically derived nonharmonic tones

The following types of nonharmonic tones are the result of melodic events.

Passing tones

Consider the following example (the second part shows the harmonic intervals heard between the voice and the accompanying bass line):

Example 15–1 *Barbara Strozzi, Sacri Musicali Affetti (Op. 5), "Oleum effusum," mm. 18-22*.

a. original.

0:00 / 0:00

example_15-1a

b. reduction.

0:00 / 0:00

example_15-1b

The second measure of Example 15–1 begins with a consonant minor third. The singer then steps down to an F# forming a dissonant major second against the bass before continuing the stepwise descent to another consonance, a perfect octave. The remaining quarter notes in the excerpt follow suit: the F# in m. 4 forms a dissonant fourth as the singer ascends by step from E to G while the C# in m. 5 forms another dissonant second as part of a stepwise descent from D# to B. Dissonant notes such as these are typically referred to as *passing tones* and have been labeled "P" in the analysis above.

Passing tones are nonharmonic tones that fill in the space between two chord tones. By definition, passing tones are always approached and left by step in the same direction. Consider the following basic interval progression (see Chapter 12):

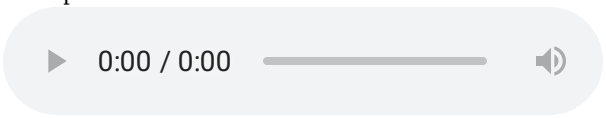
Example 15–2.

0:00 / 0:00

example_15-2

In Example 15–3, the upper voice may be embellished by adding a passing tone (again labeled "P"):

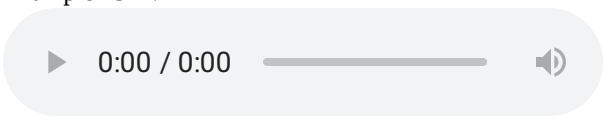
Example 15–3.



example_15-3

The lower voice could also be embellished with a passing tone:

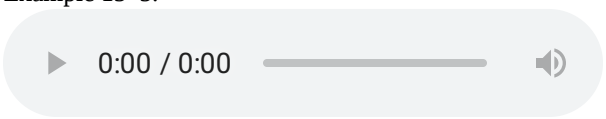
Example 15–4.



example_15-4

Passing tones typically create dissonance, as in Example 15–3 and Example 15–4, but consonant passing tones are possible, too. Example 15–5 shows how a passing tone added to a 6–3 progression forms a consonant perfect fifth:

Example 15–5.



example_15-5

▼ Activity 15-1

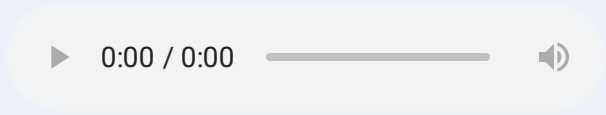
Activity 15–1

In this activity, you will be presented with a series of basic interval progressions. For each progression, identify a potential location for a passing tone.

Exercise 15–1a:

Question

Given the following interval progression, where might a diatonic passing tone be inserted? Insert a valid diatonic passing tone.



activity_15-1a

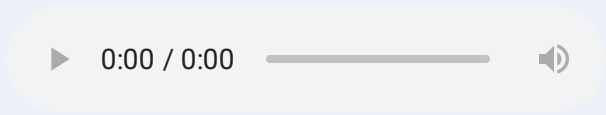
▼ Answer

G between F# and A in the upper voice

Exercise 15–1b:

Question

Given the following interval progression, where might a diatonic passing tone be inserted? Insert a valid diatonic passing tone.



activity_15-1b

▼ Answer

G between A and F in the upper voice or G between F and A in the lower voice

Exercise 15–1c:

Question

Given the following interval progression, where might a diatonic passing tone be inserted? Insert a valid diatonic passing tone.

0:00 / 0:00

activity_15-1c

▼ Answer

A between G# and B in the upper voice or F# between E and G# in the lower voice

Exercise 15–1d:

Question

Given the following interval progression, where might a diatonic passing tone be inserted? Insert a valid diatonic passing tone.

0:00 / 0:00

activity_15-1d

▼ Answer

D between Eb and C in the upper voice or D between C and Eb in the lower voice

▼ Activity 15-2

Activity 15–2

Exercise 15–2:

Question

Identify three locations where diatonic passing tones may be inserted into the following passage:

0:00 / 0:00

activity_15-2

▼ Answer

B between C# and A in upper voice, m. 2; B between A and C# in upper voice, m. 3; D between C# and E in upper voice, m. 4; or D between E and C# in lower voice, m. 4

Typically, as in Example 15–3 through Example 15–5, passing tones fill in the melodic interval of a third. Two passing tones may also be used consecutively to fill in a fourth between chord tones. The melodic fourth in the upper part of Example 15–6 might be

embellished with a pair of consecutive passing tones, as illustrated in Example 15–7:

Example 15–6.

0:00 / 0:00

example_15-6

Example 15–7.

0:00 / 0:00

example_15-7

Example 15–7 presents an expansion of a C-major chord over two beats: the lower voice leaps down from the third of the chord to the root while the upper voice leaps from the fifth up to the root. The leap of a fourth in the upper voice can be filled in with two passing tones, A and B. (Although the B is consonant with the bass, it is still considered a nonharmonic passing tone since it does not belong to the prevailing C-major harmony.)

There are a number of passing tones in the following example by Felix Mendelssohn (the second part of the example shows a reduction, in this case omitting everything but the vocal melody and the bass line from the left hand of the piano part):

Example 15–8 *Felix Mendelssohn, 12 Lieder (Op. 9), 11. "Entsagung," mm. 1-5.*

a. original.

0:00 / 0:00

example_15-8a

b. reduction.

0:00 / 0:00

example_15-8b

The passing tones in mm. 1 and 4 should now be easy to recognize. In m. 1 the bass steps down to a dissonant second against a held note in the voice part before resolving to a sixth in m. 2. In m. 4, the eighth-note E fills in a melodic third between a pair of parallel harmonic thirds. The passing tone in m. 3, however, is different. It falls on the downbeat and stands out as a result of this metrical highlighting.

Passing tones routinely occur between beats or on metrically unaccented beats, but may also be rhythmically or metrically accented, as shown here:

Example 15–9.

0:00 / 0:00

example_15-9

When a passing tone occurs on the beat it is called an *accented* passing tone. In Example 15–9—as in Example 15–3—the E in the upper voice is the chord tone and the D is the nonharmonic passing tone. The occurrence of D on the beat with C in the bass emphasizes the dissonance, giving it a sharper effect (listen again and compare Example 15–3 and Example 15–9).

Note: An accented passing tone may be understood as a rhythmic displacement. The pitches are the same in Example 15–3 and Example 15–9; the only difference is the rhythm. In Example 15–9 the passing tone D has been rhythmically displaced from

between beats 1 and 2 to fall directly on beat 2. Other rhythmically displaced nonharmonic tones are discussed below.

Because passing tones are nonharmonic, they are not required to be diatonic. Example 15–10 shows a chromatic passing tone (G#) embellishing the upper voice of a 3–6 progression:

Example 15–10.

0:00 / 0:00



▼ Activity 15-3

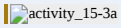
Activity 15–3

In this activity, you will be asked to identify different kinds of passing tones and to describe what type each one is.

Exercise 15–3a:

Question

0:00 / 0:00



Which note is the passing tone?

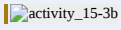
▼ Answer

The Gb is an unaccented chromatic passing tone.

Exercise 15–3b:

Question

0:00 / 0:00



Which note is the passing tone?

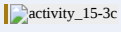
▼ Answer

The D is an unaccented diatonic passing tone.

Exercise 15–3c:

Question

0:00 / 0:00



Which note is the passing tone?

▼ Answer

The C is an accented diatonic passing tone.

Exercise 15–3d:

Question

0:00 / 0:00

activity_15-3d

Which note is the passing tone?

▼ Answer

The D§ is an accented chromatic passing tone.

Neighbor tones

Consider the following excerpt (the reduction omits the right hand of the piano part):

Example 15–11. *Fanny Hensel, "Die Nonne" (No. 12 in Felix Mendelssohn's 12 Lieder, Op. 9), mm. 1-11.*

a. original.

0:00 / 0:00

example_15-11a

b. reduction.

0:00 / 0:00

example_15-11b

At the beginning of the singer's entrance we find a pair of D#s in mm. 5-6. These notes form dissonant augmented fourths against the As in the bass. Much like passing tones, these nonharmonic tones are both approached and resolved by step. Unlike passing tones, however, the resolution occurs in the opposite direction. Nonharmonic tones such as these are typically referred to as *neighbor tones*. They have been labeled "N" in the analysis above.

Whereas a passing tone connects two chord tones, a neighbor tone embellishes a single chord tone. In its most common form, a neighbor tone is approached by step and left by step in the opposite direction, returning to the original pitch. There are, therefore, two types of neighbor tones: *upper* and *lower*. Example 15–12 shows a melodic embellishment with an upper neighbor tone:

Example 15–12.

0:00 / 0:00

example_15-12

Here the E is embellished by stepping up to the dissonant F. The melody then returns to E, completing the neighbor tone figuration.

Example 15–13 shows the same situation, this time with a lower neighbor tone:

Example 15–13.

0:00 / 0:00

example_15-13

Neighbor tones, like passing tones, can be accented or unaccented, diatonic or chromatic. The following examples each show an accented neighbor tone:

Example 15–14.

0:00 / 0:00

example_15-14

Example 15–15.

0:00 / 0:00

example_15-15

In Example 15–14 and Example 15–15, the C in the bass is held for two beats. An accented neighbor note (lower in Example 15–14 and upper in Example 15–15) appears on the second beat before resolving on the second eighth note of the same beat.

Chromatic neighbor tones can occur as lower neighbors, as in Example 15–16…

Example 15–16.

0:00 / 0:00

example_15-16

…or as upper neighbors, as shown in Example 15–17:

Example 15–17.

0:00 / 0:00

example_15-17

▼ Activity 15-4

Activity 15–4

Exercise 15–4:

Question

Identify three locations where diatonic neighbor tones may be inserted into the following passage:

0:00 / 0:00

activity_15-4

▼ Answer

Possible answers: D between the Cs in upper voice, m. 1; Bb between the Cs in upper voice, m. 1; E between the Ds in upper voice, m. 5; C between the Ds in upper voice, m. 5; G between the Fs in lower voice, m. 4; E between the Fs in lower voice, m. 4; A between the Gs in lower voice, m. 6; or F between the Gs in lower voice, m. 6

A chord tone may be decorated with two neighbor tones:

Example 15–18.

0:00 / 0:00

example_15-18

In Example 15–18, the E in the upper voice is first decorated with a lower neighbor (D) and then with an upper neighbor (F). A chord tone may also be embellished with two neighbor tones without returning to the main pitch in between. This figuration, known as a *double neighbor* (or *neighbor group*), can be seen in Example 15–19:

Example 15–19.

0:00 / 0:00

example_15-19

▼ Activity 15-5

Activity 15–5

In this activity, you will be asked to identify different kinds of neighbor tones and to describe what type each one is.

Exercise 15–5a:

Question

0:00 / 0:00

activity_15-5a

Which note is the neighbor tone?

▼ Answer

The Bb is a chromatic upper neighbor tone.

Exercise 15–5b:

Question

0:00 / 0:00

activity_15-5b

Which note is the neighbor tone?

▼ Answer

The C# is a chromatic lower neighbor tone.

Exercise 15–5c:

Question

0:00 / 0:00

activity_15-5c

Which notes are the neighbor tones?

▼ Answer

The D# and F# are double neighbor tones.

Exercise 15–5d:

Question

0:00 / 0:00

activity_15-5d

Which note is the neighbor tone?

▼ Answer

The D is a diatonic lower neighbor tone.

Incomplete neighbor tones

The following example contains two neighbor tones:

Example 15–20 *Barbara Strozzi, Sacri Musicali Affetti (Op. 5), "Oleum effusum," mm. 18-22.*

a. original.

0:00 / 0:00

example_15-20a

b. reduction.

0:00 / 0:00

example_15-20b

The F# s in m. 2 are decorated with a neighboring E§ in the manner described above. The Bb in m. 2, on the other hand, decorates the A as an upper neighbor, but does not resolve back to A as expected. Instead, it leaps down a third to G. The Bb functions as a neighbor tone, but the figure is incomplete.

Unlike passing tones, neighbor tones need not always be approached *and* left by step. When a neighbor tone is approached by leap and left by step—or vice versa—it is known as an *incomplete* neighbor tone. In the following example, the note E in the upper voice is decorated by the neighbor tone F, which is approached by leap and resolved by step.

Example 15–21.

0:00 / 0:00

example_15-21

Instead of approaching the nonharmonic neighbor tone by step (as would be the case with a complete neighbor tone), the upper voice leaps up from C up to the neighbor F, forming a dissonant ninth with the lower voice. The nonharmonic tone then resolves by step down to E. Example 15–22 shows another example of an incomplete upper neighbor, this time embellishing the first of two structural notes:

Example 15–22.

0:00 / 0:00

example_15-22

Here, the upper voice steps up to the upper neighbor E. Then, instead of resolving back down to D before continuing to C, the voice leaps away from the dissonant nonharmonic tone, down to C, a chord tone, on the second beat. This particular type of embellishment, an upper incomplete neighbor note, is called an *échappée*, or *escape tone*. The incomplete neighbor we saw in Example 15–20 is an example of an escape tone.

Lower neighbors may appear in incomplete form as well. In Example 15–23, the chord tone C in the upper voice is approached with a dissonant incomplete lower neighbor (B):

Example 15–23.

0:00 / 0:00

example_15-23

Incomplete neighbor tones have a different effect than complete neighbor tones because they involve a leap. The leap, especially when the incomplete neighbor forms a dissonance, draws attention to the nonharmonic tone by changing the contour of the melodic line.

The examples of incomplete neighbor tones shown so far are unaccented. However, they also appear in accented form. Example 15–24 uses the same pitches as Example 15–21, though here the neighbor tone is rhythmically displaced to produce an accented incomplete upper neighbor tone on beat two:

Example 15–24.

0:00 / 0:00

example_15-24

The term *appoggiatura* is generally used instead of the cumbersome "accented incomplete upper (or lower) neighbor tone." As in the example above, appoggiaturas leap into a dissonant accented neighbor tone and then resolve by step in the opposite direction.

▼ Activity 15-6

Activity 15–6

In this activity, you will be asked to identify various types of passing and neighbor tones in several excerpts of chorales by Johann Sebastian Bach.

Exercise 15–6a:

Question

Identify an unaccented passing tone in this excerpt:

Johann Sebastian Bach, "Singt dem Herrn ein neues Lied" (BWV 411), mm. 1–2.

0:00 / 0:00

activity_15-6a

▼ Answer

0:00 / 0:00

activity_15-6a_answer

Exercise 15–6b:

Question

Identify an unaccented upper neighbor tone in this excerpt:

Johann Sebastian Bach, "Singt dem Herrn ein neues Lied" (BWV 411), mm. 1–2.

0:00 / 0:00

activity_15-6b

▼ Answer

0:00 / 0:00

activity_15-6b_answer

Exercise 15–6c:

Question

Identify an unaccented lower neighbor tone in this excerpt:

Johann Sebastian Bach, "Singt dem Herrn ein neues Lied" (BWV 411), mm. 1–2.

0:00 / 0:00

activity_15-6c

▼ Answer

0:00 / 0:00

activity_15-6c_answer

Exercise 15–6d:

Question

Identify an appoggiatura (accented incomplete neighbor tone) in this excerpt:

Johann Sebastian Bach, Schau, lieber Gott, wie meine Feind (BWV 153), 1. "Schau, lieber Gott, wie meine Feind," mm. 2–4.

0:00 / 0:00

activity_15-6d

▼ Answer

Johann Sebastian Bach, Schau, lieber Gott, wie meine Feind (BWV 153), 1. "Schau, lieber Gott, wie meine Feind," mm. 2–4.

0:00 / 0:00

activity_15-6d_answer

Exercise 15–6e:

Question

Identify an accented passing tone in this excerpt:

Johann Sebastian Bach, Mein liebster Jesus ist verloren (BWV 154), 8. "Meinen Jesum laß ich nicht, weil er sich für mich gegeben," mm 1–2.

0:00 / 0:00

activity_15-6e

▼ Answer

0:00 / 0:00

activity_15-6e_answer

15.3 Rhythmically derived nonharmonic tones

Passing and neighbor tones are nonharmonic tones that fill out or embellish a melody. That is not the case with all nonharmonic tones. Others result from rhythmic activity and do not add pitches to an underlying basic interval progression. The two main types of rhythmically derived nonharmonic tones are *suspensions* and *anticipations*. Like passing and neighbor tones, these can be understood as alterations of a basic interval progression framework, this time affecting the rhythm instead of the melody.

Suspensions

The following example features several nonharmonic tones in the highest voice on the downbeats of mm. 1, 3, and 7:

Example 15–25 *Franz Schubert, Moments musicaux (D.780), 6. Allegretto in Ab major, mm. 1-8.*

a. original.

0:00 / 0:00

example_15-25a

b. reduction.

0:00 / 0:00

example_15-25b

In m. 1, the C from the pickup chord is carried over the barline as the bass leaps up to Db. The resulting dissonance—a seventh—is resolved to a sixth when the upper voice steps down to Bb in the next measure. The same thing happens two bars later, though here the resulting dissonance is a fourth which resolves in a similar fashion to a third in m. 4. The seventh on the downbeat of m. 7 follows suit, though in this case the dissonance is resolved with a step *up* in the upper voice.

A *suspension* is a nonharmonic tone that results when a note is held over (suspended) from the preceding harmony, thereby rhythmically delaying its melodic continuation and intruding as a nonharmonic tone on the subsequent harmony. Consider the following familiar interval progression:

Example 15–26.

0:00 / 0:00

example_15-26

What would happen if the upper voice began one beat later than the lower voice? The G in the upper voice would be held over into the second measure while the lower voice continued its melodic ascent to D:

Example 15–27.

0:00 / 0:00

example_15-27

In Example 15–27, the consonant G of the upper voice prepares the dissonant suspension, a nonharmonic tone, on the following beat. On the downbeat of the second measure, the upper voice holds (suspends) the G as the lower voice changes, creating a dissonant fourth. This is the actual moment of suspension. Finally, the dissonant G resolves down to the chord tone F on the second quarter note of the bar. The F is the resolution of the suspension. This particular suspension is referred to as a 4–3 suspension. The suspension may be tied to the preparation, as in this case, or it may re-articulate the pitch, as we saw in Example 15–25.

It is helpful to think of the suspension as occurring in three consecutive stages, the preparation, the suspension, and the resolution:

Example 15–28.

0:00 / 0:00

example_15-28

Note the positions of each part of a suspension: the preparation occurs in a metrically weak position and the suspension occurs in a metrically strong position. Unlike passing and neighbor tones, suspensions are always accented. In Example 15–27 and Example 15–28, the preparation occurs on the weak beat of the measure while the suspension falls on a downbeat.

One common deviation from this pattern finds an extended note forming the preparation:

Example 15–29.

a. 5–3

0:00 / 0:00

example_15-29a

b. 5–3 with intervening suspension

0:00 / 0:00

example_15-29b

In Example 15–29, the G in the upper voice is extended into the second measure before stepping down to F, thus creating a dissonant 4–3 suspension.

There are two important rules to remember regarding the resolution of suspensions:

1. Suspensions must always resolve by step (half-step or whole-step) and
2. suspensions usually resolve downward (suspended notes that resolve upward are called retardations and will be discussed momentarily).

Note: Rule 1 above states that suspensions must always resolve by step. Occasionally a dissonant suspension will leap to a chord tone and from there leap to the expected resolution, as in the following example:

Example 15–30.

0:00 / 0:00

example_15-30

Example 15–31.

0:00 / 0:00

example_15-31

In Example 15–30, the upper voice first leaps down to D before leaping back up to the expected resolution F. Example 15–31 shows a similarly decorated suspension, this time leaping to a dissonant E (an incomplete lower neighbor) before resolving to the F.

Similarly, the suspension could be decorated with an escape tone:

Example 15–32.

0:00 / 0:00

example_15-32

Although there is another pitch in between the suspension and the resolution, the underlying voice-leading remains intact in each of these examples: the suspension resolves by step from G to F.

Suspensions are usually labeled by indicating the two intervals formed between the suspended voice and the bass. Four of the most common types of upper-voice suspensions are shown in Example 15–33:

Example 15–33.

0:00 / 0:00

example_15-33

In each case, the suspended note becomes a nonharmonic tone. With the exception of the 6–5 suspension, all of these nonharmonic tones form a dissonance with the bass.

Suspensions may occur in the lower voice as well. Example 15–34 shows several common bass suspensions:

Example 15–34.

0:00 / 0:00

example_15-34

Again, with the exception of the 5–6 suspension, all of the nonharmonic tones form a dissonance.

Note: You may have noticed that nonharmonic tone in the 9–8 suspension from Example 15–33 forms the same interval as the nonharmonic tone in the 2–3 suspension from Example 15–34: a compound second. To distinguish between the two, 9–8 is commonly used to indicate a compound second suspension in the upper voice and 2–3 is used for a suspension in the lower voice.

▼ Activity 15-7

Activity 15–7

Exercise 15–7a:

Question

In the following example, which voice contains a suspension: soprano or bass?

0:00 / 0:00

activity_15-7a

▼ Answer

The soprano has a 6-5 suspension.

Exercise 15–7b:

Question

In the following example, which voice contains a suspension: soprano or bass?

0:00 / 0:00

activity_15-7b

▼ Answer

The bass has a 4–5 suspension.

Exercise 15–7c:

Question

In the following example, which voice contains a suspension: soprano or bass?

0:00 / 0:00

activity_15-7c

▼ Answer

The soprano has a 7–6 suspension.

Exercise 15–7d:

Question

In the following example, which voice contains a suspension: soprano or bass?

0:00 / 0:00

activity_15-7d

▼ Answer

The bass has a 7–8 suspension.

Exercise 15–7e:

Question

In the following example, which voice contains a suspension: soprano or bass?

0:00 / 0:00

activity_15-7e

▼ Answer

The soprano has a 9–8 suspension.

Exercise 15–7f:

Question

In the following example, which voice contains a suspension: soprano or bass?

0:00 / 0:00

activity_15-7f

▼ Answer

The bass has a 2–3 suspension.

As mentioned above, suspensions tend to resolve downward by step. A suspended note that resolves upward to a consonance is called a *retardation*. In the following example, the B of the upper voice is suspended into the second measure:

Example 15–35.

0:00 / 0:00

example_15-35

The suspended B resolves upward by half-step to the tonic pitch. A suspended leading tone typically resolves to the tonic. The dissonant seventh we saw on the downbeat of m. 7 in Example 15–25 is an example of a retardation. Another may be found in m. 10 of the Fanny Hensel song discussed above (Example 15–11):

Example 15–36 *Fanny Hensel, "Die Nonne" (No. 12 in Felix Mendelssohn's 12 Lieder, Op. 9), mm. 1-11*.

a. original.

0:00 / 0:00

example_15-36a

b. reduction.

0:00 / 0:00

example_15-36b

Here, the C in the melody is brought over from the previous bar. It forms a dissonant fourth with the bass and resolves up by step immediately after.

▼ Activity 15-8

Activity 15–8

For each exercise In this activity, you will be given a bass line and asked to write a suspension in the upper voice. Remember, the preparation occurs on a weak beat and the suspension itself occurs on the following strong beat, resolving on the next weak beat. Here is an example:

0:00 / 0:00

activity_15-8_sample

becomes…

0:00 / 0:00

activity_15-8_sample_answer

Exercise 15–8a:

Question

Complete the following suspension by adding the upper voice:

0:00 / 0:00

activity_15-8a

▼ Answer

0:00 / 0:00

activity_15-8a_answer

(Answers may vary by octave.)

Exercise 15–8b:

Question

Complete the following suspension by adding the upper voice:

0:00 / 0:00

activity_15-8b

▼ Answer

0:00 / 0:00

activity_15-8b_answer

(Answers may vary by octave.)

Exercise 15–8c:

Question

Complete the following suspension by adding the upper voice:

0:00 / 0:00

activity_15-8c

▼ Answer

0:00 / 0:00

activity_15-8c_answer

(Answers may vary by octave.)

Exercise 15–8d:

Question

Complete the following suspension by adding the upper voice:

0:00 / 0:00

activity_15-8d

▼ Answer

0:00 / 0:00

activity_15-8d_answer

(Answers may vary by octave.)

Anticipations

A number of different nonharmonic tones may be found when comparing the soprano and bass lines in the following example:

Example 15–37 *Fanny Hensel, Gartenlieder (Op. 3), 1. "Hörst du nicht die Bäume rauschen," mm. 1-4.*

a. original.

0:00 / 0:00

example_15-37a

b. reduction.

0:00 / 0:00

example_15-37b

There is a passing tone in the pickup measure forming a dissonant fourth above the bass which resolves via contrary motion to a sixth on the following downbeat. There are also several 4–3 suspensions, one of which occurs when the resolution to the neighboring C# in m. 1 is delayed while the bass continues stepping down. Although these nonharmonic tones are here used in combination, they all follow the conventions described above. The nonharmonic F# at the end of m. 2, on the other hand, does something new. Like a suspension, we find a note being held over as the harmony changes, but unlike a suspension this occurs at the moment of resolution, not the moment of preparation. This kind of figuration is commonly referred to as an *anticipation*. It has been labeled "Ant." in the analysis above.

Anticipations are, in a sense, the reverse of suspensions. As we saw, a suspension delays a voice movement until after the harmony changes, creating a dissonance at the change. Conversely, an anticipation rushes the voice movement ahead, creating a dissonance *before* the harmony changes. Furthermore, while suspensions are rhythmically accented, anticipations are unaccented. Consider again the basic interval progression 5–3:

Example 15–38.

0:00 / 0:00

example_15-38

If the F in the upper voice were to arrive before the bass D on beat two, the following would result:

Example 15–39.

0:00 / 0:00



$\hat{1}$ (2.5.1)

Example 15–40.

0:00 / 0:00



The octave leap in the bass is a typical accompaniment to this type anticipation.

▼ Activity 15-9

Activity 15–9

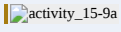
Exercise 15–9a:

Question

In the following excerpt, what type of nonharmonic tone is the red note?

Johann Sebastian Bach, English Suite no.2, in A minor (BWV 807), Sarabande, mm. 1–12.

0:00 / 0:00



▼ Answer

unaccented diatonic lower neighbor tone

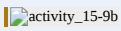
Exercise 15–9b:

Question

In the following excerpt, what type of nonharmonic tone is the red note?

Johann Sebastian Bach, English Suite no.2, in A minor (BWV 807), Sarabande, mm. 1–12.

0:00 / 0:00



▼ Answer

appoggiatura (accented incomplete lower neighbor tone)

Exercise 15–9c:

Question

In the following excerpt, what type of nonharmonic tone is the red note?

Johann Sebastian Bach, English Suite no.2, in A minor (BWV 807), Sarabande, mm. 1–12.

0:00 / 0:00

activity_15-9c

▼ Answer

unaccented diatonic passing tone

Exercise 15–9d:

Question

In the following excerpt, what type of nonharmonic tone is the red note?

Johann Sebastian Bach, English Suite no.2, in A minor (BWV 807), Sarabande, mm. 1–12.

0:00 / 0:00

activity_15-9d

▼ Answer

decorated 4–3 suspension

Exercise 15–9e:

Question

In the following excerpt, what type of nonharmonic tone is the red note?

Johann Sebastian Bach, English Suite no.2, in A minor (BWV 807), Sarabande, mm. 1–12.

0:00 / 0:00

activity_15-9e

▼ Answer

anticipation

15.4 Summary

There are four main categories of nonharmonic tones: *passing tones*, *neighbor tones*, *suspensions*, and *anticipations*. Passing and neighbor tones are melodically derived embellishments. They result from melodically filling in gaps between chord tones and from embellishing chord tones in order to create interesting melodic lines. They may be *diatonic* or *chromatic*, *accented* or *unaccented*. Suspensions and anticipations, on the other hand, are rhythmically derived embellishments. They result from rhythmic modifications (delays, accelerations) of melodic lines. Suspensions are accented, anticipations unaccented.

Nonharmonic tones are important features of tonal music. Composers use them to enrich and enliven their compositions. A firm understanding of the functions and peculiarities of nonharmonic tones is necessary for doing accurate harmonic analysis. Be aware, though, that they can sometimes make it difficult to identify structural harmonies.

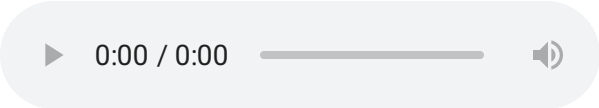
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2.6: Minor Scale Variants

16.1 Introduction

$$\hat{1} \tag{2.6.1}$$

Example 16–1.



example_16-1

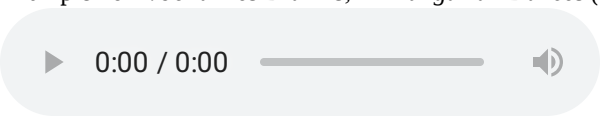
We refer to the scale shown above as the *natural* or *diatonic* minor since it consists of only those pitches specified by the key signature. In practice, however, composers tend to make small melodic and harmonic adjustments to make the minor scale sound and function more like its major counterpart. There are, in other words, several commonly used variants of the minor scale.

In this chapter, we will describe two adjusted forms of this scale. In each case, we will discuss the various musical contexts in which it appears as well as the factors motivating a composer to use it. As we will see, these variants incorporate tonality-defining characteristics of the major scale.

16.2 The seventh scale degree in minor

In Chapter 7 we discussed how the diatonic minor scale differs from the major scale. The differences become apparent when the natural minor scale is used in melodies and harmonic progressions. Consider, for example, the following example:

Example 16–2. *Johannes Brahms, 21 Hungarian Dances (WoO 1), No. 5 in F# minor, mm. 1-8*.

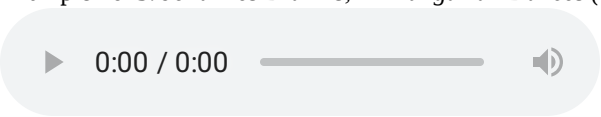


example_16-2

$$\hat{7} \tag{2.6.2}$$

Now listen to the passage again, but with diatonic E§s replacing all of the E#s:

Example 16–3. *Johannes Brahms, 21 Hungarian Dances (WoO 1), No. 5 in F# minor, mm. 1-8* (altered).



example_16-3

Compared to Example 16–2, Example 16–3 lacks the strong pull of E# to F#. The melody seems off. The listener's sense of closure in m. 4 is not nearly as strong. The reason for the lack in pull toward the tonic—both in Example 16–3 and in the diatonic minor scale in general—is the absence of a leading tone.

Look again at Example 16–1 and note that the seventh scale degree is a whole step away from the tonic. The half-step relationship between the leading tone and the tonic in the diatonic major scale has a clearly perceptible directional force, while the analogous scale degree in the diatonic minor lacks that force. Because of its tendency to resolve to the tonic, the leading tone is one of the most important pitches of the major scale. Since the diatonic minor scale lacks a leading tone, the tension and pull toward the tonic are absent.

Note: In the sections below we will use the term "composite" to define and describe a pair of adjustments often made to the minor scale. This term is not commonly used outside of this book. Nonetheless, we feel it conveys an accurate sense of both the historical origins of these idioms as well as the listener's experience.

16.3 The harmonic minor composite

Consider the following chord progression which uses only the diatonic pitches of C minor:

Example 16–4.

0:00 / 0:00

example_16-4

$$\hat{7} \tag{2.6.3}$$

Example 16–5. The harmonic minor composite.

0:00 / 0:00

example_16-5

The following example reproduces Example 16–4, this time with the leading-tone adjustment:

Example 16–6.

0:00 / 0:00

example_16-6

As you can hear, the presence of the leading tone in Example 16–6 creates a stronger, more satisfying sense of resolution at the arrival of the tonic.

The following example shows the triads built with the leading-tone adjusted harmonic minor scale:

Example 16–7.

0:00 / 0:00

example_16-7

$$\hat{5} \tag{2.6.4}$$

$$\hat{5} \tag{2.6.5}$$

▼ Activity 16-1

Activity 16–1

The harmonic minor composite incorporates a leading tone to give a stronger sense of tonality. In this activity, you will be presented with a series of chords in minor keys. Some of these chords require a raised leading tone while others do not. Adjust the notes to incorporate a raised leading tone where appropriate.

Exercise 16–1a:

Question

0:00 / 0:00

activity_16-1a

Does this chord require any adjusted notes? If so, adjust the notes where necessary to reflect the harmonic minor composite.

▼ Hint

$$\hat{5} \tag{2.6.6}$$

▼ Answer

G should be G#.

Exercise 16–1b:

Question

0:00 / 0:00

activity_16-1b

Does this chord require any adjusted notes? If so, adjust the notes where necessary to reflect the harmonic minor composite.

▼ Hint

$$\hat{5} \tag{2.6.7}$$

▼ Answer

No change needed.

Exercise 16–1c:

Question

0:00 / 0:00

activity_16-1c

Does this chord require any adjusted notes? If so, adjust the notes where necessary to reflect the harmonic minor composite.

▼ Hint

$$\hat{5} \tag{2.6.8}$$

▼ Answer

C should be C#.

Exercise 16–1d:

Question

0:00 / 0:00

activity_16-1d

Does this chord require any adjusted notes? If so, adjust the notes where necessary to reflect the harmonic minor composite.

▼ Hint

$$\hat{5} \tag{2.6.9}$$

▼ Answer

A should be A#.

Exercise 16–1e:

Question

0:00 / 0:00

activity_16-1e

Does this chord require any adjusted notes? If so, adjust the notes where necessary to reflect the harmonic minor composite.

▼ Hint

$$\hat{5} \tag{2.6.10}$$

▼ Answer

No change needed.

Exercise 16–1f:

Question

0:00 / 0:00

activity_16-1f

Does this chord require any adjusted notes? If so, adjust the notes where necessary to reflect the harmonic minor composite.

▼ Hint

$$\hat{5} \tag{2.6.11}$$

▼ Answer

F should be F#.

16.4 The melodic minor composite

$$\hat{8} \tag{2.6.12}$$

$$\hat{7} \tag{2.6.13}$$

Example 16–8.

0:00 / 0:00

example_16-8

$$\hat{6} \tag{2.6.14}$$

$$\hat{6} \tag{2.6.15}$$

Example 16–9.

0:00 / 0:00

example_16-9

$$\hat{6} \tag{2.6.16}$$

Example 16–10. *Johann Sebastian Bach, Suite in E minor (BWV 996), Bourrée, mm. 1–4.*

0:00 / 0:00

example_16-10

$$\hat{1} \tag{2.6.17}$$

Compare the sound of Example 16–10 with that of Example 16–11, which uses only diatonic pitches:

Example 16–11. *Johann Sebastian Bach, Suite in E minor (BWV 996), Bourrée, mm. 1–4* (altered).

0:00 / 0:00

example_16-11

Here, the music in mm. 1-2 feels heavy and meandering. It seems to lack direction when compared to the unaltered version above where the melody incorporates the melodic minor.

▼ Activity 16-2

Activity 16–2

$$\hat{6} \tag{2.6.18}$$

Exercise 16–2a:

Question

0:00 / 0:00

activity_16-2a

$$\hat{6} \tag{2.6.19}$$

▼ Answer

0:00 / 0:00

activity_16-2a_answer

Exercise 16–2b:

Question

0:00 / 0:00

activity_16-2b

$$\hat{6} \tag{2.6.20}$$

▼ Answer

0:00 / 0:00

activity_16-2b_answer

Exercise 16–2c:

Question

0:00 / 0:00

activity_16-2c

$$\hat{6} \tag{2.6.21}$$

▼ Answer

0:00 / 0:00

activity_16-2c_answer

Exercise 16–2d:

Question

0:00 / 0:00

activity_16-2d

$$\hat{6} \tag{2.6.22}$$

▼ Answer

0:00 / 0:00

activity_16-2d_answer

16.5 Summary

$$\hat{7} \tag{2.6.23}$$

$$\hat{6} \tag{2.6.24}$$

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2.7: The vii° Chord

17.1 Introduction

As discussed in Chapter 13, it is possible to build a triad of any quality on any given note. We saw that it is likewise possible to build triads on each scale degree of a major key using only diatonic notes—that is, using only the pitch classes belonging to that particular key. Since there are seven scale degrees, there are seven distinct triads. Together, these sonorities make up the harmonic palette of the key to which they belong.

But of these seven diatonic triads, one sounds unique. The triad built on the leading tone has a quality that puts it in stark contrast to those built on the other six scale degrees.

▼ Activity 17-1

Activity 17–1

Exercise 17–1:

Question

What makes the vii^{o} chord unique?

A. It is built entirely of scale steps from the corresponding scale.
B. It is dissonant.
C. It is a minor triad.

▼ Answer

Answer B is correct. It is dissonant: the vii^{o} chord constitutes the only dissonant member of the set of diatonic triads. All of the other triads are consonant; they are either major or minor. (**Answer A:** While the vii^{o} chord *is* made entirely of diatonic pitches, it is not alone. All of the diatonic triads are built using only scale steps. **Answer C:** Although the symbol for the vii^{o} chord is written with lowercase letters, it also has a small circle indicating that it is not minor, but rather diminished.)

$$\hat{1} \tag{2.7.1}$$

Example 17–1.

0:00 / 0:00

example_17-1

$$\hat{7} \tag{2.7.2}$$

Example 17–2.

0:00 / 0:00

example_17-2

In our discussions of basic interval progressions (Chapter 12 and Chapter 14), we adhered to the practice of using only consonant intervals. When dissonances appeared, they were shown to be a byproduct of consonant progressions between other pairs of voices happening at the same time. We called them resultant intervals. The diminished fifth of the vii^{o} chord, however, is inherently dissonant. We must therefore make an exception to the constraints described earlier when we use this chord in three- and four-part textures.

$$\hat{2} \tag{2.7.3}$$

Example 17–3.

0:00 / 0:00



Putting the triad in first inversion creates consonant intervals between the bass and all of the upper voices. In this case, the bass forms a sixth with the tenor (hence the bass figure 6), a third with the alto, and an octave with the soprano. The diminished fifth is hidden in the inner voices between the tenor and alto: it is a resultant interval formed by the avoidance of dissonance with the bass.

▼ Activity 17-2

Activity 17–2

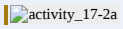
This exercise will reinforce your understanding of the various intervals found in a vii^{o}6 in SATB setting.

Exercise 17–2a:

Question

Identify the two pitches forming the tritone (augmented fourth/diminished fifth) in the following vii^{o}6 chord:

0:00 / 0:00



▼ Answer

C# and G

Follow-up question

What intervals do these pitches form with the bass?

▼ Answer

C# forms a M6 (major sixth) with the bass and G forms a m3 (minor third) with the bass.

Follow-up question

Is the tritone in this chord a d5 (diminished fifth) or A4 (augmented fourth)?

▼ Answer

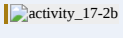
d5 (diminished fifth)

Exercise 17–2b:

Question

Identify the two pitches forming the tritone (augmented fourth/diminished fifth) in the following vii^{o}6 chord:

0:00 / 0:00



▼ Answer

A and D#

Follow-up question

What intervals do these pitches form with the bass?

▼ Answer

A forms a m3 (minor third) with the bass and D# forms a M6 (major sixth) with the bass.

Follow-up question

Is the tritone in this chord a d5 (diminished fifth) or A4 (augmented fourth)?

▼ Answer

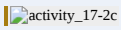
A4 (augmented fourth)

Exercise 17–2c:

Question

Identify the two pitches forming the tritone (augmented fourth/diminished fifth) in the following vii^{o}6 chord:

0:00 / 0:00



▼ Answer

G and Db

Follow-up question

What intervals do these pitches form with the bass?

▼ Answer

G forms a M6 (major sixth) with the bass and Db forms a m3 (minor third) with the bass.

Follow-up question

Is the tritone in this chord a d5 (diminished fifth) or A4 (augmented fourth)?

▼ Answer

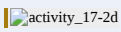
d5 (diminished fifth)

Exercise 17–2d:

Question

Identify the two pitches forming the tritone (augmented fourth/diminished fifth) in the following vii^{o}6 chord:

0:00 / 0:00



▼ Answer

C# and G

Follow-up question

What intervals do these pitches form with the bass?

▼ Answer

C# forms a M6 (major sixth) with the bass and G forms a m3 (minor third) with the bass.

Follow-up question

Is the tritone in this chord a d5 (diminished fifth) or A4 (augmented fourth)?

▼ Answer

d5 (diminished fifth)

17.2 Treatment of the vii^{o} chord

Dissonances are unstable and therefore require motion towards stability (resolution). In order to allow tritones to be used under these circumstances—as they routinely are in music—we must expand our catalog of interval progressions. There are four distinct interval progressions associated with the tritone: two with contrary motion and two with similar motion. The choice of interval progression depends on the movement of the bass, as we shall see. If the tritone appears as an augmented fourth, its voices may move by step in contrary motion, expanding to either a minor sixth in major keys or a major sixth in minor keys:

Example 17–4.

0:00 / 0:00



Contrary motion, such as in the above example, is the preferred type of intervallic movement involving a tritone. Alternatively, the voices may move in similar motion to a perfect fourth (the same is true for major or minor keys):

Example 17–5.

0:00 / 0:00



If the tritone appears as a diminished fifth, the voices usually contract to a third (a major third in major keys or a minor third in minor keys):

Example 17–6.

0:00 / 0:00



Although less common, they may also move in similar motion to a perfect fifth:

Example 17–7.

0:00 / 0:00



At first glance, Example 17–7 appears to be a case of parallel fifths. Recall, however, that parallel perfect fifths are avoided in this style of music because they undermine the independence of the voices. Voices a perfect fifth apart blend together so well that they almost sound as though they are singing the same pitch. In the progression from a diminished fifth to a perfect fifth, the voices sing two very different intervals. Each voice is clearly heard as the dissonance of the tritone resolves to the stable consonance.

Note: The resolution of a tritone by similar motion is less common than the resolution by contrary motion. Because it resembles parallel fifths, some teachers and texts advise students to avoid it altogether.

Although this resolution of the tritone is less common than those shown in Example 17–4 through Example 17–6, it does appear in the tonal repertoire. Example 17–8 and Example 17–9 show two excerpts from Bach chorales where diminished fifths resolve to perfect fifths (in both cases, the tritone occurs between the alto and soprano):

Example 17–8. *Johann Sebastian Bach, "Vater unser im Himmelreich" (BWV 416), m. 1–2.*

0:00 / 0:00



Example 17–9. *Johann Sebastian Bach, "Herr Jesu Christ, mein's Lebens Licht" (BWV 335), mm. 5–6.*

0:00 / 0:00



Similar-motion resolutions of the tritone (A4 to P4 and d5 to P5) may seem counterintuitive. Their validity is explained by the interval progressions formed with the bass. In both cases, one of the voices moves in parallel thirds with the bass while the other creates parallel sixths with the bass.

Look again at Example 17–8. The alto and soprano voices form a tritone on beat three which resolves to a perfect fifth on beat four. Now consider the intervals formed with the bass; the alto moves in parallel sixths with the bass while the soprano moves in parallel thirds with the bass. The same is true for Example 17–9. The interval progressions formed with the bass validate the similar motion in the upper voices. With permissible interval progressions occurring between the bass and each of the upper voices, the tritone in each case may be thought of as a resultant interval, and the similar-motion progression as a byproduct.

It is also worth mentioning that the same interval progression in reverse—movement from a P5 to a d5—is perfectly acceptable and happens regularly in common practice.

▼ Activity 17-3

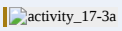
Activity 17–3

$$\hat{4} \tag{2.7.4}$$

Exercise 17–3a:

Question

0:00 / 0:00



▼ Hint

Remember, both voices must move by step when resolving a tritone. You cannot have disjunct motion in the lower voice.

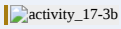
▼ Answer

Stepping up to E would be a valid answer. If the lower voice ascends to E, the tritone resolves from an A4 (augmented fourth) to a P4 (perfect fourth). Stepping down to C# would be another valid answer. If the lower voice descends to C, the tritone resolves from an A4 (augmented fourth) to a m6 (minor sixth). (**Note:** Sustaining D would not a valid answer as oblique motion is not permitted when resolving a tritone.)

Exercise 17–3b:

Question

0:00 / 0:00



▼ Hint

Remember, both voices must move by step when resolving a tritone. You cannot have disjunct motion in the lower voice.

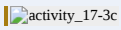
▼ Answer

Stepping up to A is the only valid answer. If the lower voice ascends to A, the tritone resolves from a d5 (diminished fifth) to a m3 (minor third). (**Note:** Sustaining G# would not be a valid answer as oblique motion is not permitted when resolving a tritone. Stepping down to F would not be a valid answer either as the tritone may only resolve from a d5 (diminished fifth) to a P5 (perfect fifth) if both voices are ascending by step. In this example, the lower voice may not descend because it is the leading tone and must resolve upwards to the tonic.)

Exercise 17–3c:

Question

0:00 / 0:00



▼ Hint

Remember, both voices must move by step when resolving a tritone. You cannot have disjunct motion in the upper voice.

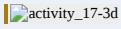
▼ Answer

Stepping up to F would be a valid answer. If the upper voice ascends to F, the tritone resolves from an d5 (diminished fifth) to a P5 (perfect fifth). Stepping down to D would also be a valid answer. If the upper voice descends to D, the tritone resolves from an d5 (diminished fifth) to a M3 (major third). (**Note:** Sustaining Eb would not be a valid answer as oblique motion is not permitted when resolving a tritone.)

Exercise 17–3d:

Question

0:00 / 0:00



▼ Hint

Remember, both voices must move by step when resolving a tritone. You cannot have disjunct motion in the upper voice.

▼ Answer

Stepping up to F is the only valid answer. If the upper voice ascends to F, the tritone resolves from an A4 (augmented fourth) to a M6 (major sixth). (**Note:** Stepping down to Db would not be a valid answer. The tritone may only resolve from a A4 (augmented fourth) to a P4 (perfect fourth) if both voices are ascending by step. In this example, the upper voice may not descend because it is the leading tone and must resolve upwards to the tonic. Sustaining E would also not be a valid answer as oblique motion is not permitted when resolving a tritone.)

▼ Activity 17-4

Activity 17–4

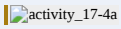
[Activity 17–4:

$$\hat{4} \tag{2.7.5}$$

Exercise 17–4a:

Question

0:00 / 0:00



▼ Hint

Remember, both voices must move by step when resolving a tritone. You cannot have disjunct motion in either voice.

▼ Answer

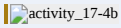
Upper voice: Stepping up to E is the only valid answer. In this exercise, the upper voice has the leading tone and must resolve to the tonic. (**Note:** Sustaining D# would not be a valid answer as oblique motion is not permitted when resolving a tritone.)

Lower voice: Stepping up to B would be a valid answer. If the lower voice ascends to B, the tritone resolves from an A4 (augmented fourth) to a P4 (perfect fourth). Stepping down to G would also be a valid answer. If the lower voice descends to G, the tritone resolves from an A4 (augmented fourth) to a M6 (major sixth). (**Note:** Sustaining A would not be a valid answer as oblique motion is not permitted when resolving a tritone.)

Exercise 17–4b:

Question

0:00 / 0:00



▼ Hint

Remember, both voices must move by step when resolving a tritone. You cannot have disjunct motion in either voice.

▼ Answer

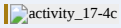
Upper voice: Stepping up to C is the only valid answer. In this exercise, the upper voice has the leading tone and must resolve to the tonic. (**Note:** Sustaining B would not be a valid answer as oblique motion is not permitted when resolving a tritone.)

Lower voice: Stepping up to G would be a valid answer. If the lower voice ascends to G, the tritone resolves from an A4 (augmented fourth) to a P4 (perfect fourth). Stepping down to E would also be a valid answer. If the lower voice descends to E, the tritone resolves from an A4 (augmented fourth) to a M6 (major sixth). (**Note:** Sustaining F would not be a valid answer as oblique motion is not permitted when resolving a tritone.)

Exercise 17–4c:

Question

0:00 / 0:00



▼ Hint

Remember, both voices must move by step when resolving a tritone. You cannot have disjunct motion in either voice.

▼ Answer

Upper voice: The upper voice may move by step to either B or G#. (**Note:** Sustaining A would not be a valid answer as oblique motion is not permitted when resolving a tritone.)

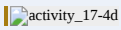
Lower voice (with upper voice moving to B): Stepping up to E is the only valid answer. If the upper voice ascends out of a d5 (diminished fifth), the lower voice must also ascend. The tritone then resolves from a d5 to a P5 (perfect fifth). Furthermore, D# is the leading tone and must resolve to the tonic. (**Note:** Stepping down to C# would not be a valid answer. If the lower voice descends to C#, the resulting interval will be a m7 (minor seventh). This is also a dissonance and cannot be used as a resolution from a tritone. Sustaining D# would also not be a valid answer as oblique motion is not permitted when resolving a tritone.)

Lower voice (with upper voice moving to G#): Stepping up to E is the only valid answer. If the lower voice ascends to E, the tritone resolves from a d5 (diminished fifth) to a M3 (major third). Furthermore, D# is the leading tone and must resolve to the tonic. (**Note:** Stepping down to C# would not be a valid answer. The tritone may only resolve from a d5 (diminished fifth) to a P5 (perfect fifth) if both voices are ascending by step. In this example, the lower voice may not descend because it is the leading tone and must resolve upwards to the tonic. Sustaining D# would also not be a valid answer as oblique motion is not permitted when resolving a tritone.)

Exercise 17–4d:

Question

0:00 / 0:00



▼ Hint

Remember, both voices must move by step when resolving a tritone. You cannot have disjunct motion in either voice.

▼ Answer

Upper voice: The upper voice may move by step to either D or Bb. (**Note:** Sustaining C would not be a valid answer as oblique motion is not permitted when resolving a tritone.)

Lower voice (with upper voice moving to D): Stepping up to G is the only valid answer. If the upper voice ascends out of a d5 (diminished fifth), the lower voice must also ascend. The tritone then resolves from a d5 to a P5 (perfect fifth). Furthermore, F# is the leading tone and must resolve to the tonic. (**Note:** Stepping down to Eb would not be a valid answer. If the lower voice descends to Eb, the resulting interval will be a m7 (minor seventh). This is also a dissonance and cannot be used as a resolution from a tritone. Sustaining F# would also not be a valid answer as oblique motion is not permitted when resolving a tritone.)

Lower voice (with upper voice moving to Bb): Stepping up to G is the only valid answer. If the lower voice ascends to G, the tritone resolves from a d5 (diminished fifth) to a M3 (major third). Furthermore, F# is the leading tone and must resolve to the tonic. (**Note:** Stepping down to Eb would not be a valid answer. The tritone may only resolve from a d5 (diminished fifth) to a P5 (perfect fifth) if both voices are ascending by step. In this example, the lower voice may not descend because it is the leading tone and must resolve upwards to the tonic. Sustaining F# would also not be a valid answer as oblique motion is not permitted when resolving a tritone.)

We now turn to a progression involving the vii^{o} chord. In the following three-voice example, a vii^{o}6 chord resolves to I6:

Example 17–10.

0:00 / 0:00

example_17-10

In this case the tritone of the vii^{o}6 chord appears between the soprano and the middle voice. In the following example, the tritone is resolved using a d5–P5 progression:

Example 17–11.

0:00 / 0:00

example_17-11

More importantly, note that the bass forms familiar progressions with the soprano (3–3) and the middle voice (6–6). Because of these consonant interval progressions, we can think of the tritone as a resultant interval formed by pitches that are consonant with the bass. At this point, we can also add a fourth voice for a full SATB texture:

Example 17–12.

0:00 / 0:00

example_17-12

▼ Activity 17-5

Activity 17–5

[Activity 17–5:

In each of the following exercises, you will be presented with a short progression consisting of a vii^{o} chord resolving to a I chord. In each case, you will be asked whether or not the voice leading is correct in every voice.

Exercise 17–5a:

Question

0:00 / 0:00

activity_17-5a

Is the voice leading correct in this resolution of a vii^{o} chord? If not, which voice needs to be adjusted and to which pitch should it resolve?

▼ Hint

Look at the alto voice.

▼ Answer

No. The D# in the alto should step up to E. D# is the leading tone and must resolve to the tonic.

Exercise 17–5b:

Question

0:00 / 0:00

activity_17-5b

Is the voice leading correct in this resolution of a vii^{o} chord? If not, which voice needs to be adjusted and to which pitch should it resolve?

▼ Answer

Yes, all of the voices resolve properly. There is no need to adjust any of the voices.

Exercise 17–5c:

Question

0:00 / 0:00

activity_17-5c

Is the voice leading correct in this resolution of a vii^{o} chord? If not, which voice needs to be adjusted and to which pitch should it resolve?

▼ Answer

Yes, all of the voices resolve properly. There is no need to adjust any of the voices.

Exercise 17–5d:

Question

0:00 / 0:00

activity_17-5d

Is the voice leading correct in this resolution of a vii^{o} chord? If not, which voice needs to be adjusted and to which pitch should it resolve?

▼ Hint

Look at the soprano voice.

▼ Answer

No. The D in the soprano should step up to Eb. D is the leading tone and must resolve to the tonic (Eb).

17.3 Other diminished triads

For the sake of clarity, we have been looking at only one example of a diminished triad so far: vii^{o} in a major key. Of course, this is not the only diminished triad you will encounter. Consider, for example, the triads of the minor scale. (Note that the V and viio chords in the following example include B§ instead of Bb. As discussed in Chapter 16, these altered chords are products of the harmonic minor and are far more common than their fully diatonic counterparts, v and VII.)

Example 17–13.

0:00 / 0:00

example_17-13

$$\hat{2} \tag{2.7.6}$$

17.4 Summary

As the above examples show, one must adjust the constraints on using dissonances in order to accommodate the vii^{o} chord. Tritones are permitted when they are part of this particular triad. (Later, we will explore other permissible uses of the tritone. See, for example, Chapter 19.) However, because of this interval's dissonant quality, it must be treated delicately. First, the vii^{o} chord appears in first inversion in order to avoid a dissonance with the bass. By inverting the triad, we hide the tritone within the inner voices, presenting it as a resultant interval. All of the upper voices are then consonant with the bass. Second, the tritone must also be resolved properly. This is to be done with both voices moving by step in either contrary or similar motion. Other tritone-containing chords such as the ii^{o} in minor are treated in the exact same fashion.

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2.8: Seventh Chords

18.1 Introduction

If we compare the act of musical composition to cooking, we may think of triads as being analogous to the basic ingredients in a dish. A good chef can produce a delicious meal using just a few simple ingredients and a composer can write a compelling piece of music using only triads. Occasionally, however, both chef and composer might require something a little more exciting. A chef might add some flavorful spices to a dish and a composer might add some extra pitches to their triads, thereby broadening the range of expressive sonorities.

A *seventh chord* consists of a triad with an added pitch sounding a seventh above the root. Because seventh chords contain four distinct pitches and by definition include a dissonant seventh, they offer richer harmonies than their triadic counterparts. It is this very dissonance, however, that makes the voice-leading of seventh chords a matter requiring special attention.

This chapter will present the various categories of seventh chords and familiarize you with their construction. A more specific discussion follows, touching on the commonly used seventh chords and the reasons why other seventh chords are not used.

18.2 Construction and types of seventh chords

Seventh chords are built by extending triadic construction to include a fourth voice. A triad consists of two stacked thirds. A seventh chord simply adds a diatonic third above the fifth of the triad—or, in other words, a seventh above the root. In the following example, a D-minor triad becomes a seventh chord with the addition of the pitch C:

Example 18–1.

0:00 / 0:00

example_18-1

Whereas a triad may be consonant, a seventh chord is inherently dissonant. The added pitch forms a seventh with the root of the chord and must be treated carefully. We will return to this matter shortly.

$$\hat{5} \tag{2.8.1}$$

Example 18–2.

0:00 / 0:00

example_18-2

Example 18–3.

0:00 / 0:00

example_18-3

$$\hat{1} \tag{2.8.2}$$

▼ Activity 18-1

Activity 18–1

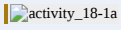
In this activity, you will be presented with a triad in SATB setting. Change one of the pitches in the upper voices to transform the triad into a seventh chord. Then, identify the seventh chord with Roman numerals.

Exercise 18–1a:

Question

Move one of the upper voices to change the triad into a seventh chord:

0:00 / 0:00



▼ Answer

The soprano should be changed from F# to E.

Follow-up question

Give this new chord a Roman numeral.

▼ Answer

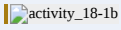
ii^{ø7}

Exercise 18–1b:

Question

Move one of the upper voices to change the triad into a seventh chord:

0:00 / 0:00



▼ Answer

The soprano should be changed from F to Eb.

Follow-up question

Give this new chord a Roman numeral.

▼ Answer

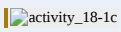
V7

Exercise 18–1c:

Question

Move one of the upper voices to change the triad into a seventh chord:

0:00 / 0:00



▼ Answer

The alto should be changed from E to D.

Follow-up question

Give this new chord a Roman numeral.

▼ Answer

V7

Exercise 18–1d:

Question

Move one of the upper voices to change the triad into a seventh chord:

0:00 / 0:00

activity_18-1d

▼ Answer

The soprano should be changed from G# to F#.

Follow-up question

Give this new chord a Roman numeral.

▼ Answer

vii^{ø}7

Below each line of Roman numerals in Examples 18–2 and 18–3 is another line of letters and symbols. These markings indicate the intervallic content of the chord and in doing so describe the quality. For the chords labeled with letters, the first describes the quality of the triad ("M" for a major triad; "m" for a minor triad) and the second indicates the quality of the seventh (again, "M" for a major seventh; "m" for a minor seventh). You will find two other symbols as well. These symbols are used for seventh chords built on diminished triads: "ø" indicates a half-diminished seventh chord (a diminished triad with a major seventh) and "º" indicates a fully-diminished seventh chord (a diminished triad with a minor seventh). The following table summarizes the various types of commonly encountered seventh chords:

Table 18–1.

Name:	Quality of Triad:	Quality of Seventh:	Symbol:
major-major seventh chord	major	major	MM
major-minor seventh chord (see note)	major	minor	Mm
minor-minor seventh chord	minor	minor	mm
half-diminished	diminished	minor	ø7
fully-diminished	diminished	diminished	º7

$\hat{5}$ (2.8.3)

▼ Activity 18-2

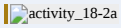
Activity 18–2

In this activity, you will examine the intervallic content of various seventh chords by identifying the quality of the triad and the quality of the seventh. (For each question, the options for triad quality are "major," "minor," and "diminished." The options for seventh quality are also "major," "minor," and "diminished.")

Exercise 18–2a:

Question

0:00 / 0:00



The quality of the triad is . The quality of the seventh is .

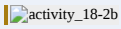
▼ Answer

The vii^{o}7 chord in G minor is a fully-diminished seventh chord. The triad is diminished and the seventh is also diminished.

Exercise 18–2b:

Question

0:00 / 0:00



The quality of the triad is . The quality of the seventh is .

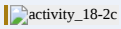
▼ Answer

The IV7 chord in G major is a major-major seventh chord. The triad is major and the seventh is also major.

Exercise 18–2c:

Question

0:00 / 0:00



The quality of the triad is . The quality of the seventh is .

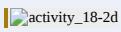
▼ Answer

The V7 chord in C minor is a major-minor seventh chord. The triad is major and the seventh is minor.

Exercise 18–2d:

Question

0:00 / 0:00



The quality of the triad is . The quality of the seventh is .

▼ Answer

The ii7 chord in D minor is a minor-minor seventh chord. The triad is minor and the seventh is also minor.

18.3 Inversions of seventh chords

As with triads, seventh chords may also be written in inversion. Because there are four distinct pitches in a seventh chord, there are, accordingly, four possible positions (determined, again, by the bass note). The following example shows the four positions of a seventh chord built on D:

Example 18–4.

0:00 / 0:00

example_18-4

As with triads, inverting a seventh chord alters the intervallic relationships between the upper voices and the bass. The notation for labeling seventh chords indicates the intervals formed with the bass, although abbreviated notation is often used. For example, a seventh chord in first inversion contains the intervals of a sixth, a fifth, and a third above the bass. As with triads, the figures for seventh chords are often abbreviated. Rather than write three numerals every time (6/5/3), the convention is to assume the third and simply write: 6/5. The following table summarizes the figured-bass signatures of the inversions of seventh chords, and gives the notational short hand in the rightmost column:

Table 18–2.

Position	Chord Member in the Bass	Intervallic Content	Figured Bass Short Hand
root position	root	7/5/3	7
first inversion	third	6/5/3	6/5
second inversion	fifth	6/4/3	4/3
third inversion	seventh	6/4/2	4/2 or 2

▼ Activity 18-3

Activity 18–3

In this activity, you will be presented with a series of seventh chords in SATB setting. For each exercise, choose the appropriate figured bass signature (7,6/5,4/3, or 4/2) to represent the inversion of the chord.

Exercise 18–3a:

Question

0:00 / 0:00

activity_18-3a

Which figured bass signature would be used to represent this chord?

▼ Hint

Remember the common abbreviations for figured bass signatures. Only one of the four options makes sense with the given intervals above the bass.

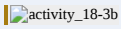
▼ Answer

7

Exercise 18–3b:

Question

0:00 / 0:00



Which figured bass signature would be used to represent this chord?

▼ Hint

Remember the common abbreviations for figured bass signatures. Only one of the four options makes sense with the given intervals above the bass.

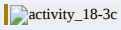
▼ Answer

6/5

Exercise 18–3c:

Question

0:00 / 0:00



Which figured bass signature would be used to represent this chord?

▼ Hint

Remember the common abbreviations for figured bass signatures. Only one of the four options makes sense with the given intervals above the bass.

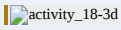
▼ Answer

4/3

Exercise 18–3d:

Question

0:00 / 0:00



Which figured bass signature would be used to represent this chord?

▼ Hint

Remember the common abbreviations for figured bass signatures. Only one of the four options makes sense with the given intervals above the bass.

▼ Answer

4/2

As shown above, figured bass for seventh chords may be combined with Roman numerals. The following example adds Roman numerals in C major to the seventh chords shown in Example 21–13 and uses the common figured-bass abbreviations from Table 18–2:

Example 18–5.

a.

0:00 / 0:00

example_18-5

$$\hat{2} \tag{2.8.4}$$

Example 18–6.

0:00 / 0:00

example_18-6

Note that each chord shown in Example 18–6 is just one possible voicing. Many other voicings are possible for each inversion.

▼ Activity 18-4

Activity 18–4

In this activity, you will be asked to identify various seventh chords and their inversions.

Exercise 18–4a:

Question

0:00 / 0:00

activity_18-4a

What Roman numeral should appear in place of the question mark? Be sure to indicate the inversion in your answer.

▼ Hint

In this key, which scale degree is the root of the chord? Which member of the chord is in the bass?

▼ Answer

ii6/5

Exercise 18–4b:

Question

0:00 / 0:00

activity_18-4b

What Roman numeral should appear in place of the question mark? Be sure to indicate the inversion in your answer.

▼ Hint

In this key, which scale degree is the root of the chord? Which member of the chord is in the bass?

▼ Answer

V6/5

Exercise 18–4c:

Question

0:00 / 0:00

activity_18-4c

What Roman numeral should appear in place of the question mark? Be sure to indicate the inversion in your answer.

▼ Hint

In this key, which scale degree is the root of the chord? Which member of the chord is in the bass?

▼ Answer

vii^{o}7

Exercise 18–4d:

Question

0:00 / 0:00

activity_18-4d

What Roman numeral should appear in place of the question mark? Be sure to indicate the inversion in your answer.

▼ Hint

In this key, which scale degree is the root of the chord? Which member of the chord is in the bass?

▼ Answer

V4/2

▼ Activity 18-5

Activity 18–5

In this activity, you will build various types of seventh chords in different keys.

Exercise 18–5a:

Question

0:00 / 0:00

activity_18-5a

Write a vii^{o}7 chord in E minor in four-part SATB voicing.

▼ Answer

D# in the bass with F#, A, and C in the upper voices in any arrangement.

Exercise 18–5b:

Question

0:00 / 0:00

activity_18-5b

Write a ii^{ø}6/5 chord in G minor in four-part SATB voicing.

▼ Answer

C in the bass with A, Eb, and G in the upper voices in any arrangement.

Exercise 18–5c:

Question

0:00 / 0:00

activity_18-5c

Write a V4/3 chord in A major in four-part SATB voicing.

▼ Answer

B in the bass with E, G#, and D in the upper voices in any arrangement.

Exercise 18–5d:

Question

0:00 / 0:00

activity_18-5d

Write a V4/2 chord in Bb major in four-part SATB voicing.

▼ Answer

Eb in the bass with F, A, and C in the upper voices in any arrangement.

18.4 Preparing and resolving seventh chords

$$\hat{5} \tag{2.8.5}$$

Example 18–7.

0:00 / 0:00

example_18-7

$$\hat{1} \tag{2.8.6}$$

The following example shows a typical progression involving a seventh chord—in this case, a ii6/5 chord:

Example 18–8.

0:00 / 0:00

example_18-8

Note that the seventh of the ii6/5 chord (C in the soprano voice) is prepared as a common tone by the preceding I chord. As described above, the seventh of a seventh chord is a dissonance and typically originates as a melodic event. In this case, the C sounds and resolves like a suspension. The preparation of a chordal seventh as a common tone with the preceding harmony provides smooth voice leading into a seventh chord. Stepwise motion to the chordal seventh is a common alternative, and frequently appears when common-tone preparation is impossible. Chordal sevenths are seldom approached by leap as this would overemphasize the dissonance.

▼ Activity 18-6

Activity 18–6

In this activity, you will be asked to complete a progression from I to ii6/5.

Exercise 18–6a:

Question

In the following example, which voice will contain the seventh of the ii6/5 chord?

0:00 / 0:00

activity_18-6a

▼ Hint

Remember that the seventh of the ii6/5 chord should be prepared as a common tone if possible.

▼ Answer

The tenor will prepare the seventh of the ii6/5 as a common tone G from the I chord:

0:00 / 0:00

activity_18-6a_answer1

Follow-up question

Complete the ii6/5 by adding the two remaining voices.

▼ Answer

0:00 / 0:00

activity_18-6a_answer2

Exercise 18–6b:

Question

In the following example, which voice will contain the seventh of the ii6/5 chord?

0:00 / 0:00

activity_18-6b

▼ Hint

Remember that the seventh of the ii6/5 chord should be prepared as a common tone if possible.

▼ Answer

The soprano will prepare the seventh of the ii6/5 as a common tone Eb from the I chord:

0:00 / 0:00

activity_18-6b_answer1

Follow-up question

Complete the ii6/5 by adding the two remaining voices.

▼ Answer

0:00 / 0:00

activity_18-6b_answer2

Exercise 18–6c:

Question

In the following example, which voice will contain the seventh of the ii6/5 chord?

0:00 / 0:00

activity_18-6c

▼ Hint

Remember that the seventh of the ii6/5 chord should be prepared as a common tone if possible.

▼ Answer

The soprano will prepare the seventh of the ii6/5 as a common tone A from the I chord:

0:00 / 0:00

activity_18-6c_answer1

Follow-up question

Complete the ii6/5 by adding the two remaining voices.

▼ Answer

0:00 / 0:00

activity_18-6c_answer2

Exercise 18–6d:

Question

In the following example, which voice will contain the seventh of the ii6/5 chord?

0:00 / 0:00

activity_18-6d

▼ Hint

Remember that the seventh of the ii6/5 chord should be prepared as a common tone if possible.

▼ Answer

The alto will prepare the seventh of the ii6/5 as a common tone F from the I chord:

0:00 / 0:00

activity_18-6d_answer1

Follow-up question

Complete the ii6/5 by adding the two remaining voices.

▼ Answer

0:00 / 0:00

activity_18-6d_answer2

Seventh chords typically resolve by falling-fifth (or rising-fourth) root motion. In other words, a seventh chord will typically resolve to the sonority whose root is a fifth below (or a fourth above) its own. In Example 18–6, the ii6/5 chord (whose root is D) resolves to V (whose root, A, is a fifth below). Note that the falling-fifth root motion is not affected by the fact that the ii6/5 chord appears in inversion.

As a dissonance, the seventh of any seventh chord requires resolution. Because of its descending passing-tone origin, the seventh almost always resolves down by step. In the tenor voice of Example 18–6, the seventh of the ii6/5 chord steps down to B in the following V chord.

▼ Activity 18-7

Activity 18–7

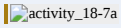
In this activity, you will continue the I–ii6/5 progressions from the Activity 18–5 by adding a V chord.

Exercise 18–7a:

Question

Where should the chordal seventh of the ii6/5 (G) chord resolve to?

0:00 / 0:00



▼ Hint

Remember, the chordal seventh must resolve down by step.

▼ Answer

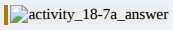
The chordal seventh resolves down by step to F#.

Follow-up question

Complete the V chord by adding the resolution of the chordal seventh and the two remaining voices.

▼ Answer

0:00 / 0:00

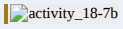


Exercise 18–7b:

Question

Where should the chordal seventh of the ii6/5(Eb) chord resolve to?

0:00 / 0:00



▼ Hint

Remember, the chordal seventh must resolve down by step.

▼ Answer

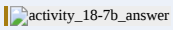
The chordal seventh resolves down by step to D.

Follow-up question

Complete the V chord by adding the resolution of the chordal seventh and the two remaining voices.

▼ Answer

0:00 / 0:00

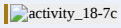


Exercise 18–7c:

Question

Where should the chordal seventh of the ii6/5 (A) chord resolve to?

0:00 / 0:00



▼ Hint

Remember, the chordal seventh must resolve down by step.

▼ Answer

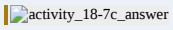
The chordal seventh resolves down by step to G#.

Follow-up question

Complete the V chord by adding the resolution of the chordal seventh and the two remaining voices.

▼ Answer

0:00 / 0:00

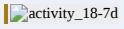


Exercise 18–7d:

Question

Where should the chordal seventh of the ii6/5 (F) chord resolve to?

0:00 / 0:00



▼ Hint

Remember, the chordal seventh must resolve down by step.

▼ Answer

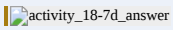
The chordal seventh resolves down by step to E.

Follow-up question

Complete the V chord by adding the resolution of the chordal seventh and the two remaining voices.

▼ Answer

0:00 / 0:00



Example 18–6 demonstrates the most common preparation and resolution of a chordal seventh using a ii7 chord as an example, but this treatment can be used for any seventh chord. Consider the following example:

Example 18–9.

0:00 / 0:00



Example 18–7 shows a progression where a vi7 chord, prepared by a iii chord, resolves to a ii chord. Again, we see the falling-fifth motion between the root of the vi7 chord (A) and the resolution ii chord (D). The seventh of the vi7 chord (G) is prepared as a common tone in the preceding iii chord, and resolved downwards by step to F. These same rules may be used for any other seventh chord. A iii7 chord, for example, typically resolves to vi. (These two seventh chords, vi7 and iii7, occur less frequently than other seventh chords. When they do, they are usually found in root position.)

Note: Because chordal sevenths are inherently dissonant, they are typically treated with great care. Keep the following guidelines in mind when approaching and resolving seventh chords as you write music and complete exercises in this style:

- **Chordal seventh should be prepared as a common tone:** Ideally, a chordal seventh should be prepared as a common tone by the preceding harmony in order to lead as smoothly as possible into the dissonance. If the seventh cannot be prepared as a common tone, approach by step is the next best alternative. Leaping to the chordal seventh should be avoided.
- **Chordal seventh descends by step:** Because of the origin as accented passing tones, chordal sevenths must always resolve downwards by step.
- **Falling-fifth root motion:** In most cases, the root of the chord of resolution will be a fifth below the root of the seventh chord.

Now consider the following example (Example 18–8b clarifies the voice leading in the first three chords)

Example 18–10 *Louise Farrenc, Les Italiennes (Op. 14), 2. Cavatine de Bellini's La Straniera, mm. 21-28*.

a. original:

0:00 / 0:00



b. reduction:

0:00 / 0:00



The ii6/5 chord in m. 2 is prepared and resolved exactly in the manner described above. The chordal seventh (Eb) is prepared as a suspension by the preceding I chord. It then resolves down by step to D in the following V chord, whose root (Bb) is a fifth down.

18.5 Specific seventh chords and their functions

Some seventh chords behave in predictable ways, performing the same musical functions again and again in different musical contexts. In the following sections, we will explore the specific roles played by a pair of commonly encountered seventh chords: the supertonic seventh chord and the subdominant seventh chord. The dominant seventh chord and leading-tone seventh chords are special cases and will be discussed on their own in Chapter 19 and Chapter 20, respectively.

18.6 The supertonic seventh chord (ii7 in major; ii^{ø}7 in minor)

The supertonic seventh chord (ii7 in major; ii^{ø}7 in minor) is one of the most commonly encountered seventh chords. As discussed above, seventh chords frequently resolve by falling-fifth (or rising-fourth) root motion. The ii7 chord, then, typically moves to the dominant. (We will discuss the relationship between the supertonic and dominant in greater detail in Chapter 24.) The supertonic seventh chord may appear in any position, but first inversion (ii6/5) is most common. Example 18–9 shows the progression used earlier in which a ii6/5 chord, prepared by I, leads to V:

Example 18–11.

0:00 / 0:00

example_18-11

As mentioned above, the rules for proper approach and resolution of the ii6/5 chord are all in place: the chordal seventh is prepared as a common tone, the seventh chord resolves by falling-fifth root motion, and the chordal seventh resolves downwards by step.

The ii6/5 chord may also move to a dominant with suspensions in the upper voices. Example 18–10 follows the same progression seen in Example 18–9, but adds two nonharmonic tones above the V chord (E and C), delaying the arrival of the chordal third and fifth (D and B) until a beat later. (This particular figuration is commonly known as a "cadential 6/4." We will discuss it in further detail in Chapter 23.) Note that the suspended fourth above the bass (C in the tenor) delays the obligatory descending stepwise resolution of the chordal seventh:

Example 18–12.

0:00 / 0:00

example_18-12

Finally, the supertonic seventh chord can also appear in root position. Though occurring less frequently than when it is in first inversion, the root-position supertonic seventh chord is another possible lead-in to V.

Example 18–13.

0:00 / 0:00

example_18-13

As in the examples above, the seventh of the ii7 chord is held over as a common tone from the I chord (this time in the soprano). In Example 18–11, though, the third of the ii7 chord (F) appears in an upper voice instead of the bass and is therefore not obligated to step up to the root of the V chord (see F–G in the bass of Example 18–9). Instead, it is held as a common tone, and thereby ends up preparing the seventh of the V7. Because of this, ii7 typically moves to a V7 chord instead of a triad. Note, too, the proper resolution of the seventh of the ii7 chord: the C in the soprano steps down to the leading tone (B) of the V7 chord.

The following excerpt combines elements of Example 18–9 and Example 18–11:

Example 18–14 *José Maurício Nunes Garcia, Immutemur habitu, mm. 1-4.*

0:00 / 0:00

example_18-14

The chordal seventh of the ii4/2 chord—the D in the bass voice—is prepared as a suspension by the preceding tonic harmony. The chordal seventh then steps down to C# as ii4/2 moves to V6/5 where again the chordal seventh is suspended from the previous chord—in this case the G in the soprano voice.

Supertonic chords in second inversion (ii4/3) occur from time to time as well. When they do, they tend to follow the same conventions described above.

18.7 The subdominant seventh chord (IV7 in major and iv7 in minor)

$$\hat{4} \tag{2.8.7}$$

By far, IV7 appears most frequently in root position. The following example shows the typical voice leading in the progression I–IV7–V:

Example 18–15.

0:00 / 0:00

example_18-15

Aside from the lack of a falling-fifth root motion, you should be able to recognize most of the same conventions from Example 18–6. The seventh of the IV7 chord (E) is prepared by common tone from the preceding I chord. As the harmony changes on the third beat, the seventh resolves downward by step—in this case to D, the fifth of the V chord. Because the seventh chord does not resolve by falling root-motion, one exception to conventional voice-leading can be found in the tenor voice. Note how the tenor leaps from A down to D as the IV7 moves to V. This leap is necessary in order to avoid what would otherwise have been parallel fifths between the tenor and alto had the tenor moved to the nearest member of the V chord (D). The result of the exceptional voice-leading is a doubled fifth in the V chord.

▼ Activity 18-8

Activity 18–8

In this activity, you will complete a I–IV7–V progression in four voices. In each exercise, the voicing of the I chord has been given to you. (Remember, the seventh of the IV7 chord must be prepared as a common tone and must resolve downwards by step. Also, be sure to avoid parallel fifths in the move from IV7 to V.)

Exercise 18–8a:

Question

Complete the following progression by filling in the remaining notes for the upper voices:

0:00 / 0:00

activity_18-8a

▼ Answer

0:00 / 0:00

activity_18-8a_answer

Exercise 18–8b:

Question

Complete the following progression by filling in the remaining notes for the upper voices:

0:00 / 0:00

activity_18-8b

▼ Answer

0:00 / 0:00

activity_18-8b_answer

Exercise 18–8c:

Question

Complete the following progression by filling in the remaining notes for the upper voices:

0:00 / 0:00

activity_18-8c

▼ Answer

0:00 / 0:00

activity_18-8c_answer

Exercise 18–8d:

Question

Complete the following progression by filling in the remaining notes for the upper voices:

0:00 / 0:00

activity_18-8d

▼ Answer

0:00 / 0:00

activity_18-8d_answer

18.8 Summary

Seventh chords lend variety to the tonal landscape, offering richer, fuller textures than their triad counterparts by adding dissonance. They may be built on any scale degree. However, a I7 chord would undermine the importance of the tonic harmony and should therefore be analyzed as a triad with a nonharmonic tone.

There are five different seventh chord qualities. Three of them include a perfect fifth between the root and fifth: minor seventh (MM7: a major triad with an added major seventh above the root), minor seventh (mm7: a minor triad with an added minor seventh above the root), and major-minor seventh (Mm7: a major triad with a minor seventh, sometimes referred to as a "dominant seventh"). The two remaining seventh chord qualities are based on diminished triads. The half-diminished seventh chord ($^{ø}7$) adds a minor seventh to a diminished triad while the fully-diminished seventh chord ($^{o}7$) adds a diminished seventh to a diminished triad.

Because of the added dissonance, seventh chords must be treated carefully. To avoid overemphasizing the dissonance, chordal sevenths are ideally prepared by common tone with the preceding chord or through stepwise motion. Seventh chords typically resolve through falling-fifth root motion. In other words, the root of the chord of resolution will be a fifth below (or a fourth above) the root of the seventh chord. Chordal sevenths have their origin as passing tones. Because of this, they almost invariably resolve down by step.

Some seventh chords perform specific and predictable roles in tonal Western art music. The supertonic and subdominant seventh chords, for example, typically lead to dominant harmonies.

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2.9: The Dominant Seventh Chord

19.1 Introduction

$$\hat{5} \tag{2.9.1}$$

19.2 Construction

$$\hat{4} \tag{2.9.2}$$

Example 19–1.

0:00 / 0:00

example_19-1

The following example shows a dominant seventh chord in C major in an SATB setting:

Example 19–2.

0:00 / 0:00

example_19-2

The construction of the V7 is the same in minor:

Example 19–3.

0:00 / 0:00

example_19-3

$$\hat{5} \tag{2.9.3}$$

Example 19–4.

0:00 / 0:00

example_19-4

▼ Activity 19-1

Activity 19–1

Each of the following V7 chords is presented in SATB setting and is missing one note. Provide the missing note as directed for each of the exercises.

Exercise 19–1a:

Question

0:00 / 0:00

activity_19-1a

What pitch in the alto voice will complete this V7 chord in F major?

▼ Hint

$$\hat{7} \tag{2.9.4}$$

▼ Answer

E

Exercise 19–1b:

Question

0:00 / 0:00

activity_19-1b

What pitch in the soprano voice will complete this V7 chord in C minor?

▼ Hint

$$\hat{4} \tag{2.9.5}$$

▼ Answer

F

Exercise 19–1c:

Question

0:00 / 0:00

activity_19-1c

What pitch in the bass voice will complete this V7 chord in A major?

▼ Hint

$$\hat{5} \tag{2.9.6}$$

▼ Answer

E

Exercise 19–1d:

Question

0:00 / 0:00

activity_19-1d

What pitch in the tenor voice will complete this V7 chord in B minor?

▼ Hint

$$\hat{7} \tag{2.9.7}$$

▼ Answer

A#

▼ Activity 19-2

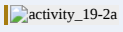
Activity 19–2

In this activity, you will build V7 chords in various keys starting with the root.

Exercise 19–2a:

Question

0:00 / 0:00



What is the root of a V7 chord in G major?

▼ Hint

$$\hat{5} \tag{2.9.8}$$

▼ Answer

D

Follow-up question

Complete the V7 chord by adding the upper voices.

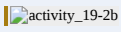
▼ Answer

Upper voices should consist of F#, A, and C.

Exercise 19–2b:

Question

0:00 / 0:00



What is the root of a V7 chord in G minor?

▼ Hint

$$\hat{5} \tag{2.9.9}$$

▼ Answer

D

Follow-up question

Complete the V7 chord by adding the upper voices. (Remember to raise the leading tone in minor keys.)

▼ Answer

Upper voices should consist of F#, A, and C.

Exercise 19–2c:

Question

0:00 / 0:00

activity_19-2c

What is the root of a V7 chord in Eb major?

▼ Hint

$$\hat{5} \tag{2.9.10}$$

▼ Answer

Bb

Follow-up question

Complete the V7 chord by adding the upper voices.

▼ Answer

Upper voices should consist of D, F, and Ab.

Exercise 19–2d:

Question

0:00 / 0:00

activity_19-2d

What is the root of a V7 chord in E minor?

▼ Hint

$$\hat{5} \tag{2.9.11}$$

▼ Answer

B

Follow-up question

Complete the V7 chord by adding the upper voices. (Remember to raise the leading tone in minor keys.)

▼ Answer

Upper voices should consist of D#,F#, and A.

19.3 Tendency tones in the V7 chord

$$\hat{7} \tag{2.9.12}$$

Example 19–5.

0:00 / 0:00

example_19-5

▼ Activity 19-3

Activity 19–3

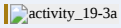
It is important that you be able to recognize the tendency tones present in a V7 chord and treat them accordingly. In this activity, you will identify the tendency tones and the interval they form.

Exercise 19–3a:

Question

$$\hat{7} \tag{2.9.13}$$

0:00 / 0:00



▼ Answer

G# and D

Follow-up question

What interval do these two tendency tones form?

▼ Answer

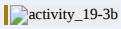
G# and D form a diminished fifth (d5).

Exercise 19–3b:

Question

$$\hat{7} \tag{2.9.14}$$

0:00 / 0:00



▼ Answer

A and Eb

Follow-up question

What interval do these two tendency tones form?

▼ Answer

A and Eb form a diminished fifth (d5).

Exercise 19–3c:

Question

$$\hat{7} \tag{2.9.15}$$

0:00 / 0:00

activity_19-3c

▼ Answer

E# and B

Follow-up question

What interval do these two tendency tones form?

▼ Answer

E# and B form an augmented fourth (A4).

Exercise 19–3d:

Question

$$\hat{7} \tag{2.9.16}$$

0:00 / 0:00

activity_19-3d

▼ Answer

F# and C

Follow-up question

What interval do these two tendency tones form?

▼ Answer

F# and C form a diminished fifth (d5).

$$\hat{7} \tag{2.9.17}$$

Example 19–6.

0:00 / 0:00

example_19-6

$$\hat{4} \tag{2.9.18}$$

$$\hat{5} \tag{2.9.19}$$

▼ Activity 19-4

Activity 19–4

In this activity, you will resolve the tendency tones from the V7 chords of the previous chapter.

Exercise 19–4a:

Question

Resolve the two tendency tones in the following V7 chord:

0:00 / 0:00

activity_19-4a

▼ Hint

$$\hat{7} \tag{2.9.20}$$

▼ Answer

0:00 / 0:00

activity_19-4a_answer

Exercise 19–4b:

Question

Resolve the two tendency tones in the following V7 chord:

0:00 / 0:00

activity_19-4b

▼ Hint

$$\hat{7} \tag{2.9.21}$$

▼ Answer

0:00 / 0:00

activity_19-4b_answer

Exercise 19–4c:

Question

Resolve the two tendency tones in the following V7 chord:

0:00 / 0:00

activity_19-4c

▼ Hint

$$\hat{7} \tag{2.9.22}$$

▼ Answer

0:00 / 0:00

activity_19-4c_answer

Exercise 19–4d:

Question

Resolve the two tendency tones in the following V7 chord:

0:00 / 0:00

activity_19-4d

▼ Hint

$$\hat{7} \tag{2.9.23}$$

▼ Answer

0:00 / 0:00

activity_19-4d_answer

$$\hat{5} \tag{2.9.24}$$

Example 19–7.

0:00 / 0:00

example_19-7

As described in Chapter 12, four-part harmony is an extension of three-part harmony which, in turn, is built from combinations of basic interval progressions. The voice leading in Example 19–7 can be explained in this manner. The outer voices form the primary interval progression of a third expanding to an octave. The tenor, then, supports the soprano with a 6–8 progression and the alto harmonizes with the tenor in parallel thirds (3–3). Looking at the progression this way, we can see that the augmented fourth between the alto and soprano is a resultant interval.

In the example above, you might have noticed that the resolution chord has three roots, a third, and no fifth. This voicing of the I chord is common at the end of a musical idea. This type of voice-leading, with both chords in root position, provides a strong sense of repose and, thus, closure.

Examples 19–5 through 19–7 show the resolution of a V7 chord in C major. The same rules apply to dominant seventh chords in minor keys. Example 19–8 shows a V7 chord in C minor resolving to the tonic harmony:

Example 19–8.

0:00 / 0:00

example_19-8

$$\hat{4} \tag{2.9.25}$$

Note: Incomplete chords such as those shown in Example 19–7 and Example 19–8 are common in progressions moving from the dominant to the tonic. Generally speaking, though, composers tend to avoid two incomplete chords in a row. In other words, incomplete V chords are usually followed by complete I chords and incomplete I chords usually come after complete V chords.

▼ Activity 19-5

Activity 19–5

In this exercise, you will complete the resolution of the previous activities to the I chord.

Exercise 19–5a:

Question

Taking your answer from the previous activity, complete the resolution to the I chord by providing pitches for the bass and alto:

0:00 / 0:00

activity_19-5a

▼ Hint

$$\hat{2} \tag{2.9.26}$$

▼ Answer

0:00 / 0:00

activity_19-5a_answer

Exercise 19–5b:

Question

Taking your answer from the previous activity, complete the resolution to the I chord by providing pitches for the bass and soprano:

0:00 / 0:00

activity_19-5b

▼ Hint

$$\hat{2} \tag{2.9.27}$$

▼ Answer

0:00 / 0:00

activity_19-5b_answer

Exercise 19–5c:

Question

Taking your answer from the previous activity, complete the resolution to the I chord by providing pitches for the bass and tenor:

0:00 / 0:00

activity_19-5c

▼ Hint

$$\hat{2} \tag{2.9.28}$$

▼ Answer

0:00 / 0:00

activity_19-5c_answer

Exercise 19–5d:

Question

Taking your answer from the previous activity, complete the resolution to the I chord by providing pitches for the bass and tenor:

0:00 / 0:00

activity_19-5d

▼ Hint

$$\hat{2} \tag{2.9.29}$$

▼ Answer

0:00 / 0:00

activity_19-5d_answer

The voice-leading conventions described above are extremely common, even in non-SATB textures. Consider the following example:

Example 19–9 *Mary Southcote, "To the Butterfly," mm. 1-3.*

0:00 / 0:00

example_19-9

$$\hat{5} \tag{2.9.30}$$

19.4 Inversions

$$\hat{5} \tag{2.9.31}$$

Example 19–10.

0:00 / 0:00

example_19-10

$$\hat{7} \tag{2.9.32}$$

$$\hat{2} \tag{2.9.33}$$

Example 19–11.

0:00 / 0:00

example_19-11

Example 19–12 shows the resolution of the remaining position of the dominant seventh chord:

Example 19–12.

0:00 / 0:00

example_19-12

$$\hat{4} \tag{2.9.34}$$

Note: Conventions for resolving V7:

1. The tendency tones typically resolve as expected with \hat7 moving to \hat1 and \hat4 moving to \hat3,
2. similarly, \hat2 tends to resolve to \hat1, and
3. \hat5 is typically held to promote smooth voice-leading (this is possible in every inversion of the dominant seventh, but not in root position where the bass must leap from \hat5 to \hat1).

▼ Activity 19-6

Activity 19–6

So far in this chapter, the activities have focused on resolving dominant seventh chords in root position. Dominant seventh chords frequently appear in inversion, however, and it is important that you be able to resolve these chords as well. In this activity, you will resolve an inverted dominant seventh chord according to the guidelines outlined above.

Exercise 19–6a:

Question

Identify the leading tone in the following V6/5 chord:

0:00 / 0:00

activity_19-6a

▼ Answer

D (bass)

Follow-up question

Resolve the leading tone according to the guidelines outlined above.

▼ Hint

Remember, the leading tone tends to resolve to the tonic.

▼ Answer

0:00 / 0:00

activity_19-6a_answer

Exercise 19–6b:

Question

$$\hat{4} \tag{2.9.35}$$

0:00 / 0:00

activity_19-6b

▼ Answer

A (tenor)

Follow-up question

$$\hat{4} \tag{2.9.36}$$

▼ Hint

$$\hat{4} \tag{2.9.37}$$

▼ Answer

0:00 / 0:00

activity_19-6b_answer

Exercise 19–6c:

Question

Because this dominant seventh chord is in inversion, we can retain the root as a common tone as we resolve to I. Identify the root of the following V6/5 chord:

0:00 / 0:00

activity_19-6c

▼ Answer

Bb (soprano)

Follow-up question

Hold the root as a common tone into the I chord.

▼ Hint

Remember, because the dominant seventh chord is in inversion, we can retain the root as a common tone into the I chord.

▼ Answer

0:00 / 0:00

activity_19-6c_answer

Exercise 19–6d:

Question

$$\hat{2} \tag{2.9.38}$$

0:00 / 0:00

activity_19-6d

▼ Hint

$$\hat{2} \tag{2.9.39}$$

▼ Answer

0:00 / 0:00

activity_19-6d_answer

The following example shows a pair of dominant seventh chords in different positions resolving in a conventional manner to the tonic:

Example 19–13 *José Maurício Nunes Garcia, Matinas e Encomendação de Defuntos, Responsório I, II. Allegro, mm. 5-8.*

0:00 / 0:00

example_19-13

$$\hat{1} \tag{2.9.40}$$

The following excerpt also features several dominant sevenths, though here the resolutions break with convention:

Example 19–14 *Sophia Dussek, Variations on "In My Cottage in a Wood," mm 1-4.*

0:00 / 0:00

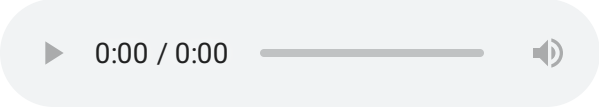
example_19-14

$$\hat{5} \tag{2.9.41}$$

19.5 Other leading tone resolutions

$$\hat{1} \tag{2.9.42}$$

Example 19–15.



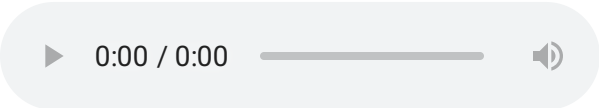
example_19-15

$$\hat{7} \tag{2.9.43}$$

$$\hat{7} \tag{2.9.44}$$

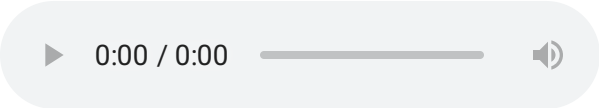
$$\hat{1} \tag{2.9.45}$$

Example 19–16. *Johann Sebastian Bach, Jesu, nun sei gepreiset (BWV 41), 6. "Dein ist allein die Ehre" mm. 8–9.*



example_19-16

Example 19–17. *Johann Sebastian Bach, Christmas Oratorio (BWV 248), 53. "Ihr Gestim, ihr hohlen Lüfte," m. 3–4.*



example_19-17

$$\hat{1} \tag{2.9.46}$$

$$\hat{7} \tag{2.9.47}$$

It should be noted that these resolutions—particularly the progression in Example 19–17—are far less common that those in which the leading tone resolves up by step. As a rule of thumb, you should use them in your own partwriting exercises only when necessary.

19.6 Summary

$$\hat{7} \tag{2.9.48}$$

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2.10: Fully-diminished Seventh Chords

20.1 Introduction

Consider the particularly dissonant chord on the downbeat of m. 2 in the following excerpt:

Example 20–1 *Joseph Haydn, String Quartet in G major (Op. 17, No. 5 Hob.III 29), III. Adagio, mm. 1-14.*

0:00 / 0:00

example_20-1

This sonority, a fully-diminished seventh chord built on the leading tone of G minor, is comprised of two interlocking tritones, both of which resolve in the manner described in Chapter 16. The tritone between F# and C resolves inward to a third and the tritone between the A and Eb does the same. The chord reappears in mm. 3–4, though here the members have been rearranged. Each chord member resolves in the same way, but now the tritone between F# and C has been inverted and resolves outward to a sixth. The effect of these two chords is striking, but the voice-leading smooth and consistent with that seen in most tonal Western art music.

$$\hat{7} \tag{2.10.1}$$

20.2 Construction: vii°7 in minor and viiø7 in major

In Chapter 16 we discussed the diminished leading-tone triad: vii°. There, we examined why the tritone between the root and fifth of the chord requires special attention. The chord usually appears in first inversion precisely to avoid the dissonant interval sounding against the bass when vii° is in root position.

Example 20–2.

0:00 / 0:00

example_20-2

As Example 20–2 demonstrates, placing the chord in first inversion ensures that the upper voices are consonant with the bass. The diminished fifth is between the alto and soprano, concealed within the upper voices. It is therefore best understood as a resultant interval formed by avoiding dissonances that involve the bass.

Leading-tone seventh chords (vii°7 in minor and viiø7 in major) are even more dissonant than the triads on which they are based. The following example shows leading-tone seventh chords in both C minor and C major:

Example 20–3.

a.

0:00 / 0:00

example_20-3a

b.

0:00 / 0:00

example_20-3b

Both of these chords add a dissonant seventh to an already dissonant triad. In a minor key, the chordal seventh above a leading-tone triad forms a diminished seventh above the root. (See Example 18–16a.) This is a fully-diminished seventh chord. The prefix

“fully-” refers to the fact that the chord is constructed of a diminished triad *and* a diminished seventh.

$$\hat{7} \tag{2.10.2}$$

Example 20–4.

0:00 / 0:00

example_20-4

As Example 20–4 demonstrates, every member of the chord forms a tritone with some other member. Regardless of the chord’s position, then, one of the tritones inevitably involves the bass:

Example 20–5.

0:00 / 0:00

example_20-5

Unlike the vii^{o}6 chord, where the single tritone can be hidden between upper voices, one of the two tritones in a fully-diminished chord will be accentuated by the bass and, as we will discuss momentarily, must be treated with care.

▼ Activity 20-1

Activity 20–1

Identify the diminished fifths and augmented fourths in the following inverted fully-diminished seventh chords.

Exercise 20–1a:

Question

Which two pitches form the tritone between the root and fifth of the following fully-diminished seventh chord? Which two voices form the tritone between the third and seventh? (Keep in mind that a tritone may appear as a diminished fifth or in inversion as an augmented fourth.)

0:00 / 0:00

activity_20-1a

▼ Answer

Tritone between root and fifth: G# (tenor) and D (alto)

Tritone between third and seventh: B (bass) and F (soprano)

Exercise 20–1b:

Question

Which two pitches form the tritone between the root and fifth of the following fully-diminished seventh chord? Which two voices form the tritone between the third and seventh? (Keep in mind that a tritone may appear as a diminished fifth or in inversion as an augmented fourth.)

0:00 / 0:00

activity_20-1b

▼ Answer

Tritone between root and fifth: A# (soprano) and E (bass)

Tritone between third and seventh: C# (alto) and G (tenor)

Exercise 20–1c:

Question

Which two pitches form the tritone between the root and fifth of the following fully-diminished seventh chord? Which two voices form the tritone between the third and seventh? (Keep in mind that a tritone may appear as a diminished fifth or in inversion as an augmented fourth.)

0:00 / 0:00

activity_20-1c

▼ Answer

Tritone between root and fifth: B§ (tenor) and F (bass)

Tritone between third and seventh: D (alto) and Ab (soprano)

Exercise 20–1d:

Question

Which two pitches form the tritone between the root and fifth of the following fully-diminished seventh chord? Which two voices form the tritone between the third and seventh? (Keep in mind that a tritone may appear as a diminished fifth or in inversion as an augmented fourth.)

0:00 / 0:00

activity_20-1d

▼ Answer

Tritone between root and fifth: C# (tenor) and G (alto)

Tritone between third and seventh: E (bass) and Bb (soprano)

$$\hat{6} \tag{2.10.3}$$

20.3 Resolving a vii^{o}7 chord

$$\hat{7} \tag{2.10.4}$$

Example 20–6.

0:00 / 0:00

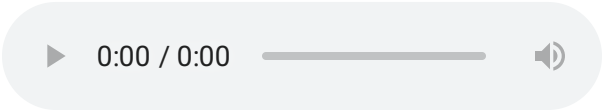
example_20-6

$$\hat{4} \tag{2.10.5}$$

$$\hat{2} \tag{2.10.6}$$

The following example shows a typical resolution of a vii^{o}7 chord to i in C minor:

Example 20–7.



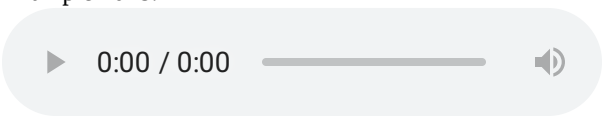
example_20-7

In Example 20–7, the bass (B§) forms a diminished fifth with the tenor (F). As vii^{o}7 resolves to i, we can see this tritone contracting to a minor third (C and Eb). Likewise, the augmented fourth between the alto and soprano (Ab and D) expands to form a minor sixth (G and Eb). Note the resulting doubled third in the tonic, which is common after fully-diminished leading-tone chords. Typically, contrary motion of this sort is the favored method of resolving tritones. Composers will occasionally resolve a tritone using similar motion, but will frequently restrict such a progression to the upper voices.

$$\hat{1} \tag{2.10.7}$$

$$\hat{6} \tag{2.10.8}$$

Example 20–8.

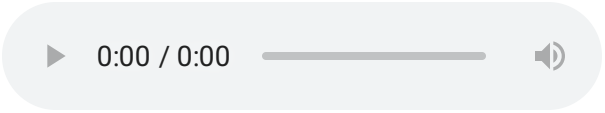


example_20-8

Note that in Example 20–8 the augmented fourth formed by the alto and soprano now resolves with similar motion to a perfect fourth.

Fully-diminished seventh chords resolve similarly in any position:

Example 20–9.



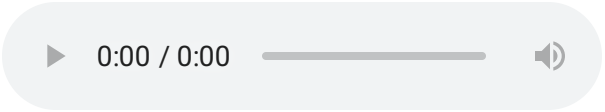
example_20-9

$$\hat{6} \tag{2.10.9}$$

Now consider the following example (Example 20–10b provides a reduction of mm. 5–6):

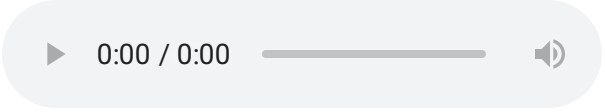
Example 20–10. *Ludwig van Beethoven, Piano Sonata No. 8 [“Pathétique”] (Op. 13), III. Rondo, mm. 1–8.*

a. original:



example_20-10a

b. reduction:



example_20-10b

In m. 5 we encounter a fully-diminished seventh chord in second inversion. Looking at the left-hand part, we see that all of the voices resolve as expected. Both of the tritones appear as augmented fourths and expand outward by contrary motion to sixths: F and B§ move in contrary motion to Eb and C while Ab and D do the same, to G and Eb.

A very similar resolution may be found in the following excerpt:

Example 20–11. *Louise Reichardt, "Durch die bunten Rosenhecken," mm. 1-8.*

a. original:

0:00 / 0:00

example_20-11a

b. reduction:

0:00 / 0:00

example_20-11b

$\hat{2}$ (2.10.10)

▼ Activity 20-2

Activity 20–2

Resolve the following fully-diminished seventh chords according to the voice leading procedures outlined above.

Exercise 20–2a:

Question

To what chord would the following fully-diminished seventh in first inversion normally resolve to?

0:00 / 0:00

activity_20-2a

▼ Hint

Which chord member is in the bass? To where does this pitch normally resolve?

▼ Answer

i6

Follow-up question

Resolve the fully-diminished seventh chord:

0:00 / 0:00

activity_20-2a

▼ Hint

Remember to resolve all tendency tones in the usual manner.

▼ Answer

0:00 / 0:00

activity_20-2a_answer2

Exercise 20–2b:

Question

To what chord would the following fully-diminished seventh in second inversion normally resolve to?

0:00 / 0:00

activity_20-2b

▼ Hint

Which chord member is in the bass? To where does this pitch normally resolve?

▼ Answer

i6

Follow-up question

Resolve the fully-diminished seventh chord:

0:00 / 0:00

activity_20-2b

▼ Hint

Remember to resolve all tendency tones in the usual manner.

▼ Answer

0:00 / 0:00

activity_20-2b_answer2

(Alternatively, C# in the alto may resolve to B).

Exercise 20–2c:

Question

To what chord would the following fully-diminished seventh in third inversion normally resolve to?

0:00 / 0:00

activity_20-2c

▼ Hint

Which chord member is in the bass? To where does this pitch normally resolve?

▼ Answer

cadential 6/4 or auxiliary 6/4

Follow-up question

Resolve the fully-diminished seventh chord:

0:00 / 0:00

activity_20-2c

▼ Hint

Remember to resolve all tendency tones in the usual manner.

▼ Answer

0:00 / 0:00

activity_20-2c_answer2

Exercise 20–2d:

Question

To what chord would the following fully-diminished seventh in root position normally resolve to?

0:00 / 0:00

activity_20-2d

▼ Hint

Which chord member is in the bass? To where does this pitch normally resolve?

▼ Answer

I

Follow-up question

Resolve the fully-diminished seventh chord:

0:00 / 0:00

activity_20-2d

▼ Hint

Remember to resolve all tendency tones in the usual manner.

▼ Answer

0:00 / 0:00

activity_20-2d_answer2

20.4 Resolving a vii^{ø}7 chord

$$\hat{4} \tag{2.10.11}$$

Example 20–12.

0:00 / 0:00

example_20-12

$$\hat{2} \tag{2.10.12}$$

Example 20–13.

0:00 / 0:00

example_20-13

$$\hat{2} \tag{2.10.13}$$

▼ Activity 20-3

Activity 20–3

In this activity, you will be presented with a series of fully-diminished and half-diminished seventh chords. For each exercise you will be asked to identify the tritones and then resolve the chord to the tonic triad.

Exercise 20–3a:

Question

Identify the tritones in the vii^{o}7 chord:

0:00 / 0:00

activity_20-3a

▼ Hint

$$\hat{7} \tag{2.10.14}$$

▼ Answer

G# and D form a diminished fifth, while B and F also form a diminished fifth.

Follow-up question

Now resolve the vii^{o}7 to i.

▼ Answer

0:00 / 0:00

activity_20-3a_answer

Exercise 20–3b:

Question

Identify the tritones in the vii^{o}7 chord:

0:00 / 0:00

activity_20-3b

▼ Hint

$$\hat{7} \tag{2.10.15}$$

▼ Answer

C# and G form a diminished fifth, while Bb and E form augmented fourth.

Follow-up question

Now resolve the vii^{o}7 to i.

▼ Answer

0:00 / 0:00

activity_20-3b_answer

Exercise 20–3c:

Question

Identify the tritone in the vii^{ø}7 chord:

0:00 / 0:00

activity_20-3c

▼ Hint

$$\hat{7} \tag{2.10.16}$$

▼ Answer

C# and G form a diminished fifth.

Follow-up question

Now resolve the vii^{ø}7 to I.

▼ Answer

0:00 / 0:00

activity_20-3c_answer

Exercise 20–3d:

Question

Identify the tritone in the vii^{ø}7 chord:

0:00 / 0:00

activity_20-3d

▼ Hint

$$\hat{7} \tag{2.10.17}$$

▼ Answer

D and Ab form a diminished fifth.

Follow-up question

Now resolve the vii^{ø}7 to I.

▼ Answer

0:00 / 0:00

activity_20-3d_answer

20.5 vii^{o}7 chords in major keys

The sound of a fully-diminished leading-tone chord is both striking and immediately recognizable, a characteristic that composers will often exploit even when the chord does not belong to the key at hand. Unlike vii^{ø}7 chords, which typically appear only in major-key contexts, vii^{o}7 chords are commonly encountered in both major and minor. The following example shows the construction of the chord in C major and in C minor:

Example 20–14.

0:00 / 0:00

example_20-14

$$\hat{6} \tag{2.10.18}$$

The following example is in Ab major and includes several prominent fully-diminished leading tone sevenths:

Example 20–15. *Frédéric Chopin, Mazurkas (Op. 17), mm. 1–8.*

0:00 / 0:00

example_20-15

The leading-tone chords on the downbeats of the opening bars in this excerpt all include Fb instead of F§. Combined with the suspended Cs in the right hand, these borrowed tones enhance the peculiar, dissonant character of the passage.

▼ Activity 20-4

Activity 20–4

$$\hat{6} \tag{2.10.19}$$

Exercise 20–4a:

Question

Build a root position fully-diminished leading tone seventh chord in D minor.

0:00 / 0:00

activity_20-4a

▼ Hint

Remember to raise the leading tone in minor.

▼ Answer

0:00 / 0:00

activity_20-4a_answer

(Answers may vary, provided C# is in the bass with E, G, Bb in the upper voices.)

Exercise 20–4b:

Question

Build a root position fully-diminished leading tone seventh chord in F major.

0:00 / 0:00

activity_20-4b

▼ Hint

$$\hat{6} \tag{2.10.20}$$

▼ Answer

0:00 / 0:00

activity_20-4b_answer

(Answers may vary, provided E is in the bass with G, Bb,Db in the upper voices.)

Exercise 20–4c:

Question

Build a root position fully-diminished leading tone seventh chord in E minor.

0:00 / 0:00

activity_20-4c

▼ Hint

Remember to raise the leading tone in minor.

▼ Answer

0:00 / 0:00

activity_20-4d_answer

(Answers may vary, provided D# is in the bass with F#, A, C in the upper voices.)

Exercise 20–4d:

Question

Build a root position fully-diminished leading tone seventh chord in G major.

▼ Hint

$$\hat{6} \tag{2.10.21}$$

▼ Answer

0:00 / 0:00

activity_20-4d_answer

(Answers may vary, provided F# is in the bass with A, C, Eb in the upper voices.)

20.6 Diminished-seventh chords as dominant substitutes

As its name indicates, the leading-tone seventh chord includes the leading tone as its root. As discussed in Chapter 19, the leading tone is an important member of the dominant seventh chord. The similarity between these two chords, however, does not end here. The following example compares dominant seventh chords with fully-diminished leading-tone chords in both C major and C minor:

Example 20–16.

0:00 / 0:00

example_20-16

$$\hat{7} \tag{2.10.22}$$

Notice the similarity between the V7 and vii^{o}4/3 chords in m. 8 of the following excerpt:

Example 20–17 *Carlota Ferrari, 6 Melodie, 5. "Son figliuola d'una fata," mm. 6-9.*

a. original:

0:00 / 0:00

example_20-17a

b. reduction:

0:00 / 0:00



In the first half of m. 8 we see a dominant seventh chord with pitch classes E, G#, B, and D. In the second half of the same measure, after beat three, the D is transferred down an octave while the G# and B are held in place. The root of the V7 chord (E) steps up to form the seventh of the vii^{o}4/3 (F).

20.7 Summary

$$\hat{7} \tag{2.10.23}$$

$$\hat{7} \tag{2.10.24}$$

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2.11: Figured Bass
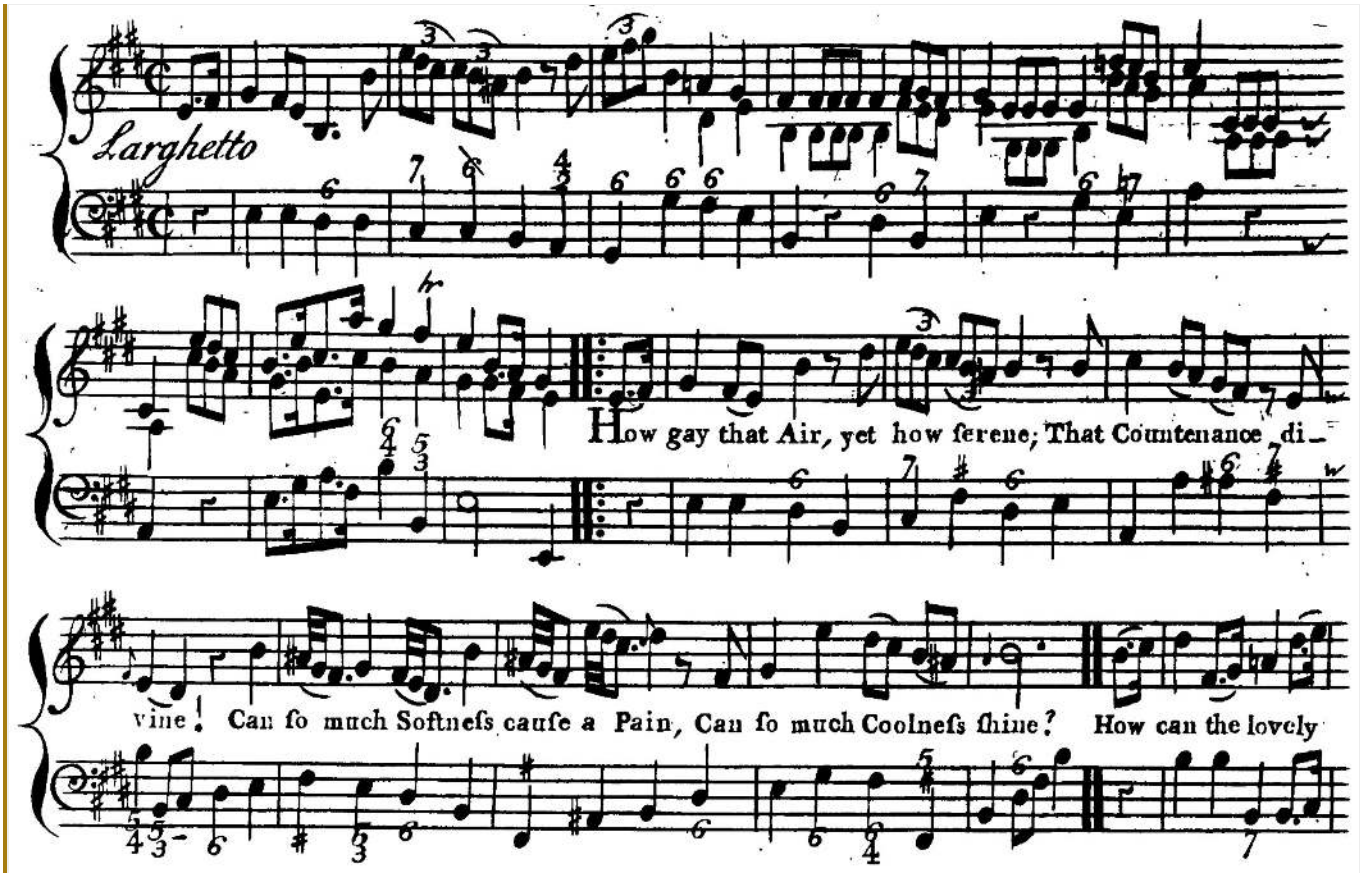
21.1 Introduction

Chapter 13 introduced the concept of figured bass numerals as a technique for indicating chord inversion. In this chapter you will learn about various other uses of figured bass.

Figured bass comes from a Baroque compositional practice in which composers used a numerical shorthand to provide an accompanist with a harmonic blueprint. This consisted of a notated bass line coupled with a series of Arabic numerals (1, 2, 3, etc.) and various other symbols. The following excerpt provides an example:

Example 21–1. *Elizabeth Turner, A Collection of Songs, 1. "How gay that air, yet how serene," mm. 1–18.*

a. Facsimile of publication from 1756:



b.

0:00 / 0:00

example_21-1b

The numerals and symbols above or below the notes on the lower staff indicated intervals to be played above the bass. The placement of the actual pitches (register, doublings, etc.) was left to the accompanist. In this way, the composer would be able to quickly specify harmonic progressions, though not the chord voicings or, for the most part, the voice-leading from one chord to the next.

For music analysts today, figured bass is useful in two ways:

1. for indicating chord inversions and

2. for representing intervals and melodic motion above a bass line.

In this chapter, we will discuss both of these applications and how they interact. Because figured bass developed as a type of shorthand, numerous abbreviations are used; our discussion will cover the most common ones.

21.2 Intervals above the bass

Example 21–2 shows a bass note with figures:

Example 21–2.

0:00 / 0:00

example_21-2

As explained above, the Arabic numerals indicate intervals above the bass. In other words, the 6 and the 3 specify that a sixth and a third must occur somewhere above the A. The quality of each interval (major, minor, etc.) is determined by the key signature unless otherwise specified (more on this below). In this case, a third above the A in the bass would be C# and a sixth above the bass would be an F#, as dictated by the A-major key signature. The following example shows the complete chord, an F#-minor triad in first inversion:

Example 21–3.

0:00 / 0:00

example_21-3

The figures specify the intervals to be played above the bass in a generic way. They do not specify the register of pitches forming those intervals. In other words, any interval indicated by the bass figures may be compounded by one or more octaves. Take another look at Example 21–3. The C# was placed two steps above the bass note A. It would have been equally valid to place the C# on the first ledger line above the bass staff—or in any other octave, provided the note lies somewhere above the bass:

Example 21–4.

0:00 / 0:00

example_21-4

As we will see later on, the decision to realize a bass figure as a simple or compound interval will depend on the musical context. Furthermore, bass figures do not specify anything about doublings—two or more members of the same pitch class appearing in different registers. It would therefore be equally valid to include both the C# just above the bass *and* the C# an octave higher:

Example 21–5.

0:00 / 0:00

example_21-5

The following examples show valid SATB voicings of the figured bass from Example 21–2:

Example 21–6.

0:00 / 0:00

example_21-6

Example 21–7.

0:00 / 0:00

example_21-7

Example 21–6 has wider spacing and doubles the bass two octaves above in the alto. Example 21–7 doubles the sixth and has the voices more tightly arranged. Despite these somewhat superficial differences, however, all of the examples above show the same chord: an F#-minor triad in first inversion (a i chord in F#-minor or a vi chord in A major).

▼ Activity 21-1

Activity 21–1

In this activity, you will be presented with a series of single-note figured bass examples. For each exercise, indicate the pitches that must appear above the bass according to the figures. (Remember, unless otherwise specified, the quality of the interval is determined by the key signature.)

Exercise 21–1a:

Question

0:00 / 0:00

activity_21-1a

According to the figured bass signature, what pitches must appear above this bass note?

▼ Hint

Remember, the Arabic numerals indicate the intervals above the bass. The quality is determined by the key signature.

▼ Answer

A and F#

Exercise 21–1b:

Question

0:00 / 0:00

activity_21-1b

According to the figured bass signature, what pitches must appear above this bass note?

▼ Hint

Remember, the Arabic numerals indicate the intervals above the bass. The quality is determined by the key signature.

▼ Answer

Bb and G

Exercise 21–1c:

Question

0:00 / 0:00

activity_21-1c

According to the figured bass signature, what pitches must appear above this bass note?

▼ Hint

Remember, the Arabic numerals indicate the intervals above the bass. The quality is determined by the key signature.

▼ Answer

G# and D

Exercise 21–1d:

Question

0:00 / 0:00

activity_21-1d

According to the figured bass signature, what pitches must appear above this bass note?

▼ Hint

Remember, the Arabic numerals indicate the intervals above the bass. The quality is determined by the key signature.

▼ Answer

A and E

Figures under a bass line can also indicate melodic motion in the upper voices:

Example 21–8.

0:00 / 0:00

example_21-8

In Example 21–8, the figures indicate that the sixth above the bass will step down to the fifth, from F# to E. This is indicated specifically by the "6–5" figure. (The "–5" applies only to the "6" because they are found next to one another on the same line horizontally.) Simultaneous motion in several voices can also be indicated in this manner:

Example 21–9.

0:00 / 0:00

example_21-9

In some cases this kind of motion in the upper voices may end up creating an entirely new chord. We will return to this idea momentarily.

▼ Activity 21-2

Activity 21–2

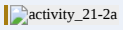
The figured bass signatures in each of the following exercises indicate the presence of melodic motion in one or more of the upper voices. For each exercise, identify the voice or voices where the melodic motion should occur. Then, indicate the pitch to

which that voice should move.

Exercise 21–2a:

Question

0:00 / 0:00



In which voice will the 6–5 motion indicated by the figured bass occur?

▼ Hint

Which voice forms a sixth (or compound sixth) with the bass?

▼ Answer

Alto

Follow-up question

To which pitch should the voice in question move?

▼ Hint

Remember to make sure that your answer forms a fifth with the bass and corresponds with the key signature.

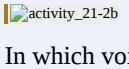
▼ Answer

F#

Exercise 21–2b:

Question

0:00 / 0:00



In which voice will the 8–7 motion indicated by the figured bass occur?

▼ Hint

Which voice forms an octave (or compound octave) with the bass?

▼ Answer

Alto

Follow-up question

To which pitch should the voice in question move?

▼ Hint

Remember to make sure that your answer forms a fifth with the bass and corresponds with the key signature.

▼ Answer

Eb

Exercise 21–2c:

Question

0:00 / 0:00

activity_21-2c

In this example, there is melodic motion in two voices. In which voice will the 6–5 motion indicated by the figured bass occur? In which voice will the 4–3 motion indicated by the figured bass occur?

▼ Hint

Which voice forms a sixth (or compound sixth) with the bass? Which voice forms a fourth (or compound fourth) with the bass?

▼ Answer

The alto voice forms a sixth above the bass. The soprano voice forms a fourth above the bass.

Follow-up question

To which pitches should the voices in question move?

▼ Hint

Remember to make sure that your answers form the specified intervals with the bass and that they correspond with the key signature.

▼ Answer

The alto should move to E and the soprano should move to C#.

Exercise 21–2d:

Question

0:00 / 0:00

activity_21-2d

In which voice will the 6–5 motion indicated by the figured bass occur?

▼ Hint

Which voice forms a sixth (or compound sixth) with the bass?

▼ Answer

Tenor

Follow-up question

To which pitch should the voice in question move?

▼ Hint

Remember to make sure that your answer forms a fifth with the bass and corresponds with the key signature.

▼ Answer

G

▼ Activity 21-3

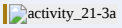
Activity 21–3

In this activity, you will be presented with a series of single-note figured bass examples. For each exercise, indicate the pitches that must appear above the bass according to the figures. The exercises will consist of both triads and seventh chords, and the figured bass signatures may be abbreviated. (Remember, unless otherwise specified, the quality of the interval is determined by the key signature.)

Exercise 21–3a:

Question

0:00 / 0:00



According to the figured bass signature, what pitches must appear above this bass note?

▼ Hint

Remember, the Arabic numerals indicate the intervals above the bass. The quality is determined by the key signature.

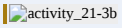
▼ Answer

D, F#, and A

Exercise 21–3b:

Question

0:00 / 0:00



According to the figured bass signature, what pitches must appear above this bass note?

▼ Hint

Remember, the Arabic numerals indicate the intervals above the bass. The quality is determined by the key signature.

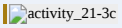
▼ Answer

D and Ab

Exercise 21–3c:

Question

0:00 / 0:00



According to the figured bass signature, what pitches must appear above this bass note?

▼ Hint

Remember, the Arabic numerals indicate the intervals above the bass. The quality is determined by the key signature.

▼ Answer

D#,F#, and A

Exercise 21–3d:

Question

0:00 / 0:00

activity_21-3d

According to the figured bass signature, what pitches must appear above this bass note?

▼ Hint

Remember, the Arabic numerals indicate the intervals above the bass. The quality is determined by the key signature.

▼ Answer

E and G

21.3 Chromatic alterations

As explained above, figured-bass signatures assume diatonic intervals above bass notes. In other words, the key signature determines the quality of the intervals. If a non-diatonic pitch is required, accidentals (b,#, etc.) appear next to the figured-bass signatures.

Example 21–10.

0:00 / 0:00

example_21-10

Example 21–13 shows a bass A with the figure 5/#3. The accidental next to the 3 specifies that a C# is required instead of a C. An accidental that occurs by itself is assumed to affect the third above the bass (since the third is the most the most frequently altered member of a chord):

Example 21–11.

0:00 / 0:00

example_21-11

Multiple chromatic alterations may occur simultaneously as well:

Example 21–12.

0:00 / 0:00

example_21-12

Another common convention is to indicate a raised pitch by drawing a slash or a small vertical line through the appropriate figure. The A-major triad of Example 21–15 could also be indicated by the following figured bass:

Example 21–13.

0:00 / 0:00

example_21-13

The slash through the 3 indicates that the third above the bass must be raised by a semitone (C# instead of C).

▼ Activity 21-4

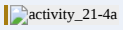
Activity 21–4

Each of the figured bass signatures in the following exercises require at least one chromatic alteration. For each exercise, indicate the pitches that must appear above the bass according to the figures. The exercises will consist of both triads and seventh chords, and the figured bass signatures may be abbreviated.

Exercise 21–4a:

Question

0:00 / 0:00



According to the figured bass signature, what pitches must appear above this bass note?

▼ Hint

Remember, a slash through a numeral indicates a pitch a half step above the diatonic pitch.

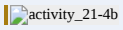
▼ Answer

F# and A

Exercise 21–4b:

Question

0:00 / 0:00



According to the figured bass signature, what pitches must appear above this bass note?

▼ Hint

Remember, an accidental by itself is applied to the third above the bass.

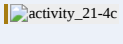
▼ Answer

E# and G#

Exercise 21–4c:

Question

0:00 / 0:00



According to the figured bass signature, what pitches must appear above this bass note?

▼ Hint

Remember, an accidental by itself is applied to the third above the bass.

▼ Answer

G#, B, and D

Exercise 21–4d:

Question

0:00 / 0:00

activity_21-4d

According to the figured bass signature, what pitches must appear above this bass note?

▼ Hint

Remember, accidentals in the figured bass signature must be applied to the appropriate intervals.

▼ Answer

Ab and Eb

21.4 Roman numeral analysis with figured bass

As discussed in Chapter 13 and Chapter 18, figured bass signatures can be used to indicate inversions of triads or seventh chords. They can also be combined with Roman numerals to indicate roots and positions of triads. Roman numerals indicate the scale degree of each chord's root. Figured-bass symbols, on the other hand, are determined by the intervals above the bass, irrespective of roots. Consider the following excerpt from a Bach chorale:

Example 21–14. *Johann Sebastian Bach, "Ach, lieben Christen, seid getrost" (BWV 256), mm. 1–2.*

0:00 / 0:00

example_21-14

$$\hat{6} \tag{2.11.1}$$

As mentioned earlier, figured-bass signatures may also indicate melodic motion above the bass, as in the passing seventh in the second measure. The figures 87 indicate that one of the upper voices—in this case, the alto—first forms an octave above the bass, and then steps down to form a seventh with the bass before the next beat.

It is crucial to remember that figured-bass signatures do not always indicate chord inversions. As with the V87 in Example 21–14, they may instead indicate movement over a stationary bass. Consider the following excerpt from a Bach chorale:

Example 21–15. *Johann Sebastian Bach, "Das walt' Gott Vater und Gott Sohn" (BWV 290), mm. 7–8.*

0:00 / 0:00

example_21-15

On the fourth beat of m. 7 we find what appears to be iii6 chord in F major: A, C, and E with C in the bass. The bass C is doubled at the octave in the tenor while the alto and soprano have E and A respectively. Although this sonority contains all the pitches of a iii6 chord, it would be incorrect to label it as such. The soprano and tenor voices contain accented passing tones: A and C, respectively. (See Chapter 15 for a discussion of passing and other nonharmonic tones.) These passing tones resolve to G and Bb on the second eighth note, creating a root-position V7 chord. The passage should therefore be analyzed like this:

Example 21–16. Analysis of *Johann Sebastian Bach, "Das walt' Gott Vater und Gott Sohn" (BWV 290), mm. 7–8.*

0:00 / 0:00

example_21-16

To label beat four as anything other than a V chord would undermine its important role in the underlying IV–V–vi progression, a common harmonic pattern in this style of music. It is important, in other words, that you consider the context when analyzing and labeling a chord. What appears to be an A-minor chord on beat four is actually just a byproduct of voice-leading. Such byproducts are quite common and it is important that you learn to identify them. To clarify how voice-leading can create apparent chords, consider the following example:

Example 21–17.

0:00 / 0:00

example_21-17

In Example 21–17, the entire measure consists of a C-major chord. Melodic motion above a stationary bass appears in two of the upper voices: the soprano and alto voices are each decorated with upper neighbor tones. Because the two neighbor notes together with the stationary bass coincidentally produce the pitches of an F-major chord, it is tempting to analyze passage like this:

Example 21–18.

0:00 / 0:00

example_21-18

However, that analysis is less convincing because the chord does not perform the typical function of a subdominant harmony. As we will see in the following chapters, IV chords usually lead to V chords. Such coincidentally formed chords as the IV6/4 in Example 21–18 will here be referred to as *auxiliary sonorities*. We will return to the somewhat tricky topics of harmonic function (Chapter 22 and Chapter 24) and auxiliary sonorities (Chapter 23) later on. For the time being it will suffice to say that a correct analysis of this progression will demonstrate that the I chord is being prolonged throughout the measure using figured-bass signatures to indicate the melodic motion:

Example 21–19.

0:00 / 0:00

example_21-19

If we compare the figures in this example with the figures in Example 21–12, we can see the different roles of figured bass. In Example 21–12, the figures indicate chord inversion. In Example 21–19, the figures indicate part movement above a stationary bass. Many sonorities—like the F-major chord in Examples 21–17 through 21–19—arise from melodic motion in one or more of the upper voices.

Making the kind of analytical decisions described here can be difficult at first and it may take some time to develop this skill. As with most skills, however, you will find that practice is crucial. With each analysis you complete you will become more familiar with common patterns and progressions. And with this familiarity you will grow more confident in the choices you make.

▼ Activity 21-5

Activity 21–5

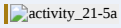
In this activity, you will be presented with a short passage from a chorale. Each exercise will have you analyze a single chord from the excerpt by providing a Roman numeral with figures.

Exercise 21–5a:

Question

Johann Sebastian Back, “Christ lag in Todesbanden” (BWV 279), mm. 3–4.

0:00 / 0:00



What Roman numeral should appear under the chord indicated by the arrow?

▼ Hint

Remember, the Roman numeral should be determined by the root of the chord (which may be in inversion).

▼ Answer

V

Follow-up question

What figures, if any, should accompany the Roman numeral?

▼ Answer

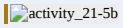
6,6/#, or 6/#3

Exercise 21–5b:

Question

Johann Sebastian Back, “Christ lag in Todesbanden” (BWV 279), mm. 3–4.

0:00 / 0:00



What Roman numeral should appear under the chord indicated by the arrow?

▼ Hint

Remember, the Roman numeral should be determined by the root of the chord (which may be in inversion).

▼ Answer

V

Follow-up question

What figures, if any, should accompany the Roman numeral?

▼ Answer

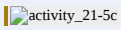
87,87/3,87/#3,87/#,87/5/3,87/5/#3, or 87/5/#

Exercise 21–5c:

Question

Johann Sebastian Back, “Christ lag in Todesbanden” (BWV 279), mm. 3–4.

0:00 / 0:00



What Roman numeral should appear under the chord indicated by the arrow?

▼ Hint

Remember, the Roman numeral should be determined by the root of the chord (which may be in inversion).

▼ Answer

ii

Follow-up question

What figures, if any, should accompany the Roman numeral?

▼ Answer

6/5 or 6/5/3

Exercise 21–5d:

Question

Johann Sebastian Back, "Christ lag in Todesbanden" (BWV 279), mm. 3–4.

0:00 / 0:00

activity_21-5d

What Roman numeral should appear under the chord indicated by the arrow?

▼ Hint

Remember, the Roman numeral should be determined by the root of the chord (which may be in inversion).

▼ Answer

i

Follow-up question

What figures, if any, should accompany the Roman numeral?

▼ Answer

5,5/3

21.5 Summary

Figured bass originated as a compositional shorthand. It consists of a bass line accompanied by a series of Arabic numerals. These numerals—*figured-bass signatures*—indicate intervals to be played above the bass. The intervals are assumed to be diatonic (in accordance with the prevailing key signature) unless the figured-bass signatures are modified by accidentals or slashes. Melodic motion in the upper voices is indicated by figured-bass signatures printed horizontally. These figures can be combined with Roman numerals to show the root progression and inversion simultaneously, but one must take care to distinguish between functional harmonies and sonorities that arise coincidentally as the result of melodic motion in one or more upper voices.

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2.12: Phrases, Cadences, and Harmonic Function

22.1 Introduction

Music, like all art, is communicative. Most composers, performers, and listeners agree that music conveys something—an idea, a story, an emotion—to the listener. A comparison with spoken or written language, then, will be instructive, particularly since a number of music theory terms are borrowed from linguistics. In this chapter, we will consider some of the similarities between listening to tonal Western art music and listening to speech. We will begin to discuss how a composition is structured over time and how certain musical features aid the listener in parsing their experience into manageable, meaningful parts.

As we will soon see, these features are closely related to relationships heard between successive members of a harmonic progression. We have already discussed how a single chord may convey different musical meaning in different contexts. An A-minor chord, for example, will be heard as a vi chord in C major and as a iv chord in E minor. (See Chapter 8 and Chapter 9.) But even within a single key, one chord may play different roles depending on the more immediate context. Furthermore, these roles—or *harmonic functions* as we will call them—may be played by different chords with different musical effects. This chapter will introduce the two most prominent harmonic functions: the *tonic function* and the *dominant function*.

22.2 Tonic (T) and dominant (D) functions

Consider the following example:

Example 22–1. *Elizabeth Pym Cumberland, 10 Canzonets, No. 2, mm. 1–16.*

0:00 / 0:00

example_22-1

The music in this excerpt does not flow unceasingly from beginning to end. The melody and harmonic progression are punctuated in three places, corresponding with punctuation marks in the text: m. 4, m. 8, and m. 16. We find rests at the end of each of these measures, but if the rests were omitted we would likely still hear these moments as conveying some sense of melodic and harmonic closure. We refer to these momentary gestures of closure as *cadences*. They divide this excerpt into three smaller passages. Borrowing a term from linguistics, we refer to each of these smaller passages as a *phrase*. In tonal Western art music, then, a phrase is a span of music that ends with a cadence.

In linguistics, a phrase functions as a complete unit. It conveys an idea. Sometimes this idea is complete and sometimes it links to other ideas coming before or after. It divides a communication into logical, manageable segments and in doing so allows us to make logical sense of the communication. A musical phrase does much the same thing—though, admittedly, musical ideas are usually much more abstract than spoken or written ideas! Most tonal Western art music proceeds in a manner similar to what we see in Example 22–1. The flow of music is punctuated by cadences that demarcate the boundaries of different sections in a piece.

Note: More often than not, phrases in tonal Western art music tend to be four bars long. In some cases this may be halved or doubled, depending on the tempo of the piece or passage. It not a requirement, however, that a phrase be two, four, or eight bars. You will frequently encounter phrases of all different lengths.

For the most part, the length of a musical phrase is similar to the length of a linguistic phrase. If a phrase is too short, a listener might not register it as a complete thought. If it is too long, it risks becoming unmanageable—or even incomprehensible—to the listener who is trying to make sense of it.

Note, too, that not all passages ending with cadences are phrases. For example, a lengthy transitional passage connecting two phrases may end with a cadence, but it should not be considered a phrase itself. We will discuss these distinctions in greater length in Chapter 35.

▼ Activity 22-1

Activity 22–1

In this exercise, you will identify the the number and locations of all the cadences in an excerpt.

Exercise 22–1a:

Question

How many cadences are in the following excerpt? Where are they?

Sophia Dussek, Harp Sonata No. 2 in G major (Op. 2), II. Allegro, mm. 1–16.

0:00 / 0:00

activity_22-1a

▼ Hint

Listen for resting points or moments of melodic and harmonic closure.

▼ Answer

There are four cadences in this excerpt: m. 4, m. 8, m. 12, and m. 16

Exercise 22–1b:

Question

How many cadences are in the following excerpt? Where are they?

Wolfgang Amadeus Mozart [arr. Wilhelm Meves], Symphony No. 40 in G minor (K.550), III. Menuetto, mm. 1–14.

0:00 / 0:00

activity_22-1b

▼ Hint

Listen for resting points or moments of melodic and harmonic closure.

▼ Answer

There are four cadences in this excerpt: m. 3, m. 6, and m. 14.

Exercise 22–1c:

Question

How many cadences are in the following excerpt? Where are they?

Johannes Brahms, Variations on a Theme by Haydn, (Op. 56b), mm. 1–10.

0:00 / 0:00

activity_22-1c

▼ Hint

Listen for resting points or moments of melodic and harmonic closure.

▼ Answer

There are two cadences in this excerpt: m. 5 and m. 10.

Listen to Example 22–1 again, and pay close attention to the way each of the three phrases (mm. 1–4, 5–8, and 9–16) begins and ends. The first phrase starts with a I chord. When it ends with another I chord in m. 4, the listener has a sense of closure. The end of

the second phrase, on the other hand, feels less conclusive. It begins with the same tonic harmony, but ends with an unresolved V chord. Ending on V leads the listener to expect more music. The third phrase fulfills this expectation. It begins once again with a I chord. This phrase is longer—equal in length to both of the phrases that came before it—and it ends with the most conclusive gesture of all three cadences bringing a sense of closure to the whole excerpt.

The following example reproduces just the first phrase from the excerpt above:

Example 22–2. *Elizabeth Pym Cumberland, 10 Canzonets, No. 2, mm. 9–16.*

0:00 / 0:00



Harmonically, this phrase is very simple. It consists of only tonic and dominant chords. There is a tonic chord in every measure, but despite this apparent redundancy we hear these chords in different ways. The I chord in m. 1, for example, introduces the phrase. Like the others that follow, it is consonant and stable, but this initial tonic performs the important task of orienting the listener in Eb major. Compare this to the I chords in mm. 2–3. These harmonies echo the initial tonic and reaffirm the key. The I chord in m. 4 follows suit. At this point, the listener is firmly grounded in the key and so the final return to I feels like an ending, a return home.

Now consider the dominant harmonies. Dominant sevenths appear in both m. 1 and m. 4, but again these chords play slightly different roles. The V7 in m. 4 feels more substantial. When it moves to I we hear it as an integral part of the cadence that ends the phrase. The V7 in m. 1 feels somewhat inconsequential by comparison. It supports the opening tonic and even though it too proceeds to a I chord, we do not get the sense that it is participating in a cadence.

The role a chord plays within a phrase is its *harmonic function*. When we label a chord with a Roman numeral, we are cataloging the content and structure of an individual sonority. When we analyze a piece or passage and consider how a sonority relates to its context and the effect it has on us as listeners, we are identifying its function. The two most important harmonic functions in tonal Western art music are named after their most common representatives: *tonic function* and *dominant function*. (We will add a third harmonic function to this list in Chapter 24.)

$$\hat{1} \tag{2.12.1}$$

$$\hat{7} \tag{2.12.2}$$

The resolutions of tendency tones are shown with arrows in the following example:

Example 22–3.

0:00 / 0:00



$$\hat{6} \tag{2.12.3}$$

Chords performing tonic and dominant functions may appear at different locations within a phrase, but their role is clearest when they form part of a cadence. The remaining sections of this chapter will discuss several of the most common types of cadences.

22.3 Authentic cadences

As we have seen, not all cadences are equal in terms of the sense of resolution they convey to a listener. Some cadences feel very strong and conclusive while others feel weak and open-ended. In Example 22–1, most listeners will hear the third cadence as the strongest and the second cadence as the weakest. The first cadence, then, lies somewhere in between with regards to its strength or conclusiveness. The relative strength of a cadence depends on a number of factors. Rhythm, metrical placement, dynamics and other musical dimensions all play a role in determining how conclusive a cadence sounds, but the most important factors are melodic and harmonic.

A cadence that consists of a dominant-function chord (usually V or V7) resolving directly to a phrase-ending tonic-function chord (usually I) is known as an *authentic cadence*. Authentic cadences are considered the most conclusive sounding cadences in tonal

Western art music. Both the first and third phrases in the Example 22–1 end with authentic cadences:

Example 22–4. *Elizabeth Pym Cumberland, 10 Canzonets, No. 2, mm. 9–16.*

a. first phrase cadence (m. 4)

0:00 / 0:00



a. second phrase cadence (mm. 15–16)

0:00 / 0:00



Both of these cadences consist of a two-part gesture: the dissonance and tendency tones of a V7 resolve to a I at the end of the phrase. They are equivalent in terms of their harmonic content and both convey a sense of closure. The second one, however, feels more conclusive than the first. Again, there are numerous factors contributing to our hearing of these two endings, but the most prominent has to do with the melodic content of the outer voices.

$$\hat{1} \tag{2.12.4}$$

▼ Activity 22-2

Activity 22–2

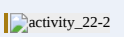
Exercise 22–2:

Question

The excerpt below has three authentic cadences. Where are they?

Wolfgang Amadeus Mozart, Piano Sonata No.11 in A major (K.331/300i), I. Andante grazioso, mm. 1–18.

0:00 / 0:00



▼ Hint

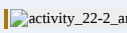
Listen for resting points or moments of melodic and harmonic closure that feel relatively conclusive.

▼ Answer

There are authentic cadences in m. 8, m. 16, and m. 18. (The cadences in m. 4 and m. 12 are not authentic cadences.)

Wolfgang Amadeus Mozart, Piano Sonata No.11 in A major (K.331/300i), I. Andante grazioso, mm. 1–18.

0:00 / 0:00



22.4 Perfect authentic cadences

$$\hat{5} \tag{2.12.5}$$

The following example shows another PAC, this time in D major:

Example 22–5. *Julie Candeille, Keyboard Sonata No. 1 in D major (Op. 8), mm. 1–12.*

0:00 / 0:00

example_22-5

$$\hat{2} \tag{2.12.6}$$

Of course, PACs can occur in minor keys as well. The following excerpt concludes with the same cadence as the one heard in Example 22–5, only this time in D minor:

Example 22–6. *Elisabetta de Gambarini, Harpsichord Sonata in D minor (Op. 1, No. 6), III. Allegro grazioso, mm. 50–56.*

0:00 / 0:00

example_22-6

$$\hat{5} \tag{2.12.7}$$

The following example also has just two melodic lines:

Example 22–7. *Elisabetta de Gambarini, Giga in D major (Op. 2, No. 14), mm. 64–67.*

0:00 / 0:00

example_22-7

$$\hat{1} \tag{2.12.8}$$

$$\hat{2} \tag{2.12.9}$$

Example 22–8. *Frances L. Hummell, Favorite Waltzes, Collection 4, 2. Russian Waltz, mm. 1–8.*

0:00 / 0:00

example_22-8

$$\hat{1} \tag{2.12.10}$$

Example 22–9. *Charlotte Amalie Sachsen-Gotha-Altenburg, Canzonette fürs Klavier mit Veränderungen, Variation 3, mm. 11–16.*

0:00 / 0:00

example_22-9

$$\hat{2} \tag{2.12.11}$$

In the following example, the upper voice resolution is rhythmically altered in the opposite direction:

Example 22–10. *Elisabetta de Gambarini, Harpsichord Sonata in D minor (Op. 1, No. 6), I. Allegro grazioso, mm. 26–30..*

0:00 / 0:00

example_22-10

$$\hat{1} \tag{2.12.12}$$

The following example has two PACs with a different kind of nonharmonic tone:

Example 22–11. *Josephine Aurnhammer, 8 Variations on the Contradanza from La figlia mal custodita,' mm. 1–8.*

0:00 / 0:00

example_22-11

$$\hat{2} \tag{2.12.13}$$

Despite the voice-leading restrictions that define a PAC, there is quite a bit of variety in how conclusive these cadences sound. The finality of a cadence is largely determined by the melodic motion in the outer voices, but as we have already suggested, there are many other factors as well. Consider the two PACs in the following example:

Example 22–12. *Josephine Frances L. Hummell, Favorite Waltzes, Collection 4, 7. Spanish Waltz, mm. 1–16.*

0:00 / 0:00

example_22-12

$$\hat{1} \tag{2.12.14}$$

22.5 Imperfect authentic cadences

$$\hat{1} \tag{2.12.15}$$

The following example shows another IAC, this time in D major:

Example 22–13. *Elisabetta de Gambarini, Harpsichord Sonata in D major (Op. 1, No. 2), mm. 1–4.*

0:00 / 0:00

example_22-13

$$\hat{4} \tag{2.12.16}$$

In the following example, the authentic cadence is considered imperfect because of melodic events in both voices:

Example 22–14. *Elizabeth Pym Cumberland, 10 Canzonets, No. 8, mm. 9–12.*

0:00 / 0:00

example_22-14

$$\hat{4} \tag{2.12.17}$$

The first three phrases in the following example all end with IACs:

Example 22–15. *Franz Schubert, 4 Impromptus (D.935), No. 2 in A-flat Major, mm. 1–16.*

0:00 / 0:00

example_22-15

$$\hat{2} \tag{2.12.18}$$

So far we have seen only cadences with V or V7 as the functional dominant. Now consider the IAC at the end of the following phrase:

Example 22–16. *Johannes Brahms, 49 Deutsche Volkslieder (WoO 33), 7. "Gunhilde," mm. 1–4.*

0:00 / 0:00

example_22-16

$$\hat{7} \tag{2.12.19}$$

Example 22–17.

0:00 / 0:00

example_22-17

$$\hat{7} \tag{2.12.20}$$

The following example shows a similar progression:

Example 22–18. *Robert Schumann, Album für die Jugend (Op. 68), 11. "Sicilianisch," mm. 1–4.*

0:00 / 0:00

example_22-18

$$\hat{2} \tag{2.12.21}$$

▼ Activity 22-3

Activity 22–3

Exercise 22–3:

Question

The following excerpt has four cadences, three of which are authentic cadences. Which of the three authentic cadences are perfect and which are imperfect? Which is not an authentic cadence?

Sophia Dussek, Harp Sonata No. 2 in G major (Op. 2), III. Rondo–Allegro moderato, mm. 1–16.

0:00 / 0:00

activity_22-3

▼ Hint

$$\hat{5} \tag{2.12.22}$$

▼ Answer

The authentic cadences in m. 4 and m. 12 are IACs. The authentic cadence in m. 16 is a PAC. The cadence in m. 8 is not an authentic cadence.

Sophia Dussek, Harp Sonata No. 2 in G major (Op. 2), III. Rondo–Allegro moderato, mm. 1–16.

0:00 / 0:00

activity_22-3_answer

22.6 Half cadences

As we have seen, an authentic cadence consists of a two-part harmonic gesture at the end of a phrase: an unstable dominant-function chord resolves to the tonic and conveys a sense of conclusiveness. In the cadences at the end of the following examples, we hear only the first half of this gesture:

Example 22–19. *Sophia Dussek, Harp Sonata No. 1 in Bb major (Op. 2), II. Rondo–Allegro, mm. 1–4.*

0:00 / 0:00

example_22-19

Example 22–20. *Ludwig van Beethoven, Piano Sonata No. 1 in F minor, (Op. 2, No. 1), I. Allegro, mm. 1–9.*

0:00 / 0:00

example_22-20

Both of the phrases above end with a dominant harmony. We do not hear the expected resolutions to the tonic. Such a phrase ending is known as a *half cadence*, since it consists of only the first half of an authentic cadence. (The half cadence is labeled “HC” in the example above.) The effect of a half cadence is remarkably different from what we have heard so far. It sounds very unresolved. Rather than moving to the expected points of stability, the tendency tones in the dominant are left hanging.

A half cadence brings a sense of closure to a phrase, but the listener is left wanting more. This expectation for harmonic resolution is often fulfilled by the following phrase, as in the following two examples:

Example 22–21. *Luise Adolpha Le Beau, 3 Klavierstücke (Op. 1), 2. Lied–Einfach (G minor), mm. 1–8.*

0:00 / 0:00

example_22-21

Example 22–22. *Elizabeth Pym Cumberland, 10 Canzonets, No. 4, mm. 1–8.*

0:00 / 0:00

example_22-22

In each of the cases above, the first phrase ends with an inconclusive half cadence. A second, similar phrase follows and ends with an authentic cadence providing the expected resolution of the dominant. Note that in each of the examples above, the first chord after the half cadence is a tonic harmony. This should not be confused with an authentic cadence. In an authentic cadence, the tonic is heard at the end of a phrase. Here, the tonic in m. 5 of each example appears at the beginning of a new and separate phrase and so is not considered a part of the cadence.

Because a half cadence so strongly implies a need for further music, it can be sometimes be difficult to distinguish them from their context. In the following example, a half cadence may be heard at the end of m. 4, followed by a PAC four bars later:

Example 22–23. *Louise Farrenc, 25 Etudes faciles (Op. 50), No. 4 in E minor, mm. 1–8.*

0:00 / 0:00

example_22-23

In Example 22–23, a stream of sixteenth notes flows steadily until the second beat of m. 8. It is possible, then, to hear this as a single, eight-bar phrase. There are, however, several factors that break the passage into two four-bar phrases: the contour of the sixteenth-note figure is altered and switches to the left hand in m. 5, the bass repeats a note (B) for the first time, and the dotted-quarter-note melody in mm. 5–7 (B–C–B–A–B) recalls the melody heard in mm. 1–3. Listen again to Example 22–21 and Example 22–22 and compare them to Example 22–23.

Note: Phrases often work together. In each of the three examples above, we heard a pair of similar phrases, the first ending inconclusively with a half cadence and the second ending conclusively with an authentic cadence. Such a pair of phrases is known as a *period* and will be discussed in greater detail in Chapter 35.

▼ Activity 22-4

Activity 22–4

Exercise 22–4:

Question

Identify each of the cadences in the following excerpt:

Friedrich Kuhlau, Piano Sonatina in G major (Op. 20, No. 2), mm. 1–16.

0:00 / 0:00

activity_22-4

▼ Hint

Consider how conclusive each cadence sounds, and keep in mind the various parameters used to categorize different cadences.

▼ Answer

The cadence in m. 4 is an IAC, the cadence in m. 8 is a HC, the cadence in m. 12 is an IAC, and the cadence in m. 16 is a PAC..

Friedrich Kuhlau, Piano Sonatina in G major (Op. 20, No. 2), mm. 1–16.

0:00 / 0:00

activity_22-4_answer

22.7 Deceptive cadences

In the following example, the first phrase ends with an unexpected harmony:

Example 22–24. *Johann Sebastian Bach, Wachet auf, ruft uns die Stimme (BWV 140), 7. "Gloria sei dir gesungen," mm. 34–40.*

0:00 / 0:00

example_22-24

$$\hat{6} \qquad (2.12.23)$$

Note: Deceptive cadences are much less common than authentic and half cadences. It is rare to encounter a piece of tonal Western art music that does not include authentic and half cadences. Deceptive cadences, on the other hand, appear only occasionally and a majority of compositions do not include them at all.

The effect of a deceptive cadence is somewhat surprising, though the vi chord does not seem entirely out of place. Consider the similarities between a I chord and a vi chord:

Example 22–25.

0:00 / 0:00

example_22-25

$$\hat{1} \tag{2.12.24}$$

The following examples both include deceptive cadences:

Example 22–26. *Louise Reichardt, "Poesia di Metatasio", mm. 31–38.*

0:00 / 0:00

example_22-26

Example 22–27. *Louise Reichardt, "Aus Novalis Hymnen an die Nacht," mm. 46–51.*

0:00 / 0:00

example_22-27

In each of the examples above, the deceptive cadence is soon followed by a conclusive PAC. The deceptive cadence sets up an expectation, the fulfillment of which is delayed until the PAC provides the implied tonic harmony. The effect is a provocative stretching out of the gesture which for many listeners makes the eventual conclusion all the more satisfying.

▼ Activity 22-5

Activity 22–5

In this exercise, you will resolve dominant chords deceptively.

Exercise 22–5a:

Question

Resolve the following dominant chord with a deceptive cadence:

0:00 / 0:00

activity_22-5a

▼ Hint

Aside from the bass, all of the other voices may move as though the dominant were resolving to a tonic triad. (Beware of parallel octaves with the bass!)

▼ Answer

0:00 / 0:00

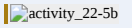
activity_22-5a_answer

Exercise 22–5b:

Question

Resolve the following dominant chord with a deceptive cadence:

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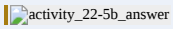


▼ Hint

Aside from the bass, all of the other voices may move as though the dominant were resolving to a tonic triad.

▼ Answer

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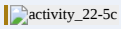


Exercise 22–5c:

Question

Resolve the following dominant chord with a deceptive cadence:

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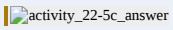


▼ Hint

Aside from the bass, all of the other voices may move as though the dominant were resolving to a tonic triad. (Beware of parallel octaves with the bass.)

▼ Answer

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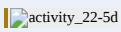


Exercise 22–5d:

Question

Resolve the following dominant chord with a deceptive cadence:

0:00 / 0:00



▼ Hint

Aside from the bass, all of the other voices may move as though the dominant were resolving to a tonic triad.

▼ Answer

0:00 / 0:00

activity_22-5d_answer

22.8 Summary

Chords can have different musical meanings depending on their context in a piece or passage. We refer to this meaning as a chord's *harmonic function*. The two most important functions in tonal Western art music are the *tonic function* and the *dominant function*. The tonic function—usually performed by a tonic triad—conveys a sense of restfulness to a listener. It is characteristically consonant and stable. At the beginning of a musical expression, it establishes the key and gives the listener a sense of tonal groundedness. At the end of a musical expression, it conveys a sense of repose and, after contrasting harmonic material, a sense of closure. The dominant function—usually performed by a V or V7 chord—acts as a foil to the tonic. It contains tendency tones which convey a sense of urgency to resolve to points of greater stability.

A *phrase* is a passage of music, typically four bars long, that conveys a musical idea. The harmonic gesture that signals the end of a phrase is known as a *cadence*. The relationship between tonic and dominant is most apparent at cadences, which are ranked and labeled according to how conclusive they sound to a listener.

$$\hat{1} \tag{2.12.25}$$

A *half cadence* ends a phrase with only the first half of an authentic cadence: the dominant. Compared to an authentic cadence, a half cadence feels very unresolved and is characteristically followed by a second phrase ending more conclusively. A *deceptive cadence* swaps out the tonic triad with a weak tonic substitute: the submediant—which, like the vii^{o} chord, has several scale degrees in common with the chord it replaces. Authentic and half cadences are extremely common, deceptive cadences much less so.

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2.13: Auxiliary Sonorities

23

23. Auxiliary Sonorities

Andre Mount

23.1 Introduction

Techniques of harmonic expansion play a crucial role in tonal Western art music. By prolonging harmonies over time, composers are able to build or sustain musical tension and expand musical works to large dimensions. We have already learned about melodic embellishment as a means of decorating individual tones (see Chapter 15). These techniques can be broadened, through combination with basic interval progressions, to embrace entire harmonies.

In this chapter you will apply your knowledge of basic interval progressions to expand a single harmony. We will begin by expanding a chord in root position with a *neighboring* auxiliary sonority. From there we will expand a harmony as it changes from root position to first inversion through a *passing* auxiliary sonority. In each case, the chord undergoing expansion will be called a *reference* sonority. Examples from actual compositions will be provided throughout.

23.2 Neighboring auxiliary sonorities

Let us begin by considering the expansion of a single triad:

Example 23–1.

0:00 / 0:00

example_23-1

In this example, a root-position tonic triad will serve as the *reference* sonority. The soprano voice may be decorated through a simple melodic embellishment, a lower neighbor tone (N):

Example 23–2.

0:00 / 0:00

example_23-2

This neighbor note in the soprano can be accompanied in the bass, creating parallel thirds between the outer voices.

Example 23–3.

0:00 / 0:00

example_23-3

The example above may be left alone as a simple expansion of tonic harmony, with melodic embellishments in the outer voices. However, we can take the embellishments a step further. In the following example, the tenor is given an upper neighbor while the alto sustains a G:

Example 23–4.

0:00 / 0:00

example_23-4

Here we have the tenor moving away from C to its neighbor note, D, so that it is consonant with the neighbor notes in the soprano and bass. Both of the inner voices form valid interval progressions: the alto creates a 6–5–6 with the soprano and a 5–6–5 with the bass, while the tenor forms a 3–1–3 with the soprano and a 1–3–1 with the bass. Coincidentally, the multiple neighbor notes on the second beat of Example 23–4 produce the pitches of a first-inversion V chord. We will refer to such four-part expansions as *auxiliary sonorities*.

Note that a perfect fourth appears between the tenor and alto on the second beat. This fourth is a resultant interval and does not present a problem:

1. because it is not formed with the bass and, additionally,
2. because the auxiliary (neighboring) sonority is merely transitory, subordinate to the tonic undergoing expansion.

Note: As discussed, the pitches in the auxiliary sonority above form a valid triad on their own. The G, B, and two Ds of the auxiliary sonority constitute a V6 chord. However, this sonority comes about through neighbor-note motions. Although the notes of a V6 are undeniably present, the melodic origin of the sonority signals its subordinate function as a neighboring sonority tied to the tonic chord from which it arises.

In order to indicate that subordinate function, the progression is labeled “I .” In this chapter and elsewhere, we will put such sonorities in parentheses to emphasize their expansionary role:

Example 23–5.

0:00 / 0:00

example_23-5

This type of expansion occurs frequently in tonal music. Consider the following examples:

Example 23–6. *Johann Sebastian Bach, Ach wie flüchtig, ach wie nichtig (BWV 26), 6. “Ach wie flüchtig, ach wie nichtig,” m. 1.*

0:00 / 0:00

example_23-6

Example 23–7 *Louise Farrenc, 25 Études facile (Op. 50), 2. Andantino, mm. 1–4.*

0:00 / 0:00

example_23-7

Both of these excerpts—the first in major, the second in minor—show the expansion of the opening tonic triad with an auxiliary sonority. In each case, the bass is embellished with a lower neighbor tone while one of the upper voices is held and the other two are decorated with nonharmonic tones. In each case, the auxiliary sonority resembles a dominant triad in first inversion.

▼ Activity 23-1

Activity 23–1

In this activity, you will complete an expansion of a tonic triad by providing the pitches of an auxiliary sonority whose bass is a lower neighbor tone. For now, use only passing, neighbor, and sustained tones, and aim for smooth voice-leading.

Exercise 23–1a:

Question

Complete the following expansion of the D-major reference sonority with an auxiliary sonority whose bass is a lower neighbor tone. What pitch should appear in the bass?

0:00 / 0:00

activity_23-1a

▼ Hint

Remember, the bass of the auxiliary sonority should be the same as the bass of a V6 chord in D major.

▼ Answer

C#

Follow-up question

Now fill in the three upper voices.

▼ Hint

Remember to use only sustained, neighbor, and passing tones in the upper voices.

▼ Answer

0:00 / 0:00

activity_23-1a_answer

Exercise 23–1b:

Question

Complete the following expansion of the F-major reference sonority with an auxiliary sonority whose bass is a lower neighbor tone. What pitch should appear in the bass?

0:00 / 0:00

activity_23-1b

▼ Hint

Remember, the bass of the auxiliary sonority should be the same as the bass of a V6 chord in F major.

▼ Answer

E

Follow-up question

Now fill in the three upper voices.

▼ Hint

Remember to use only sustained, neighbor, and passing tones in the upper voices.

▼ Answer

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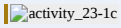
activity_23-1b_answer

Exercise 23–1c:

Question

Complete the following expansion of the G-major reference sonority with an auxiliary sonority whose bass is a lower neighbor tone. What pitch should appear in the bass?

0:00 / 0:00



▼ Hint

Remember, the bass of the auxiliary sonority should be the same as the bass of a V6 chord in G major.

▼ Answer

F

Follow-up question

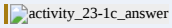
Now fill in the three upper voices.

▼ Hint

Remember to use only sustained, neighbor, and passing tones in the upper voices.

▼ Answer

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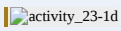


Exercise 23–1d:

Question

Complete the following expansion of the Bb-major reference sonority with an auxiliary sonority whose bass is a lower neighbor tone. What pitch should appear in the bass?

0:00 / 0:00



▼ Hint

Remember, the bass of the auxiliary sonority should be the same as the bass of a V6 chord in Bb major.

▼ Answer

A

Follow-up question

Now fill in the three upper voices.

▼ Hint

Remember to use only sustained, neighbor, and passing tones in the upper voices.

▼ Answer

0:00 / 0:00

activity_23-1d_answer

The examples above are by no means the only way to expand a chord. What if, for example, the bass were given an *upper* neighbor? The outer voices would form a 3–1–3 progression:

Example 23–8.

0:00 / 0:00

example_23-8

This expansion may be “filled out” in the same manner as above. Note that the tenor embellishment has been changed to a lower neighbor in order to avoid parallel octaves with the bass:

Example 23–9.

0:00 / 0:00

example_23-9

Here we have an interesting situation. In Chapter 12, it was stated that perfect fourths are considered dissonant in two-voice textures. That rule was qualified in Chapter 14 to permit perfect fourths as resultant intervals for voice pairs not involving the bass. In this example, however, we see a perfect fourth formed between the alto and the bass. This type of situation requires a further qualification regarding how composers use perfect fourths.

Perfect fourths may occur with the bass when they are part of an auxiliary sonority associated with a reference sonority. In Example 23–9, the perfect fourth between the alto and the bass occurs during the expansion of a tonic triad in a sonority that *coincidentally* produces the pitches of a V6/4 chord.

Note: Perfect fourths are considered dissonant and are typically treated as such. They are not generally permitted in two-voice textures. In textures with more than two voices, on the other hand, perfect fourths are permitted as resultant intervals between voice pairs not involving the bass. Perfect fourths may also occur with the bass in an auxiliary sonority.

A similar type of neighboring auxiliary sonority occurs when the bass is held. Consider the following example where the soprano of the same reference chord is given an upper neighbor note.

Example 23–10.

0:00 / 0:00

example_23-10

This F in the soprano forms a dissonance (again, a perfect fourth) with the bass, but is permissible since it is merely a melodic embellishment. The following example shows the alto accompanying the soprano in parallel sixths with an upper neighbor note of its own:

Example 23–11.

0:00 / 0:00

example_23-11

The tenor and bass may hold C throughout, as the following example indicates:

Example 23–12.

0:00 / 0:00

example_23-12

This progression illustrates again how an auxiliary sonority may coincidentally produce the pitches of an inverted chord. In this case, however, the auxiliary sonority resembles a IV chord in second inversion. The interval progressions formed by the upper voices against the bass are also shown in Example 23–12. The alto creates a 5–6–5 progression with the bass while the soprano creates a 3–4–3 progression. As was the case with the auxiliary V6, the perfect fourth between the bass and soprano is permissible here because of the inherent instability of a neighboring auxiliary sonority.

Note: We referred to the figure in Example 23–12 as a "neighboring auxiliary sonority." You may encounter some texts and teachers that use the term "neighbor 6/4." ("Neighbor" because the upper voices decorate chord tones with neighbor tones and "6/4" because of the intervals sounding above the bass note.) Others use the term "pedal 6/4." ("Pedal" because the bass note is sustained as though by pressing the sustain pedal on a piano.) The terms "neighbor 6/4" and "pedal 6/4" are used interchangeably.

The following excerpt shows an example of this sort of neighboring auxiliary sonority (compare Examples 23–12 and 23–13):

Example 23–13. *Wolfgang Amadeus Mozart, Piano Sonata No. 7 in C Major (K.309), III. Rondo, mm. 1–5.*

0:00 / 0:00

example_23-13

Here, the neighboring motion is seen clearly in the arpeggios of the left hand. The Es and Gs of mm. 1–2 and 5 are embellished with the upper–neighbor Fs and As in mm. 3–4 above a sustained C.

▼ Activity 23-2

Activity 23–2

In the last activity, you expanded a reference sonority with an auxiliary sonority whose bass is a lower neighbor tone. This time, expand the given chord with an auxiliary sonority that sustains the bass of the reference sonority. Again, remember to only use neighbor notes and to hold the common tones.

Exercise 23–2a:

Question

Complete the following expansion of the B-minor reference sonority with an auxiliary sonority that sustains the bass of the reference sonority. Fill in the upper voices:

0:00 / 0:00

activity_23-2a

▼ Hint

Remember to use only sustained, neighbor, and passing tones in the upper voices.

▼ Answer

0:00 / 0:00

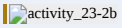
activity_23-2a_answer

Exercise 23–2b:

Question

Complete the following expansion of the A-major reference sonority with an auxiliary sonority that sustains the bass of the reference sonority. Fill in the upper voices:

0:00 / 0:00

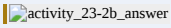


▼ Hint

Remember to use only sustained, neighbor, and passing tones in the upper voices.

▼ Answer

0:00 / 0:00

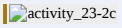


Exercise 23–2c:

Question

Complete the following expansion of the G-minor reference sonority with an auxiliary sonority that sustains the bass of the reference sonority. Fill in the upper voices:

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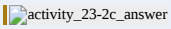


▼ Hint

Remember to use only sustained, neighbor, and passing tones in the upper voices.

▼ Answer

0:00 / 0:00

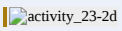


Exercise 23–2d:

Question

Complete the following expansion of the Eb-major reference sonority with an auxiliary sonority that sustains the bass of the reference sonority. Fill in the upper voices:

0:00 / 0:00



▼ Hint

Remember to use only sustained, neighbor, and passing tones in the upper voices.

▼ Answer

0:00 / 0:00

activity_23-2d_answer

23.3 Passing auxiliary sonorities

Expansions with auxiliary sonorities are not limited to neighboring motion. Consider the following example of the common I–I6 progression:

Example 23–14.

0:00 / 0:00

example_23-14

What do you notice about the outer voices? The soprano moves from E to C, while the bass does the opposite, moving from C to E. When two voices swap pitch classes like this, it is known as a *voice exchange*. (This interval progression is discussed in Chapter 12.) In this case, the voice exchange creates a 10–6 interval progression:

Example 23–15.

0:00 / 0:00

example_23-15

Very frequently, leaps in the outer voices are filled in with passing tones. These pitches are not consonant with the reference sonority (the I chord, in this case). They are instead understood as melodic embellishments of the outer voices:

Example 23–16.

0:00 / 0:00

example_23-16

In the above example, the outer voices form a 10–8–6 progression. Just as before, we may enhance this expansion by embellishing the inner voices so that they harmonize with the passing Ds:

Example 23–17.

0:00 / 0:00

example_23-17

In this case, the sonority resulting from the multiple embellishments coincidentally produces the pitches of a vii^{o}6 chord. Chapter 16 discussed the special case of this diminished triad. The triad built on the seventh scale degree of the major scale will have a diminished fifth between the root and fifth. This highly dissonant interval is permitted only when treated in specific ways. By presenting the vii^{o} chord in first inversion, all upper voices are consonant with the bass and the dissonant tritone is hidden in the inner voices. In Example 23–17, the diminished fifth appears between the tenor B and the alto F. The tritone resolves as both inner

voices ascend by step to form a perfect fifth, the tenor creating the basic interval progression 6–6 with the bass, and the alto 10–10 with the bass.

▼ Activity 23-3

Activity 23–3

In this activity, you will expand a tonic reference sonority first by creating a voice exchange between the bass and one of the upper voices and then by including an auxiliary vii^{o}6 chord.

Exercise 23–3a:

Question

Expand the tonic chord on beat one to beat two by creating a voice exchange between the bass and the soprano while sustaining the other two voices. Next, embellish the expansion by incorporating an auxiliary vii^{o}6 chord. What pitch should appear in the bass?

0:00 / 0:00

activity_23-3a

▼ Hint

Remember, the bass of the auxiliary sonority should be the same as the bass of a vii^{o}6 chord in C major.

▼ Answer

D

Follow-up question

Now fill in the three upper voices.

▼ Hint

Remember to use passing tones in the voices participating in the voice exchange and lower neighbors in the remaining voices.

▼ Answer

0:00 / 0:00

activity_23-3a_follow_up_answer

Exercise 23–3b:

Question

Expand the tonic chord on beat one to beat two by creating a voice exchange between the bass and the soprano while sustaining the other two voices. Next, embellish the expansion by incorporating an auxiliary vii^{o}6 chord. What pitch should appear in the bass?

0:00 / 0:00

activity_23-3b

▼ Hint

Remember, the bass of the auxiliary sonority should be the same as the bass of a vii^{o}6 chord in B minor.

▼ Answer

C#

Follow-up question

Now fill in the three upper voices.

▼ Hint

Remember to use passing tones in the voices participating in the voice exchange and lower neighbors in the remaining voices. (Don't forget to raise the leading tone!)

▼ Answer

0:00 / 0:00

activity_23-3b_follow_up_answer

Exercise 23–3c:

Question

Expand the tonic chord on beat one to beat two by creating a voice exchange between the bass and the soprano while sustaining the other two voices. Next, embellish the expansion by incorporating an auxiliary vii^{o}6 chord. What pitch should appear in the bass?

0:00 / 0:00

activity_23-3c

▼ Hint

Remember, the bass of the auxiliary sonority should be the same as the bass of a vii^{o}6 chord in A major.

▼ Answer

B

Follow-up question

Now fill in the three upper voices.

▼ Hint

Remember to use passing tones in the voices participating in the voice exchange and lower neighbors in the remaining voices.

▼ Answer

0:00 / 0:00

activity_23-3c_follow_up_answer

Exercise 23–3d:

Question

Expand the tonic chord on beat one to beat two by creating a voice exchange between the bass and the soprano while sustaining the other two voices. Next, embellish the expansion by incorporating an auxiliary vii^{o}6 chord. What pitch should

appear in the bass?

0:00 / 0:00

activity_23-3d

▼ Hint

Remember, the bass of the auxiliary sonority should be the same as the bass of a vii^{o}6 chord in E minor.

▼ Answer

F#

Follow-up question

Now fill in the three upper voices.

▼ Hint

Remember to use passing tones in the voices participating in the voice exchange and lower neighbors in the remaining voices. (Don't forget to raise the leading tone!)

▼ Answer

0:00 / 0:00

activity_23-3d_follow_up_answer

This type of expansion, like the neighboring auxiliary sonorities outlined above, occurs frequently in tonal music. Consider the following examples:

Example 23–18. *Johann Sebastian Bach, Schau, lieber Gott, wie meine Feind (BWV 153), "Schau, lieber Gott, wie meine Feind," m. 1–2.*

0:00 / 0:00

example_23-18

Example 23–19. *Robert Schumann, 4 Gesänge (Op. 59), 1. "Nord oder Süd!," mm. 1–3.*

0:00 / 0:00

example_23-19

Example 23–20. *José Maurício Nunes Garcia, Matinas e Encomendação de Defuntos, Responsório II, Moderato, mm. 1–6.*

0:00 / 0:00

example_23-20

Examples 23–18 through 23–19 each show the expansion of the reference tonic triad with a passing auxiliary harmony coincidentally producing the pitches of a vii^{o}6 chord. In each case, the bass moves stepwise through a third while the upper voices either follow suit or decorate a single pitch with a neighbor tone. Take note of the interval patterns between the various voice pairs as well as the prominent voice exchanges in each example. (Example 23–20 has two voice exchanges: one between the bass and alto, the other between the tenor and soprano!)

23.4 “Root position” auxiliary sonorities

The auxiliary sonorities we have examined so far have all resembled inverted triads. However, root-position triads may also serve as auxiliary sonorities. Consider the following excerpt (Example 23–21b shows a simplified reduction of Example 23–21a):

Example 23–21. *Mrs. J. R. Abbott, “I lov’d thee too dearly,” mm. 1–6.*

a.

0:00 / 0:00



b. reduction

0:00 / 0:00



The auxiliary sonority found in m. 2 of Example 23–21 is of the exact same type shown in Example 23–13. Over a sustained bass, the third and fifth of the tonic triad (G and Bb, respectively) step to their upper neighbors in the first half of m. 2 and then return. The result is a sonority that resembles a IV chord in second inversion. A few bars later we find an analogous progression when the singer joins the piano. In this case, however, the root of the IV chord (Ab) is in the bass, as shown in Example 23–21b. As you can see, the leaps up to Ab and then back down to Eb are more disjunct than the voice leading in the introduction. Nevertheless, the auxiliary function of the IV chord is clear from the surrounding reference sonority and the embellishing neighbor-note patterns in the upper voices.

The following excerpt shows a similar situation:

Example 23–22. *Frances Arkwright, “If you’re waking call me early,” mm. 1–10.*

a.

0:00 / 0:00



b.

0:00 / 0:00



Like Example 23–21, Example 23–22 shows an expansion of a tonic triad with a root-position auxiliary sonority on a strong beat. Again, the bass leaps up a perfect fourth and then back down to the tonic. The upper voices either sustain the tonic or step to upper neighbors and back.

Similarly, a root-position dominant chord may serve as an auxiliary sonority to a tonic harmony. Consider the following example:

Example 23–23. *Maria Antonia Josepha Johanna, “C’est mon ami,” mm. 9–16.*

a.

0:00 / 0:00

example_23-23a

b. reduction

0:00 / 0:00

example_23-23b

Here we see a tonic harmony being expanded with a root-position auxiliary dominant chord—in this case a V7—in mm. 8–10. As before, note the neighbor-note patterns, this time in the upper and lower parts of the right-hand piano chords. In this case the same auxiliary sonority appears again in m. 11 and is then inverted in m. 12 before returning once again to the tonic.

It is important to remember that auxiliary sonorities serve a different purpose than the functional harmonies made up of the same pitches. In Example 23–23, for instance, the auxiliary sonority in m. 10 and 12–13 does not act as a functional V chord; instead, it expands the tonic harmony. The V chord in m. 16 is different. It ends the phrase with a half cadence and is therefore a functional dominant.

Note: The progression shown in Example 23–23 includes several seventh chords. Like triads, seventh chords frequently appear as auxiliary sonorities. In such cases, they tend resolve in the manner described in Chapter 18 with the chordal seventh stepping down to a consonant chord tone and the root descending by fifth. In practice, however, composers do not always adhere to these conventions when using seventh chords as auxiliary sonorities.

This particular pattern of root position sonorities—I–(V)–I—commonly appears at the end of a piece, where tonic is strongly reinforced. In codas, for instance, after the cadential I chord has arrived, we frequently encounter such expanded reinforcements of tonic harmony. Consider the following excerpt:

Example 23–24. *Maria Theresia von Paradis, 12 Lieder auf ihrer Reise in Musik gesetzt, 8. "Morgenlied eines armen Mannes," mm. 22–26.*

0:00 / 0:00

example_23-24

The V chord in m. 24 is heard as a functional dominant since it participates in the cadence that concludes the main melody. The V chords in the last two measures, on the other hand, do not function in this manner. In such concluding passages, where the music routinely alternates between tonic and dominant chords, the tonics are clearly primary, the dominants subsidiary. They are auxiliary sonorities used to expand the referential tonic.

▼ Activity 23-4

Activity 23–4

Exercise 23–4:

Question

To understand auxiliary sonorities, it is essential that you are able to distinguish them from functional chords. Identify one of the Roman numerals in the following excerpt as representing an auxiliary sonority:

Wolfgang Amadeus Mozart, Piano Sonata No. 2 in F major (K.280), I. Allegro assai, mm. 140–144.

0:00 / 0:00

activity_23-4

▼ Hint

Look for an auxiliary sonority that expands the tonic.

▼ Answer

The ii6 chord (m. 140) is a functional pre-dominant harmony that leads to a cadence consisting of a functional V moving to a functional I (mm. 141–142). The remainder of the passage is simply an extension of that tonic, a prolongation of the resolution. The V chords in m. 142 and m. 143, then are both auxiliary sonorities.

While expansions of the I chord with an auxiliary dominant chord in root position are common at the ends of pieces, they are by no means limited to such sections. This type of expansion may occur wherever tonic harmony is stressed. Consider the following example where the opening measures consist of tonic harmony prolonged through several auxiliary root-position dominants:

Example 23–25. *Frances L. Hummell, Favorite Waltzes (Collection 4), 1. Russian Waltz, mm. 1–8.*

0:00 / 0:00



Note: It is possible to hear Example 23–25 as consisting of either two four-bar phrases or one eight-bar phrase. In the first case, we hear a half cadence in m. 4 followed by a perfect authentic cadence in m. 8. Both phrases open with the same I–(V)–I progression. In the second case—as notated above—the V in m. 4 is heard as just another auxiliary sonority. Such ambiguities are often left to the discretion of the performer whose phrasing decisions will affect the listener's experience of the music.

Root-position auxiliary chords are also sometimes used to expand inverted chords. In the following example, a I chord in first inversion is expanded with a root-position auxiliary ii chord:

Example 23–26. *Johann Sebastian Bach, "Gott lebet noch, Seele, was verzagst du doch?" (BWV 320), m. 1–6.*

0:00 / 0:00



Note the usual auxiliary sonority voice-leading patterns in this excerpt. In this case, every voice is embellished with a neighbor tone.

Note: Root-position auxiliary sonorities can sometimes be difficult to identify. This is because one must look beyond the musical surface to consider the function of a sonority with regards to its context. It will help to consider the location of each sonority within the phrase at hand. Identify the chords that perform the primary tonic and dominant functions, then look for any auxiliary sonorities supporting them.

23.5 Expansion of other chords

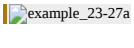
Expansions of tonic chords are very common in tonal Western art music. Other chords may be similarly expanded but this happens far less frequently. When we do find expansions of non-tonic chords, we see that composers tend to follow the same principles shown in the examples above.

Consider, for example, the following passage from a string quartet (note that despite the four sharps in the key signature, this passage is in B major):

Example 23–27. *Joseph Haydn, String Quartet in E major (Hob.III:25), II. Minuet, mm. 8–18.*

a.

0:00 / 0:00



b. reduction

0:00 / 0:00

example_23-27b

Here, an auxiliary sonority coincidentally containing the pitches of a I6 chord is used to expand a ii6 chord. This is very similar to the I–vii^{o}–I model described above, where the apparent root of the auxiliary sonority lies a step below that of the reference sonority.

The same model can be used to expand a dominant chord. Consider the beginning of the second phrase from this chorale:

Example 23–28. *Johann Sebastian Bach, "Nun bitten wir den Heiligen Geist" (BWV 385), mm. 1–6.*

0:00 / 0:00

example_23-28

In Example 23–28, m. 3 is all tonic: beat 1 is a tonic chord that concludes the first phrase of the chorale and beat 4 continues that tonic. M. 4 begins with a V6 on beat 1. The second beat of m. 4 is a neighboring auxiliary IV6 which leads right back to V6, which in turn resolves back to tonic.

Note: The motion from V to the auxiliary sonority IV6 in Example 23–28 resembles what some texts refer to as a "retrogression" implying that the dominant harmony has regressed to a pre-dominant harmony. It is important to realize that this is not the case here. The D-major chord in Example 23–28 is nothing more than an auxiliary sonority expanding the reference V chord. The V chord is prolonged throughout the example; the auxiliary IV6 chord is merely a coincidence of nonharmonic tones.

Similarly, an auxiliary V chord can be used to expand a reference IV chord. Consider the following example:

Example 23–29. *Johann Sebastian Bach, Höchsterwünschtes Freudenfest (BWV 194), 6. "Heilger Geist ins Himmels Throne," mm. 5–8.*

a.

0:00 / 0:00

example_23-29a

b. reduction

0:00 / 0:00

example_23-29b

In this passage, the sonority on the last beat of m. 7 is not a functional dominant harmony. As Example 23–29b clearly shows, each member of this chord is the result of passing motion as IV is prolonged and becomes IV6 through a voice exchange in the outer voices. All three chords are part of a single expansion.

Non-tonic harmonies may be expanded by root-position auxiliary sonorities as well. In the following example, the reference harmony V is expanded by an auxiliary tonic.

Example 23–30. *Harriet Abrams, "Crazy Jane," mm. 1–4.*

0:00 / 0:00

example_23-30

After several I and V chords in various positions, we find a V6 on the third beat of the first full measure. With the exception of the F in the right hand of the piano part, all of the notes are decorated with upper neighbors or passing tones. These pitches outline a tonic harmony, but it would be a mistake to hear tonic as the reference sonority. The V is the active chord at this point and the I is performing an auxiliary role.

The following example shows another possibility for expanding a V chord. In this case a root-position vi chord serves as the auxiliary sonority:

Example 23–31. *Johann Sebastian Bach, Gott fähret auf mit Jauchzen (BWV 43), 11. "Du Lebensfürst, Herr Jesu Christ," m. 1–8.*

0:00 / 0:00



Example 23–32 shows another expansion of a chord that is not the tonic or dominant:

Example 23–32. *Wolfgang Amadeus Mozart, Piano Sonata No. 9 in D major (K. 311), II. Andante con espressione, mm. 1–4.*

0:00 / 0:00



In this passage, a subdominant (IV) chord is expanded with an auxiliary I6/4.

Note: This type of auxiliary sonority is sometimes known as a "passing 6/4 chord" due to the passing motion in the bass as the reference sonority moves from first inversion to root position (or vice versa).

▼ Activity 23-5

Activity 23–5

Though not as common as in expansions of the tonic, auxiliary sonorities are often used to expand other chords. In this activity, you will identify auxiliary-sonority expansions of non-tonic chords.

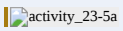
Exercise 23–5a:

Question

In the following passage in Eb major, a non-tonic chord is expanded with an auxiliary sonority. Where is it?

José Maurício Nunes Garcia, Matinas e Encomendação de Defuntos, Responsório VII, II. Allegro, mm. 1–5.

0:00 / 0:00



▼ Answer

The V7 chord in mm. 4–5 is expanded via an auxiliary sonority.

Follow-up question

What type of auxiliary sonority expansion is this? (Answer using Roman numerals.)

▼ Answer

V4/3–(I)–V6/5

José Maurício Nunes Garcia, Matinas e Encomendação de Defuntos, Responsório VII, II. Allegro, mm. 1–5.

0:00 / 0:00

activity_23-5a_answer

Exercise 23–5b:

Question

In the following passage in F major, some *non-tonic* chord is expanded with an auxiliary sonority. Where is it?

Johann Sebastian Bach, "Gott lebet noch, Seele, was verzagst du doch?" (BWV 320), mm. 3–6.

0:00 / 0:00

activity_23-5b

▼ Hint

Although m. 3 shows an expansion with an auxiliary chord, your directions are to find an expansion of a *non-tonic* chord.

▼ Answer

The IV chord on the downbeat of m. 4 is expanded via an auxiliary sonority.

Follow-up question

What type of auxiliary sonority expansion is this? (Answer using Roman numerals.)

▼ Answer

IV–(I)–IV

Johann Sebastian Bach, "Gott lebet noch, Seele, was verzagst du doch?" (BWV 320), mm. 3–6.

0:00 / 0:00

activity_23-5b_answer

Exercise 23–5c:

Question

In the following passage in A minor, a non-tonic chord is expanded with an auxiliary sonority. Where is it?

Johann Sebastian Bach, "Heut triumphieret Gottes Sohn" (BWV 342), mm. 5–8.

0:00 / 0:00

activity_23-5c

▼ Answer

The vi chord on the downbeat of m. 5 is expanded via an auxiliary sonority.

Follow-up question

What type of auxiliary sonority expansion is this? (Answer using Roman numerals.)

▼ Answer

vi–(III6)–vi

Johann Sebastian Bach, "Heut triumphieret Gottes Sohn" (BWV 342), mm. 5–8.

0:00 / 0:00

activity_23-5c_answer

Exercise 23–5d:

Question

In the following passage in Eb major, a non-tonic chord is expanded with an auxiliary sonority. Where is it?

Ellen Dickson, "Drifting," mm. 1–5.

0:00 / 0:00

activity_23-5d

▼ Answer

The IV chord in mm. 2–4 is expanded via an auxiliary sonority.

Follow-up question

What type of auxiliary sonority expansion is this? (Answer using Roman numerals.)

▼ Answer

IV–(I6/4)–IV

Ellen Dickson, "Drifting," mm. 1–5.

0:00 / 0:00

activity_23-5d_answer

23.6 Common-tone fully-diminished seventh chords

Fully-diminished seventh chords also appear as auxiliary sonorities, as in the following example:

Example 23–33. *Felix Mendelssohn, Rondo Capriccioso (Op. 14), mm 1–8.*

0:00 / 0:00

example_23-33

$$\hat{2} \tag{2.13.1}$$

Note: Because it shares a pitch with the reference chord, this type of auxiliary sonority is widely referred to as a "common-tone fully-diminished seventh chord," or "c.t.^{o}7." The resolution shown in Example 23–17, with the chordal seventh becoming the root of the reference harmony, is typical. Although occurring frequently enough to warrant a name, this type of auxiliary sonority is far less common than those discussed elsewhere in this chapter.

The following example shows a very similar progression, this time in F major:

Example 23–34. *Alice Ellen Charbonnet, 12 Etudes de légèreté, No. 5, mm. 1–9.*

0:00 / 0:00



Once again, the auxiliary fully-diminished seventh chord appears between two tonic triads. And like Example 23–17, the seventh of the chord is the same as the root of the framing tonics.

▼ Activity 23-6

Activity 23–6

The following exercises will ask you to identify auxiliary fully-diminished seventh chords.

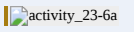
Exercise 23–6a:

Question

The following excerpt contains an auxiliary fully-diminished seventh. Where is it?

Franz Schubert, Moments musicaux (D.780), 6. Allegretto, mm. 29–36.

0:00 / 0:00



▼ Answer

all of m. 34

Follow-up question

This fully-diminished seventh is a neighboring auxiliary sonority. What harmony does it expand? (Note that the excerpt is in E major.)

▼ Hint

What harmonies appear before and after the fully-diminished seventh?

▼ Answer

The sonority expands the phrase-ending tonic harmony.

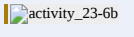
Exercise 23–6b:

Question

The following excerpt contains an auxiliary fully-diminished seventh. Where is it?

Frances Allitsen, "There's a Land," mm. 5–8.

0:00 / 0:00



▼ Answer

second beat of m. 6

Follow-up question

This fully-diminished seventh is a neighboring auxiliary sonority. What harmony does it expand? (Note that the excerpt is in D major.)

▼ Hint

What harmonies appear before and after the fully-diminished seventh?

▼ Answer

The sonority expands a tonic harmony (in first inversion).

The following examples incorporate auxiliary fully-diminished seventh chords, but here they play slightly different roles:

Example 23–35. *Sidney Lambert, "Transports joyeux" (Op. 16), 1–9.*

0:00 / 0:00



Example 23–36. *Alice Ellen Charbonnet, "Brise de mer," mm. 1–16.*

0:00 / 0:00



In Example 23–19 we see an auxiliary fully-diminished chord expanding not just a single harmony but rather the *motion* from one harmony (V7) to another (I). It does not have any tones in common with the chord that comes before it. Example 23–20 includes three auxiliary fully-diminished chords, the second of which resolves to a submediant harmony. Note that because the vi chord has a seventh, there are two common tones with the preceding auxiliary chord. (It is also possible to think of the Eb as a nonharmonic tone: a suspension.)

23.7 The cadential 6/4 chord

One final auxiliary sonority deserves special attention. This particular sonority appears primarily at cadences and coincidentally contains the pitches of a I chord in second inversion. Consider the following example:

Example 23–37. *Frances Arkwright, "One hour with thee!," mm. (Arkwright, Frances).*

0:00 / 0:00



Following a IV chord in m. 18, the chord on the downbeat of m. 19 contains the pitches C and E above a G in the bass. Subdominant chords can and sometimes do move directly to tonic chords, so you may be tempted to label this sonority I6/4. To do so, however, would contradict the manner in which this chord functions. The G in the bass in m. 19 is the root of the dominant at the end of the phrase. Therefore, the sonority on the downbeat of m. 19 is not a functional *tonic* chord, but rather an embellishment and intensification of the *dominant*.

Look again at the C and G. Both are nonharmonic tones: the C is a 4–3 suspension from the IV chord and the G is an accented passing tone. Both notes resolve down by step to form a root position V chord at the end of the measure, setting up the perfect authentic cadence in m. 20. The sonority on the downbeat of m. 19 is referred to as a *cadential*6/4*chord*. ("Cadential" because it typically appears as part of a cadence, and "6/4" because of the intervals formed above the bass.) The progression heard in m. 19 is analyzed as V65/43 to reflect the underlying importance of the V chord in the cadential progression.

This progression is ubiquitous in tonal Western art music: the cadential 6/4 chord typically appears after a ii or IV chord—a *pre-dominant* harmony, to be discussed in Chapter 24—and resolves to a root-position V chord as part of a structurally important cadence. The excerpts shown in the following examples show cadential 6/4 chords appearing after ii chords:

Example 23–38. *Maria Teresa Agnesi, Harpsichord Sonata, I. Allegro moderato, mm. 55–59.*

0:00 / 0:00

example_23-38

Example 23–39. *Jeanne-Renée de Bombelles Travanet, Recueil de Romances et Chansons No. 2, 6. "Pauvre Jacque," mm. 58–69.*

0:00 / 0:00

example_23-39

Cadential 6/4 chords usually resolve to a root-position V chord in the manner demonstrated by the examples above. Sometimes they resolve to a V7 chord, as in the following example:

Example 23–40. *Sophia Maria Westenholz, Theme and 10 Variations (Op. 2), mm. 1–20.*

0:00 / 0:00

example_23-40

In m. 15 (and again in m. 19) of Example 23–36, we find a cadential 6/4 chord resolving as expected to a root position V. In this case, however, the bass note (E) is doubled in the right hand of the piano part. The E then steps down to D, adding a seventh to the dominant triad.

$$\hat{1} \tag{2.13.2}$$

In the examples above, each cadential 6/4 chord appears on a downbeat. In the following example, it does not appear on the downbeat but it is in a metrically stronger position than the resolution which appears on the weakest beat of the measure:

Example 23–41. *Mary Southcote, 6 Songs and Duets, 4. "Ah let the tear unheeded flow," mm. 25–31.*

0:00 / 0:00

example_23-41

A cadential 6/4 is a type of *accented*6/4*chord*. An accented 6/4 is a strong-beat chord, dominant or otherwise, that is delayed by a sixth and a fourth above the bass. These nonharmonic tones may be introduced as suspensions, accented passing notes, or appoggiaturas. The following excerpt contains two such sonorities:

Example 23–42. *Wolfgang Amadeus Mozart, Piano Sonata No. 10 in C Major (K.330), II. Andante cantabile, mm. 1–4.*

0:00 / 0:00

example_23-42

The V7 chord at the end of m. 1 leads to a vi chord that is delayed until beat two with a fourth (G) and a sixth (B) suspended above the bass D. Even though the pitches on the downbeat of m. 2 seem to imply the presence of a ii6/4 chord, the progression V7–ii6/4 would be nonsensical. V7–vi65/4–3 is the correct way to analyze this progression. The arrival of the V chord in m. 4 is similarly delayed, in this case with a cadential 6/4 chord.

▼ Activity 23-7

Activity 23–7

Not all cadential 6/4 chords are as rhythmically straightforward as those shown above. In this activity, you will be presented with several excerpts, each of which contains a cadential 6/4 chord. After identifying the nonharmonic tones (the fourth and the

sixth above the bass), you will be asked how each is introduced.

Exercise 23–7a:

Question

Identify the fourth above the bass in the cadential 6/4 chord in this excerpt:

Johann Sebastian Bach, "Als der gütige Gott vollenden wollt sein Wort" (BWV 264), mm. 9–10.

0:00 / 0:00

activity_23-7a

▼ Answer

the G dotted quarter note in the alto starting on beat three of m. 9

Follow-up question

What type of nonharmonic tone is this?

▼ Answer

suspension

Follow-up question

Now identify the sixth above the bass in the cadential 6/4 chord.

▼ Answer

the B quarter note in the soprano on beat three of m. 9

Follow-up question

What type of nonharmonic tone is this?

▼ Answer

accented passing tone

Exercise 23–7b:

Question

Identify the fourth(s) above the bass in the cadential 6/4 chord in this excerpt:

Maria Theresia von Paradis, 12 Lieder auf ihrer Reise in Musik gesetzt, 10. "Da eben seinen Lauf vollbracht," mm. 4–8 (transposed).

0:00 / 0:00

activity_23-7b

▼ Answer

the Fs on beat three of m. 7

Follow-up question

What type of nonharmonic tones are these?

▼ Answer

lower neighbor in the vocal part, accented passing tone in the right hand of the piano

Follow-up question

Now identify the sixth above the bass in the cadential 6/4 chord.

▼ Answer

the A on beat three of m. 7

Follow-up question

What type of nonharmonic tone is this?

▼ Answer

accented passing tone

Exercise 23–7c:

Question

Identify the fourth above the bass in the cadential 6/4 chord in this excerpt:

Joseph Haydn, String Quartet in G major (Hob.III:21), II. Menuet, mm. 1–12.

0:00 / 0:00

activity_23-7c

▼ Answer

the G quarter note in the first violin on the second beat of m. 11

Follow-up question

What type of nonharmonic tone is this?

▼ Answer

passing tone

Follow-up question

Now identify the sixth above the bass in the cadential 6/4 chord.

▼ Answer

the B quarter note in the soprano on the second beat of m. 11

Follow-up question

What type of nonharmonic tone is this?

▼ Answer

appoggiatura (leap to dissonance and step to resolution)

Exercise 23–7d:

Question

Identify the fourth above the bass in the cadential 6/4 chord in this excerpt:

Maria Theresia von Paradis, 12 Lieder auf ihrer Reise in Musik gesetzt, 5. "Die Tanne," mm. 12–17 (transposed).

0:00 / 0:00

activity_23-7d

▼ Answer

the A on the downbeat of m. 16

Follow-up question

What type of nonharmonic tone is this?

▼ Answer

accented passing tone

Follow-up question

Now identify the sixth above the bass in the cadential 6/4 chord.

▼ Answer

the C#s on the downbeat of m. 16

Follow-up question

What type of nonharmonic tone are these?

▼ Answer

first part of a double neighbor in the voice part, accented passing tone in the right hand of the piano part

23.8 Summary

In this chapter we have seen how common interval progressions, coupled with melodic embellishments, may be used to expand harmonies. These individual embellishments combine to form full, four-voiced sonorities. Often, these sonorities coincidentally contain the pitches of familiar chords in first or second inversion. However, even though auxiliary sonorities may resemble those chords, it is important to remember that they do not carry the *functional meaning* of those chords. In other words, the V in a I–(V6)–I expansion does not have the dominant function it would in a I–IV–V–I.

Instead, we refer to these as "auxiliary sonorities." Accordingly, we have either placed the auxiliary sonority in parentheses (i.e. I–(vii^{o}6)–I6) or refrained from labeling it altogether (i.e. "I "). Although root-position triads are permissible, most auxiliary sonorities appear as inverted triads for the sake of smooth voice-leading.

Although the majority of this chapter demonstrated the expansion of a I chord, we also saw that these progressions may serve as models for expanding other reference harmonies. In other words, the I–(vii^{o}6)–I6 expansion can be used as a model for expanding a ii harmony: ii–(I6)–ii6.

Some sonorities appear above a passing note in the bass. These are referred to as "passing auxiliary sonorities." Others appear above neighboring motion in the bass and are correspondingly referred to as "neighboring auxiliary sonorities." Among these, we saw several that resembled triads in second inversion: I-(IV6/4)-I and IV6-(I6/4)-IV, for example. Fully-diminished seventh chords are used as auxiliary sonorities too, sometimes sharing an unusual common tone with the reference sonority. The most common auxiliary sonority, however, is the cadential 6/4 chord which delays the upper voices of the dominant at important cadences.

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2.14: The Pre-Dominant Function

24.1 Introduction

In discussing the way a cadence brings a sense of closure to a phrase, Chapter 22 introduced the idea of harmonic function and described two roles that a chord might perform: tonic function and dominant function. A tonic-function chord at the beginning of a piece or passage is harmonically stable. It establishes the key and orients the listener. A dominant-function chord, on the other hand, is built using tendency tones—pitches that sound comparatively more restless than those of the tonic. When a dominant-function chord follows a tonic-function chord, it provides contrast and builds harmonic tension. The tension is released when the dominant resolves back to the tonic, as in an authentic cadence.

Composers can get quite a bit of mileage out of just these two functions! Consider the following example:

Example 24–1. *Franz Schubert, 8 Ländler (D.378), No. 2 in Bb major*.

0:00 / 0:00

example_24-1

This excerpt consists of only I chords and V7 chords. In practice, however, progressions consisting exclusively of tonic and dominant are rare. Compare Example 24–1 to the excerpt below which includes two other chords:

Example 24–2. *Franz Schubert, 8 Ländler (D.378), No. 3 in Bb major*.

0:00 / 0:00

example_24-2

This example—the very next piece in the same collection—also consists primarily of I and V7 chords. In this case however, there are also a couple of ii6/5 chords, one in m. 2 and another in m. 6. These two chords make a big difference! Whereas Example 24–1 seems to swing back and forth, back and forth between tonic and dominant, the opening phrases of this example seem more goal oriented. The ii6/5 chords expand the harmonic motion from the tonic to the dominant, giving the listener a sense of directed motion and setting up the cadences in m. 4 and m. 8. Chords such as these are said to perform a *pre-dominant* function.

In this chapter, we will begin with a brief review of the tonic and dominant functions and the way they work in the context of a musical phrase. We will explore how a functional area in a phrase may be expanded by way of one or more prolongational auxiliary sonorities. We will then discuss the pre-dominant function and how chords that perform this function may be used to heighten the harmonic drama of a phrase. (Along the way, we will also discuss one last type of cadence which uses the same sonorities but in a functionally different way.)

After discussing the pre-dominant, we will have covered all three of the primary roles a chord may perform. We will then introduce the idea of the *tonal phrase model*—a harmonic paradigm that appears in a wide variety of tonal music. We will conclude by considering how this simple model is adapted from piece to piece and how it connects music from dramatically different styles.

24.2 Phrases using only tonic and dominant

As we have discussed, it is entirely possible for a phrase to consist exclusively of motion from a tonic chord to a dominant chord and then back to the tonic. In the following example, a second line of analytical markings has been added below the Roman numerals to highlight the harmonic function of each chord. A capital “T“ indicates a tonic-function chord and a capital “D“ indicates a dominant-function chord. (The parallel lines between the Ts at the end of m. 4 simply clarify the boundary between two phrases.)

Example 24–3. *Franz Schubert, 38 Waltzes, Ländler and Ecossaises (D.145), Ländler No. 2, mm. 1–8*.

0:00 / 0:00

example_24-3

Each of the two phrases in this excerpt begins with a tonic chord that lasts for two bars before moving to a dominant seventh. Each V7 then resolves in an authentic cadence back to I, bringing its respective phrase to an end with an authentic cadence. Each of these phrases, then, follows the same basic structure: T–D–T.

Now consider the following example:

Example 24–4. *Frances L. Hummell, Favorite Waltzes (Collection 4), 1. Russian Waltz, mm. 1–8.*

0:00 / 0:00

example_24-4

Once again, this phrase begins with a tonic triad and ends with an authentic cadence. Unlike the phrases in Example 24–3, however, this phrase appears to have two dominant chords: a G-major triad appears in m. 2 and again on the third beat of m. 3. But while these two sonorities are comprised of the same pitch classes, they perform very different functions. The G-major chord at the end of m. 3 is a part of the phrase-ending cadence. It is a functional dominant and has been labeled "D." The G-major chord in m. 2, however, does not participate in a cadence. Although it does move to a I chord in m. 3, this motion is not heard as the end of the phrase. This chord is therefore *not* a functional dominant and so it has not been labeled "D." It is instead an auxiliary sonority (see Chapter 23). Its role in this phrase is to extend or prolong the initial tonic function. This is indicated by the dotted line beginning at the initial "T." Heard this way, the phrase in Example 24–4 exhibits the same T–D–T structure as the phrases in Example 24–3.

▼ Activity 24-1

Activity 24–1

Exercise 24–1:

Question

Each of the boxes in the example below contains the pitches of a V7 chord in F major. Listen to the passage and determine whether or not each sonority is a functional dominant.

Franz Schubert, 36 Originaltänze (D.365), 33. Deutscher Tanz in F major, mm. 1–8.

0:00 / 0:00

activity_24-1

▼ Hint

For a V or V7 to be considered a functional dominant, it should be part of a half or authentic cadence.

▼ Answer

Box "a" is not a functional dominant. It is an auxiliary sonority prolonging the initial tonic.

Box "b" is a functional dominant. It is the final chord in a phrase ending with a half cadence.

Box "c" is not a functional dominant. It is an auxiliary sonority prolonging the initial tonic.

Box "d" is a functional dominant. It is the dominant in a phrase-ending authentic cadence.

Franz Schubert, 36 Originaltänze (D.365), 33. Deutscher Tanz in F major, mm. 1–8.

0:00 / 0:00

activity_24-1_answer

24.3 The pre-dominant (PD) function

The example below shows the voice leading in a typical T–D–T phrase:

Example 24–5.

0:00 / 0:00

example_24-5

We might think of the succession of sonorities in Example 24–5 as the most basic tonal chord progression: it begins with the tonic, a point of initial repose; moves to the dominant, a moment of poised contrast; and then resolves back to the tonic, confirming its function as goal. Indeed, this very progression is at the root of all tonal harmony. In practice, however, this progression by itself is not considered very exciting. More often than not, composers will expand it and thereby dramatize the harmonic narrative.

One of the fundamental ways in which composers expand the basic T–D–T progression is by delaying the arrival of the dominant, thereby heightening the contrasting tension. One way to do that would be to prolong the initial tonic with an auxiliary sonority, as seen in the examples above. Another way would be to complete an arpeggiation of the tonic triad in the bass with I6 or iii:

Example 24–6.

a. I–I6–V–I in C major

0:00 / 0:00

example_24-6a

b. I–iii–V–I in C major

0:00 / 0:00

example_24-6b

$$\hat{2} \tag{2.14.1}$$

Note: You may occasionally encounter other terminology as well. Some teachers and texts refer to such chords as *intermediate harmonies* or *dominant preparation chords*. Others, noting that occasionally several different pre-dominant chords may appear alongside one another, refer to a *subdominant area*. All of these terms are valid and you should recognize their interchangeability.

$$\hat{2} \tag{2.14.2}$$

Example 24–7.

0:00 / 0:00

example_24-7

Example 24–8.

0:00 / 0:00

example_24-8

Note the resemblance of these two progressions. The IV chord has C (in the soprano) while the ii chord has D, but otherwise the two examples are identical. This similarity in makeup explains the interchangeability of ii and IV in mediating between the tonic

and dominant.

▼ Activity 24-2

Activity 24–2

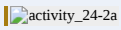
In this exercise you will expand the motion from tonic to dominant in a given harmonic progression by adding a pre-dominant chord.

Exercise 24–2a:

Question

Expand the motion from tonic to dominant by adding the specified pre-dominant chord.

0:00 / 0:00

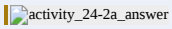


▼ Hint

Determine which scale degrees belong to the chord in question. Place them in the four voices by considering the voice-leading conventions described in Chapter 12 and Chapter 14.

▼ Answer

0:00 / 0:00

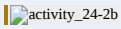


Exercise 24–2b:

Question

Expand the motion from tonic to dominant by adding the specified pre-dominant chord.

0:00 / 0:00

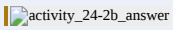


▼ Hint

Determine which scale degrees belong to the chord in question. Place them in the four voices by considering the voice-leading conventions described in Chapter 12 and Chapter 14.

▼ Answer

0:00 / 0:00



Exercise 24–2c:

Question

Expand the motion from tonic to dominant by adding the specified pre-dominant chord.

0:00 / 0:00

activity_24-2c

▼ Hint

Determine which scale degrees belong to the chord in question. Place them in the four voices by considering the voice-leading conventions described in Chapter 12 and Chapter 14.

▼ Answer

0:00 / 0:00

activity_24-2c_answer

Exercise 24–2d:

Question

Expand the motion from tonic to dominant by adding the specified pre-dominant chord.

0:00 / 0:00

activity_24-2d

▼ Hint

Determine which scale degrees belong to the chord in question. Place them in the four voices by considering the voice-leading conventions described in Chapter 12 and Chapter 14.

▼ Answer

0:00 / 0:00

activity_24-2d_answer

Now, consider the following example:

Example 24–9. *Harriet Waylett, "Erin, lov'd Erin," mm. 1–4.*

0:00 / 0:00

example_24-9

$$\hat{4} \tag{2.14.3}$$

The example below follows a very similar pattern:

Example 24–10. *Joseph Haydn, String Quartet in B minor (Hob.III:68), III. Minuet Trio, mm. 1–4.*

0:00 / 0:00

example_24-10

$$\hat{1} \tag{2.14.4}$$

In the following example, a pair of chords work together to perform the pre-dominant function:

Example 24–11. *Joseph Haydn, String Quartet in E major (Hob.III:25), II. Minuet, mm. 1–18.*

0:00 / 0:00

example_24-11

Whereas Example 24–9 and Example 24–10 used IV and ii6, respectively, as functional pre-dominants, this excerpt has both working together. This does not change the function of the chords. In fact, we may hear this combination of IV and ii6 as strengthening the pre-dominant function via prolongation.

Note: The joining of IV and ii6 into a single pre-dominant is sometimes referred to as the *pre-dominant complex*. When this occurs in music it is much more common for the ii6 to come after the IV than the other way around. Note, too, that it is also possible to hear such the combination of IV and ii6 as an expanded ii6/5 since it includes the full set of four pitch classes found in the two triads:

Example 24–12.

0:00 / 0:00

example_24-12

Keep in mind, however, that not all ii and IV chords function as pre-dominants. They frequently appear in various other capacities —as auxiliary sonorities, for example:

Example 24–13. *Johann Sebastian Bach, Matthäuspassion (BWV 244), 44. "Befiehl du deine Wege," mm. 1–2.*

0:00 / 0:00

example_24-13

At first glance, it may appear that the excerpt shown in Example 24–13 has three pre-dominant chords: two IV chords in m. 1 and a ii6/5 in m. 2. Of these, only the third has a pre-dominant function. The chords on beats one and three of the first full measure are auxiliary sonorities expanding the initial tonic. It is essential that you be able to distinguish such functional differences between similar chords.

▼ Activity 24-3

Activity 24–3

It is essential that you be able to distinguish true pre-dominant chords from other sonorities that appear very similar. In each of the following excerpts, identify whether or not the boxed chord is a pre-dominant.

Exercise 24–3a:

Question

Identify whether or not each of the following boxed chords contains a functional pre-dominant chord.

Johann Sebastian Bach, "Herzlich tut mich verlangen" (BWV 271), mm. 1–2.

0:00 / 0:00

activity_24-3a

▼ Hint

Always look to the following chord or chords to see where the harmony is headed.

▼ Answer

Box “b” contains a functional pre-dominant chord; box “a” does not.

Exercise 24–3b:

Question

Identify whether or not each of the following boxed chords contains a functional pre-dominant chord.

Johannes Brahms, Variations on a Theme by Haydn, (Op. 56b), mm. 1–10.

0:00 / 0:00

activity_24-3b

▼ Hint

Always look to the following chord or chords to see where the harmony is headed.

▼ Answer

Box “e” is the only one that contains a functional pre-dominant. All of the other boxes contain auxiliary sonorities.

24.4 The tonal phrase model

The T–PD–D–T structure of harmonic functions seen in Example 24–9 and Example 24–10 is often referred to as the *tonal phrase model*. Combined with the prolongational techniques discussed in Chapter 23, we find that this model may be used to describe phrases from compositions across the tonal canon. It links pieces from different composers working in different parts of the world over a span of several centuries. But despite being so widely used, most listeners of tonal Western art music do not find it to be tedious, dull, or over-used. Composers working in the tonal paradigm have developed a great many techniques for embellishing the tonal phrase model and shaping its various parts to fit their needs.

At the most fundamental level, there are four basic variations of the tonal phrase model. A phrase may incorporate all four of the harmonic functions in order (T–PD–D–T) or it may omit the pre-dominant (T–D–T). As we saw in Chapter 22 a cadence does not need to end with a tonic-function chord to be heard as the conclusion to a phrase. The tonal phrase model, then, also accounts for phrases the move from tonic to dominant and end without returning to tonic (T–PD–D and T–D). The following table summarizes:

Table 24–1. Four basic variations of the tonal phrase model.

Functions:	Cadence:
T–PD–D–T	authentic or deceptive cadence with pre-dominant
T–D–T	authentic or deceptive cadence without pre-dominant
T–PD–D	half cadence with pre-dominant
T–D	half cadence without pre-dominant

The following examples, show a variety of phrases that each follow the tonal phrase model in some way. As you listen and read through the analytical descriptions, take note of the many stylistic difference you hear in light of the similarities in their underlying

structures.

The following example shows two phrases that do not incorporate pre-dominant chords:

Example 24–14. *Franz Schubert, 12 German Dances (D.420), No. 7 in E major, mm. 1–8.*

0:00 / 0:00



As with Example 24–4, the two phrases in this excerpt each begin with a tonic chord prolonged by an auxiliary sonority before moving to a functional dominant. The first phrase ends with a half cadence. There is no concluding tonic, so its structure is simply T–D. The second phrase resolves the V7 in a PAC. Its structure is T–D–T.

The following phrase does incorporate the pre-dominant function:

Example 24–15. *Maria Theresia von Paradis, 12 Lieder auf ihrer Reise in Musik gesetzt, 6. "Erinnerung ans Schicksal," mm. 1–4.*

0:00 / 0:00



Like the phrases in Example 24–14, this phrase begins with a prolongation of the initial tonic with an auxiliary V7 chord. In m. 3, the tonic function moves on to the pre-dominant function, here performed by a ii6 chord. The dominant function is expanded with a cadential 6/4 chord before the functional V7 resolves back to the tonic in an authentic cadence. With all four harmonic functions in place, this phrase follows a T–PD–D–T structure.

The following phrase follows the same T–PD–D–T structure, but prolongs the initial tonic in a different way:

Example 24–16. *Franziska Lebrun, Violin Sonata in Bb major (Op. 1, No. 1), mm. 1–4.*

0:00 / 0:00



Once again, this phrase begins with a tonic triad. The G-minor triad in m. 2 is a vi chord in Bb-major. In Chapter 22, we saw how in a deceptive cadence a vi chord can perform a weak tonic function. Here we may understand the vi chord acting as a tonic substitute once again, expanding the tonic function at the beginning of the phrase. Other than this initial prolongation, the phrase exhibits the same T–PD–D–T structure as Example 24–15.

The following example combines several of the techniques seen above:

Example 24–17. *Janina Jełowicka, "Powrót bocianów," mm. 1–8.*

0:00 / 0:00



$$\hat{4} \tag{2.14.5}$$

▼ Activity 24-4

Activity 24–4

Add a Roman numeral analysis to each of the T–PD–D–T phrases below. Make sure to identify harmonic functions and prolongations in the manner shown above.

Exercise 24–4a:

Question

(Begin in m. 2. The first chord has been analyzed for you.)

Wolfgang Amadeus Mozart, Die Entfuhrung aus dem Serail (K.384), Act I, 2. "Wer ein Liebchen hat gefunden," mm. 1-6.

0:00 / 0:00

activity_24-4a

▼ Hint

Find the initial tonic first, then work backwards from the end.

▼ Answer

Wolfgang Amadeus Mozart, Die Entfuhrung aus dem Serail (K.384), Act I, 2. "Wer ein Liebchen hat gefunden," mm. 1-6.

0:00 / 0:00

activity_24-4a_answer

Exercise 24–4b:

Question

Johann Sebastian Bach, Flute Sonata in E-flat major (BWV 1031), II. Siciliano, mm. 1–4.

0:00 / 0:00

activity_24-4b

▼ Hint

Find the initial tonic first, then work backwards from the end.

▼ Answer

Johann Sebastian Bach, Flute Sonata in E-flat major (BWV 1031), II. Siciliano, mm. 1–4.

0:00 / 0:00

activity_24-4b_answer

24.5 Plagal cadences

The following example presents a type of cadence that we have not yet discussed:

Example 24–18. *George Frideric Handel, Messiah (HWV 56), Chorus: "Hallelujah," mm. 91-94.*

0:00 / 0:00

example_24-18

In the concluding measures of this well-known piece, we hear one final cadential gesture consisting of a G-major chord moving to a D-major chord in the key of D major. As discussed above, IV chords are usually seen performing a pre-dominant function. This

IV chord, however, does not move to the dominant. Instead, it resolves directly to the tonic and should therefore not be considered a pre-dominant. This is known as a *plagal cadence* and it has been labeled "PC."

Plagal cadences frequently come after a strong authentic cadence, as in the following example:

Example 24–19 *George Frideric Handel, Jephtha (HWV 70), Act III, 17. Chorus: "Ye house of Gilead, with one voice," mm. 116–122.*

0:00 / 0:00

example_24-19

In a way, the PAC in mm. 118–119 feels like the true end of the piece. It resolves all of the tendency tones of V7 to a stable, root-position tonic. In that regard, the plagal cadence that follows feels more like an afterthought—an extra prolongation of the tonic, tacked onto the end of the piece.

Plagal cadences are sometimes referred to as *amen cadences* since they appear most frequently at the ends of sacred choral compositions. They do appear from time to time, though, in secular works as well. Consider the following examples:

Example 24–20. *Wolfgang Amadeus Mozart, Violin Sonata in G major (K.301/293a), mm. 1–8.*

0:00 / 0:00

example_24-20

Example 24–21. *Anne Boleyn, O Death Rock Me to Sleep, mm. 48–55.*

0:00 / 0:00

example_24-21

Example 24–20 consists of two phrases. The first phrase ends in m. 4 with a plagal cadence. The second phrase ends with a more conclusive sounding IAC in m. 8. Example 24–21 features a series of plagal progressions—iv–i–iv–i, etc.—culminating in a plagal cadence at the very end.

Note: The B§s in mm. 53–55 of Example 24–21 make major triads out of what should be a minor tonic. This modal alteration is known as a *Picardy third* and will be discussed in greater detail in Chapter 29.

▼ Activity 24-5

Activity 24–5

Exercise 24–5:

Question

Identify the two cadences at the end of this excerpt. Identify the cadence type as well as Roman numerals for any chords that form a part of these cadences.

Johann Sebastian Bach, "Herzlich tut mich verlangen" (BWV 271), mm. 1–2.

0:00 / 0:00

activity_24-5

▼ Hint

Listen for moments of resolution, then analyze the harmonic content at those moments.

▼ Answer

This excerpt includes an imperfect authentic cadence at m. 42, followed immediately by a plagal cadence at the end.

George Frideric Handel, As pants the hart (HWV 251d), 5. Chorus: "Put thy trust in God: for I will praise him," mm. 37–44.

0:00 / 0:00

activity_24-5_answer

24.6 Common harmonic progressions

As we have now seen, certain harmonic progressions are more common than others. The following diagram summarizes some of these generalities:

Example 24–22.

example_24-22

Arrows in the diagram show common motions from one diatonic harmony to another. The series of arrows along the top, for example, indicate that a tonic triad may lead to any other diatonic harmony. Moving from left to right across the diagram, we find first the common tonic-function chords (I, iii, and vi), then the common pre-dominant chords (IV and ii, either of which may have added sevenths), followed by the common dominant-function chords (V and vii and their seventh-chord versions). These dominants may, as they often do, resolve back to the tonic, as shown by the arrow pointing to the right-most box, or they may resolve deceptively to vi, as indicated by the thicker arrow looping back to the left. Plagal progressions are indicated by the thicker arrow from the pre-dominant box, skipping over the dominant box and moving right to the tonic. The large, left-pointing arrow along the bottom of the diagram indicates that phrase-ending tonics frequently become the tonic of a new phrase, and that the cycle may repeat indefinitely.

Keep in mind that this diagram shows only the most commonly-encountered harmonic motions. There are numerous other possibilities and you will most certainly encounter progressions that are not shown on this chart.

$$\hat{3} \tag{2.14.6}$$

Example 24–23. Soprano melody from *Johann Sebastian Bach, Halt im Gedächtnis Jesum Christ (BWV 67), 7. "Du Friedefürst, Herr Jesu Christ," mm. 1–2.*

0:00 / 0:00

example_24-23

$$\hat{4} \tag{2.14.7}$$

$$\hat{1} \tag{2.14.8}$$

Example 24–24.

0:00 / 0:00

example_24-24

Completing the harmonization is simply a matter of filling in the inner voices in the manner described in Chapter 12 and Chapter 14.

▼ Activity 24-6

Activity 24–6

Exercise 24–6:

Question

Harmonize the following melody. First identify the scale degree of each note in the melody then select a chord for each note using your knowledge of common tonal harmonic progressions and the diagram shown in Example 24–22. Add a bass line that corresponds with your selections and analyze the harmonic functions of the chords as well as the counterpoint formed between the two voices.

Soprano melody from *Johann Sebastian Bach, Halt im Gedächtnis Jesum Christ (BWV 67), 7. "Du Friedefürst, Herr Jesu Christ," mm. 3–4.*

0:00 / 0:00

activity_24-6

▼ Hint

The example below lists all of the potential harmonizing chords for each note in the melody.

0:00 / 0:00

activity_24-6_hint

▼ Answer

(Answers will vary.)

0:00 / 0:00

activity_24-6_answer

24.7 Summary

$$\hat{2} \tag{2.14.9}$$

The three harmonic functions used in the order T–PD–D–T comprise the *tonal phrase model*. Combined with prolongations via auxiliary sonorities and functional harmonic substitutes, this paradigm accounts for a wide variety of phrases in the tonal repertoire. A diagram of the most common chord progressions found in such phrases may be used as a helpful tool when harmonizing a melody.

While IV chords usually perform a pre-dominant function, they may be found occasionally resolving directly to I at the end of a phrase. This type of phrase ending is known as a *plagal cadence* or *amen cadence* and occurs mostly in sacred choral music. Since it frequently appears after a more conclusive authentic cadence, we may think of the IV chord in a plagal cadence as performing a prolongational role, expanding the concluding tonic harmony at the end of a piece.

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2.15: Diatonic Descending-fifth Sequences

25.1 Introduction

When performing, analyzing, or listening to Western art music, you will occasionally encounter passages where a harmonic pattern coupled with a melodic pattern repeats at successively higher or lower pitch levels. An example of this appears in the following excerpt:

Example 25–1. *Johann Sebastian Bach, Organ Concerto in A minor (BWV 593), I. Allegro, mm. 5–9.*

0:00 / 0:00



Following an authentic cadence in m. 5, we find a series of chords whose roots descend by fifths. Comparing m. 6 with mm. 7–8, we find a repeated pattern in each measure, the only differences being the pitch level of each repetition. In the highest voice, the pattern begins on F in m. 6, and then repeats on E in m. 7 and D in m. 8 before landing on C in m. 9. In the bass, the repeated pattern begins on D in m. 6 and steps down through C (m. 7) and B (m. 8) before arriving on the tonic (A) in m. 9. Harmonically, the pattern ends right where it began: with a i chord. With that in mind, we can consider the entire passage from the second half of m. 5 to the downbeat of m. 9 to be an expansion of tonic harmony.

When successive repetitions occur at different but predictable pitch levels, as in Example 25–1, the patterning is called a *sequence*. Sequences appear with greatest frequency in Baroque music, but were used in every era of the common practice period. As we will discuss in this chapter, sequences function in a number of ways, but always derive from a handful of basic interval progressions. (See Chapter 12 to review basic interval progressions.)

We will begin with a brief discussion of the general nature of sequences and will then proceed with an examination of some common variations on the basic principles. This chapter focuses on the most common types of sequence and is accompanied by a follow-up chapter (Chapter 26) that considers several less common varieties.

25.2 The nature of sequences

Composers generally employ sequences either to expand a single harmony—as we saw in Example 25–1—or as a transitional device from one framing harmony to another, sometimes from one key to another. In all cases, identifying the function of a sequence depends on a listener's ability to recognize the repeated pattern in context. Generally, we first hear the repetition in the contour of the leading melodic voice. But these repeated lines or motives are always linked to strong harmonic patterns, which in turn derive from basic interval progressions.

Sequences are based on the same harmonic progressions that appear everywhere in tonal music. Progressions in which the chord roots descend by fifth are by far the strongest and most frequent, but ascending-fifth and descending- and ascending-third progressions are also quite common (see Chapter 26). In this sense, sequences are an extension of basic tonal practices expressed in a unique way.

Let's take another look at the excerpt from Example 25–1.

▼ Activity 25-1

Activity 25–1

Exercise 25–1:

Question

Identify each of the harmonies indicated by the blank lines in the following sequence in A minor. Use Roman numerals and identify the chord roots by their letter names. The beginning and ending chords have been done for you:

Johann Sebastian Bach, Organ Concerto in A minor (BWV 593), I. Allegro, mm. 5–9.

0:00 / 0:00

activity_25-1

▼ Hint

Remember to use uppercase letters for major chords and lowercase for minor.

▼ Answer

Johann Sebastian Bach, Organ Concerto in A minor (BWV 593), I. Allegro, mm. 5–9.

0:00 / 0:00

activity_25-1_answer

The following example shows the harmonic progression of the excerpt from above:

Example 25–2. Analysis of *Johann Sebastian Bach, Organ Concerto in A minor (BWV 593), I. Allegro, mm. 5–9.*

0:00 / 0:00

example_25-2

The root of each successive triad, starting with the tonic chord on the third beat of m. 5, is a diatonic fifth lower than the previous one: A–D–G–C–F–B–E–A. (Some of these descending fifths are expressed as ascending fourths. This is done to stay within a reasonably narrow pitch range.) Here, the sequence traverses an entire cycle of descending fifths, from tonic back to tonic. This is common—particularly with descending-fifth sequences—but most sequences consist of only three to five repetitions since completing an entire cycle can become tedious.

Note: This sequence and the others considered in this chapter are diatonic: all of the chords are native to a single key. Because the repetitions are not literal, you will find some variation in quality. In Example 25–2, the chords in m. 6 are minor and major, while those in m. 7 are both major. Regardless of the changes in quality, the similarity of the melodic contour and the consistency of the root motion between successive chords are explicit enough for the listener to recognize the repeated pattern.

In addition to considering the repeated material—melodic and harmonic—it is essential that you be able to recognize the underlying interval patterns that form the basic structure of sequences. In multi-voiced settings, look to the outer voices for these governing progressions. The following example provides a reduction of the sequence in Example 25–1, showing the successive intervals formed by the highest and lowest voices:

Example 25–3. Reduction of *Johann Sebastian Bach, Organ Concerto in A minor (BWV 593), I. Allegro, mm. 5–9.*

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example_25-3

In mm. 5–6, the upper voice moves from E up to F and initiates the sequence. That F remains in effect throughout the measure, even while the bass leaps up to G forming a dissonant seventh. This dissonance between the outer voices impels the progression to continue and the pattern repeats—10–7–10–7–10–7—until the pattern is broken in m. 9. Such patterns are sometimes referred to as *linear intervallic patterns*, or, *LIP*s for short. Each of the sequences discussed in this chapter can be similarly analyzed as LIPs.

The reduction given in Example 25–3 also shows a second level of Roman numerals. In this case, we can see that the sequence functions as a prolongation of the pre-dominant area of a basic phrase: tonic–pre-dominant–dominant–tonic.

25.3 Descending-fifth sequences

Sequences in which the chord roots descend by fifth are common enough that they should be instantly recognizable by ear. Compare the following excerpt with the example from above:

Example 25–4. *Wolfgang Amadeus Mozart, Piano Sonata No. 12 in F major (K.332), I. Allegro, mm. 58–66.*

0:00 / 0:00

example_25-4

Despite some superficial differences, these two passages have a very similar sound. In this case, however, the sequence does not complete the cycle of descending fifths, but rather goes only as far as the dominant (m. 65). Following a C-minor chord in m. 60, the chord root moves down a fifth (or, in this case, up a fourth) to the iv7 chord in m. 61. The root progression continues to descend by fifth (or ascend by fourth) through a VII7 chord in m. 62 and a III7 chord in m. 63. Starting in m. 64, the sequence speeds up. Composers will sometimes speed up the harmonic rhythm like this to add variety to a sequence. Here, each successive harmony lasts only two quarter notes instead of three: VI7–ii^{o}7–V7 in mm. 64–65. Finally, the VI chord in m. 66 breaks the pattern and ends the sequence with a deceptive progression.

Now consider the interval progression formed by the outer voices. Example 25–5 provides a reduction:

Example 25–5. Reduction of *Wolfgang Amadeus Mozart, Piano Sonata No. 12 in F major (K.332), I. Allegro, mm. 58–67.*

0:00 / 0:00

example_25-5

On the downbeat of m. 61, the highest voice (Ab) forms a tenth above the bass (F). That Ab is suspended into the next measure where it forms a seventh above the new bass note (Bb). This pattern repeats twice more in mm. 63–65. The sequence, therefore, follows the same LIP that we saw in Example 25–3. The 10–7 pattern is the most common voice-leading structure for descending-fifth sequences. The final dissonant seventh (the G and F of the V7 chord in m. 65) resolves inward to a perfect fifth with the deceptive cadence that ends the sequence. Like the one in Example 25–2, this sequence prolongs the subdominant section of the basic phrase (iv to ii^{o}).

Note: Another consequence of using only diatonic chords is the inevitable inclusion of diminished and augmented intervals. Composers negotiate these dissonant sonorities in several ways, as you'll see from the various examples in this chapter. In this excerpt, for example, the tritone that arises between the roots of the VI and ii^{o}(Ab and D) chords is obscured by the weak (and unexpected) metric placement of the diminished chord.

The following excerpt from a Schubert impromptu includes a complete cycle of descending fifths, this time in a minor key:

Example 25–6. *Franz Schubert, 4 Impromptus (D.899), No. 2 in Eb major, mm. 23–35.*

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example_25-6

Following a cadence in m. 24, Eb major becomes Eb minor with the addition of Gb (and, subsequently, Db and Cb). The descending-fifth sequence that follows, beginning with iv in m. 26, completes the cycle from the initial i chord to the tonic in m. 32. Harmonically, the iv chord in m. 33 continues the descending-fifth series, but by then, the melodic pattern in the upper voice is broken.

$$\hat{2} \tag{2.15.1}$$

Now, let's look at the outer-voice interval progression:

Example 25–7. Reduction of *Franz Schubert, 4 Impromptus (D.899), No. 2 in Eb major, mm. 23–35.*

0:00 / 0:00

example_25-7

As Example 25–7 shows, this excerpt is based on the same interval progression already familiar from Examples 25–1 and 25–4: tenths becoming suspended sevenths. After the initial Gb is heard in m. 25 as the third of the now minor tonic, the upper voice leaps up to Cb in m. 26. That Cb is heard again in m. 27, though there it appears as a seventh above the new bass (Db). (This suspension is indicated with a tie in the reduction.) The pattern is then repeated in mm. 28–29, and again 30–31, leading back to Gb and the minor tonic in m. 32.

Other outer-voice interval progressions are possible as well. The progression that defines a sequence depends on whether or not the harmonies appear in inversion and, in large part, on which chord members appears in the upper voice. Below are the 10–7 LIP already discussed and the resultant 10–5 pattern that would arise by alternating between root position and first inversion chords.

Example 25–8.

a. 10–7 LIP

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example_25-8a

b. 10–5 LIP

0:00 / 0:00

example_25-8b

As you can see from Example 25–8, alternating between root position and first inversion chords creates a smoother bass line and alters the LIP. Such altered sequences are quite common., as the following excerpt demonstrates (Example 25–10 provides a reduction):

Example 25–9. *Wolfgang Amadeus Mozart, Piano Sonata no. 8 in A minor (K.310), I. Allegro maestoso, mm. 70–73.*

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example_25-9

Example 25–10. Reduction of *Wolfgang Amadeus Mozart, Piano Sonata no. 8 in A minor (K.310), I. Allegro maestoso, mm. 70–73.*

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example_25-10

Following a borrowed major tonic in m. 69 (see Chapter 29 for more on borrowing), a descending-fifth sequence begins, starting on the diatonic subdominant chord. The root-motion descends by fifth for three full measures before the ending with the tonic chord on the downbeat of m. 73. The sequence is very similar to Example 25–7 discussed above, the only difference being the inversion of every other chord and the resultant 10–5 LIP.

As you may have deduced, 10–7 and 10–5 are far from being the only possible LIPs in a descending-fifth sequence. Other LIPS are also possible. Consider the following example:

Example 25–11. *Barbara Strozzi, Diporti di Euterpe (Op. 7), mm 84-89.*

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example_25-11

Example 25–12. Reduction of *Barbara Strozzi, Diporti di Euterpe (Op. 7), mm 84-89.*

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example_25-12

This excerpt includes another descending fifth sequence in mm. 84–86: ii–V6–I–IV6–vii^{o}. Unlike the examples above, however, the interval progression here alternates between thirds and sixths before the pattern breaks in m. 87 for the ending of the phrase.

The following example shows the harmonic framework of a descending-fifth sequence in four voices. Consider the interval progressions formed by each of the upper voices with the bass:

Example 25–13.

0:00 / 0:00

example_25-13

▼ Activity 25-2

Activity 25–2

Identify the LIPs between the outer voices of the following sequence. (For example, you would write 10–7 for a LIP that alternates between tenths and sevenths, beginning with a tenth.)

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activity_25-2

Exercise 25–2a:

Question

What is the LIP between the outer voices?

▼ Answer

6–10 or 6–3. As written, the outer-voice LIP of this sequence alternates between sixths and tenths. But any of the upper voices could have been written on top. It is important that you be aware of LIPs between inner voices as well for this very reason.

Exercise 25–2b:

Question

What is the LIP between the alto and bass?

▼ Answer

10–8, 3–8, or 3–1. The alto and bass alternate between tenths (compound thirds) and octaves via a series of suspensions.

Exercise 25–2c:

Question

What is the LIP between the tenor and bass?

▼ Answer

6–5. The tenor and bass alternate between sixths and fifths via a series of suspensions.

In Example 25–13, successive harmonies alternate between first inversion and root position. The soprano voice yields a 6–10 pattern with the bass, while the alto and tenor yield 10–8 and 6–5 patterns with the bass, respectively. Again, the LIP will vary depending on which chord member the composer places in the soprano. The sequence could, of course, also begin with a root-position chord: I–IV6–vii^{o}–iii6–etc., which would likewise affect the outer-voice intervals of the LIP.

Other outer-voice progressions are made possible by adding sevenths to each chord or by arranging them all in root position. In all cases, however, the underlying harmonic foundation remains intact.

Descending-fifth sequences are particularly prevalent in music of the Baroque era. The following excerpt, for example, makes great use of this device:

Example 25–14. *George Frideric Handel, Suite in E minor (HWV 438), Gigue, mm. 13–16.*

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example_25-14

Beginning with the vi chord on the anacrusis to m. 14, a series of arpeggios in the left hand outline a descending fifth sequence through the remainder of that measure. In m. 15, the descending-fifth harmonic pattern set into motion by the sequence continues through V, I, and IV, despite the altered melodic pattern in the bass. At this point, the sequence is broken off, leading to an authentic cadence. Sequences such as this—which complete an entire lap around the circle of fifths and then some—are commonplace in Baroque music but were generally considered monotonous by later composers.

▼ Activity 25-3

Activity 25–3

Exercise 25–3:

Question

The outer-voice interval progression is particularly clear in this sequence. Beginning with the vi chord in m. 13 and going through the IV6 in m. 15, what is the LIP between the outer voices?

George Frideric Handel, Suite in E minor (HWV 438), Gigue, mm. 13–16.

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activity_25-3

▼ Hint

Look at the lowest note in each arpeggiation in the left hand.

▼ Answer

3–5, 5–3, 10–5, or 5–10.

The outer-voice interval progression is particularly clear in this example. A series of suspensions in the upper voice creates a pattern of alternating thirds and fifths with the bass:

Example 25–15. Reduction of *George Frideric Handel, Suite in E minor (HWV 438), Gigue, mm. 13–16.*

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example_25-15

As the second level of Roman numeral analysis shows, this sequence prolongs the tonic for nearly one and a half measures before continuing on to the predominant chords and the ensuing cadence.

▼ Activity 25-4

Activity 25–4

Exercise 25–4:

Question

The following excerpt has a descending-fifth sequence in mm. 39–40. Identify each of the harmonies in the key of A major indicated by the blank lines:

George Frideric Handel, Suite No. 1 in A (HWV 426), Gigue, mm. 39–41.

0:00 / 0:00

activity_25-4

▼ Hint

The chords on beats one and three of each measure are missing their fifths. Also, the second of each group of three eighth notes is a nonharmonic tone.

▼ Answer

m. 39 = ii–V–I–IV; m. 40 = vii^{o}–iii–vi–ii

Follow-up question

Now that you've identified the progression as a descending-fifth sequence with root position harmonies, identify the LIP between the outer voices.

▼ Hint

In this case, the upper voice consists of dotted quarter notes suspended into the next beat.

▼ Answer

10–7

25.4 Summary

Sequences consist of melodic and harmonic patterns repeated at different pitch levels, which, after a few repetitions, become predictable. Diatonic sequences rely on the listener's ability to recognize the basic design of the patterns, since the qualities may change from step to step in conforming to the key. Composers use sequences in a number of ways, primarily to prolong a specific harmony or to move from one harmony to another. Composers may therefore employ sequences to expand one or more parts of the tonic–pre-dominant–dominant–tonic phrase model. This chapter focused on non-modulatory sequences, but sequences can also be designed for modulating.

Each step of a sequence—that is, each cycle of the pattern—is successively transposed up or down at a specific interval until the harmonic goal (or key) is reached. The root movement in a majority of sequences is by descending fifths (or ascending fourths), which reflects the general prominence of descending-fifth root motion in tonal music.

Significantly, the voice-leading of sequences follows the same basic interval progressions that govern all tonal music. Being able to recognize these patterns in a sequence is an important part of understanding how they work. (It is not important to memorize all of

the possible interval patterns that form the skeleton of the various sequence types.) These outer-voice *linear intervallic patterns* (*LIP*s) are determined partly by which chord member appears on top, and partly by whether all chords appear in root position or alternate between root-position and first-inversion.

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2.16: Other Diatonic Sequences

26.1 Introduction

In Chapter 25 we discussed the fundamentals of diatonic sequences and examined the most common type: those in which the harmonies descend by root motion of a fifth. In this chapter, we will discuss several other varieties of diatonic sequences.

26.2 Harmonic root motion and labeling sequences

The chords in a sequence do not usually progress in a *functionally* meaningful way. As we saw in Chapter 25, one encounters harmonic progressions in a sequence that do not usually appear in any other context. Roman numerals can provide a helpful summary of the changing pitch content in a sequence, but they can also be misleading since a chord in a sequence might behave in a very different manner to the same chord heard in a normal phrase.

In this chapter, we will use a supplementary line of analytical markings showing chord roots and the intervallic motion between them:

Example 26–1.

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example_26-1

We refer to the progression in Example 26–1 as a "↓4th ↑2nd" sequence, since the root motion first descends by a fourth (as in G, the root of the I chord, moving to D, the root of the V6 chord) and then ascends by a second (as in V6to vi). This labeling system can be confusing at first since, as in the example above, the bass line may not match up with the root motion. Here, the bass line moves smoothly down by step with each new chord in the sequence despite the disjunct root motion. On the other hand, this labeling system is very useful since it can be used to highlight the similarities between sequences with superficially contrasting voice-leading.

Note: The intervals described in a label such as "↓4th ↑2nd" are abstract. They may, for example, be inverted in the actual music. A *descending* fourth, in other words, may be written as an *ascending* fifth. When determining the intervals to use in describing the root motion, select the smaller interval of the inversional pair. For example, use " ↑2nd" instead of "↓7th."

26.3 Sequences based on thirds

Sequences in which the harmonic units move by seconds or thirds run a greater risk of creating parallel fifths and octaves than those that move by fifths. Composers use a number of strategies to avoid such undesirable interval progressions. The following example shows a descending-third sequence in which intervening first-inversion chords break up the parallel motion:

Example 26–2. *Ludwig van Beethoven, Piano Sonata No. 30 (Op. 109), I. Vivace ma non troppo, mm. 1–3.*

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example_26-2

Each step in the chain of descending thirds appears on the second beat of its measure: I–vi–IV. Between each step of the sequence, however, we find an intervening chord: there is a V6 chord between I and vi and a iii6 between vi and IV. These intermediate harmonies—along with the melodic figuration and the weak metric placement of the main chords—help obscure the parallel fifths between each step in the sequence.

Notice that the root motion here is the same as in Example 26–1: the root of the V6 chord is down a fourth from I and the root of the vi chord is a step above that of V6. The root motion heard from one chord to the next is one of the defining characteristics of a sequence and so, again, we will refer to this particular progression as a ↓4th ↑2nd sequence.

The following example shows a voice-leading reduction of the outer voices:

Example 26–3. Reduction of *Ludwig van Beethoven, Piano Sonata No. 30 (Op. 109), I. Vivace ma non troppo, mm. 1–3.*

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example_26-3

As this reduction shows, alternating between root position and first inversion produces a desirable effect: a stepwise descending bass line The intervening chords (V6 and iii6) break up the parallel fifths that would normally result from successive descending-third root motions. The result is a series of fifths suspended to become sixths as the bass steps down on the downbeat of each measure. As the second level of Roman numeral analysis shows, this sequence prolongs the initial tonic as I moves to I6. The descending 5–6 technique was a popular contrapuntal strategy in the Renaissance and was continually used in later music.

The following example shows another ↓4th ↑2nd sequence:

Example 26–4. *Hélène Montgeroult, Piano Sonata (Op. 5, No. 1), III. Presto, mm. 134-140.*

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example_26-4

This sequence is very similar to the one shown in Example 26–2, though here there is much more melodic decoration. The descending steps in the bass occur on the beats in each measure, but here with octave leaps and passing tones. This sequence also moves through a 5–6 interval progression, but here the fifths are delayed by thirds on the downbeat of each measure. The following reduction clarifies:

Example 26–5. Reduction of *Hélène Montgeroult, Piano Sonata (Op. 5, No. 1), III. Presto, mm. 136-140.*

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example_26-5

In the following excerpt, from a well-known canon, the order of harmonies (I–V–vi–iii–IV–I) is virtually identical to the examples above, though here they all appear in root position:

Example 26–6. *Johann Pachelbel, Canon and Gigue in D major (P.37), mm. 1–2.*

0:00 / 0:00

example_26-6

Beginning with the initial tonic chord, this descending-third sequence continues until the next I chord on beat two of the second measure. Each step in the chain of descending thirds appears on a metrically strong beat (I–vi–IV), with intervening chords on the weak beats. Because each of the chords appears in root position, it is very easy to see the ↓4th ↑2nd root motion.

The following reduction removes the inner voices to reveal the contrapuntal framework in this sequence and clarify the voice-leading:

Example 26–7. Reduction of *Johann Pachelbel, Canon and Gigue in D major (P.37), mm. 1–2.*

0:00 / 0:00

example_26-7

Between the outer voices we find tenths on the strong beats alternating with fifths on the weak beats. The intervening tenths obscure the parallel fifths. Like Example 26–2, this sequence prolongs the initial tonic harmony (as shown by the second level of Roman numeral analysis).

▼ Activity 26-1

Activity 26–1

Exercise 26–1:

Question

As we saw in Example 26–7, Johann Pachelbel's Canon in D finds the outer voices alternating between tenths and fifths. But take note of the inner voices reintroduced below (arranged in SATB for ease of reading). What LIP is formed by the "tenor" and "alto" of this reduction?

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activity_26-1

▼ Answer

5–6

Example 26–8. Four-voice reduction of *Johann Pachelbel, Canon and Gigue in D major (P.37), mm. 1–2*.

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example_26-8

Note the LIP appearing between the "tenor" and "alto." On the first downbeat, the alto (A) forms a fifth above the tenor (D). The A is held as the tenor steps down to C, forming an oblique 5–6 interval progression. This pattern then repeats twice more. This inner-voice interval progression is the same one we saw in Example 26–3: a descending 5–6 pattern. Because this pattern is so recognizable, sequences such as the one found in Example 26–8 are often referred to as *root-position variants* of the descending 5–6 technique.

26.4 Sequences based on seconds

The following example shows a different strategy for avoiding objectionable parallels, this time in an ascending-second (and then descending-second) sequence:

Example 26–9. *Rosa Giacinta Badalla, O fronde care, mm. 53-65*.

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example_26-9

In this passage, starting in m. 56, the bass note and accompanying melodic figure are each transposed up by step several times before being brought back down to their original pitches. Parallel fifths are not an issue here because the fifth of each chord has simply been omitted! There are parallel octaves, but these are obscured by the rhythm since notes sounding an octave apart never begin at the same time.

Contrapuntally, we may view the entire sequence as a series of parallel thirds prolonging the tonic harmony:

Example 26–10. Reduction of *Rosa Giacinta Badalla, O fronde care, mm. 55-59*.

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example_26-10

▼ Activity 26-2

Activity 26–2

Exercise 26–2:

Question

The following example shows an ascending-seconds sequence from a composition by Barbara Strozzi. What is the interval progression heard between the two voices in this sequence, and how are the parallel fifths concealed?

Barbara Strozzi, Diporti di Euterpe (Op. 7), mm 15-18.

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activity_26-2

▼ Hint

In determining the contrapuntal framework, look to the notes that fall on the beat.

▼ Answer

The voices in this sequence move through a progression of parallel thirds. The parallel fifths are concealed by the rhythmic placement of the chord roots:

Reduction of *Barbara Strozzi, Diporti di Euterpe (Op. 7), mm 84-89.*

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activity_26-2_answer

In the following example, first-inversion chords mediate between each step of an ascending-second sequence:

Example 26–11. *Antonio Vivaldi, Violin Concerto in F minor ["L'inverno"] (RV 297), II. Largo, mm 11–13.*

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example_26-11

Like sequences based on thirds, ascending-second sequences often make use of intervening chords to break up parallel fifths and octaves. The IV chord on the downbeat of m. 12 initiates the sequence (IV–V–vi) with intervening chords on the weak beats. The intervening chords appear in first inversion, thereby forming stepwise motion in the bass. Again, despite the stepwise bass line, we refer to sequences of this sort as $\downarrow 3^{rd}$ $\uparrow 4^{th}$, summarizing the root motion from one chord to the next. The following reduction reveals the outer-voice interval progression and how the intervening chords obscure the parallel fifths:

Example 26–12. Reduction of *Antonio Vivaldi, Violin Concerto in F minor ["L'inverno"] (RV 297), II. Largo, mm 11–13.*

0:00 / 0:00

example_26-12

The ascending 5–6 motion seen in this reduction is remarkably similar to what we saw in Example 26–3. The only difference is that here the voices ascend instead of descend. (In this case, the sequence prolongs the pre-dominant harmony.) Once again, the intervening sixths obscure the parallel fifths by approaching them through oblique motion. Such interval progressions are often referred to as *ascending* 5–6 LIPs.

The following excerpt begins with an ascending-third sequence starting with the V7 chord in the first measure:

Example 26–13. *Arcangelo Corelli, Trio Sonata in C minor (Op. 4, No. 11), Allemanda, mm. 1–5.*

0:00 / 0:00

example_26-13

This ascending-third sequence features an ascending stepwise line in the uppermost voice. Again, intervening chords break up the inevitable parallel fifths. Note that while parallel octaves do appear on the downbeats between the bass and the middle voice, they quickly leap up to tenths on the second beat of each measure.

Looking at the reduction, we can see how the mediating chords break up the parallel fifths:

Example 26–14. Reduction of *Arcangelo Corelli, Trio Sonata in C minor (Op. 4, No. 11), Allemanda, mm. 1–5.*

0:00 / 0:00

example_26-14

Instead of moving directly from one fifth to the next on the second beat of each measure, thirds intervene on the downbeats, changing the parallel motion to contrary motion. This results in the ascending stepwise motion of the entire upper line. If we consider the partially concealed inner voice, however, we find a familiar pattern:

Example 26–15. Reduction of *Arcangelo Corelli, Trio Sonata in C minor (Op. 4, No. 11), Allemanda, mm. 1–5.*

0:00 / 0:00

example_26-15

Consider the interval progression formed by the inner voice and the upper voice. With the anacrusis to m. 2, we find the upper voice (D) a fifth above the inner voice (G). The G is held into m. 2 while the upper voice steps up to Eb forming a sixth with the inner voice. The pattern then repeats: 5–6–5–6–etc. This is the same LIP we saw in Example 26–12! In this case, however, each of the harmonies appears in root position. You can think of this pattern as a root-position variant of the ascending 5–6 technique.

Note as well that in this case, instead of prolonging a single harmony, the sequence prolongs the progression from i to ii7.

26.5 Ascending-fifth sequences

Ascending-fifth sequences are far less common than their descending-fifth counterparts. Nonetheless, they do appear with some frequency and have a decidedly different effect. Consider the following example:

Example 26–16. *Arcangelo Corelli, Trio Sonata in C minor (Op. 4, No. 11), Corrente, mm. 18–27.*

0:00 / 0:00

example_26-16

The melodic figure in m. 20 is passed back and forth between the bass and uppermost voice with each change in harmony. Starting with the tonic chord in m. 20, the harmonic progression ascends by fifth in each subsequent measure: I–V–ii–vi. In m. 24, the root of the chord is again a fifth higher, but the pattern is broken by the altered melodic line in the upper voice.

Note as well that m. 24 introduces B§. That chord, initially heard as V/vi in Eb major, turns out to be an auxiliary sonority prolonging the C-minor chord of m. 23, which in light of the ensuing cadence in G minor is retroactively interpreted as iv in that key. (Changes of key such as this one will be explored in great detail in Chapter 28.)

▼ Activity 26-3

Activity 26–3

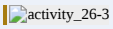
Exercise 26–3:

Question

Beginning with the I chord in m. 20 and going through the vi6 chord in m. 23, what is the LIP between the outer voices? (Hint: Look at the notes on the downbeat of each measure, ignoring, for the moment, the decorations that appear above and below.)

Arcangelo Corelli, Trio Sonata in C minor (Op. 4, No. 11), Corrente, mm. 18–27.

0:00 / 0:00



▼ Hint

The primary notes of this LIP are found on the downbeats of each measure. Don't be distracted by the decorative eighth notes that appear above and below later on in each measure.

▼ Answer

3–6

Looking at the outer-voice-leading reduction, we again see a familiar interval progression:

Example 26–17. Reduction of *Arcangelo Corelli, Trio Sonata in C minor (Op. 4, No. 11), Corrente, mm. 20–23.*

0:00 / 0:00



Here, the root-position chords have a third above the bass while the first-inversion chords have a sixth. 3–6 interval progressions are also very common. Note that in contrast to descending-fifth sequences, in which the overall motion descends, here the overall motion ascends.

The beginning of the following excerpt, begins with a ↑5 sequence (Example 26–19 provides a reduction):

Example 26–18. *Johann Sebastian Bach, Prelude in C Major (BWV 924), mm. 1–3.*

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Example 26–19. Reduction of *Johann Sebastian Bach, Prelude in C Major (BWV 924), mm. 1–3.*

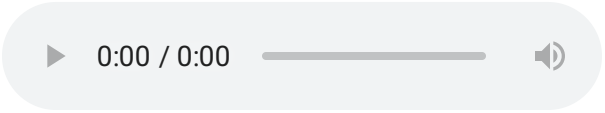
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Throughout the passage, we encounter suspensions and other techniques smoothing out the ascending-fifth progressions. In m. 1, the V chord is introduced as the continuation of a bass arpeggiation of I. The suspended fourth (C on beat 3) resolves on the fourth beat as the upper voice makes a consonant leap up to the root of the triad. That voice is then suspended as a dissonant fourth into the next measure before resolving to the tenth above the bass and repeating the pattern. The basic framework of this sequence, then, is a series of alternating tenths and fifths.

Note: Neither of the ascending-fifth sequences discussed above run past the fifth chord in the sequence—to do so would introduce a tritone in the bass as vii^{o} moved to IV. Sometimes composers will skip entire steps of a sequence to avoid this situation. Consider the following example:

Example 26–20. *Ludwig van Beethoven, Piano Sonata No. 21 [“Waldstein”] (Op.53), II. Introduzione. Adagio molto, mm. 417–421.*





This ascending-fifth sequence begins normally, but breaks the pattern in mm. 449 to avoid the tritone bass motion: I–V–ii–vi–[missing: iii–vii^{o}]–IV–I.

Other interval patterns are possible (e.g. 10–5 and 10–10) with ascending-fifth sequences, depending on which chords are inverted, and on what chord member appears in the uppermost voice.

26.6 Summary

While the majority of sequences move by descending-fifth root motion, you will also encounter sequences that move by seconds or thirds. Many of these are structured by a 5–6 interval pattern and include intervening chords that offset the parallel fifths that inevitably arise. In a descending 5–6 sequence, each repetition descends by a third but, typically, intervening chords lead to a ↑4th↓2nd root motion within each step. Ascending 5–6 sequences, on the other hand, typically follow ↑3rd↓4th root motion from one chord to the next. Ascending-fifth sequences have a unique effect, but occur much less frequently than their descending-fifth counterparts.

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CHAPTER OVERVIEW

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3.1: Applied Chords

27.1 Introduction

When analyzing tonal music, you will very frequently encounter chords that include non-diatonic pitches—pitches that do not belong to the key at hand. Some of them, like the common-tone fully-diminished seventh chords discussed toward the end of Chapter 23, arise from voice-leading procedures and expand a reference sonority. We will now look at another set of sonorities, known as *applied chords*, which also enrich the harmonic vocabulary by incorporating chromatically altered pitches.

Applied chords are modeled on familiar dominant-function chords (V, V7,vii^{o},vii^{o}7, and vii^{ø}7) and suggest a temporary tonic function for some chord other than the *global tonic* (or *home key*). The momentary highlighting of such a pseudo-tonic by means of a pseudo-dominant chord is called *tonicization*. This is similar to *modulation*—a more substantial shift to a new key area—but differs in both scope and effect.

In this chapter, we will first discuss the difference between tonicization and modulation. That distinction is essential for understanding how applied chords work. We will then look at several examples of applied dominant chords and applied leading-tone chords as well as related voice-leading issues. (A more detailed discussion of modulation may be found in Chapter 28.)

27.2 Modulation vs. tonicization

Tonicization occurs when a chord other than the global tonic is heard momentarily, or in passing, as a rival tonic. By contrast, a *modulation* establishes a new key more enduringly, generally as a sign of large-scale structural organization, sometimes even leading to a change in key signature. Tonicization and modulation are most clearly differentiated by duration and structural significance. A tonicization is brief, lasting from two or three chords to a phrase, and is *not* a factor in a work's overall structure. A modulation, on the other hand, takes hold for a longer period, usually prevailing for an entire section, and *is* a factor in a work's overall structure.

Because modulation entails a change of key, it almost always has one or more key-defining cadences, among them often a perfect authentic cadence. In the case of a tonicization, although the resolution of an applied chord sounds cadential, the tonicized chord soon loses its pseudo-tonic function and reverts to its diatonic function, with no change of key.

You may have come across such terms as "implied tonic" or "temporary tonic" to identify and describe the chord being tonicized. In these chapters we will use "pseudo-tonic." This terminology reflects the fact that the chord being tonicized retains its function in terms of the global key. It is made to sound like a tonic, but the effect is fleeting and the chord never actually attains a true tonic function.

As you will see in later chapters, applied chords can be used to initiate a modulation. For now, we will limit our discussion to tonicizations.

Note: Applied chords are also frequently referred to as "secondary dominants." This reflects the fact that they have a dominant function, but in some key other than the global tonic, or, primary key.

▼ Activity 27-1

Activity 27–1

Being able to distinguish tonicizations from modulations can be difficult. In this exercise, you will be given two hypothetical situations. One of them describes a tonicization, the other a modulation. It is up to you to decide which is which.

Exercise 27–1:

Question

Situation 1: You are analyzing a song written for voice and piano. The song begins in G major and stays there for two whole stanzas. In the third stanza, however, you notice that the Ds have consistently become D#s. The third stanza ends with a perfect authentic cadence on an E-minor chord. The fourth stanza ends the same way. The D#s become absent for the fifth and final stanza which ends conclusively in G major.

Situation 2: "You are analyzing a movement from a symphony. The movement is in Bb major, but towards the end you come across a single C-major chord. This chord leads immediately to an F-major harmony, and for a moment, this pair of

chords seems to imply an F-major tonality. This sense does not last long, however, as the F-major chord quickly moves on to a Bb-major chord. The harmony then alternates several times between F-major and Bb-major chords, lending a strong sense of repose to end the movement."

Which of these situations describes a tonicization and which describes a modulation?

▼ Hint

Remember, modulations tend to have several key-defining cadences while tonicizations are temporary.

▼ Answer

Situation 1 describes a modulation; Situation 2 describes a tonicization.

27.3 Applied dominant chords

The pervasive dominant/tonic relationship is the most important, defining characteristic of tonal music. Tonicization is possible precisely because that harmonic relationship is so common and familiar. Most listeners will immediately recognize the link between an applied dominant and the chord being tonicized.

In the following example, a V chord is tonicized by an applied dominant. The progression is labeled with Roman numerals "I – V/V – V" (to be read out loud as "one, five of five, five").

Example 27–1.

0:00 / 0:00

example_27-1

The dominant in C major is a G-major chord (the V on beat three). The applied chord is formed from the pitches of the key implied by the pseudo-tonic. Since a G-major chord is being tonicized, the applied dominant is built from the pitches of the dominant chord *in G major*, the pseudo-tonic key. (As mentioned above, the chord being tonicized is referred to as a pseudo-tonic because in the larger context, it does not have tonic function. In Example 27–1 the V on beat three is still the dominant.) The dominant of G major is a D major chord. Thus, the applied dominant to G major has the pitches D, F#, and A. As you can see in Example 27–1, the applied chord resolves normatively as if in the key of the pseudo-tonic. Most importantly, the key-defining temporary leading tone, F#, resolves up by semitone to the pseudo-tonic keynote, G.

$$\hat{2} \tag{3.1.1}$$

The voice-leading from V/V to V in Example 27–1 can be explained using the same methods outlined in Chapter 12. The primary interval progression is formed by the bass and tenor: 5–8 as the bass leaps down from D to G and the tenor steps up from A to B. The alto harmonizes in parallel sixths with the tenor and the soprano forms an oblique 6–5 progression with the alto. These patterns are shown in Example 27–2:

Example 27–2.

0:00 / 0:00

example_27-2

$$\hat{3} \tag{3.1.2}$$

Tonicization of the V chord with an applied dominant triad occurs very frequently in tonal music. The following example shows a progression with V/V resolving to V in G major:

Example 27–3. *Johann Sebastian Bach, "Menschenkind, merk eben" (BWV 318), mm. 3–6.*

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example_27-3

$$\hat{4} \tag{3.1.3}$$

▼ Activity 27-2

Activity 27–2

In this activity, you will be presented with a series of chorale excerpts, each containing a tonicization of the dominant. For each exercise, first identify the leading tone, then label the chord with the appropriate Roman numeral (e.g., V/V).

Exercise 27–2a:

Question

In the following excerpt, identify a temporary leading tone:

Johann Sebastian Bach, Jesu, nun sei gepreiset (BWV 41), 6. "Dein ist allein die Ehre," mm. 3–4.

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activity_27-2a

▼ Answer

F# in the bass, pickup to m. 3

Follow-up question

In the global key of C major, how should the chord containing this temporary leading tone be labeled?

▼ Answer

Johann Sebastian Bach, Jesu, nun sei gepreiset (BWV 41), 6. "Dein ist allein die Ehre," mm. 3–4.

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activity_27-2a_answer

Exercise 27–2b:

Question

In the following excerpt, identify a temporary leading tone:

Johann Sebastian Bach, Schwingt freudig euch empor (BWV 36), 4. "Wie schön leuchtet der Morgenstern," m. 1-4.

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activity_27-2b

▼ Answer

C# in the soprano, m. 3

Follow-up question

In the global key of G major, how should the chord containing this temporary leading tone be labeled?

▼ Answer

Johann Sebastian Bach, Schwingt freudig euch empor (BWV 36), 4. "Wie schön leuchtet der Morgenstern," m. 1-4.

0:00 / 0:00

activity_27-2b_answer

Exercise 27–2c:

Question

In the following excerpt, identify a temporary leading tone:

Johann Sebastian Bach, Süsser Trost, mein Jesus kömmt (BWV 151), 5. "Heut schleußt er wieder auf die Tür," mm. 1–4.

0:00 / 0:00

activity_27-2c

▼ Answer

C# in tenor, m. 3

Follow-up question

In the global key of G major, how should the chord containing this temporary leading tone be labeled?

▼ Answer

Johann Sebastian Bach, Süsser Trost, mein Jesus kömmt (BWV 151), 5. "Heut schleußt er wieder auf die Tür," mm. 1–4.

0:00 / 0:00

activity_27-2c_answer

Exercise 27–2d:

Question

In the following excerpt, identify a temporary leading tone:

Johann Sebastian Bach, Johannespassion (BWV 245), 11. "Jesu Leiden, Pein und Tod," mm. 1–4.

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activity_27-2d

▼ Answer

D# in the soprano, m. 2

Follow-up question

In the global key of A major, how should the chord containing this temporary leading tone be labeled?

▼ Answer

Johann Sebastian Bach, Johannespassion (BWV 245), 11. "Jesu Leiden, Pein und Tod," mm. 1–4.

0:00 / 0:00

activity_27-2d_answer

Tonicizations using V/V appear very frequently in tonal Western art music and composers voice these progressions in a number different ways. Consider the following example:

Example 27–4. *Joseph Haydn, Divertimento in D major (Hob.XVI:19), III. Assai allegro, mm. 1–8.*

0:00 / 0:00

example_27-4

$$\hat{4} \tag{3.1.4}$$

The examples above show applied dominant triads, but applied chords can also incorporate a chordal seventh:

Example 27–5.

0:00 / 0:00

example_27-5

The major-minor seventh sonority is used more often than the triad because it has an immediately and unmistakably recognizable dominant function. (As discussed in Chapter 18, the dominant seventh chord is the only diatonic major-minor seventh chord.) In other words on hearing a major-minor seventh, we instinctively assign it a dominant function. That instinct is confirmed when the chord resolves to the pseudo-tonic—as it does from the second to the third beat in Example 27–5. As in Example 27–1, the applied dominant seventh in Example 27–5 resolves as it would in the key of G major. Most importantly, the leading tone resolves up by step and the chordal seventh down. (Refer to Chapter 19 to review conventional treatment of dominant seventh chords.)

Applied dominant seventh chords resolve according to the same conventions of basic interval progressions presented in Chapter 12 and Chapter 18. In Example 27–5, the diminished fifth (F# and C) formed by alto and soprano in the applied dominant contract to form a major third (d5–M3). The soprano and tenor illustrate basic interval progression 3–3, alto and tenor 6–8, and tenor and bass the special cadential progression 5–8.

Example 27–6.

0:00 / 0:00

example_27-6

The following example shows a progression with V6/5/V tonicizing V.

Example 27–7. *Jane Mary Guest, "Ah quando torni al core," mm. 9–12.*

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example_27-7

$$\hat{2} \tag{3.1.5}$$

▼ Activity 27-3

Activity 27–3

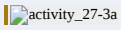
Applied dominant seventh chords resolve according to the same conventions as diatonic dominant seventh chords. In this activity, you will analyze the voice leading in a series of brief progressions, each containing an applied dominant seventh chord.

Exercise 27–3a:

Question

Is the voice leading in the following example correct as V7/V resolves to V? If not, how should it be adjusted?

0:00 / 0:00



▼ Hint

One of the voices in the V7/V chord does not resolve correctly.

▼ Answer

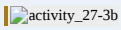
No. There is a problem with the voice leading. G does not actually belong to the V chord in G major. Resolving to D is a much better choice (tenor should be D instead of G).

Exercise 27–3b:

Question

Is the voice leading in the following example correct as V7/V resolves to V? If not, how should it be adjusted?

0:00 / 0:00



▼ Hint

One of the voices in the V7/V chord does not resolve correctly.

▼ Answer

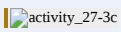
No. There is a problem with the voice leading. The seventh of the applied dominant seventh chord should resolve down by step (alto should be E instead of G).

Exercise 27–3c:

Question

Is the voice leading in the following example correct as V7/V resolves to V? If not, how should it be adjusted?

0:00 / 0:00



▼ Answer

Yes. All of the voices in the V7/V chord resolve correctly.

Exercise 27–3d:

Question

Is the voice leading in the following example correct as V7/V resolves to V? If not, how should it be adjusted?

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activity_27-3d

▼ Hint

One of the voices in the V7/V chord does not resolve correctly.

▼ Answer

No. There is a problem with the voice leading. The leading tone of applied dominant should resolve to the temporary tonic (soprano should be F instead of C).

Depending on the instrumentation and other contextual considerations, composers do not always follow voice-leading conventions as closely as in the progressions shown above. This is particularly true when multiple melodic voices are played by a single instrument, such as the piano in the following example:

Example 27–8. *Augusta Browne, "The Courier Dove," mm. 1–8.*

0:00 / 0:00

example_27-8

Example 27–8 shows two tonicizations using V7/V, the second of which resolves to a dominant seventh chord in the global tonic. Some of the typical voice-leading conventions appear intact—the pseudo-leading tone Bn resolving to C in mm. 3–4, for example—whereas others are absent due to the figuration in the piano part.

An applied chord itself may also be expanded. The following example shows a tonicization of V with a V/V preceded by a cadential 6/4 chord:

Example 27–9.

0:00 / 0:00

example_27-9

The sixth and fourth above the bass resolve downwards by step—just as they would in a typical cadential progression—creating the applied dominant harmony before resolving to the tonicized V. The same progression appears in the following two examples:

Example 27–10. *Louise Farrenc, 20 Etudes de moyenne Difficulté pour Piano (Op. 42), No. 18, mm. 4–13.*

0:00 / 0:00

example_27-10

Example 27–11. *Frances Arkwright, "Battle of the Baltic," mm. 7–10.*

0:00 / 0:00

example_27-11

Although other chords besides V may be tonicized (more on this below), tonicization of the dominant is a special case. The following example shows a common progression from the tonic to the dominant through a pre-dominant ii chord:

Example 27–12.

0:00 / 0:00

example_27-12

Compare Example 27–1 and Example 27–12. As you can see, the only difference is the alto's second note (F in Example 27–12 instead of F#). V/V may be considered a chromatically modified ii chord as it often appears in harmonic progressions as a replacement for ii . In other words, in their tonicizing function applied dominants may serve as pre-dominants.

An applied dominant can also enhance the pre-dominant function, as it does in the following two examples, where the diatonic pre-dominant function is subsequently intensified when one of its members is chromatically altered to create a tonicizing applied dominant.

Example 27–13.

0:00 / 0:00

example_27-13

Example 27–14.

0:00 / 0:00

example_27-14

The following example shows a progression in which a diatonic IV chord moves through V7/V before resolving to V:

Example 27–15.*Augusta Browne, "Mary Lyle," mm. 9–14.*

0:00 / 0:00

example_27-15

By simply raising the root of the IV chord (Eb to E§) and dropping the bass down to C, the diatonic IV chord is transformed into a secondary dominant.

▼ Activity 27-4

Activity 27–4

As seen in Example 27–13 and Example 27–14, applied chords are closely-related to pre-dominant chords and can enhance the pre-dominant function. In each of the following examples, alter one of the pitches of the pre-dominant chord to create an applied dominant or leading-tone chord.

Exercise 27–4a:

Question

In the following example, change one of the notes in the pre-dominant chord on beat three to create a V6/5/V:

0:00 / 0:00

activity_27-4a

▼ Answer

0:00 / 0:00

activity_27-4a_answer

(Raising the bass to B§ changes the ii6/5 chord into a V6/5/V.)

Exercise 27–4b:

Question

In the following example, change one of the notes in the pre-dominant chord on beat three to create a vii^{o}/V:

0:00 / 0:00

activity_27-4b

▼ Answer

0:00 / 0:00

activity_27-4b_answer

(Raising the bass to C§ changes the IV chord into a vii^{o}/V.)

Exercise 27–4c:

Question

In the following example, change one of the notes in the pre-dominant chord on beat three to create a V6/5/V:

0:00 / 0:00

activity_27-4c

▼ Answer

0:00 / 0:00

activity_27-4c_answer

(Raising the soprano to E§ changes the ii7 chord into a V6/5/V.)

Exercise 27–4d:

Question

In the following example, change one of the notes in the pre-dominant chord on beat three to create a vii^{o}6/V:

0:00 / 0:00

activity_27-4d

▼ Answer

0:00 / 0:00

activity_27-4d_answer

(Raising the soprano to G# changes the IV6 chord into vii^{o}6/V.)

27.4 Applied leading-tone chords

In addition to applied dominant chords, applied leading-tone chords are also quite common. The following example is similar to Example 27–1, but this time the leading-tone triad borrowed from the dominant key tonicizes the V chord.

Example 27–16.

0:00 / 0:00

example_27-16

The leading-tone chord resolves normatively, as it would in the key of G major. (Refer to Chapter 16 for a discussion of the leading-tone chord.) Most importantly, the leading tone (F#) steps up to the pseudo-tonic (G). The voice-leading from vii^{o}6/V to V6 adheres to the basic intervals progressions from Chapter 12. The tenor and alto ascend with the bass, respectively forming parallel 6–6 and 3–3 progressions, while the octave formed by the bass and soprano resolves inwards to a minor sixth (8–6).

As with any vii^{o}6 chord, a tritone occurs in vii^{o}6/V as a resultant interval formed by voices that are consonant with the bass. In Example 27–6, the tritone formed by the tenor and alto (F# and C respectively) resolves in similar motion to a perfect fifth (G and D). Chapter 16, on the vii^{o} chord, illustrates the guiding 3–3 progression between the bass and an upper voice.

Example 27–17.

0:00 / 0:00

example_27-17

$$\hat{7} \tag{3.1.6}$$

Applied leading-tone triads are also abundant in the tonal repertoire. The following example shows a tonicization of V using vii^{o}6/V:

Example 27–18. *Johann Sebastian Bach, "Gott lebet noch, Seele, was verzagst du doch?" (BWV 320), mm. 1–2.*

0:00 / 0:00

example_27-18

In Example 27–18, the tritone occurs between the soprano and the alto as an augmented fourth. It resolves properly with both voices ascending by step to form a perfect fourth.

Like the related applied dominant chord, applied leading-tone chords may also include a chordal seventh. Fully-diminished applied leading-tone chords are common even when tonicizing major triads because of their immediately recognizable sonority. (Half-diminished seventh chords are less common and can only be used to tonicize major triads.) The following example tonicizes the V chord with a fully-diminished leading-tone chord:

Example 27–19.

0:00 / 0:00

example_27-19

The rules for resolving *diatonic* leading-tone sevenths chords also hold for resolving *applied* leading-tone sevenths. (Refer to Chapter 18 for discussion of leading-tone seventh chord treatment.) Both tritones must resolve properly according to the basic interval progressions involving a tritone, as outlined in Chapter 16. In this case, the bass and tenor (F# and C respectively) form a diminished fifth. This tritone is resolved normatively to a major third. The alto and soprano meanwhile (Eb and A respectively) form a diminished fourth. This tritone also resolves normatively, in similar motion to a perfect fourth:

Example 27–20.

0:00 / 0:00

example_27-20

Note the adherence to basic interval progressions between the other voice pairs. The bass and soprano follow a 10–8 progression while the tenor moves in parallel thirds and sixths with the alto and soprano respectively. As in Example 27–17, care must be taken to avoid doubling the leading tone in the V chord. Here, the A steps down to G instead of resolving up to B.

The following examples show applied leading-tone seventh chords tonicizing the dominant:

Example 27–21. *Franz Schubert, "Erlkönig," D 328, mm. 12–15.*

example_27-21

Example 27–22.*Fanny Hensel, 6 Lieder (Op. 9), 2. "Ferne," mm. 1–7.*

0:00 / 0:00

example_27-22

In m. 14 of Example 27–21 we find an applied fully-diminished chord tonicizing V. As you can see, all of the usual considerations for resolving a fully-diminished chord remain the same. The diminished fifth formed by C# and G contracts inward to a major third, while the augmented fourth between Bb and E§ moves in similar motion to a perfect fourth. Example 27–22 follows suit, though here the applied leading-tone seventh chord appears in second inversion and therefore resolves to a dominant in first inversion.

▼ Activity 27-5

Activity 27–5

Applied leading-tone chords resolve according to the same conventions as diatonic leading-tone chords. In this activity, you will analyze the voice leading in a series of brief progressions, each containing an applied leading-tone chord.

Exercise 27–5a:

Question

Is the voice leading in the following example correct as vii^{o}7/V resolves to V? If not, how should it be adjusted?

0:00 / 0:00

activity_27-5a

▼ Answer

Yes. All of the voices in the vii^{o}7/V resolve properly.

Exercise 27–5b:

Question

Is the voice leading in the following example correct as vii^{o}7/V resolves to V? If not, how should it be adjusted?

0:00 / 0:00

activity_27-5b

▼ Answer

No. One of the voices in the vii^{o}7/V chord does not resolve correctly. The alto must resolve down by step to F# (resolving the tritone formed by C# and G to a perfect fifth).

Exercise 27–5c:

Question

Is the voice leading in the following example correct as vii^{o}7/V resolves to V? If not, how should it be adjusted?

0:00 / 0:00

activity_27-5c

▼ Answer

No. One of the voices in the vii^{o}7/V chord does not resolve correctly. Although the tritone formed by Ab and D would resolve to a major sixth, the soprano cannot move to E because to do so would double the leading tone in the V chord. Resolving to C is a much better choice.

Exercise 27–5d:

Question

Is the voice leading in the following example correct as vii^{o}7/V resolves to V? If not, how should it be adjusted?

0:00 / 0:00

activity_27-5d

▼ Answer

Yes. All of the voices in the vii^{o}7/V resolve properly.

27.5 Other chords that may be tonicized

For the sake of clarity—and because V is the most commonly tonicized triad—all of the examples in this chapter so far have tonicized the dominant chord. However, applied dominants can also tonicize any diatonic major or minor triad. Thus in major keys ii, iii, IV, V, and vi can be tonicized, and in minor III, iv, v, VI, and VII.

Note: Diminished triads cannot represent or imply a key. For example, in A minor, one cannot tonicize the ii^{o} chord because there is no B-diminished key. It is for this reason that only major or minor triads can be tonicized.

The following example shows the tonicization of a ii chord:

Example 27–23.

0:00 / 0:00

example_27-23

Such tonicizations of chords other than V are common in tonal music. The following two examples show excerpts with tonicizations of ii—first with an applied V6/5 chord and then with an applied vii^{o}6/5 chord):

Example 27–24. *Mathilde Marchesi, 12 Vocalises élémentaires (Op. 13), No. 3 in D major, mm. 1–10.*

0:00 / 0:00

example_27-24

Example 27–25. *Louise Farrenc, 20 Etudes de moyenne Difficulté pour Piano (Op. 42), No. 14, mm. 1–8.*

0:00 / 0:00

example_27-25

Note how in both of the examples above, the tonicized ii chord retains its pre-dominant function and proceeds to a dominant chord in the global key.

▼ Activity 27-6

Activity 27–6

Identify the applied fully-diminished seventh chords in each of the following excerpts and indicate the chords they are tonicizing.

Exercise 27–6a:

Question

The following excerpt contains an applied fully-diminished seventh chord. Where is it?

Johann Sebastian Bach, Prelude and Fugue 1 in C major (from The Well-Tempered Clavier, Book I), mm. 11–16.

0:00 / 0:00

activity_27-6a

▼ Hint

Look for a temporary leading tone.

▼ Answer

all of m. 12

Follow-up question

What chord does the applied fully-diminished seventh tonicize?

▼ Hint

To which scale degree does the temporary leading tone (the root of the vii^{o}7 chord) resolve?

▼ Answer

The ii chord in m. 13 is tonicized.

Exercise 27–6b:

Question

The following excerpt in Bb major contains an applied fully-diminished seventh chord. Where is it?

Wolfgang Amadeus Mozart, Fantasia in C minor (K.475), mm. 119–122.

0:00 / 0:00

activity_27-6b

▼ Hint

Look for a temporary leading tone.

▼ Answer

first beat of m. 122

Follow-up question

What chord does the applied fully-diminished seventh tonicize?

▼ Hint

To which scale degree does the temporary leading tone (the root of the vii^{o}7 chord) resolve?

▼ Answer

The applied chord tonicizes vi, emphasizing the deceptive cadence.

Exercise 27–6c:

Question

The following excerpt in G minor contains an applied fully-diminished seventh chord. Where is it?

Johann Sebastian Bach, "Was betrübst du dich, mein Herze" (BWV 423), mm. 15–16.

0:00 / 0:00

activity_27-6c

▼ Hint

Look for a temporary leading tone.

▼ Answer

fourth beat of m. 15

Follow-up question

What chord does the applied fully-diminished seventh tonicize?

▼ Hint

To which scale degree does the temporary leading tone (the root of the vii^{o}7 chord) resolve?

▼ Answer

The applied diminished seventh tonicizes the dominant harmony of m. 16.

Exercise 27–6d:

Question

The following excerpt in C major contains an applied fully-diminished seventh chord. Where is it?

Franz Schubert, "Ständchen" (D.889), mm. 34–38.

0:00 / 0:00

activity_27-6d

▼ Hint

Look for a temporary leading tone.

▼ Answer

all of m. 36 (**Note:** There is another applied leading-tone chord at the third eighth note of m. 37, but that chord is half-diminished.

Follow-up question

What chord does the applied fully-diminished seventh tonicize?

▼ Hint

To which scale degree does the temporary leading tone (the root of the vii^{o}7 chord) resolve?

▼ Answer

The applied chord tonicizes the ii chord in m. 37.

The vi chord can also be tonicized with applied chords. The following three examples show excerpts with tonicizations of vi:

Example 27–26. *Augusta Browne, Strains of Many Lands, 1. "Lays of Caledonia," mm. 6–13.*

0:00 / 0:00

example_27-26

Example 27–27. *Louise Farrenc, 20 Etudes de moyenne Difficulté pour Piano (Op. 42), No. 7, mm. 1–8.*

0:00 / 0:00

example_27-27

Example 27–28. *Sophie Gail, "Le serment," mm. 7–14.*

0:00 / 0:00

example_27-28

Example 27–26 tonicizes vi with a simple dominant triad (V/V) while 21–27 and 21–28 do the same with a V6/5/vi and a vii^{o}/vi, respectively.

▼ Activity 27-7

Activity 27–7

In this activity, you will analyze the voice-leading of two passages containing tonicizations of vi to see if they conform to the voice-leading conventions outlined in previous chapters:

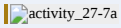
Exercise 27–7a:

Question

Identify the tritone in the vii^{o}6/vi following excerpt:

Johann Sebastian Bach, "Es ist gewisslich an der Zeit" (BWV 307), mm. 9–10.

0:00 / 0:00



▼ Hint

G is a suspension in the alto voice.

▼ Answer

C in the tenor and F# in the alto form an augmented fourth.

Follow-up question

To what interval does the tritone resolve?

▼ Answer

perfect fourth (P4)

Follow-up question

Does the vi chord on the downbeat of m. 6 provide a valid resolution of the vii^{o}6/vi?

▼ Answer

Yes. All of the voice-leading from vii^{o}6/vi to vi in this case is valid.

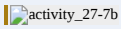
Exercise 27–7b:

Question

Identify both of the tritones in the vii^{o}7/vi following excerpt:

Clara Schumann, Einfache Praeludien für Schüler, No. 1.

0:00 / 0:00



▼ Answer

C# and G form a diminished fifth, Bb and E form an augmented fourth.

Follow-up question

To what interval does the diminished fifth formed by C# and G resolve?

▼ Answer

The diminished fifth formed by C# and G resolves to a minor third (m3). The augmented fourth formed by Bb and E resolves to a minor sixth (m6).

Follow-up question

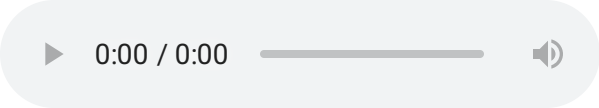
Does the vi chord on the downbeat of m. 6 provide a valid resolution of the vii^{o}7/vi?

▼ Answer

Yes. All of the voice-leading from vii^{o}7/vi to vi in this case is valid.

As mentioned above, for a sonority to be an applied chord it must have some kind chromatic alteration. Some progressions may at first resemble a tonicization. Consider the progression of a C-major triad to an F-major triad in a piece in C-major. One might be tempted to analyze this as V/IV–IV, implying that the F-major triad is being tonicized. To do so, however, would throw into question and compromise the functional centrality of the tonic.

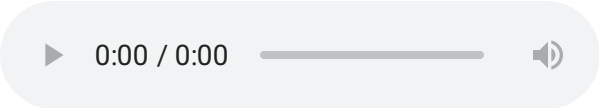
Example 27–29.



example_27-29

Progressions such as these are not tonicizations, but rather represent inherent characteristics of the diatonic scale. To analyze this C-major chord as anything other than “I” would obscure its fundamental role as tonic. If, on the other hand, the sonority on beat one were a major-minor (dominant) seventh chord, a chromatic alteration would be required and the progression would be analyzed as follows:

Example 27–30.

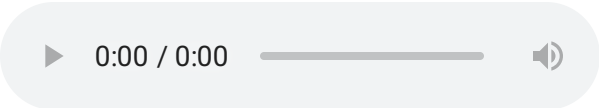


example_27-30

In Example 27–30, the V7/IV resolves properly to the IV chord. The chordal seventh (Bb in the tenor) resolves down to A, forming 6–6 with the alto and an expanding tritone, A4–6, with the soprano, while the alto forms 6–8 with the soprano.

The following example shows a tonicization of IV, similar to Example 27–30. The Db in the soprano in m. 3 is essential for hearing the chord as an applied dominant seventh.

Example 27–31. *Ludwig van Beethoven, Piano Trio in Eb major (Op. 1, No. 1), I. Allegro, mm. 6–9.*



example_27-31

Note: Example 27–29 and Example 27–30 make clear why it is important to distinguish between diatonic major chords and applied dominants. By definition, applied chords must contain chromatic alterations (typically leading tones borrowed from related keys). Analyzing the C-major triad in Example 27–29 as an applied dominant, for instance (V/IV), undermines the identity of a fundamental harmonic function: the tonic!

The VII chord in a minor key, however, is a special case. When VII, a diatonic major chord, leads to III, as it routinely does, VII sounds like an applied dominant leading to a pseudo-tonic. That sense is especially strong because III is the tonic of the relative major, which, in a minor key is a prominent rival tonic. Unlike other pseudo-tonics, it requires no chromatically-altered chords (i.e. no borrowed leading tones) in order to establish itself. A major VII chord thus sounds like a V/III, and VII7 like a V7/III. Further, depending on musical context, the diatonic ii^{o} and ii7 in a minor key may sound, respectively, like the vii^{o}/III and vii^{ø}7/III.

The strength of the III chord in minor keys as a rival tonic results in the possibility of diatonic chords—VII and VII7,ii^{o} and ii^{ø}7—functioning as applied chords tonicizing III, even though they lack chromatic alterations. This is especially true of VII7 because it is immediately recognizable as a dominant seventh chord. Composers exploit this particular overlap between diatonic and applied chords in order to make smooth modulations from a minor key to its relative major. (See Chapter 28 for more on modulation to the

relative major.) For the sake of clarity and uniformity, we will always label diatonic chords as such. We will therefore use VII, VII7,ii^{o}, and ii^{ø}7 instead of V/III, V7/III,vii^{o}/III, and vii^{ø}7/III, despite any tonicizing characteristics these chords may have.

▼ Activity 27-8

Activity 27–8

In this activity, you will be asked to give the pitches for a variety of applied chords in various keys. You will then be asked to insert these chords into a SATB setting.

Exercise 27–8a:

Question

What pitch is in the bass of V6/5/V in A major?

▼ Answer

D# is the bass of a V6/5/V in A major.

Follow-up question

What pitches are in the upper voices of V6/5/V in A major?

▼ Answer

B, F# and A

Follow-up question

Complete the progression below by inserting the pitches of V6/5/V in A major into the most logical voices:

0:00 / 0:00

activity_27-8a

▼ Hint

Remember to use accidentals for any chromatically-altered pitches.

▼ Answer

0:00 / 0:00

activity_27-8a_answer

Exercise 27–8b:

Question

What pitch is in the bass of V6/5/ii in Bb major?

▼ Answer

B§ is the bass of a V6/5/ii in Bb major.

Follow-up question

What pitches are in the upper voices of V6/5/ii in Bb major?

▼ Answer

G, D and F

Follow-up question

Complete the progression below by inserting the pitches of V6/5/ii in Bb major into the most logical voices:

0:00 / 0:00

activity_27-8b

▼ Hint

Remember to use accidentals for any chromatically-altered pitches.

▼ Answer

0:00 / 0:00

activity_27-8b_answer

Exercise 27–8c:

Question

What pitch is in the bass of vii^{o}6/vi in G major?

▼ Answer

F# is the bass of a vii^{o}6/vi in G major.

Follow-up question

What pitches are in the upper voices of vii^{o}6/vi in G major?

▼ Answer

D# and A

Follow-up question

Complete the progression below by inserting the pitches of vii^{o}6/vi in G major into the most logical voices:

0:00 / 0:00

activity_27-8c

▼ Hint

Remember to use accidentals for any chromatically-altered pitches.

▼ Answer

0:00 / 0:00

activity_27-8c_answer

Exercise 27–8d:

Question

What pitch is in the bass of V4/2/V in Ab major?

▼ Answer

A is the bass of a V4/2/V in Ab major.

Follow-up question

What pitches are in the upper voices of V4/2/V in Ab major?

▼ Answer

Bb,D§ and F

Follow-up question

Complete the progression below by inserting the pitches of V4/2/V in Ab major into the most logical voices:

0:00 / 0:00

activity_27-8d

▼ Hint

Remember to use accidentals for any chromatically-altered pitches.

▼ Answer

0:00 / 0:00

activity_27-8d_answer

27.6 Applied chords as auxiliary sonorities

Applied chords may also appear as auxiliary sonorities used to expand a reference sonority. Consider the following example from the chapter off auxiliary sonorities (Chapter 23):

Example 27–32.

0:00 / 0:00

example_27-32

In Example 27–32, an auxiliary sonority coincidentally containing the pitches of a V6 chord is used to expand a vi chord. If the tenor were to include a chromatic lower neighbor note (A–G#–A), the following expansion would result:

Example 27–33.

0:00 / 0:00

example_27-33

In the above example, the auxiliary sonority coincidentally produces the pitches of the viiº6 of A minor, tonicizing the reference chord, vi. Auxiliary sonorities can expand other reference sonorities as well. In the following example, a IV chord is expanded with an applied dominant seventh in first inversion:

Example 27–34. *José Maurício Nunes Garcia, Libera me, mm. 28–36.*

0:00 / 0:00

example_27-34

All of the notes in m. 3, save the Bb in the tenor voice, may be understood as neighbors to the tones of the surrounding IV chords.

27.7 Summary

It is essential to remember the difference between *tonicization* and *modulation* when interpreting and writing applied chords. Tonicization is a local-level procedure, modulation a global-level one, with large-scale structural significance for a work. The difference is evident both from the comparatively brief influence of *pseudo-tonics*, and from the quick reversion of tonicized chords to their expected diatonic functions.

Applied chords (or *secondary dominants*) highlight the arrival of diatonic chords by tonicizing them. They do this by simulating the readily recognizable and pervasive dominant-tonic relationship in tonal music, thereby imparting a pseudo-tonic meaning to diatonic chords other than the reigning tonic. When a tonicized triad leads to the subsequent chord, its native diatonic function emerges clearly. Ultimately, therefore, despite chromatic alterations applied chords actually strengthen the reigning tonality rather than weaken it.

Applied chords may be built on a root either a fifth above or semitone below the chord being tonicized, and may include a chordal seventh. They should resolve according to voice-leading modeled in the basic interval progressions.

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3.2: Modulation

28.1 Introduction

Until now, we have focused on relatively small-scale musical events. Our discussion has focused on topics such as voice-leading and the relationships between individual chords. In this chapter, we will broaden out scope to look at larger contexts in order to address the topic of modulation.

Almost inevitably, a piece of tonal music explores one or more key areas besides the global tonic. Composers incorporate non-tonic key areas to provide contrast and to create anticipation for a return to the global tonic. (It is quite rare, in tonal Western art music, for a piece to end in a key other than the one in which it began.) In some pieces these non-tonic keys are more structurally significant than others. Furthermore, certain key relationships are more prevalent than others—the relationship between the tonic and the key of the dominant, for instance, being by far the most common.

In the chapter off applied chords (Chapter 27) we discussed the difference between tonicization and modulation. This chapter will begin with a similar discussion highlighting several characteristics that define the latter. From there we will move to a generic exploration of the topic, outlining a number of common modulations in both major and minor keys along the way. Finally, the chapter will conclude with a brief discussion of chromatic modulations, setting the stage for similar discussions of advanced techniques in the chapters that follow.

28.2 Tonicization vs. modulation

Applied chords, as we saw in Chapter 27, emphasize diatonic chords by momentarily giving them tonic color. However, the diatonic function of the tonicized chord does not change. A ii chord, for example, retains its pre-dominant function even when tonicized by a V7/ii. The progression V7/ii–ii reminds us of the ubiquitous V7–I, but the ii chord remains a pseudo-tonic—it never actually attains true tonic function. In a modulation, by contrast, the listener does hear a new tonic.

One must keep in mind, however, that even a modulation is a temporary change of key because the vast majority of tonal music eventually returns to the global tonic. The important distinction between tonicization and modulation has to do with structural significance. First, non-tonic keys last longer. Unlike a tonicized chord, which retains its diatonic function, non-tonic keys remain in effect long enough to allow listeners to adjust to hearing them as new tonics. Further, they have greater weight because they tend to include one or more decisive cadential progressions.

There are a number of clues that will help you identify modulations. Since a modulation will explore a new key area, accidentals will appear and remain present for a prolonged period of time. Sometimes, for lengthier non-tonic key areas, the composer (or, perhaps, publisher) may even temporarily change the key signature. As mentioned above, strong cadential progressions are particularly effective in confirming a modulation. The presence of a cadence (or several) with a pre-dominant–dominant–tonic progression in a key other than the global tonic is a strong indication that the music has modulated. Tonicizations, on the other hand, are often limited to a single applied chord and its resolution.

28.3 Techniques of modulation

One of the most interesting aspects of the topic of modulation has to do with how composers manage to move from one key area to another. Several techniques are common. The simplest one is known as *direct modulation*. In a direct modulation the composer ends a section in one key (typically with a cadence) and simply begins the next section in another. This technique is a useful way to modulate to the dominant: a composer can end a phrase with a half cadence (on the dominant chord) and then simply begin the next phrase in the dominant key. The following example illustrates this method:

Example 28–1. *Johann Christian Bach, Keyboard Sonata in D major (W.A 2), II. Andante di molto, mm. 1–23.*

0:00 / 0:00

example_28-1

This excerpt begins in the key of G major, which is confirmed by the imperfect authentic cadence in m. 4. In m. 8 we arrive at a half cadence: a D-major chord with a 6/4 suspension in the right hand. After this brief moment of repose, the music continues in D major, with C#s instead of C§s, eventually leading to a perfect authentic cadence in m. 23. The cadence in m. 8 terminates G major,

and D major begins directly in m. 9. The change of key is noticeable, but not particularly startling since the same harmony is found at the end of one phrase and the beginning of the next.

Example 28–2 shows another direct modulation:

Example 28–2. *Johann Sebastian Bach, Matthäuspassion (BWV 244), 54. "O Haupt voll Blut und Wunden ," mm. 1–4.*

0:00 / 0:00

example_28-2

The first phrase in Example 28–2 ends very clearly in the key of F major with an imperfect authentic cadence. On the fourth beat of m. 2, however, a C# is introduced in the bass. As the rest of the second phrase confirms, the music has modulated to the key of D minor (the relative minor) and C# is the new leading tone. The modulation is immediate: the second phrase begins in the new key directly after the fermata .

Although direct modulations are common in tonal music, they are not always appropriate because of the jarring effect of the abrupt change from one key to another. Composers often strive for harmonic smoothness, which a direct modulation disrupts.

The most common technique for changing keys is with a *pivot chord modulation*. A chord that occurs diatonically in both keys can serve as a point of overlap—or, pivot—between them. Consider the following chord in the key of Ab major:

Example 28–3.

0:00 / 0:00

example_28-3

This same chord may also appear as a diatonic triad in the dominant key of Eb major:

Example 28–4.

0:00 / 0:00

example_28-4

The most common pivot chords are those that function as a pre-dominant chord in the goal key. The F-minor triad in Example 28–3 and Example 28–4 is an effective pivot because it functions as a pre-dominant chord in the key of Eb, and can lead directly to the dominant which, in turn, resolves to the new tonic and confirms the modulation. In the context of a modulation from Ab major to Eb major, the F-minor chord would initially be heard as the vi chord in Ab major. As the music continues in the new key, the F-minor chord will be retroactively reinterpreted as the ii chord in Eb major. This change in function is typically confirmed by a strong cadence in the new key.

Note: Pivot chords are indicated with two lines of Roman numerals: the original key is usually on top with the new key just below it. An asymmetrical bracket is drawn between the two lines to show where the one key ends and the other begins:

Example 28–5.

0:00 / 0:00

example_28-5

Consider the following example of a pivot-chord modulation:

Example 28–6. *Joseph Haydn, Piano Trio in G major (Hob.XV:15), II. Andante, mm. 1–8.*

0:00 / 0:00

example_28-6

The beginning of this movement establishes the global tonic of C major and arrives at a (tonicized) half cadence in m. 4. The second phrase, beginning in m. 5, is recognizable as a repetition of the first and continues in C major. The high C, played by the violin in m. 6, is now harmonized, with an A-minor triad. Initially, we hear the chord as vi in C major. The music that follows, however, shows a modulation to G major (the dominant). The first unmistakable indication of the change of key is the dominant seventh of G major—the major-minor seventh chord built on D—in m. 7 which resolves in a perfect authentic cadence in m. 8. In retrospect, the A-minor chord in m. 6 is reinterpreted as a pre-dominant ii chord in G major.

The following example shows a very similar scenario:

Example 28–7. *Elisabetta de Gambarini, Minuet in A major (Op. 2, No. 5), mm. 21–28.*

0:00 / 0:00

example_28-7

Here, after a key-defining phrase in A major (mm. 21–24), we find another phrase continuing in the same key. The D# in m. 26, however, suggests a change of key. The authentic cadence in mm. 27–28 confirms the modulation and invites the listener to reinterpret the F-minor triad on the downbeat of m. 26: what was heard as vi in the original key may now be heard as ii in the new key.

As mentioned above, pivot chords are most effective when they function as pre-dominant chords in the goal key. In both Example 28–6 and Example 28–7 above, the vi chord becomes a pre-dominant ii chord in the new key.

Note: Some of the excerpts in this chapter, including the excerpt shown in Example 28–7, are notably short and the modulations that take place therein do not last very long. One might argue that some of these modulations are in fact tonicizations due to their brevity. Nonetheless, common modulatory procedures are present even at this small scale, and the examples discussed here are useful for demonstration.

28.4 Common modulations

Modulation is technically possible between any two keys. As the tonal practice evolved in the nineteenth century, composers explored more and more distantly related keys for their expressive effects. For now, we will limit our discussion to modulations between closely-related keys.

A closely-related key is one whose tonic triad is diatonic in the global tonic key. Example 28–6 contained a modulation to a closely-related key: C major modulated to its dominant, G major. The key of G major is considered closely-related to C major because its tonic triad is a diatonic chord in C major (the V chord). In other words, if the tonic of the new key is a diatonic member of the old key, the two keys are closely-related.

For any given key there are five closely-related keys. For a major key, closely-related keys include those whose tonics are the ii, iii, IV, V, and vi chords. (vii^{o} is not included because no key has a diminished triad as its tonic and it has been left out because to modulate to the tonic key would not be a modulation at all!) Closely-related keys to a minor key include those that have III, iv, v, VI, or VII as their tonic. These keys are considered closely-related because they share so many pitches with the primary key. For example, C major differs from the closely-related key of G major by only one pitch: F# instead of F. All of the other pitches are common to both keys. As you may have noticed, the tonics of all the closely-related keys are the same chords that can be tonicized with applied chords.

▼ Activity 28-1

Activity 28–1

Exercise 28–1:

Question

In tonal music, most modulations move to closely-related keys (keys whose tonic triad is a diatonic chord in the original key). Name the five keys that are closely-related to G major.

▼ Hint

For a key to be closely-related to G major, its tonic triad must be a diatonic chord in G major.

▼ Answer

A minor, B minor, C major, D major, and E minor.

In the remaining sections, we will look at specific modulatory goals and discuss the potential pivot chords for reaching them. The examples discussed below, however, are by no means the only possible modulations. As mentioned above, over the course of the nineteenth century composers became more adventurous in their modulations for expressive purposes. It became acceptable for pieces to modulate to increasingly distant keys. Accompanying this were several modulatory techniques other than by diatonic pivot. For now, though, our discussion will stick to closely-related keys.

28.5 Modulations from major keys

By far, the most common modulatory goal for a major key is the key of the dominant. Because of the close relationship between these two keys, modulation to the dominant provides contrast while maintaining unity in a composition. As mentioned above, one method of modulating to the dominant key consists of ending a phrase with a half cadence and simply continuing with the dominant harmony treated as the new tonic. That method (direct modulation) can also be understood as a pivot-chord modulation. As the dominant chord arrives, it functions as the dominant of the primary key. As the music continues, the chord becomes tonic of the new key.

There are four possible pivot chords between a major key and its dominant. The following table uses C major and G major as examples:

Table 28–1

C major (the primary key):		G major (the dominant key):	Chord spelling:
I	=	IV	(C, E, G)
iii	=	vi	(E, G, B)
V	=	I	(G, B, D)
vi	=	ii	(A, C, E)

Each row of Table 28–1 shows a possible pivot chord. For example, the second row shows that the iii chord in C major (an E-minor triad) can be reinterpreted as a vi chord in G major (also an E-minor triad). Other chords in the key of C major (ii, IV, and vii^{o}) cannot be used as pivot chords because the quality of the analogous chord in G major is different. The chord built on D in C major is minor while the chord built on D in G major is major, and so forth.

▼ Activity 28-2

Activity 28–2

Exercise 28–2:

Question

The dominant key of F major is C major. Name four pivot chords that might be used in a modulation from F major to C major (remember to use uppercase Roman numerals for major chords and lowercase Roman numerals for minor chords):

F major:		C major:	Chord spelling:

F major:		C major:	Chord spelling:
	=		
	=		
	=		
	=		

▼ Answer

I = IV (F, A, C), iii = vi (A, C, E), V = I (C, E, G), and vi = ii (D, F, A)

Of the four possible pivot chords outlined in Table 28–1, vi = ii is the most common (see Example 28–6 and Example 28–7). The I = IV pivot, though certainly possible, is less common because it is difficult to hear the tonic triad as anything other than I once the key has been established. The same is true for V = I—it is difficult to hear the dominant of a key as anything else without a chord coming before it (in which case, V = I is no longer the pivot chord). The iii = vi pivot is less commonly used because the mediant harmony is relatively infrequent in tonal music.

Nonetheless, examples of these less common pivots do appear with some regularity. The following example shows a modulation to the dominant key via a I = IV pivot chord:

Example 28–8. *Elizabeth Pym Cumberland, 10 Canzonets, No. 2, mm. 9–24.*

0:00 / 0:00

example_28-8

The excerpt in Example 28–8 begins very clearly in the key of Eb major: the entire first line of the song (mm. 9–16) is presented in the home key and ends with an authentic cadence. The second phrase (mm. 17–24), however, ends with an authentic cadence in the key of the dominant, Bb major. This particular modulation is achieved via a pivot chord at the end of m. 22. The Eb-major chord in m. 22, despite being heard previously as the tonic, is retrospectively reinterpreted as IV in Bb major.

As mentioned above, the I = IV pivot chord is not used very frequently because it is difficult to reinterpret the tonic harmony as anything but. In Example 28–8, weak metric placement coupled with the strength of the cadential 6/4 chord helps weaken its authority as tonic. The following example progresses in a similar fashion, though here the pivot appears on the downbeat, at the beginning of the second phrase:

Example 28–9. *M. Müller (née Bender), Variations for Bassoon and Piano (Op. 1), mm. 1–8.*

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example_28-9

Because the pivot chord appears here in such a prominent position, it is also possible to hear this as a direct modulation with the second phrase beginning without preparation in the new key. Nonetheless, the use of a chord that is native to both keys helps smooth out the transition between them.

Note: As you encounter more and more modulations, you will find that it is occasionally difficult to distinguish between, say, direct modulations and pivot-chord modulations (as was the case in Example 28–9). Don't get too hung up try to fit things into categories. Music is often a little ambiguous. After all, if every modulation unfolded in the exact same way, the music might become monotonous!

While modulation to the dominant key is the most common, the submediant is another frequent goal. The key of the submediant is the relative minor. As such, it shares all of its pitches with the primary major key and allows for smooth modulations. Because the pitch content of the two keys is exactly the same, any chord can be used as a pivot chord:

Table 28–2.

C major (the primary key)		A minor (the submediant key)	Chord spelling
I	=	III	(C, E, G)
ii	=	iv	(D, F, A)
iii	=	v	(E, G, B)
IV	=	VI	(F, A, C)
V	=	VII	(G, B, D)
vi	=	i	(A, C, E)
vii^{o}	=	ii^{o}	(B, D, F)

As mentioned above, pivot-chord modulations are most effective when one or both interpretations of the pivot chord have pre-dominant function. For this reason, ii = iv and IV = VI are common pivot chords between a major key and its relative minor.

▼ Activity 28-3

Activity 28–3

F# minor is the relative minor of A major. For each of the following chords, give the Roman numeral in A major and in F# minor (remember to use uppercase Roman numerals for major chords and lowercase Roman numerals for minor chords).

Exercise 28–3a:

Question

Triad	This chord in the key of A major		This chord in the key of F# minor
B minor (B, D, F#):		=	

▼ Answer

B minor is ii in A major and iv in F# minor.

Exercise 28–3b:

Question

Triad	This chord in the key of A major		This chord in the key of F# minor
D major (D, F#, A):		=	

▼ Answer

D major is IV in A major and VI in F# minor.

Exercise 28–3c:

Question

Triad	This chord in the key of A major		This chord in the key of F# minor
E major (E, G#, B):		=	

▼ Answer

E major is V in A major and VII in F# minor.

Modulation to the supertonic (ii) is also possible:

Table 28–3.

C major (the primary key)		D minor (the submediant key)	Chord spelling
I	=	VII	(C, E, G)
ii	=	i	(D, F, A)
IV	=	III	(F, A, C)
vi	=	v	(A, C, E)

The following example shows a modulation to the supertonic very close to the beginning of a piece:

Example 28–10. *Ludwig van Beethoven, Violin Sonata No. 2 in A Major (Op. 12, No. 2), III. Allegro piacevole, mm. 1–8.*

0:00 / 0:00

example_28-10

After the opening phrase concludes with a half cadence in m. 4, we hear the second phrase beginning with a B-minor chord in first inversion. In the established context of A major, this chord will be heard as ii6. In the measures that follow, however, we find A#s and a G§, indicating a move to B minor. An authentic cadence, complete with a pre-dominant and cadential 6/4 chord, confirms the change of key. The chord on the downbeat of m. 5, then, may be reinterpreted as a tonic in the key of B minor.

Despite examples like the excerpt shown in Example 28–10, in a modulation to the key of the supertonic, all of the possible pivot chords are problematic because they are the tonic, mediant, or dominant chord in the goal key. For this reason, modulation to the key of the supertonic usually occurs via a different method. In such cases, the modulation begins as a tonicization and simply continues in the tonicized key.

Taking our example from the introduction to this chapter, a V7/ii–ii progression, though by itself a momentary tonicization, may initiate a modulation if a pre-dominant–dominant–tonic progression in the key of the supertonic were to follow. Hearing the modulation initially as a tonicization helps smooth over the abruptness of the key change. In other words, the new key is introduced with an applied dominant or leading-tone chord and simply continues the tonicization. The following excerpt shows an example of this type of modulation:

Example 28–11. *Johann Sebastian Bach, Du Hirte Israel, höre (BWV 104), 6. "Der Herr ist mein getreuer Hirt," mm. 3–6.*

0:00 / 0:00

example_28-11

Here, following a perfect authentic cadence in the global tonic, the phrase beginning with the pickup to m. 5 appears to continue along in the same key. Following the E major harmony on the downbeat of m. 5, however, we come across a diminished triad built on A# (the D in the bass is an accented passing tone). This sonority is an applied leading-tone chord tonicizing ii, which appears in root position immediately after. Following this tonicization, we consistently find G§s and A#s leading to a perfect authentic cadence in B minor in m. 6. The modulation to B minor (the supertonic of A major) was achieved with the applied chord in m. 5.

▼ Activity 28-4

Activity 28–4

Exercise 28–4:

Question

The supertonic key of Bb major is C minor. Although pivot-chord modulations are not as common when modulating to the supertonic, there are several common chords between two so-related keys. Name four pivot chords that might be used in a modulation from Bb major to C minor (remember to use uppercase Roman numerals for major chords and lowercase Roman numerals for minor chords):

Bb major		C minor	Chord spelling
	=		
	=		
	=		
	=		

▼ Answer

I = VII (Bb, D, F), ii = i (C, Eb, G), IV = III (Eb, G, Bb), and vi = v (G, Bb, D)

Occasionally, a piece will modulate to the key of its subdominant (IV). This modulation is less common and for good reason. In modulating to the subdominant, the tonic of the primary key must be heard as the new dominant. This change in function can be disruptive to the listener because of the special relationship between tonic and dominant in tonal music. Modulating to IV too early in a piece can cause the listener to lose track of the home key. (This is not an issue in minor keys, because the minor i chord cannot sound like V/IV because it is minor.) Nonetheless, modulations to the subdominant do occur. The possible pivot chords are as follows:

Table 28–4.

C major (the primary key)		F major (the subdominant key)	Chord spelling
I	=	V	(C, E, G)
ii	=	vi	(D, F, A)
IV	=	I	(F, A, C)
vi	=	iii	(A, C, E)

The excerpt below shows an example of modulation to the subdominant:

Example 28–12. *Johann Sebastian Bach, Sei Lob und Ehr dem höchsten Gut (BWV 117), 4. "Ich rief dem Herrn in meiner Not," mm. 1–2.*

0:00 / 0:00

example_28-12

The first phrase of this chorale begins in G major but has modulated to C major by the end of the first phrase. In this case, the modulation occurs via a pivot chord on beat three of the first full measure. This G-major chord is retroactively reinterpreted as V in C major.

Example 28–12 also demonstrates the problematic nature of modulations to the subdominant. The G-major chord on beat three of m. 1 (I in G major) is preceded by a D-major chord (V in G major). The V–I progressions that open the piece are intended to firmly establish the tonic key of G major. In other words, retroactive reinterpretation will require considerably more effort to hear a G major chord as V in C major.

Note: Because it is more difficult for a listener to reinterpret a tonic triad as V in a modulation to the subdominant, composers tend to use V7/IV more frequently than just V/IV. The added seventh is a chromatic pitch in the original key and helps loosen the grip of the reigning tonality.

▼ Activity 28-5

Activity 28–5

Exercise 28–5:

Question

The subdominant key of F major is Bb major. Name four pivot chords that might be used in a modulation from F major to Bb major (remember to use uppercase Roman numerals for major chords and lowercase Roman numerals for minor chords):

F major		Bb major	Chord spelling
	=		
	=		
	=		
	=		

▼ Answer

I = V (F, A, C), ii = vi (G, Bb, D), IV = I (Bb, D, F), and vi = iii (D, F, A)

28.6 Modulations from minor keys

Because of a strong tendency to gravitate toward the relative major, minor keys frequently modulate to the mediant. (You may wish to review Chapter 7 for more information regarding the structural characteristics of the minor scale and the privileged status of the relative major.) As with major keys modulating to their relative minors, every chord is a potential pivot:

Table 28–5.

A minor (the primary key)		C major (the mediant key)	Chord spelling
i	=	vi	(A, C, E)
ii^{o}	=	vii^{o}	(B, D, F)
III	=	I	(C, E, G)
iv	=	ii	(D, F, A)
v	=	iii	(E, G, B)
VI	=	IV	(F, A, C)
VII	=	V	(G, B, D)

Of these possibilities, the most frequently used are i = vi, III = I, iv = ii, and VI = IV.

▼ Activity 28-6

Activity 28–6

F major is the relative major of D minor. For each of the following chords, give the Roman numeral in D minor and in F major (remember to use uppercase Roman numerals for major chords and lowercase Roman numerals for minor chords).

Exercise 28–6a:

Question

Triad	This chord in the key of D minor		This chord in the key of F major
G minor (G, Bb, D):		=	

▼ Answer

G minor is iv in D minor and ii in F major.

Exercise 28–6b:

Question

Triad	This chord in the key of D minor		This chord in the key of F major
D minor (D, F, A):		=	

▼ Answer

D minor is the tonic in D minor and vi in F major.

Exercise 28–6c:

Question

Triad	This chord in the key of D minor		This chord in the key of F major
Bb major (Bb, D, F):		=	

▼ Answer

Bb major is VI in D minor and IV in F major.

The following examples show two modulations to the relative major, the first via a VI = IV pivot chord and the second with a iv = ii:

Example 28–13. *Wolfgang Amadeus Mozart, Piano Sonata No. 10 in C major (K.330), II, Andante cantabile, mm. 21–28.*

0:00 / 0:00

example_28-13

Example 28–14. *Louise Farrenc, 20 Etudes de moyenne Difficulté pour Piano (Op. 42), No. 4, mm. 1–12.*

0:00 / 0:00

example_28-14

In Example 28–13, the pivot chord is followed by a dominant-seventh in the new key. As mentioned elsewhere (see Chapter 19 on the dominant seventh chord and Chapter 27 on applied chords), the dominant seventh sonority is unique among diatonic seventh chords, and as such immediately implies a specific key. Example 28–14 follows suit, though here another strong dominant-function chord—the cadential 6/4—delays the arrival of the new V7. In both examples, the pivot chord functions as a pre-dominant

harmony. When it is followed by a dominant chord, there is already a strong implication of the new key. In both cases, the modulation is then confirmed with an authentic cadence.

Minor keys also modulate to the minor dominant (v). It is important to remember that the major dominant of a minor key (V) is not a closely-related key. In A minor, for example, the major dominant would be the key of E major. Compare the key signatures of A minor and E major. They differ by four accidentals (the diatonic pitches of the A minor scale are all natural while E major contains four sharps).

$$\hat{5} \tag{3.2.1}$$

Table 28–6.

A minor (the primary key)		E minor (the minor dominant key)	Chord spelling
i	=	iv	(A, C, E)
III	=	VI	(C, E, G)
v	=	i	(E, G, B)
VII	=	III	(G, B, D)

The next example shows a modulation from G minor to D minor, the minor dominant:

Example 28–15. *Wolfgang Amadeus Mozart, 6 Variations on "Hélas, j'ai perdu mon amant" (K.360/374b), mm. 1–8.*

0:00 / 0:00

example_28-15

In Example 28–15, the first clear indications of the move to the minor dominant are the C# and E§ in m. 6. The chord right before this moment—a G-minor triad—is native to both keys: it is the tonic in the original key but may be reinterpreted as the subdominant in the new key.

It is also common for a piece in a minor key to modulate to the relative major temporarily on the way to the minor dominant. Consider the following example:

Example 28–16. *Johann Sebastian Bach, Jesu, meine Freude (BWV 227), 1. "Jesu, meine Freude."*

0:00 / 0:00

example_28-16

In Example 28–16, the first three phrases prolong the tonic key of E minor. The phrase beginning in m. 7 sounds at first like E minor as well. Despite the lack of accidentals in m. 7, it makes more sense to interpret beats two through four as an expansion of G major with an auxiliary dominant seventh chord than to hear m. 7 as though still in E minor. The cadence in the following measure supports this hearing.

In the next phrase, the tonic harmony of G major is reinterpreted as the VI chord of B minor (the minor dominant). This modulation is also confirmed with a perfect authentic cadence. (Do not be fooled by the D# on the downbeat of m. 11. The momentarily raised third scale degree in a minor key is a stylistic convention known as a Picardy third, and does not indicate a modulation to the parallel major key.) The brief modulation to the key of the relative major in mm. 7–8 acts as a stepping stone to the broader modulatory goal of the minor dominant. (Note that the modulatory goals outline a large-scale arpeggiation of the tonic triad: E–G–B!)

▼ Activity 28-7

Activity 28–7

In this activity, you will track several modulations in a row. The example below shows the final five phrases of a chorale.

Johann Sebastian Bach, "Gib dich zufrieden und sei stille" (BWV 315), mm. 6–17.

0:00 / 0:00

activity_28-7

Exercise 28–7a:

Question

In what key does this piece begin?

▼ Answer

E minor

Exercise 28–7b:

Question

Dose the first phrase modulate or remain in the same key?

▼ Answer

The first phrase does not modulate. It remains in the key of E minor.

Exercise 28–7c:

Question

The second phrase ends with a perfect authentic cadence in m. 10. In what key is this cadence?

▼ Answer

The second phrase modulates to G major.

Follow-up question

What key is this in relation to the global key of E minor?

▼ Answer

mediant or relative major

Exercise 28–7d:

Question

The third phrase ends with a perfect authentic cadence in m. 12. In what key is this cadence?

▼ Answer

The third phrase modulates to A minor.

Follow-up question

What key is this in relation to the global key of E minor?

▼ Answer

subdominant

Exercise 28–7e:

Question

The piece ends with a perfect authentic cadence in m. 17. In what key is this cadence?

▼ Answer

The final two phrases modulate back to E minor.

28.7 Modulations to distant keys

So far in this chapter we have limited our discussion to modulations that move between closely-related keys since these are the most common. But, as mentioned above, it is possible to modulate from one key to any of the other twenty-three keys. To introduce the idea of modulating to distant keys, we will revisit the subject of Chapter 20: the fully-diminished seventh chord.

Fully-diminished seventh-chords can be used as pivot chords in modulations. They are particularly useful in this regard when modulating to distant keys. Consider the structure of a fully-diminished seventh chord. In Chapter 20, we described the sonority as a diminished triad with a diminished seventh added above the root. You can also think of it as a stack of minor thirds:

Example 28–17.

0:00 / 0:00

example_28-17

Stacking another minor third on top of this would result in the enharmonic equivalent of the root—in this case Cb, the enharmonic equivalent of B§. The implication of this unique property is that any of the four pitches can be interpreted and heard as the root of an applied fully-diminished chord. The following example shows how the same chord can be enharmonically interpreted as vii^{o}7 in four entirely different keys:

Example 28–18.

0:00 / 0:00

example_28-18

Each of the chords in Example 28–18 sounds exactly the same. Because of its special construction, a fully-diminished seventh chord can be heard in four different ways.

The sound of a fully-diminished seventh chord is unique and immediately identifiable—part of the reason why it works so effectively as an applied chord. Composers will occasionally exploit this recognizability and its potential for enharmonic reinterpretation in chromatic modulations. Consider the following example:

Example 28–19. *Ludwig van Beethoven, Sonata No. 8 [“Pathétique”] (Op. 13), I. Grave – Allegro di molto e con brio, mm. 133–137.*

0:00 / 0:00

example_28-19

In Example 28–19, we first encounter a fully-diminished seventh chord in m. 134: vii^{o}4/3 resolves to i6 in G minor. In the next measure, however, Eb (the seventh of vii^{o}7) is respelled as D#. The altered notation signals a change in function. Instead of leading to the tonic, the fully-diminished chord now functions as an applied leading-tone chord to E minor (#vi in G minor). By reinterpreting the seventh of the original chord as the root, the passage modulates smoothly from G minor to the distant key of E minor.

28.8 Summary

Tonal pieces routinely explore tonal areas other than the home key. The process of changing keys is known as *modulation*. Modulation differs from tonicization both in length and in structural significance. A tonicization temporarily lends tonic color to some chord other than the tonic, while a modulation creates the sense of a new tonal center.

There are several methods of modulation and a number of common modulatory goals. The methods include *direct modulation*, *pivot-chord modulation*, and *extended tonicization*, with pivot-chord techniques being the most common. In major keys, the most common modulatory destination is the key of the dominant; other possible destinations are the submediant, supertonic and subdominant. Minor keys typically modulate to their relative majors or minor dominants.

Although this chapter is primarily concerned with modulations to closely-related keys, modulations to distant keys are also possible. Composers occasionally use specialized techniques for such chromatic modulations including enharmonic reinterpretation of fully-diminished seventh chords. Other techniques will be discussed in the following chapters.

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3.3: Mixture

29.1 Introduction

In Chapter 15 and Chapter 27, we discussed various sorts of chromatic pitches. As we saw, non-diatonic tones may arise as a result of melodic or harmonic embellishment, or as part of an applied chord. This is not the case, however, in the following example:

Example 29–1. *Franz Schubert, Die Schöne Müllerin (D. 795), 6. "Der Neugierige," mm. 23–28.*

0:00 / 0:00



$$\hat{3} \tag{3.3.1}$$

This musical phenomenon is referred to as *mixture*, for it mixes elements of both the major and minor modes of a particular key. In other words, mixture in a major key consists of borrowing chords or tones from the parallel minor, and vice versa. As can be seen in Example 29–1, mixture is particularly effective in music with text. The changes in color, brought about by the borrowed tones, can highlight and intensify certain words or passages. But this is not to say that words are a necessary component. Mixture is equally effective at lending drama to instrumental music.

In this chapter we will first examine the nature and mechanics of mixture. Turning to several examples from the tonal repertoire, we will look at common types of mixture. Finally, we will conclude with a discussion of the large-scale, structural uses of mixture.

29.2 The nature of mixture

$$\hat{3} \tag{3.3.2}$$

Example 29–2.

a. C major scale

0:00 / 0:00



b. C minor scale (diatonic)

0:00 / 0:00

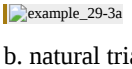


$$\hat{3} \tag{3.3.3}$$

Example 29–3.

a. natural triads in C major

0:00 / 0:00



b. natural triads in C minor

0:00 / 0:00

example_29-3b

$$\hat{3} \tag{3.3.4}$$

$$\hat{3} \tag{3.3.5}$$

▼ Activity 29-1

Activity 29–1

For each of the following keys, indicate the three tones that may be borrowed from the parallel major or minor.

Exercise 29–1a:

Question

In the key of A major, what three tones may be borrowed from the parallel minor?

▼ Hint

$$\hat{3} \tag{3.3.6}$$

▼ Answer

C§,F§, and G§

Exercise 29–1b:

Question

In the key of C minor, what three tones may be borrowed from the parallel major?

▼ Hint

$$\hat{3} \tag{3.3.7}$$

▼ Answer

E§,A§, and B§

Exercise 29–1c:

Question

In the key of F major, what three tones may be borrowed from the parallel minor?

▼ Hint

$$\hat{3} \tag{3.3.8}$$

▼ Answer

Ab,Db, and Eb

Exercise 29–1d:

Question

In the key of B minor, what three tones may be borrowed from the parallel major?

▼ Hint

$$\hat{3} \tag{3.3.9}$$

▼ Answer

D#,G#, and A#

29.3 Labeling instances of mixture

Because mixture alters the members and qualities of the affected harmonies, we must address the conventions for labeling borrowed chords. As you know, the case of a Roman numeral indicates the quality of the chord: uppercase for major chords and lowercase for minor and diminished. This should remain consistent in cases of mixture.

Consider the following example:

Example 29–4. *Amalie Wilhelmina Koch, Piano Sonata No. 1, mm. 1–14.*

0:00 / 0:00

example_29-4

$$\hat{3} \tag{3.3.10}$$

Note: You may have previously encountered a different method of labeling with Roman numerals that uses only capital letters. In this system, accidentals appearing after the Roman numeral indicate alterations made to the third of the chord. According to this system, the mixture chord in Example 29–4 would be labeled Ib, the b symbol indicating the lowered third of the chord. Though this method has merits, it will not be used here. Refer to Chapter 30 for a more detailed discussion of advanced Roman numeral usage.

To further accommodate the changes brought about by borrowing from the parallel mode, accidentals are sometimes used in conjunction with Roman numerals. An accidental before a Roman numeral indicates an altered root:

Example 29–5. *Isabella Ketterer, "Antoinette March, mm. 13–20.*

0:00 / 0:00

example_29-5

In the example above, the final chord of m. 18 is built on the lowered sixth scale degree (Ab). The altered root is indicated by the accidental: bVI. Accidentals next to figured bass numerals function as usual, affecting only the indicated pitches.

Note: Occasionally, a borrowed scale degree will negate one of the sharps or flats in the key signature, as in the following example which shows a transposed version of Example 29–5:

Example 29–6. Transposition of *Isabella Ketterer, "Antoinette March, mm. 13–20.*

0:00 / 0:00

example_29-6

Example 29–6 includes a VI chord whose root, F§, negates the F# in the key signature. Nonetheless, it has still been labeled bVI. You may occasionally encounter books that would label this chord §VI. But for the sake of clarity and consistency, we will follow this convention: use a flat for a lowered root and a sharp for a raised root, regardless of the key signature.

▼ Activity 29-2

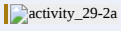
Activity 29–2

Each of the following exercises shows a chord in a given key with at least one borrowed tone. Label each of the chords according to the conventions outlined above. Be sure to use capital letters for major chords, lowercase for minor, and so on. (**Note:** All of the chords are in root position, so there is no need to include bass figures.)

Exercise 29–2a:

Question

0:00 / 0:00



How should this chord be labeled in the key of E major?

▼ Hint

Remember to use the correct case for indicating the quality of the chord and to place an accidental before the Roman numeral if the root is altered.

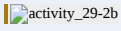
▼ Answer

bVI

Exercise 29–2b:

Question

0:00 / 0:00



How should this chord be labeled in the key of F minor?

▼ Hint

Remember to use the correct case for indicating the quality of the chord and to place an accidental before the Roman numeral if the root is altered.

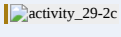
▼ Answer

I

Exercise 29–2c:

Question

0:00 / 0:00



How should this chord be labeled in the key of B minor?

▼ Hint

Remember to use the correct case for indicating the quality of the chord and to place an accidental before the Roman numeral if the root is altered.

▼ Answer

IV

Exercise 29–2d:

Question

0:00 / 0:00

activity_29-2d

How should this chord be labeled in the key of Bb major?

▼ Hint

Remember to use the correct case for indicating the quality of the chord and to place an accidental before the Roman numeral if the root is altered.

▼ Answer

vii^{o}7

29.4 Mixture in major keys

$$\hat{3} \tag{3.3.11}$$

$$\hat{6} \tag{3.3.12}$$

Example 29–7. *Josepha Müllner-Gollenhofer, Danklied, mm. 115-123.*

0:00 / 0:00

example_29-7

In mm. 120–122, a pair of V7–I progressions echoes the conclusion of the vocal line. The tonic is then is prolonged in m. 122 with a pair of F-minor triads. The Ab, borrowed from the parallel minor, alters the IV chords on beats two and four by making them minor. The Roman numerals are lowercase to reflect the change in chord quality.

Borrowed tones frequently originate as chromatic alterations of diatonic notes. Consider the following example:

Example 29–8. *Johann Sebastian Bach, Weihnachtsoratorium (BWV 248), 33. "Ich will dich mit Fleiß bewahren," mm. 1–3.*

0:00 / 0:00

example_29-8

$$\hat{6} \tag{3.3.13}$$

$$\hat{6} \tag{3.3.14}$$

Example 29–9. *Maria Theresia von Paradis, Sicilienne, mm. 1–3.*

0:00 / 0:00

example_29-9

$$\hat{6} \tag{3.3.15}$$

$$\hat{6} \tag{3.3.16}$$

Example 29–10. *Johann Sebastian Bach, Das wohltemperierte Klavier I, Prelude and Fugue 1 in C major (BWV 846), mm. 11–16.*

0:00 / 0:00

example_29-10

The Ab in m. 14 changes the quality of the leading-tone seventh chord from half- to fully-diminished.

$$\hat{3} \tag{3.3.17}$$

Example 29–11.

0:00 / 0:00

example_29-11

$$\hat{3} \tag{3.3.18}$$

Example 29–12. *Franz Schubert, Die Schöne Müllerin (D.795), 4. "Danksagung an den Bach," mm. 16–28.*

0:00 / 0:00

example_29-12

Like Example 29–1, this song uses a minor tonic to reflect a change in mood in the song's text. Following a strong cadence in the key of G major in mm. 17–18, we encounter a minor tonic (i) in m. 22. Again, the effect is startling and intensifies the emotional tension of the moment.

$$\hat{3} \tag{3.3.19}$$

Example 29–13. *Wolfgang Amadeus Mozart, Don Giovanni, Act I, Scene 5, "Madamina, il catalogo è questo," mm. 118-127.*

0:00 / 0:00

example_29-13

▼ Activity 29-3

Activity 29–3

Exercise 29–3:

Question

The ability to recognize and identify instances of mixture is an important skill. In what key is the following excerpt?

Frédéric Chopin, Nocturnes (Op. 32), 2. Lento, mm. 1–4.

0:00 / 0:00

activity_29-3

▼ Hint

What chord does the excerpt begin with?

▼ Answer

Ab major

Follow-up question

What Roman numeral should appear at beat four in the first measure (before the Bb in the uppermost voice)?

▼ Hint

Identify the root of the chord to determine the Roman numeral, then adjust the case accordingly to match the quality.

▼ Answer

iv

29.5 Mixture in minor keys

$$\hat{6} \tag{3.3.20}$$

$$\hat{3} \tag{3.3.21}$$

Example 29–14. *Johann Sebastian Bach, Bisher habt ihr nichts gebeten in meinem Namen (BWV 87), 7. "Muß ich sein betrübet?," mm. 1–6.*

0:00 / 0:00



$$\hat{6} \tag{3.3.22}$$

The following example uses a borrowed scale degree in the final chord:

Example 29–15. *Louise Farrenc, 30 Etudes (Op. 26), No. 15, mm. 71–79.*

0:00 / 0:00



The B# in the final chord of this example makes the tonic major. The raised third of a tonic chord in a minor key is usually referred to as a *Picardy third*. Composers will commonly employ a Picardy third at the end of a piece in minor, coloring the conclusion with the character of a major tonic.

▼ Activity 29-4

Activity 29–4

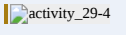
Exercise 29–4:

Question

In what key is the following excerpt?

Heinrich Schütz, Di marmo siete voi (SWV 17), mm. 35–36.

0:00 / 0:00



▼ Answer

A minor

Follow-up question

What Roman numeral should appear under the final harmony?

▼ Hint

Identify the root of the chord to determine the Roman numeral, then adjust the case accordingly to match the quality.

▼ Answer

I

Follow-up question

What is the common name for this particular kind of mixture?

▼ Answer

Picardy third

29.6 Mixture and basic interval progressions

Instances of mixture are often the result of adjustments made to the basic interval progressions outlined in Chapter 12. In all of the harmonic progressions considered in this chapter, the voice-leading is governed by the same basic interval progressions whether mixture is present or not. In some cases, however, mixture strengthens the underlying interval progressions.

The motion from a major third to a unison is intensified by altering one of the voices to introduce semitone motion:

Example 29–16.

a. M3–P1

0:00 / 0:00

example_29-16a

b. m3–P1

0:00 / 0:00

example_29-16b

The following example puts this into context:

Example 29–17. *Johann Sebastian Bach, "Christus, der ist mein Leben" (BWV 281), mm. 5–8.*

0:00 / 0:00

example_29-17

Whereas typically the motion from a major third to a unison consists of both voices moving by whole tones, moving from a minor third to a unison reduces one voice's movement to a semitone. The result is similar to the strong semitone/whole tone motion of a major sixth to an octave. Similarly, the motion from a major sixth to a perfect fifth is made stronger by contracting the upper-voice motion to a semitone:

Example 29–18.

a. M6–P5

0:00 / 0:00

example_29-18a

a. m6–P5

0:00 / 0:00

example_29-18b

The following example puts this adjustment into context (Example 29–19b provides a reduction of Example 29–19a to clarify the voice-leading):

Example 29–19. *Johannes Brahms, 5 Lieder (Op. 105), 1. "Wie Melodien Zieht es mir," mm 25–28.*

a.

0:00 / 0:00

example_29-19a

b. reduction

0:00 / 0:00

example_29-19b

By lowering the F# to F§, Brahms strengthens the motion to the tonic triad from m. 26 to m. 28.

While mixture often results from such voice-leading, it need not always. Sometimes, mixture is used strictly for purposes of coloration. Consider the following example:

Example 29–20. *Wolfgang Amadeus Mozart, Piano Sonata No. 12 in F major (K.332), II. Adagio, mm. 1–8.*

0:00 / 0:00

example_29-20

In this excerpt from the beginning of a piano sonata movement, we first hear a melody in Bb major. In mm. 5–8 we hear the melody again. This time, however, it is presented in Bb minor to heighten the expressiveness of the music.

29.7 Mixture and modulation

Most of the examples we have looked at so far are relatively small in scale. Composers borrow specific tones from the parallel key to color a chord here or there and thus dramatize the passage. But mixture can affect larger areas of music as well, particularly with regards to modulation.

Consider the following example:

Example 29–21. *Maria Theresia von Paradis, 12 Lieder auf ihrer Reise in Musik gesetzt, 9. "Vaterlandslied," mm. 50–60.*

0:00 / 0:00

example_29-21

The third verse of the song ends unambiguously in G major (m. 52) followed by a four bar extension of the cadence in the piano. Then, after a short pause, the music shifts directly to G minor, key signature and all.

In the following example, from the same collection of songs as Example 29–25, we find a similar modulation:

Example 29–22. *Maria Theresia von Paradis, 12 Lieder auf ihrer Reise in Musik gesetzt, 10. "Da eben seinen Lauf vollbracht," mm. 21–28.*

0:00 / 0:00

example_29-22

$$\hat{3} \tag{3.3.23}$$

▼ Activity 29-5

Activity 29–5

Exercise 29–5:

Question

The following excerpt begins in A minor but modulates in m. 24. To which key does it modulate?

Wolfgang Amadeus Mozart, Piano Sonata No. 11 in A major (K.331), III. Alla Turca, iii, mm. 1–33.

0:00 / 0:00

activity_29-5

▼ Hint

The excerpt modulates to the parallel major.

▼ Answer

A major

Follow-up question

In the tonic key of A minor, what Roman numeral would be used to represent an A major triad?

▼ Hint

The root of an A major triad is the same as the root of the tonic triad in A minor.

▼ Answer

I

In Activity 29–6 we looked at an excerpt from a piano sonata with a modulation from A minor to A major. This modulation involved a change of key signature in the middle of a bar:

Example 29–23. *Wolfgang Amadeus Mozart, Piano Sonata No. 11 in A major (K.331), III. Alla Turca, iii, mm. 21–33.*

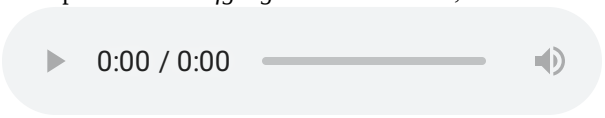
0:00 / 0:00

example_29-23

$$\hat{3} \tag{3.3.24}$$

Modulations via mixture are not limited only to the parallel key of the global tonic. The following example in F major modulates to the key of C minor:

Example 29–24. *Wolfgang Amadeus Mozart, Piano Sonata No. 12 in F major (K.332), III. Allegro assai, mm. 47–57.*



example_29-24

In sonatas such as this one, it is quite common to encounter modulations to the key of the dominant. After a transition section ending in m. 49, we expect just that: a theme in C major. Instead, the melody beginning in m. 50 is clearly in C *minor*. The result is a move from F major to the rather distantly-related key of C minor through a mixture shift.

29.8 Summary

$$\hat{3} \tag{3.3.25}$$

Some instances of mixture can be seen as a result of strengthening the basic interval progressions governing the voice-leading of a harmonic progression. This is not always the case, however, since some cases of mixture are employed strictly for color, variation, and drama.

Mixture can have an effect on larger spans of music as well. It can initiate modulation to foreign keys via a tonicization of a borrowed chord or by moving directly to a mixture-related key area.

By incorporating chromatic pitches in this manner, composers are able to expand and enrich their options for musical expression. Though common in pieces from across the tonal repertoire, mixture is especially prevalent in music from the Romantic era. Composers in that style period were particularly concerned with the emotional impact of their music and mixture provided an effective means of heightening the level of expression.

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3.4: Advanced Mixture

30.1 Introduction

$$\hat{7} \tag{3.4.1}$$

In describing these increasingly chromatic harmonies, we will push our chord-labeling system toward its limit. Roman numerals are a useful, shorthand way of naming chords, identifying their function, and showing their connection to a tonic. Although their primary purpose is to identify diatonic relationships, conventional Roman numerals may be adapted to indicate chromaticism when harmonic practice becomes more complex. Being able to recognize and use such adjustments is essential for analyzing a wide spectrum of music. This chapter will show how we expand Roman numeral conventions to deal with chromatic elements in cases of advanced mixture.

30.2 Roman numerals and simple mixture

$$\hat{5} \tag{3.4.2}$$

The following example shows several other examples of how Roman numerals may be used to indicate mixture:

Example 30–1.

0:00 / 0:00

example_30-1

$$\hat{1} \tag{3.4.3}$$

$$\hat{6} \tag{3.4.4}$$

$$\hat{6} \tag{3.4.5}$$

Example 30–2.

0:00 / 0:00

example_30-2

$$\hat{7} \tag{3.4.6}$$

You should become familiar enough with the qualities of diatonic chords that you can immediately recognize Roman numerals that indicate chromatic alterations. In the context of a major key, for instance, chords such as i and ii^{o} should instantly alert you to chromatic alterations.

30.3 Secondary mixture

All of the examples of mixture presented so far have been relatively straightforward. In each case, one or two tones are borrowed from the parallel key to emphasize or intensify certain harmonies. Occasionally, however, you will encounter instances of chromatic alterations that cannot be explained in such simple terms. The following excerpt includes two chromatically-altered harmonies, one in mm. 2–3 and another in m. 7:

Example 30–3. *Franz Schubert, "Gondelfahrer" (D.808), mm. 1–13.*

0:00 / 0:00

example_30-3

$$\hat{3} \tag{3.4.7}$$

$$\hat{5} \tag{3.4.8}$$

The following example shows another, similar case of secondary mixture:

Example 30–4. *Franz Schubert, Piano Sonata No. 17 in D major (D.850), III. Scherzo and Trio, mm. 53–61.*

0:00 / 0:00

example_30-4

$$\hat{5} \tag{3.4.9}$$

Despite the chromaticism, we still use Roman numerals to identify the chords described above. The following example illustrates:

Example 30–5.

0:00 / 0:00

example_30-5

In instances of secondary mixture the quality of the chord in question is changed, but not through borrowing of tones from the parallel key. The minor quality of the diatonic ii chord becomes major (II) through secondary mixture. Likewise, iii and vi become III and VI, respectively. In each instance, the alteration is indicated by a change in the case (uppercase or lowercase) of the Roman numeral.

The following example shows both simple mixture (bVII) and secondary mixture (II):

Example 30–6. *Franz Schubert, Allegro in A minor (D. 947), mm. 87–104.*

0:00 / 0:00

example_30-6

$$\hat{4} \tag{3.4.10}$$

Secondary mixture appears in minor keys as well:

Example 30–7.

0:00 / 0:00

example_30-7

As shown by Example 30–7, III, VI, and VII in a minor key may be made minor through secondary mixture. In such cases, they are labeled iii, vi, and vii, respectively.

The following example includes a minor vii chord in a minor key:

Example 30–8. *Johann Sebastian Bach, Aus tiefer Not schrei ich zu dir (BWV 38), 6. "Aus tiefer Not schrei ich zu dir," mm. 11–13.*

0:00 / 0:00

example_30-8

Example 30–8 shows the concluding phrase from a chorale. On the third beat of m. 12, we find a case of secondary mixture. The third of the chord has been lowered to the chromatic Bb, changing what would diatonically be a major VII chord to a minor vii

chord.

▼ Activity 30-1

Activity 30–1

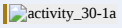
Identify each of the following chords in various keys with a Roman numeral. (**Note:** Each chord is in root position.)

Exercise 30–1a:

Question

Identify the following chord in Ab major with a Roman numeral:

0:00 / 0:00



▼ Hint

Remember to use accidentals to indicate altered roots. The case of the Roman numeral should correspond with the quality of the triad.

▼ Answer

III

Follow-up question

Is this a case of simple or secondary mixture?

▼ Answer

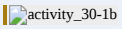
secondary

Exercise 30–1b:

Question

Identify the following chord in A major with a Roman numeral:

0:00 / 0:00



▼ Hint

Remember to use accidentals to indicate altered roots. The case of the Roman numeral should correspond with the quality of the triad.

▼ Answer

bVI

Follow-up question

Is this a case of simple or secondary mixture?

▼ Answer

simple

Exercise 30–1c:

Question

Identify the following chord in F minor with a Roman numeral:

0:00 / 0:00

activity_30-1c

▼ Hint

Remember to use accidentals to indicate altered roots. The case of the Roman numeral should correspond with the quality of the triad.

▼ Answer

i

Follow-up question

Is this a case of simple or secondary mixture?

▼ Answer

simple

Exercise 30–1d:

Question

Identify the following chord in C# minor with a Roman numeral:

0:00 / 0:00

activity_30-1d

▼ Hint

Remember to use accidentals to indicate altered roots. The case of the Roman numeral should correspond with the quality of the triad.

▼ Answer

vi

Follow-up question

Is this a case of simple or secondary mixture?

▼ Answer

secondary

30.4 Double mixture

A third type of mixture may be found in the following example, which begins in the key of C minor:

Example 30–9. *Franz Schubert, "Die Liebe hat gelogen" (D.751), mm 3–6.*

0:00 / 0:00

example_30-9

At the beginning of m. 5 we find a clear-cut case of mixture: the E§s in both the voice and the piano change the quality of the tonic triad from minor to major, and C major is then tonicized with an authentic cadence in m. 6. However, in the second half of m. 5, we find an A major triad (#VI). With respect to C minor, all three members of that triad have been raised. This is not a case of simple mixture because C major, the parallel to C minor, does not include C#.

This is a case of *double mixture*. Double mixture involves changing the quality of a chord derived from simple mixture. In the key of C minor, simple mixture allows for an A-minor triad (#vi). When we encounter an A-*major* triad (#VI), we may think of it as being a case in which secondary mixture has been applied to a simple mixture chord, hence double mixture.

Once again, we may use Roman numerals to represent these chords. Consider the following cases of double mixture in a major key:

Example 30–10.

0:00 / 0:00

example_30-10

$$\hat{3} \tag{3.4.11}$$

Example 30–11 shows two examples of Roman numeral labeling for double mixture in a minor key:

Example 30–11.

0:00 / 0:00

example_30-11

Note again that despite the natural signs altering the roots of these chords, the Roman numerals are preceded by # symbols.

Now consider the following example:

Example 30–12. *Claude Debussy, "Beau Soir," mm. 1-9.*

a.

0:00 / 0:00

example_30-12a

b. reduction

0:00 / 0:00

example_30-12b

$$\hat{3} \tag{3.4.12}$$

The sonority in m. 2 (and m. 6) is complicated by the presence of pitch-class B. If the B is heard as a pedal tone—sustained through the framing E-major chords in m. 1 and m. 3—we would consider this another case of double mixture: a simple-mixture bVII with a secondary minor inflection. It is also possible to hear this as a neighboring sonority prolonging the tonic: the D§s are neighbors to the Es, the F§s are neighbors to the Es, and the As are neighbors to the Bs. (Example 30–12b demonstrates this hearing by placing the neighbor tones in parentheses.)

Note: As you can see from the explanation above, discussions involving secondary and double mixture can quickly become quite complicated. Furthermore, faced with such abundant chromaticism, you may have even found it challenging to hear E major as the

tonic in Example 30–12. Given the prevalence of chromaticism in such music, one must wonder if the harmonic relationships encountered here are fundamentally different from those found in the tonal music of the high Classical era. Many listeners hear enough of a difference that they consider such music to be, in a way, *post*-tonal. Indeed, upon hearing the music, one quickly becomes aware that the tonic-dominant relationship forming the foundation of tonal harmony plays a much more peripheral role here.

It follows, then, that one should use caution when employing analytical strategies that were designed for describing a different kind of music. In recent years, music theorists have begun hearing this music on its on terms. According to this new perspective, the relationship heard between, for example, I and biii may be as distinctive and foundational as any authentic cadence. It all depends on the context.

▼ Activity 30-2

Activity 30–2

The following triads exhibit various types of mixture: simple (borrows tones from the parallel key), secondary (alters the quality with pitches not from the parallel key), or double (secondary mixture applied to chords derived through simple mixture). For each exercise, label the triad with the appropriate Roman numeral and identify the type of mixture present:

Exercise 29–5a:

Question

Provide a Roman numeral for the following triad in G major:

0:00 / 0:00

/activity_30-2a

▼ Hint

Remember to match the case of the Roman numerals with the quality of the triad and indicate altered roots with accidentals.

▼ Answer

VI

Follow-up question

What type of mixture is exhibited by this triad?

▼ Answer

secondary

Exercise 29–5b:

Question

Provide a Roman numeral for the following triad in D minor:

0:00 / 0:00

/activity_30-2b

▼ Hint

Remember to match the case of the Roman numerals with the quality of the triad and indicate altered roots with accidentals.

▼ Answer

IV

Follow-up question

What type of mixture is exhibited by this triad?

▼ Answer

simple

Exercise 29–5c:

Question

Provide a Roman numeral for the following triad in B minor:

0:00 / 0:00

/activity_30-2c

▼ Hint

Remember to match the case of the Roman numerals with the quality of the triad and indicate altered roots with accidentals.

▼ Answer

#VI

Follow-up question

What type of mixture is exhibited by this triad?

▼ Answer

double

Exercise 29–5d:

Question

Provide a Roman numeral for the following triad in Bb major:

0:00 / 0:00

/activity_30-2d

▼ Hint

Remember to match the case of the Roman numerals with the quality of the triad and indicate altered roots with accidentals.

▼ Answer

bVI

Follow-up question

What type of mixture is exhibited by this triad?

▼ Answer

simple

Exercise 29–5e:

Question

Provide a Roman numeral for the following triad in A major:

0:00 / 0:00

/activity_30-2e

▼ Hint

Remember to match the case of the Roman numerals with the quality of the triad and indicate altered roots with accidentals.

▼ Answer

biii

Follow-up question

What type of mixture is exhibited by this triad?

▼ Answer

double

Exercise 29–5f:

Question

Provide a Roman numeral for the following triad Eb major:

0:00 / 0:00

/activity_30-2f

▼ Hint

Remember to match the case of the Roman numerals with the quality of the triad and indicate altered roots with accidentals.

▼ Answer

III

Follow-up question

What type of mixture is exhibited by this triad?

▼ Answer

secondary

30.5 Other chromatic chords

A different type of chromatic chord can be seen in the following example:

Example 30–13. *Delphine Ugalde, Seule, mm. 1–11.*

0:00 / 0:00

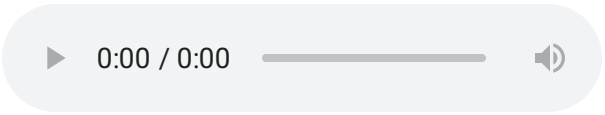
example_30-13

$$\hat{4} \tag{3.4.13}$$

$$\hat{4} \tag{3.4.14}$$

Another Neapolitan chord appears in the following example:

Example 30–14. *Ludwig van Beethoven, Piano Sonata No. 14 in C# minor ["Moonlight"] (Op. 27, No. 2), I. Adagio sostenuto, mm. 1–5.*





$$\hat{4} \tag{3.4.15}$$

A more detailed discussion of the Neapolitan chord can be found in Chapter 31.

30.6 Summary

Simple mixture consists of borrowing one or more scale degrees from the parallel key to alter the quality of a chord. Other types of mixture also involve changing the quality of a chord, but with chromatic tones that are foreign to both the key at hand as well as its parallel. With *secondary mixture*, a composer may change the quality of a triad by raising or lowering its root with such a chromatic tone. In cases of *double mixture*, a composer changes the quality of a simple mixture chord by applying secondary mixture.

Because Roman numerals are able to express both the root and quality of a chord, they are also useful for indicating the three types of mixture. As always, the case of the Roman numerals indicates chord quality. You should become familiar enough with the qualities of diatonic triads that by simply looking at a Roman numeral you are immediately able to recognize the presence of chromatic alterations. Accidentals preceding a Roman numeral signal an altered root: a prefix b indicates a lowered root while # indicates a raised root.

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3.5: The Neapolitan Chord

31.1 Introduction

$$\hat{2} \tag{3.5.1}$$

Example 31–1. *Maria Agata Szymanowska, 18 Danses de Différent Genre, 6. Waltz in A major, mm. 41–48.*

0:00 / 0:00

example_31-1

With its major quality and lowered second scale degree, the effect of the Neapolitan is striking. As you can hear, the chord brings dramatic weight to the ensuing cadence and intensifies the passage in a way that a diatonic pre-dominant chord cannot.

In this chapter, we will examine the origins and structure of the Neapolitan chord. Depending on the context, the Neapolitan can be derived in several ways—hence the label N6 instead of a Roman numeral. With an understanding of how these derivations work, we will investigate how the Neapolitan functions in various conditions. We will also discuss how the Neapolitan behaves over larger spans when it is tonicized or used in a modulation.

31.2 Origin and structure

The Neapolitan chord may be thought of as a voice-leading sonority derived from an embellished subdominant triad:

Example 31–2.

a. iv chord in C minor

0:00 / 0:00

example_31-2a

b. iv chord with chromatic upper neighbor tone

0:00 / 0:00

example_31-2b

c. assimilation of chromatic upper neighbor tone

0:00 / 0:00

example_31-2c

$$\hat{4} \tag{3.5.2}$$

This understanding of the Neapolitan accounts for its tendency to appear as what looks like a first-inversion triad, with the chordal third doubled. If the Neapolitan is considered a derivation of iv, it is in fact the root (the bass) that is being doubled—the norm for root-position triads! Consider the following example:

Example 31–3. *Wolfgang Amadeus Mozart, Piano Trio in E major (K.542), III. Allegro, mm. 137–144.*

0:00 / 0:00

example_31-3

$$\hat{5} \tag{3.5.3}$$

Example 31–4. *Wolfgang Amadeus Mozart, Piano Trio in E major (K.542), III. Allegro, mm. 137–144*, with diatonic iv instead of N6.

0:00 / 0:00

example_31-4

$$\hat{4} \tag{3.5.4}$$

The following excerpt consists of two phrases, the second of which has a Neapolitan chord:

Example 31–5. *Alice Charbonnet, Danse des sorcières, mm. 13–28.*

0:00 / 0:00

example_31-5

The two phrases in Example 31–5 (mm. 13–20 and mm. 21–28) are nearly identical. The primary difference may be found by comparing m. 17 to m. 25. In m. 17 we find a iv6 chord acting as functional pre-dominant leading to the cadence that ends the phrase. The notes in m. 25 are exactly the same except the fifth of the iv chord (A) has been replaced with its chromatic upper neighbor (Bb). (The bass note has been changed too—from F to D—allowing for smooth passing motion between the i6 in m. 24 and the cadential 6/4 in m. 26.) The parallelism between these two measures shows the strong connection between iv6 and N6.

▼ Activity 31-1

Activity 31–1

The Neapolitan can also be thought of as an embellishment of a minor subdominant triad. Each of the following examples shows an unaltered iv chord. Make the necessary adjustments to create Neapolitan chords.

Exercise 31–1a:

Question

Adjust the necessary pitch in the following iv chord to create a Neapolitan in B minor:

0:00 / 0:00

activity_31-1a

▼ Hint

In order to make a Neapolitan out of a iv chord, you need to replace the fifth with a chromatic note.

▼ Answer

B must be replaced with C§.

Exercise 31–1b:

Question

Adjust the necessary pitch in the following iv chord to create a Neapolitan in E minor:

0:00 / 0:00

activity_31-1b

▼ Hint

In order to make a Neapolitan out of a iv chord, you need to replace the fifth with a chromatic note.

▼ Answer

E must be replaced with F§.

Exercise 31–1c:

Question

Adjust the necessary pitch in the following iv chord to create a Neapolitan in G minor:

0:00 / 0:00

activity_31-1c

▼ Hint

In order to make a Neapolitan out of a iv chord, you need to replace the fifth with a chromatic note.

▼ Answer

G must be replaced with Ab.

Exercise 31–1d:

Question

Adjust the necessary pitch in the following iv chord to create a Neapolitan in D minor:

0:00 / 0:00

activity_31-1d

▼ Hint

In order to make a Neapolitan out of a iv chord, you need to replace the fifth with a chromatic note.

▼ Answer

D must be replaced with Eb.

The Neapolitan chord can also be thought of as a chromatic alteration of the diatonic ii chord. Example 31–6 shows how Neapolitan chords can be derived this way in both major (a) and minor (b) keys:

Example 31–6.

a. derivation of N6 from ii6 in major

0:00 / 0:00

example_31-6a

b. derivation of N6 from ii^{o}6 in minor

0:00 / 0:00

example_31-6b

$$\hat{2} \tag{3.5.5}$$

Note: The name of the Neapolitan chord links it to the so-called "Neapolitan school"—a group of composers active in and around Naples, Italy in the 18th century. However, there is little historical justification for this as the chord was certainly used earlier and by composers as far away as England.

$$\hat{2} \tag{3.5.6}$$

The following example shows a Neapolitan derived from an altered ii chord (Example 31–7b provides a reduction of Example 31–7a):

Example 31–7. *Ludwig van Beethoven, Symphony No. 7 (Op. 92), I. Poco sostenuto – Vivace, mm. 364–370.*

a.

0:00 / 0:00

example_31-7a

b. reduction

0:00 / 0:00

example_31-7b

$$\hat{4} \tag{3.5.7}$$

▼ Activity 31-2

Activity 31–2

The Neapolitan chord can be derived by altering a ii chord (ii^{o} in minor) to make a major triad built on the lowered second scale degree. Each of the following examples shows an unaltered supertonic chord. Make the necessary adjustments to create Neapolitan chords.

Exercise 31–2a:

Question

Adjust the necessary pitch or pitches in the following ii6 chord to create a Neapolitan in G major:

0:00 / 0:00

activity_31-2a

▼ Hint

Remember, in a major key, the root and fifth of the ii6 chord need to be lowered.

▼ Answer

A must be replaced with Ab and E with Eb

Exercise 31–2b:

Question

Adjust the necessary pitch or pitches in the following ii^{o}6 chord to create a Neapolitan in C minor:

0:00 / 0:00

activity_31-2b

▼ Hint

Remember, in a minor key, the root and ii^{o}6 chord needs to be lowered.

▼ Answer

D must be replaced with Db.

Exercise 31–2c:

Question

Adjust the necessary pitch or pitches in the following ii^{o}6 chord to create a Neapolitan in F# minor:

0:00 / 0:00

activity_31-2c

▼ Hint

Remember, in a minor key, the root and ii^{o}6 chord needs to be lowered.

▼ Answer

G# must be replaced with G§.

Exercise 31–2d:

Question

Adjust the necessary pitch or pitches in the following ii6 chord to create a Neapolitan in F major:

0:00 / 0:00

activity_31-2d

▼ Hint

Remember, in a major key, the root and fifth of the ii6 chord need to be lowered.

▼ Answer

G must be replaced with Gb and D with Db.

$$\hat{6} \tag{3.5.8}$$

Of the two, the latter is more common today since the usual notation of the Neapolitan more readily resembles a bII6 chord than a iv chord with an altered fifth. Nonetheless, it is important for analysis that you be able to conceive of the Neapolitan in both ways. Consider the following example:

Example 31–8. *Frédéric Chopin, Nocturnes (Op. 55), 1. Andante in F minor, mm. 5–8.*

0:00 / 0:00



In this excerpt from a Chopin Nocturne, we find a Neapolitan following a root position III chord. In this case, the Neapolitan must be considered an embellished iv. To view this Neapolitan as bII6 would be counterintuitive and would contradict the norms of harmonic root movement. The Neapolitan is a passing chord from III to V. In other words, the progression III–ivb6–V6/4 makes much more sense than III–bII6–V6/4.

Now consider the following example (Example 31–9b provides a reduction):

Example 31–9. *Franz Schubert, String Quartet No. 12 (D.703), mm. 7–19.*

a.

0:00 / 0:00



b. reduction

0:00 / 0:00



$$\hat{2} \tag{3.5.9}$$

▼ Activity 31-3

Activity 31–3

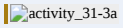
Write Neapolitan chords as indicated.

Exercise 31–3a:

Question

$$\hat{4} \tag{3.5.10}$$

0:00 / 0:00



▼ Hint

$$\hat{2} \tag{3.5.11}$$

▼ Answer

0:00 / 0:00

activity_31-3a_answer

(Answers may vary as long as F is the lowest pitch and the upper voices consist of Db, F and Ab.)

Exercise 31–3b:

Question

$$\hat{4} \tag{3.5.12}$$

0:00 / 0:00

activity_31-3b

▼ Hint

$$\hat{2} \tag{3.5.13}$$

▼ Answer

0:00 / 0:00

activity_31-3b_answer

(Answers may vary as long as Bb is the lowest pitch and the upper voices consist of Gb,Bb and Db.)

Exercise 31–3c:

Question

$$\hat{4} \tag{3.5.14}$$

0:00 / 0:00

activity_31-3c

▼ Hint

$$\hat{2} \tag{3.5.15}$$

▼ Answer

0:00 / 0:00

activity_31-3c_answer

(Answers may vary as long as D is the lowest pitch and the upper voices consist of Bb, D and F§.)

Exercise 31–3d:

Question

$$\hat{4} \tag{3.5.16}$$

0:00 / 0:00

activity_31-3d

▼ Hint

$$\hat{2} \tag{3.5.17}$$

▼ Answer

0:00 / 0:00

activity_31-3d_answer

(Answers may vary as long as F# is the lowest pitch and the upper voices consist of D§,F# and A.)

31.3 Other positions of the Neapolitan

$$\hat{4} \tag{3.5.18}$$

Example 31–10. *Frédéric Chopin, Prelude No. 20 in C minor (Op. 28), mm. 11–13.*

0:00 / 0:00

example_31-10

$$\hat{2} \tag{3.5.19}$$

31.4 Function, voice-leading, and context

Regardless of how you think of the Neapolitan chord— as a neighbor-note embellishment of iv (IV in major) or as a chromatic root-alteration of ii^{o} (ii in major)—it retains the pre-dominant function of its origin. In other words, the Neapolitan chord routinely signals and leads to some form of dominant. It frequently moves directly to the dominant (V or V7), as in the following excerpt:

Example 31–11. *Franz Schubert, Die Schöne Müllerin (D.795), 19. "Der Müller und der Bach," mm. 1–10.*

0:00 / 0:00

example_31-11

Here the Neapolitan chord appears in m. 8 after two full measures of tonic harmony. It then moves directly to a V chord in the following measure which in turn resolves to i at the end of the phrase.

$$\hat{2} \tag{3.5.20}$$

▼ Activity 31-4

Activity 31–4

When analyzing Neapolitan chords, it is essential that you be able to recognize the altered pitch or pitches and trace the voice-leading from one chord to the next.

Exercise 31–4:

Question

Identify the Neapolitan chord in the following excerpt:

Ludwig van Beethoven, Piano Sonata No. 14 in C# minor ["Moonlight"] (Op. 27, No. 2), I. Adagio sostenuto, mm. 1–5.

0:00 / 0:00

activity_31-4

▼ Answer

The Neapolitan is in the second half of m. 3.

Follow-up question

$$\hat{2} \tag{3.5.21}$$

▼ Answer

$$\hat{2} \tag{3.5.22}$$

$$\hat{4} \tag{3.5.23}$$

Example 31–12.

0:00 / 0:00

example_31-12

$$\hat{4} \tag{3.5.24}$$

$$\hat{4} \tag{3.5.25}$$

Example 31–13.

0:00 / 0:00

example_31-13

Problems arise when the notes of the Neapolitan do not move in contrary motion to the bass:

Example 31–14.

0:00 / 0:00

example_31-14

$$\hat{2} \tag{3.5.26}$$

▼ Activity 31-5

Activity 31–5

Complete the following progressions from N6 to V.

Exercise 31–5a:

Question

Complete the progression by adding a note in each voice part.

0:00 / 0:00

activity_31-5a

▼ Hint

$$\hat{2} \tag{3.5.27}$$

▼ Answer

0:00 / 0:00

activity_31-5a_answer

Exercise 31–5b:

Question

Complete the progression by adding a note in each voice part.

0:00 / 0:00

activity_31-5b

▼ Hint

$$\hat{2} \tag{3.5.28}$$

▼ Answer

0:00 / 0:00

activity_31-5b_answer

Exercise 31–5c:

Question

Complete the progression by adding a note in each voice part.

0:00 / 0:00

activity_31-5c

▼ Hint

$$\hat{2} \tag{3.5.29}$$

▼ Answer

0:00 / 0:00

activity_31-5c_answer

Exercise 31–5d:

Question

Complete the progression by adding a note in each voice part.

0:00 / 0:00

activity_31-5d

▼ Hint

$$\hat{2} \tag{3.5.30}$$

▼ Answer

0:00 / 0:00

activity_31-5d_answer

In other cases, the Neapolitan does not move directly to V. Instead, an intervening chord may delay the dominant. Consider the following examples:

Example 31–15. *Franz Schubert, "Erlkönig" (D.328), mm. 140–148.*

0:00 / 0:00

example_31-15

Example 31–16. *Johann Sebastian Bach, Ach Gott, vom Himmel sieh darein (BWV 2), 6. "Das wollst du, Gott, bewahren rein," mm. 1–4.*

0:00 / 0:00

example_31-16

The Neapolitan chord in Example 31–15—itself embellished with an auxiliary sonority in m. 144—leads to an applied vii^{o}7/V in m. 147 before moving to the cadential V chord. The same technique appears in Example 31–16. Here, an unprepared Neapolitan is used to begin a phrase following a half cadence. A vii^{o}7/V delays the dominant, which arrives one beat later.

Note: Despite the key signature with just one flat, Example 31–16 is in G minor. In Johann Sebastian Bach's time, it was common for minor key signatures to be written with one less accidental, owing to remnants of earlier notational conventions.

Example 31–17 shows a similar situation in which the Neapolitan leads to a cadential 6/4 chord:

Example 31–17. *Felix Mendelssohn, Lieder ohne Worte (Op. 102), 4. Un poco agitato, ma andante, mm. 3–7.*

0:00 / 0:00

example_31-17

$$\hat{4} \tag{3.5.31}$$

$$\hat{2} \tag{3.5.32}$$

▼ Activity 31-6

Activity 31–6

As a pre-dominant chord, the Neapolitan leads to dominant harmony. Sometimes, however, another pre-dominant chord intervenes. Recognizing this delay in the arrival of the dominant is an important part of analysis.

Exercise 31–6:

Question

Identify the first appearance of the Neapolitan chord in the following excerpt. (Note that despite the key signature, this passage is in the key of A major.):

Joseph Haydn, Keyboard Sonata in D major (Hob.XVI:37), I. Allegro con brio, mm. 28–35.

0:00 / 0:00

activity_31-6

▼ Hint

$$\hat{2} \tag{3.5.33}$$

▼ Answer

The Neapolitan chord first appears on the downbeat of m. 30.

Follow-up question

In this case, the Neapolitan does not move directly to the dominant. In what measure does the root-position dominant seventh arrive?

▼ Hint

Look for a chord that measure whose pitches are that of a dominant seventh chord.

▼ Answer

The true dominant harmony arrives in m. 34.

Follow-up question

What two other pre-dominant chords intervene between the Neapolitan and the true dominant harmony?

▼ Answer

The Neapolitan leads to a vii^{o}7/V in m. 32 and then a cadential 6/4 in m. 33 before getting to the dominant in m. 34.

The same chords that are typically used to approach ii(^{o})6 are also used to approach the Neapolitan. Example 31–10 and Example 31–17 show Neapolitan chords following VI. Example 31–15 has a Neapolitan following iv—the Abs beginning in m. 143 act initially as chromatic upper neighbors to the fifth of the iv chord. Example 31–7 has a Neapolitan following ii6/5 and Example 31–1 and Example 31–3 approach the Neapolitan with tonic triads.

31.5 Tonicizing the Neapolitan

Composers frequently tonicize the Neapolitan. The structure of the minor scale makes this particularly convenient since the diatonic VI chord is equivalent to the dominant of the Neapolitan. In other words, the progression VI–N6 can sound like V/N–N6(a tonicization of the Neapolitan) since the root motion is the same as V–I.

Consider the following example:

Example 31–18. *Maria Agata Szymanowska, 6 Minuets, No. 1 in A minor, mm. 1–16.*

0:00 / 0:00

example_31-18

In Example 31-18, after a pair of authentic cadences in (m. 4 and m. 9), we hear a deceptive cadence in m. 12. This F-major chord is heard initially as VI in A minor. On the other hand, the root of this chord (F) lies a perfect fifth above—or a perfect fourth below—the root of the Neapolitan that follows. The F-major chord may, in other words, also be heard as V/N setting up the chromatic Bb in m. 13.

$$\hat{2} \tag{3.5.34}$$

A similar scenario appears in the following example:

Example 31–19. *Frédéric Chopin, Mazurkas (Op. 7), 2. Vivo, ma non troppo in A minor, mm. 9–16.*

0:00 / 0:00

example_31-19

The Neapolitan is tonicized here with an applied dominant seventh chord in m. 13. This applied chord is derived by adding a minor seventh above the root of the preceding VI chord (Eb).

The following excerpt provides another example of a tonicized Neapolitan

Example 31–20. *Johann Sebastian Bach, Organ Sonata No.4 in E minor (BWV 528), II. Andante, mm. 1–3.*

0:00 / 0:00

example_31-20

This passage includes a Neapolitan chord in the opening phrase. On the second beat of m. 2, we see an E in the bass with G and C§ in the upper voice—a typical example of a Neapolitan chord. Preceding this, we find a VI chord consisting of G in the bass with B and D in the upper voice. This chord can also be interpreted as an applied dominant to the Neapolitan. (It is labeled V/N in Example 31–20.) As an applied dominant, this tonicization of the Neapolitan continues a falling fifth progression begun in the previous measure. By moving to the Neapolitan, Bach avoids the tritone root motion that would have resulted from VI to a diatonic ii^{o} chord. (For more information on applied chords, see Chapter 27.)

No matter what the length—single chords, tonicizations, modulations—appearances of the Neapolitan soon lead to the dominant. Emphasizing the Neapolitan by making it sound temporarily like a tonic dramatizes the arrival of the dominant.

▼ Activity 31-7

Activity 31–7

For each of the following exercises, identify the pitches of an applied dominant seventh chord on the Neapolitan of the specified key.

Exercise 31–7a:

Question

In the key of D minor, what would be the root of V7/N?

▼ Hint

The root of V7/N is the fifth of the Neapolitan chord.

▼ Answer

Bb

Follow-up question

What are the three remaining pitches of the dominant seventh chord that has this pitch as its root?

▼ Answer

D, F, and Ab

Exercise 31–7b:

Question

In the key of A minor, what would be the root of V7/N?

▼ Hint

The root of V7/N is the fifth of the Neapolitan chord.

▼ Answer

F

Follow-up question

What are the three remaining pitches of the dominant seventh chord that has this pitch as its root?

▼ Answer

A, C, and Eb

Exercise 31–7c:

Question

In the key of D major, what would be the root of V7/N?

▼ Hint

The root of V7/N is the fifth of the Neapolitan chord.

▼ Answer

Bb

Follow-up question

What are the three remaining pitches of the dominant seventh chord that has this pitch as its root?

▼ Answer

D, F, and Ab.

Exercise 31–7d:

Question

In the key of F# minor, what would be the root of V7/N?

▼ Hint

The root of V7/N is the fifth of the Neapolitan chord.

▼ Answer

D§

Follow-up question

What are the three remaining pitches of the dominant seventh chord that has this pitch as its root?

▼ Answer

F#, A, and C§

31.6 Summary

$$\hat{2} \tag{3.5.35}$$

$$\hat{2} \tag{3.5.36}$$

As a pre-dominant chord, the Neapolitan's typical function is to lead to the dominant. It often does this directly—moving to V or V7 without delay—though frequently an applied chord or cadential 6/4 intervenes. Any chord used to approach $ii^{(o)}6$ can also precede a Neapolitan: i, i6, VI, or iv among others. Composers also tonicize it or modulate to that key. In any case, the Neapolitan eventually leads to some form of dominant harmony.

All in all, the Neapolitan is generally used as an expressive device. The chromatic alteration is striking in any context and is often used to heighten the dramatic tension of important passages.

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3.6: Augmented Sixth Sonorities

32.1 Introduction

The example below shows an excerpt from a string quartet. Notice the intriguing chromatic sonority in m. 5:

Example 32–1. *Ludwig van Beethoven, String Quartet No 2 (Op. 18, No. 2), III. Scherzo. Allegro, mm 1–8.*

0:00 / 0:00

example_32-1

$$\hat{5} \tag{3.6.1}$$

Of course, this type of sonority could never occur diatonically. No two diatonic pitches will produce an augmented sixth. Nevertheless, chromatic sonorities containing an augmented sixth appear quite frequently. As you will see in this chapter, there are several types of chromatic sonorities characterized by the presence of an augmented sixth, appropriately referred to as *augmented sixth sonorities*. As seen in Example 32–1, augmented sixth sonorities characteristically function as pre-dominant chords and usually lead to dominant harmony. Like other chromatic sonorities, augmented sixths can have a striking effect that composers exploit in order to heighten dramatic tension or highlight important structural moments.

After discussing the general structure and derivation of augmented sixth sonorities, we will look at the three common types and their function in tonal music. We will then examine several complex uses of this type of sonority.

32.2 Structure and derivation

Augmented sixth sonorities are derived by chromatically altering a common basic interval progression. (See Chapter 12 for more on how basic interval progressions lie at the base of all voice-leading.)

Example 32–2.

a. M6–P8

0:00 / 0:00

example_32-2a

b. A6–P8

0:00 / 0:00

example_32-2b

c. A6–P8 with inner voice

0:00 / 0:00

example_32-2c

$$\hat{5} \tag{3.6.2}$$

$$\hat{1} \tag{3.6.3}$$

$$\hat{6} \tag{3.6.4}$$

Example 32–3.

0:00 / 0:00

example_32-3

$$\hat{6} \tag{3.6.5}$$

▼ Activity 32-1

Activity 32–1

Augmented sixth sonorities arise from chromatic alterations of predominant chords. Alter one of the pitches in each of the following progressions to change the subdominant chord to an augmented sixth sonority. (Remember, two accidentals are needed for augmented sixths in major keys.)

Exercise 32–1a:

Question

Alter the pitches as necessary in the following iv6–V progression in D minor to transform the predominant chord into an augmented sixth sonority.

0:00 / 0:00

activity_32-1a

▼ Hint

$$\hat{4} \tag{3.6.6}$$

▼ Answer

G must be replaced with G#.

Exercise 32–1b:

Question

Alter the pitches as necessary in the following iv6–V progression in B minor to transform the predominant chord into an augmented sixth sonority.

0:00 / 0:00

activity_32-1b

▼ Hint

$$\hat{4} \tag{3.6.7}$$

▼ Answer

E must be replaced with E#

Exercise 32–1c:

Question

Alter the pitches as necessary in the following iv6–V progression in Eb major to transform the predominant chord into an augmented sixth sonority.

0:00 / 0:00

activity_32-1c

▼ Hint

$$\hat{4} \tag{3.6.8}$$

▼ Answer

Ab must be replaced with A§ and C with Cb.

Exercise 32–1d:

Question

Alter the pitches as necessary in the following iv6–V progression in A major to transform the predominant chord into an augmented sixth sonority.

0:00 / 0:00

activity_32-1d

▼ Hint

$$\hat{4} \tag{3.6.9}$$

▼ Answer

F# must be replaced with F§ and D with D #.

$$\hat{4} \tag{3.6.10}$$

$$\hat{6} \tag{3.6.11}$$

▼ Activity 32-2

Activity 32–2

In each of the following progressions, identify the pre-dominant chord as either an augmented sixth sonority or an applied chord.

Exercise 32–2a:

Question

In the following progression in D minor, is the chord marked with a question mark an augmented sixth sonority or an applied chord?

0:00 / 0:00

activity_32-2a

▼ Hint

Remember, the presence of an augmented sixth frame—#4 and (b)6—indicates an augmented sixth sonority.

▼ Answer

augmented sixth sonority

Exercise 32–2b:

Question

In the following progression in D minor, is the chord marked with a question mark an augmented sixth sonority or an applied chord?

0:00 / 0:00

activity_32-2b

▼ Hint

Does the chord in question include an augmented sixth? What does that tell you?

▼ Answer

applied chord

Exercise 32–2c:

Question

In the following progression in D minor, is the chord marked with a question mark an augmented sixth sonority or an applied chord?

0:00 / 0:00

activity_32-2c

▼ Hint

Does the chord in question include an augmented sixth? What does that tell you?

▼ Answer

applied chord

Exercise 32–2d:

Question

In the following progression in D minor, is the chord marked with a question mark an augmented sixth sonority or an applied chord?

0:00 / 0:00

activity_32-2d

▼ Hint

Remember, the presence of an augmented sixth frame—#4 and (b)6—indicates an augmented sixth sonority.

▼ Answer

augmented sixth sonority

32.3 Types of augmented sixth sonorities

There are three varieties of augmented sixth sonorities, each containing a different "filling," so to speak, within the framework of the augmented sixth. These varieties are identified with geographical names—Italian, French, and German—none of which is historically or geographically justifiable. The names are widely used, however, and we will use them here since they permit easy identification.

$$\hat{6} \tag{3.6.12}$$

32.4 Italian augmented sixths

$$\hat{4} \tag{3.6.13}$$

Note: You may occasionally see augmented sixths indicated by a bass figure six with a slash through it:

Example 32–4.

0:00 / 0:00

example_32-4

This is a common figured bass convention. The slash indicates that the sixth above the bass should be raised by a semitone: in this case requiring D# instead of D§.

Other music theory texts include a superscript "+" sign to emphasize that the sixth is augmented: It^{+}6. In this chapter we will use abbreviations of the geographic nicknames combined with bass figures. In other words, "It6" is short for "Italian augmented sixth."

The following example shows an Italian augmented sixth sonority in a musical context:

Example 32–5. *Felix Mendelssohn, Lieder ohne Worte (Op. 30), 4. Agitato e con fuoco, mm. 52–60.*

0:00 / 0:00

example_32-5

$$\hat{4} \tag{3.6.14}$$

Now consider the following example:

Example 32–6. *Wolfgang Amadeus Mozart, Piano Sonata No.12 in F major (K.332), I. Allegro, mm. 116–126.*

0:00 / 0:00

example_32-6

Here, the Italian sixth appears directly after a root-position tonic. The inner-voice D in the tonic remains stationary while the outer voices expand to form the augmented sixth, Bb–G#. All three voices move as expected to the V chord at the beginning of m. 123.

$$\hat{1} \tag{3.6.15}$$

Example 32–7.

0:00 / 0:00

example_32-7

$$\hat{1} \tag{3.6.16}$$

The following excerpt shows an Italian sixth in four voices (note that, despite the key signature, this passage begins in G minor):

Example 32–8. *Johann Sebastian Bach, "Ich hab mein Sach Gott heimgestellt" (BWV 351), mm. 1–2.*

0:00 / 0:00

example_32-8

$$\hat{6} \tag{3.6.17}$$

▼ Activity 32-3

Activity 32–3

Create Italian augmented sixths and resolve them in various keys.

Exercise 32–3a:

Question

Write a four-voiced Italian augmented sixth sonority in D minor.

▼ Hint

$$\hat{6} \tag{3.6.18}$$

▼ Answer

0:00 / 0:00

activity_32-3a_answer1

(Answers may vary, provided Bb is in the bass and G# and two Ds appear in the upper voices.)

Follow-up question

Resolve this Italian sixth to a dominant triad using proper voice-leading.

▼ Hint

$$\hat{5} \tag{3.6.19}$$

▼ Answer

0:00 / 0:00

activity_32-3a_answer2

(Answers may vary, provided Bb and G# both move to A and the two Ds move to C# and E.)

Exercise 32–3b:

Question

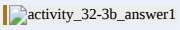
Write a four-voiced Italian augmented sixth sonority in B minor.

▼ Hint

$$\hat{6} \tag{3.6.20}$$

▼ Answer

0:00 / 0:00



(Answers may vary, provided G is in the bass and E# and two Bs appear in the upper voices.)

Follow-up question

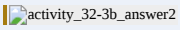
Resolve this Italian sixth to a dominant triad using proper voice-leading.

▼ Hint

$$\hat{5} \tag{3.6.21}$$

▼ Answer

0:00 / 0:00



(Answers may vary, provided G and E# both move to F# and the two Bs move to A# and C#.)

Exercise 32–3c:

Question

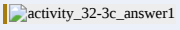
Write a four-voiced Italian augmented sixth sonority in Eb major.

▼ Hint

$$\hat{6} \tag{3.6.22}$$

▼ Answer

0:00 / 0:00



(Answers may vary, provided Cb is in the bass and A§ and two Ebs appear in the upper voices.)

Follow-up question

Resolve this Italian sixth to a dominant triad using proper voice-leading.

▼ Hint

$$\hat{5} \tag{3.6.23}$$

▼ Answer

0:00 / 0:00

activity_32-3c_answer2

(Answers may vary, provided Cb and A§ both move to Bb and the two Ebs move to D and F.)

Exercise 32–3d:

Question

Write a four-voiced Italian augmented sixth sonority in E major.

▼ Hint

$$\hat{6} \tag{3.6.24}$$

▼ Answer

0:00 / 0:00

activity_32-3d_answer1

(Answers may vary, provided C§ is in the bass and A# and two Es appear in the upper voices.)

Follow-up question

Resolve this Italian sixth to a dominant triad using proper voice-leading.

▼ Hint

$$\hat{5} \tag{3.6.25}$$

▼ Answer

0:00 / 0:00

activity_32-3d_answer2

(Answers may vary, provided C§ and A# both move to B and the two Es move to D# and F#.)

Now consider the following example:

Example 32–9. *Louise Farrenc, 20 Etudes de moyenne Difficulté pour Piano (Op. 42), No. 17, mm. 1–8.*

0:00 / 0:00

example_32-9

$$\hat{5} \tag{3.6.26}$$

▼ Activity 32-4

Activity 32–4

Exercise 32–4:

Question

The following excerpt includes four chords with chromatic pitches labeled A, B, C, and D:

Maria Agata Szymanowska, 6 Marches for Piano, No. 5 in Bb major, Trio, mm. 1–8.

0:00 / 0:00

activity_32-4

Which of these four chords is an Italian augmented sixth?

▼ Hint

Since this excerpt is in a major key, an augmented sixth chord will require at least two different accidentals.

▼ Answer

Chord D is an Italian augmented sixth. (Chords A and B are both V7/V and chord C is a V7/IV.)

Follow-up question

Does the Italian sixth move directly to V? Or is there some intervening sonority?

▼ Hint

Does m. 7 begin with a root-position dominant?

▼ Answer

This Italian sixth moves to a cadential 6/4 on the downbeat of m. 7 before the music progresses to V7.

Maria Agata Szymanowska, 6 Marches for Piano, No. 5 in Bb major, Trio, mm. 1–8.

0:00 / 0:00

activity_32-4_answer

32.5 French augmented sixths

$$\hat{2} \tag{3.6.27}$$

Example 32–10.

0:00 / 0:00

example_32-10

$$\hat{4} \tag{3.6.28}$$

$$\hat{2} \tag{3.6.29}$$

Observe the voice leading in the following example:

Example 32–11. *Ludwig van Beethoven, Piano Sonata No. 8 [“Pathétique”] (Op. 13), III. Rondo. Allegro, mm. 44–47.*

0:00 / 0:00

example_32-11

$$\hat{6} \tag{3.6.30}$$

Example 32–12 shows another instance of a French augmented sixth:

Example 32–12. *Ludwig van Beethoven, Piano Sonata No. 4 (Op. 7), II. Largo con gran espressione, mm. 72–74.*

0:00 / 0:00

example_32-12

$$\hat{4} \tag{3.6.31}$$

$$\hat{6} \tag{3.6.32}$$

▼ Activity 32-5

Activity 32–5

Create French augmented sixths and resolve them in various keys.

Exercise 32–5a:

Question

Write a four-voiced French augmented sixth sonority in E minor.

▼ Hint

$$\hat{6} \tag{3.6.33}$$

▼ Answer

0:00 / 0:00

activity_32-5a_answer1

(Answers may vary, provided C is in the bass and F#, E, and A# appear in the upper voices.)

Follow-up question

Resolve this French sixth to a dominant triad using proper voice-leading.

▼ Hint

$$\hat{5} \tag{3.6.34}$$

▼ Answer

0:00 / 0:00

activity_32-5a_answer2

(Answers may vary, provided C moves to B, E moves to D#,A# moves to B, and F is sustained.)

Exercise 32–5b:

Question

Write a four-voiced French augmented sixth sonority in G minor.

▼ Hint

$$\hat{6} \tag{3.6.35}$$

▼ Answer

0:00 / 0:00

activity_32-5b_answer1

(Answers may vary, provided Eb is in the bass and A, G, and C# appear in the upper voices.)

Follow-up question

Resolve this French sixth to a dominant triad using proper voice-leading.

▼ Hint

$$\hat{5} \tag{3.6.36}$$

▼ Answer

0:00 / 0:00

activity_32-5b_answer2

(Answers may vary, provided Eb moves to D, G moves to F#,C# moves to D, and A is sustained.)

Exercise 32–5c:

Question

Write a four-voiced French augmented sixth sonority in A major.

▼ Hint

$$\hat{6} \tag{3.6.37}$$

▼ Answer

0:00 / 0:00

activity_32-5c_answer1

(Answers may vary, provided F§ is in the bass and B, A, and D# appear in the upper voices.)

Follow-up question

Resolve this French sixth to a dominant triad using proper voice-leading.

▼ Hint

$$\hat{5} \tag{3.6.38}$$

▼ Answer

0:00 / 0:00

activity_32-5c_answer2

(Answers may vary, provided F§ moves to E, A moves to G#,D# moves to E, and B is sustained.)

Exercise 32–5d:

Question

Write a four-voiced French augmented sixth sonority in E minor.

▼ Hint

$$\hat{6} \tag{3.6.39}$$

▼ Answer

0:00 / 0:00

activity_32-5d_answer1

(Answers may vary, provided Fb is in the bass and Bb,Ab, and D§ appear in the upper voices.)

Follow-up question

Resolve this French sixth to a dominant triad using proper voice-leading.

▼ Hint

$$\hat{5} \tag{3.6.40}$$

▼ Answer

0:00 / 0:00

activity_32-5d_answer2

(Answers may vary, provided Fb moves to Eb,Ab moves to G, D§ moves to Eb, and Bb is sustained.)

32.6 German augmented sixths

$$\hat{1} \tag{3.6.41}$$

$$\hat{3} \tag{3.6.42}$$

Example 32–13.

0:00 / 0:00

example_32-13

Example 32–13 shows the parallel fifths that arise when moving from a German sixth directly to V. Composers generally avoid this by including an intervening cadential 6/4 chord before the V. The 6/4 is shown in Example 32–14 where the perfect fifth in the left hand (F and C) is mediated obliquely by a minor sixth (E and C) before arriving at the perfect fifth of the V chord (E and B):

Example 32–14.

0:00 / 0:00

example_32-14

You might have noticed that the first chord in Example 32–14 sounds like a familiar diatonic harmony: the German sixth is enharmonically equivalent to a dominant seventh chord. If the D# in Example 32–13 were respelled as Eb, the chord (F, A, C, and

Eb) could be interpreted as V7 in the key of Bb. Composers often take advantage of that enharmonic equivalence as a modulatory device. We will return to that idea momentarily.

The following excerpt provides a clear example of the German augmented sixth:

Example 32–15. *Ludwig van Beethoven, Piano Sonata No. 8 ["Pathétique"] (Op. 13), III. Rondo. Allegro, mm. 1–8.*

0:00 / 0:00

example_32-15

In m. 6, the presence of F# makes a German augmented sixth out of what would otherwise be heard as a VI chord. As expected, the resolution of the augmented sixth is delayed by a cadential 6/4 chord, offsetting the parallel fifths from Ab and Eb to G and D.

The following example shows another German augmented sixth resolving in the same manner, this time in a major key:

Example 32–16. *Maria Agata Szymanowska, 6 Minuets, No. 2 in G minor, Trio, mm. 1–16.*

0:00 / 0:00

example_32-16

$$\hat{6} \tag{3.6.43}$$

The examples above illustrate the most common treatment of the German sixth, but there are others. The following example shows an alternative:

Example 32–17. *Wolfgang Amadeus Mozart, Piano Sonata No. 6 in D major (K.284), I. Allegro, mm. 11–19.*

0:00 / 0:00

example_32-17

In this excerpt from a Mozart sonata the German sixth resolves directly to V in m. 17. The parallel fifths are concealed since F§ does not move directly to E. Instead, E appears in an upper voice, coming out of D in the alto.

$$\hat{6} \tag{3.6.44}$$

▼ Activity 32-6

Activity 32–6

Create German augmented sixths and resolve them in various keys.

Exercise 32–6a:

Question

Write a four-voiced German augmented sixth sonority in G major.

▼ Hint

$$\hat{6} \tag{3.6.45}$$

▼ Answer

0:00 / 0:00

activity_32-6a_answer1

(Answers may vary, provided Eb is in the bass and Bb, G, and C# appear in the upper voices.)

Follow-up question

Resolve this German sixth to a cadential 6/4 chord using proper voice-leading.

▼ Hint

$$\hat{5} \tag{3.6.46}$$

▼ Answer

0:00 / 0:00

activity_32-6a_answer2

(Answers may vary, provided Eb moves to D, C# moves to D, Bb moves to B§, and G is sustained.)

Exercise 32–6b:

Question

Write a four-voiced German augmented sixth sonority in Bb major.

▼ Hint

$$\hat{6} \tag{3.6.47}$$

▼ Answer

0:00 / 0:00

activity_32-6b_answer1

(Answers may vary, provided Gb is in the bass and Db,Bb, and E§ appear in the upper voices.)

Follow-up question

Resolve this German sixth to a cadential 6/4 chord using proper voice-leading.

▼ Hint

$$\hat{5} \tag{3.6.48}$$

▼ Answer

0:00 / 0:00

activity_32-6b_answer2

(Answers may vary, provided Gb moves to F, E§ moves to F, Db moves to D§, and Bb is sustained.)

Exercise 32–6c:

Question

Write a four-voiced German augmented sixth sonority in F# minor.

▼ Hint

$$\hat{6} \tag{3.6.49}$$

▼ Answer

0:00 / 0:00

activity_32-6c_answer1

(Answers may vary, provided D is in the bass and A, F#, and B# appear in the upper voices.)

Follow-up question

Resolve this German sixth to a cadential 6/4 chord using proper voice-leading.

▼ Hint

$$\hat{5} \tag{3.6.50}$$

▼ Answer

0:00 / 0:00

activity_32-6c_answer2

(Answers may vary, provided D moves to C#,B# moves to C#, and A and F# are sustained.)

Exercise 32–6d:

Question

Write a four-voiced German augmented sixth sonority in F minor.

▼ Hint

$$\hat{6} \tag{3.6.51}$$

▼ Answer

0:00 / 0:00

activity_32-6d_answer1

(Answers may vary, provided Db is in the bass and Ab, F, and B§ appear in the upper voices.)

Follow-up question

Resolve this German sixth to a cadential 6/4 chord using proper voice-leading.

▼ Hint

$$\hat{5} \tag{3.6.52}$$

▼ Answer

0:00 / 0:00

activity_32-6d_answer2

(Answers may vary, provided Db moves to C, B§ moves to C, and Ab and F are sustained.)

32.7 Other uses of augmented sixth sonorities

So far, the augmented sixth sonorities we have examined have been relatively straightforward. In each case the augmented sixth functioned as a chromatic pre-dominant, adding dramatic tension to a cadential phrase. Augmented sixth sonorities can function in other ways as well. We will now look at how they can be used to prolong harmonies, and how they can act as agents of modulation.

Consider the following example:

Example 32–18. *Maria Theresia von Paradis, 12 Lieder auf ihrer Reise in Musik gesetzt, 9. "Vaterlandslied," mm. 15–23.*

0:00 / 0:00



$$\hat{5} \tag{3.6.53}$$

You may encounter other types of auxiliary sonorities that contain an augmented sixth, as in the opening measures of the following example:

Example 32–19. *Franz Schubert, Schwanengesang (D.957), 12. "Am Meer," mm. 1–3.*

0:00 / 0:00



$$\hat{3} \tag{3.6.54}$$

Example 32–20 contains another common-tone augmented sixth:

Example 32–20. *Hugo Wolf, Mörike-Lieder (IHW 22), 24. "In der Frühe," mm. 1–2.*

0:00 / 0:00



In this song, the chord on the second half of beat two prolongs the initial tonic harmony. Bb, E, and G# are neighbors to members of the initial tonic while D is sustained in the bass. Just as before, the augmented sixth resolves outward to an octave on the fifth of the tonic triad. Here, the result resembles a French augmented sixth, but like Example 32–19, the function is prolongational, not pre-dominant.

Augmented sixths are also used to facilitate modulations. Consider the following excerpt and its modulation from A minor to E minor, the minor dominant:

Example 32–21. *Felix Mendelssohn, Lieder ohne Worte (Op. 102), 3. Presto, mm. 9–17.*

0:00 / 0:00



In mm. 11–12 we find a typical progression with a German sixth resolving to the dominant. The same progression is heard in m. 16, transposed down by a perfect fourth to the key of E minor. The unique sound of an augmented sixth resolving is still fresh in our ears from m. 12. Because the German sixth in m. 16 is so closely associated with the dominant, it invites us to retroactively reinterpret the tonic triad in m. 15 as a pivot chord, where i = iv. The augmented sixth, in other words, provides a clear signal of the modulation half a bar before the new dominant by drawing a connection with a progression previously heard in a different key.

A similar scenario may be observed in the following example:

Example 32–22. *Ludwig van Beethoven, Piano Sonata No. 21 ["Waldstein"] (Op. 53), I. Allegro con brio, mm. 18–23.*

0:00 / 0:00

example_32-22

After two full bars of vi in mm. 20–21, the "tenor" voice steps up to a chromatic passing tone (A#). That chromatic alteration transforms the chord into an Italian sixth, leading us to retroactively reinterpret the preceding vi6 as iv6 in E minor. Again, the uniquely recognizable effect of the augmented sixth signals the modulation before the appearance of the new dominant. Similar examples may be cited of augmented sixths being used to modulate back to the tonic.

Note: Augmented sixth chords can also precede *applied* dominant chords, as in the following example:

Example 32–23. *Sophia Maria Westenholz, 12 Deutsche Lieder (Op. 4), 3. "Das Glücke der Liebe," mm. 1–9.*

0:00 / 0:00

example_32-23

In such cases, the various scale degrees that make up the chord in question are the same as usual, but are derived from the tonicized key, not the home key.

As mentioned above, the German sixth is particularly useful in modulations because of it enharmonic equivalence with a dominant seventh chord. The following excerpt takes advantage of that very property:

Example 32–24. *Franz Schubert, Piano Sonata No. 16 (D.845), I. Moderato, mm. 21–27.*

0:00 / 0:00

example_32-24

Example 32–24 begins with an expansion of dominant harmony in Bb major: V is prolonged with a series of cadential 6/4 chords. The third time through, however, Eb is respelled as D#. The change in notation, producing an augmented sixth sonority over F, paves the way to a cadential 6/4 chord in A minor and the new tonic in m. 26. In other words, V7 in Bb major, spelled with Eb, is enharmonically reinterpreted as a German sixth in A minor, spelled with D#. The effect is startling—particularly after the prolongation of V in mm. 21–23—and calls attention to the modulation and cadence in A minor.

The following example clarifies this kind of enharmonic reinterpretation:

Example 32–25.

0:00 / 0:00

example_32-25

In the first part of Example 32–25 we see a German sixth resolving in the usual way to a cadential 6/4. In the second part, the same chord—with the F# respelled as Gb—resolves as a dominant seventh in an entirely different key. When a German sixth is enharmonically reinterpreted for the sake of a modulation, the new key will be a half-step away from the original key. In other words, a German sixth in C may also resolve as a dominant seventh in Db (the key of the Neapolitan). This type of modulation can also occur in the opposite direction: what is heard initially as a dominant seventh in Db might end up resolving as a German sixth in C.

▼ Activity 32-7

Activity 32–7

German augmented sixth sonorities are enharmonically equivalent to dominant seventh chords. For each of the following exercises, respell the German sixth as a dominant seventh and identify the key to which it belongs.

Exercise 32–7a:

Question

Respell one of the pitches in the following German augmented sixth to create a dominant seventh chord:

0:00 / 0:00

activity_32-7a

▼ Answer

C# should be replaced with Db.

Follow-up question

To which key does this dominant seventh belong?

▼ Hint

$$\hat{5} \tag{3.6.55}$$

▼ Answer

A German sixth in G major is enharmonically equivalent to V7 of Ab.

Exercise 32–7b:

Question

Respell one of the pitches in the following German augmented sixth to create a dominant seventh chord:

0:00 / 0:00

activity_32-7b

▼ Answer

A# should be replaced with Bb.

Follow-up question

To which key does this dominant seventh belong?

▼ Hint

$$\hat{5} \tag{3.6.56}$$

▼ Answer

A German sixth in E minor is enharmonically equivalent to V7 of F.

Exercise 32–7c:

Question

Respell one of the pitches in the following German augmented sixth to create a dominant seventh chord:

0:00 / 0:00

activity_32-7c

▼ Answer

B§ should be replaced with Cb.

Follow-up question

To which key does this dominant seventh belong?

▼ Hint

$$\hat{5} \tag{3.6.57}$$

▼ Answer

A German sixth in F major is enharmonically equivalent to V7 of Gb.

Exercise 32–7d:

Question

Respell one of the pitches in the following German augmented sixth to create a dominant seventh chord:

0:00 / 0:00

activity_32-7d

▼ Answer

G# should be replaced with Ab.

Follow-up question

To which key does this dominant seventh belong?

▼ Hint

$$\hat{5} \tag{3.6.58}$$

▼ Answer

A German sixth in D minor is enharmonically equivalent to V7 of Eb.

32.8 Summary

$$\hat{6} \tag{3.6.59}$$

$$\hat{6} \tag{3.6.60}$$

Augmented sixths can also be useful in prolongations and modulations. Because they are closely tied to V, they can be used to efficiently mark the new dominant of a modulatory destination. Furthermore, the enharmonic equivalence between a German sixth and a dominant seventh chord make the German sixth a handy means of modulating to a distantly-related key, the tonic of which is a half-step away.

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3.7: Chromatic Pre-Dominants

33.1 Introduction

Composers tend to put considerable emphasis on harmonies leading to V. They apply noteworthy creativity in shaping and modifying those harmonies as a way of highlighting the arrival of the dominant, after which the tonic soon follows as a foregone conclusion. In addition to diatonic pre-dominant harmonies such as ii and IV (ii^{o} and iv in minor), applied chords can appear before the dominant, emphasizing it through tonicization (see Chapter 27). Other harmonies, like the Neapolitan sixth (Chapter 31) and augmented sixth chords (Chapter 32), dramatize the arrival of the dominant with chromaticism.

All of these chords and sonorities have a similar function in that they typically introduce and raise anticipation for dominant harmony. Though they share certain characteristics in makeup and purpose, each has a unique identity. The subtle differences between these chords allow for a wide variety of expression and individuality in works with fundamentally similar harmonic structure.

We introduced the pre-dominant function in Chapter 24. In this short chapter, we will summarize the various pre-dominant chords discussed so far. We will compare them and track the elements that most regularly appear in pre-dominants, while making note of the characteristics that make each unique.

33.2 Pre-dominant chords with diatonic \hat4

$$\hat{4} \tag{3.7.1}$$

$$\hat{2} \tag{3.7.2}$$

Example 33–1.

0:00 / 0:00

example_33-1

$$\hat{4} \tag{3.7.3}$$

Example 33–2.

0:00 / 0:00

example_33-2

Example 33–3.

0:00 / 0:00

example_33-3

As discussed in Chapter 29, mixture chords typically retain the harmonic functions of their unaltered forms. In other words, a pre-dominant harmony that incorporates tones borrowed from the parallel key will still be pre-dominant. The following example alters the IV chord of Example 33–2:

Example 33–4.

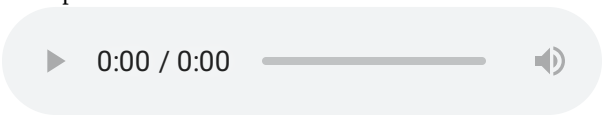
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example_33-4

Despite the inclusion of Ab, the iv chord retains a clear pre-dominant function.

$$\hat{4} \tag{3.7.4}$$

Example 33–5.



example_33-5

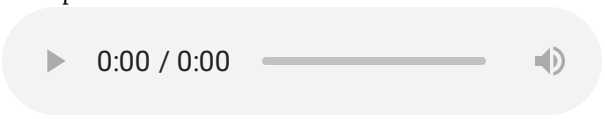
Compare Example 33–5 with Examples 33–2 and 33–3. As you can see, the Neapolitan is closely-related to diatonic ii and IV chords. Regardless of how it is derived—whether by embellishing a iv chord, or by altering a ii^{o} chord—the Neapolitan retains pre-dominant function.

33.4 Pre-dominant chords with # \hat4

$$\hat{4} \tag{3.7.5}$$

As discussed in Chapter 27, applied chords that tonicize the dominant can be thought of as chromatically altered ii or IV chords. The following example demonstrates:

Example 33–6.

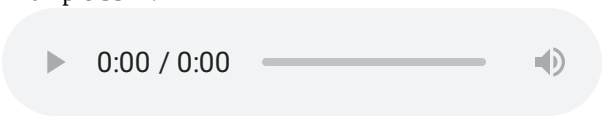


example_33-6

$$\hat{4} \tag{3.7.6}$$

$$\hat{5} \tag{3.7.7}$$

Example 33–7.



example_33-7

$$\hat{4} \tag{3.7.8}$$

$$\hat{4} \tag{3.7.9}$$

33.5 Summary

$$\hat{4} \tag{3.7.10}$$

$$\hat{4} \tag{3.7.11}$$

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3.8: Other Chromatic Harmonies

34.1 Introduction

Chapter 29, on mixture, explained how and why the diatonic third of a chord is sometimes chromatically altered to switch the mode from major to minor or vice versa. Alternatively, composers sometimes chromatically alter the *fifth* of a major triad or seventh chord, which retains the modal identity of the chord while heightening its urgency for continuation. Such altered fifths are frequently presented as chromatic passing tones, elements of chromatic voice-leading that drive the harmony forward.

In this chapter we will first discuss augmented triads: triads with a major third and augmented fifth above the root. We will go on to look at how an augmented fifth can also be introduced in a dominant seventh chord. The chapter will conclude with an examination of dominant seventh chords with lowered fifths.

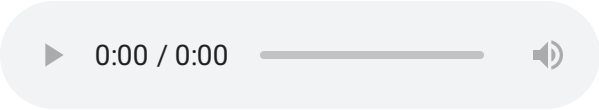
34.2 Augmented triads

Though often listed as one of the four varieties of triads—the others being major, minor, and diminished—augmented triads as independent chords are rather rare in tonal music up through the 1820s. One reason for this is that, in contrast to other chromatic sonorities, the augmented chord alters the framing interval of the triad, the perfect fifth, which stabilizes the triad. The defining characteristic of an augmented triad—the dissonant augmented fifth—has a peculiarly unstable quality and composers tended to use it sparingly prior to the Romantic era.

Augmented triads are not functional chords in their own right, but rather chromatic representatives of diatonic harmonies: the raised fifth is usually introduced as a chromatic passing tone. The following example illustrates:

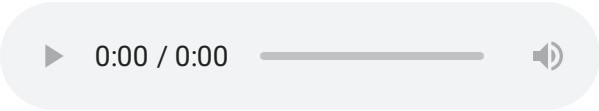
Example 34–1.

a. V6/3–I



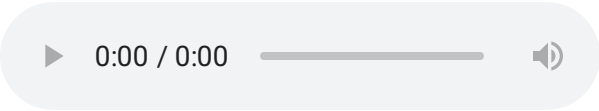
example_34-1a

b. V6/3–I with chromatic passing tone



example_34-1b

c. V6/3–I with assimilation of chromatic passing tone



example_34-1c

In Example 34–1a we see the common progression from V6 to I. Example 34–1b fills in the upper voice with a chromatic passing tone (D#). In Example 34–1c, that D# is incorporated into the V triad. Just as a Neapolitan chord results when a chromatic upper neighbor note is absorbed into a minor triad (a iv, as shown in Chapter 31), so an augmented triad results here (Example 34–1c) when a chromatic passing tone is absorbed into a major triad. The resolution of an augmented triad to another chord whose root is a fifth below—as in Example 34–1c—is common.

Note: In Example 34–1, the augmented quality is indicated by the accidental in the figured bass (V 6/#3). Augmented triads are sometimes indicated by a superscript plus sign: V–V^{+}–I.

The following example shows an augmented triad in a musical context:

Example 34–2. *Grace Wassall, 10 Songs, 3. "Cakes and Ale," mm. 1–4.*

0:00 / 0:00

example_34-2

At the end of the brief piano introduction (and then again at the end of the first phrase with the voice), we hear an authentic cadence with a root position V resolving to I. This cadential dominant, though, has a chromatic alteration: the fifth has been raised to F#, creating an augmented triad out of what would have otherwise been major. This chromatic alteration does not affect the function of the chord though; in a way, the dominant function is strengthened. The F# is clearly a chromatic lower neighbor tone to G and resolves up by step to the third of the tonic after a brief suspension.

Now consider the following example from the Canadian national anthem:

Example 34–3. *Calixa Lavallée, "Ô Canada," mm. 17–24.*

0:00 / 0:00

example_34-3

In m. 21, the fifth of a tonic triad (Db) leads to a chromatic passing tone (D#) on its way to E, creating an augmented triad with the other voices. It might at first seem appropriate to label such a chord I 6/#3. But you'll notice in Example 34–3 that the chord on the second beat of m. 21 is labeled V 6/#3/IV. The integration of the chromatic passing tone undermines the identity of the tonic, a place of stability and repose. The D#—now functioning as a leading tone to E—activates the harmonic motion and drives the altered tonic to the subdominant. In other words, G, B, D# no longer functions as tonic but rather strives towards IV in the manner of a tonicization. For this reason, we have labeled the sonority as an applied dominant.

The following example has two augmented triads in rather close proximity:

Example 34–4. *Robert Schumann, Album für die Jugend (Op. 68), 14. "Kleine Studie," mm. 1–20.*

0:00 / 0:00

example_34-4

In mm. 5–7 we see the progression already familiar from Example 34–3. Then, following a brief tonicization of ii in mm. 9–13, a similar procedure is applied to a V chord. In m. 16 the seventh from the preceding V7 chord is omitted while the fifth is raised to A#. Just as in Example 34–3, the raised fifth acts as a chromatic passing tone to B as the chord resolves to I, with its root a fifth below (or, in the music, a fourth above).

Now consider the following example:

Example 34–5. *Ludwig van Beethoven, 11 Bagatelles (Op. 119), 8. Moderato cantabile, mm. 1–4.*

0:00 / 0:00

example_34-5

$$\hat{5} \tag{3.8.1}$$

Example 34–6. Reduction of *Ludwig van Beethoven, 11 Bagatelles (Op. 119), 8. Moderato cantabile, mm. 1–3.*

0:00 / 0:00

example_34-6

The construction of an augmented triad—like a fully-diminished seventh chord—is symmetrical. Augmented triads have one major third between the root and the chordal third and another between the third and the fifth. The interval between the fifth and the root above it is a diminished fourth, which is enharmonically equivalent to yet another major third. This intervallic symmetry allows any augmented triad to be spelled three different ways:

Example 34–7.

0:00 / 0:00

example_34-7

The three augmented triads in Example 34-7 are enharmonically equivalent: G^+, Eb^+, and B^+. By respelling the chord members, it is possible to make any of the three notes the root without changing the sound of the chord. This property can be a useful way to avoid problematic accidentals.

The following excerpt has an augmented triad in m. 3:

Example 34–8. *Marie Jaëll, 4 Mélodies, 2. "Éternel amour," mm. 1–4.*

0:00 / 0:00

example_34-8

$$\hat{6} \tag{3.8.2}$$

▼ Activity 34-1

Activity 34–1

In each of the following exercises, create an augmented triad by raising the fifth of the initial chord.

Exercise 34–1a:

Question

Raise the fifth of the V6 chord in G major to create an augmented triad on the second beat of the first measure:

0:00 / 0:00

activity_34-1a

▼ Answer

The middle voice A should be raised to A# on the second beat.

Follow-up question

What Roman numeral should appear under the altered chord?

▼ Answer

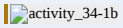
V 6/#3 or V^+6

Exercise 34–1b:

Question

Raise the fifth of the I6 chord in D major to create an augmented triad on the second beat of the first measure:

0:00 / 0:00



▼ Answer

The middle voice A should be raised to A# on the second beat.

Follow-up question

What Roman numeral should appear under the altered chord?

▼ Hint

Tonic triads resolving by root motion of a falling fifth in which the fifth has been raised should be interpreted as applied dominants.

▼ Answer

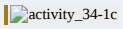
V 6/#3/IV or $V^{+}6$/IV

Exercise 34–1c:

Question

Raise the fifth of the V6 chord in F major to create an augmented triad on the second beat of the first measure:

0:00 / 0:00



▼ Answer

The upper voice G should be raised to G# on the second beat.

Follow-up question

What Roman numeral should appear under the altered chord?

▼ Answer

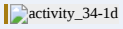
V 6/#3 or $V^{+}6$

Exercise 34–1d:

Question

Raise the fifth of the I6 chord in Bb major to create an augmented triad on the second beat of the first measure:

0:00 / 0:00



▼ Answer

The upper voice F should be raised to F# on the second beat.

Follow-up question

What Roman numeral should appear under the altered chord?

▼ Hint

Tonic triads resolving by root motion of a falling fifth in which the fifth has been raised should be interpreted as applied dominants.

▼ Answer

V 6/#3/IV or $V^{+}6/IV$

Augmented triads also appear as auxiliary sonorities. In the following example, a tonic triad is prolonged with a chord resembling an augmented dominant triad in first inversion.

Example 34–9. *Hugo Wolf, Mörike-Lieder (IHW 22), 7. "Das verlassene Mäglein," mm. 27–29.*

0:00 / 0:00

example_34-9

The augmented triad is presented all at once here: the augmented fifth has been absorbed into the chord and is not introduced here as a chromatic passing tone. This dissonant chord lends an aurally striking quality to this prolongation of I in a way that a diatonic auxiliary sonority could not.

The following example shows another augmented auxiliary sonority, though here arising in a different manner.

Example 34–10. *Franz Schubert, Schwanengesang (D.957), 8. "Der Atlas," mm. 1–4.*

0:00 / 0:00

example_34-10

Whereas in previous examples the chromatic pitch of an augmented triad was introduced as an ascending chromatic passing tone from the fifth of a major reference sonority, here it appears as a chromatic *lower* neighbor to the *root* of a minor triad. It is worth pointing out that normal figured bass conventions are incapable of showing this alteration since the chromatic pitch appears in the bass. The parenthetical (#5) under the Roman numeral indicates the raised fifth. The result, in this case, is a neighboring auxiliary sonority that resembles a III chord with a raised fifth in second inversion.

$$\hat{3} \tag{3.8.3}$$

With the increasingly adventurous chromaticism of the nineteenth century, the treatment of augmented triads slowly relaxed. Rather than simply serving as chromatic representatives of diatonic harmonies, augmented triads began taking on more structural roles. Consider the key structure of the following excerpt (composed around 1840):

Example 34–11. *Frédéric Chopin, 3 Nouvelles Étude (B.130), 2. Allegretto in Ab major mm. 1–30.*

0:00 / 0:00

example_34-11

In tonal music, it is quite normal for a piece to progress through the keys outlined by the tonic triad. A piece in A minor, for example, might begin in A minor and modulate to C major (the relative major) and then E minor (the minor dominant) before returning to A. In this case, however, the keys cycle through an augmented triad: Ab–E (in m. 17)–C (m. 20)–Ab (m. 25).

Note the use of augmented triads at the end of each bar in mm. 25–28 from the excerpt above:

Example 34–12. *Frédéric Chopin, 3 Nouvelles Étude (B.130), 2. Allegretto in Ab major mm. 25–30.*

0:00 / 0:00

example_34-12

In each case, the augmented triad, respelled enharmonically, functions as an applied dominant to the first chord in the next measure. Ab–C–E§ at the end of m. 25, for example, respells as E–G#–B#, which is a V#5of the following A-major chord. The progression across the bar lines of the next three measures operate similarly. Despite this chromatic motion, Ab major remains as the overriding key here. The A-, Bb-, and B§-major triads—shown in parentheses and indicated with hyphens in the main Ab major line of analysis—function as passing chords, filling in the space between the Ab-major chord in m. 25 and the C-minor chord that ends the pattern in m. 29.

▼ Activity 34-2

Activity 34–2

Exercise 34–2:

Question

As you can see from Example 34–12 (reproduced below), another augmented triad appears at the end of m. 27, continuing the pattern from the previous two measures. The chord is notated: Bb,D§,F# but resolves like a V#5 to a B major triad in m. 28. How could this chord be respelled to reflect its function as V#5 in B major? (In other words, what three pitches comprise V#5 in B major?)

Frédéric Chopin, 3 Nouvelles Étude (B.130), 2. Allegretto in Ab major mm. 25–30.

0:00 / 0:00

activity_34-2

▼ Hint

If F# is the root of this chord, what other pitches must appear to complete the augmented triad?

▼ Answer

F#,A#, and Cx

34.3 Altered dominant seventh chords

Dominant seventh chords occasionally appear in an altered form, with a raised or lowered fifth. Since dominant sevenths have a major third above the root, raising the fifth will result in an augmented triad with a minor seventh. Like the augmented triads discussed above, the augmented fifth is typically introduced as an ascending chromatic passing tone:

Example 34–13. *Johannes Brahms, 8 Klavierstücke (Op.76), 7. Intermezzo. Moderato semplice, mm. 12–16.*

0:00 / 0:00

example_34-13

At the end of m. 15 in Example 34–13, the fifth of the dominant seventh chord (D) is raised one semitone to D#. The resultant V 7/#5 consists of an augmented triad (G, B, D#) with a minor seventh above the root (F). This chord resolves very similarly to the augmented triads mentioned above in the first part of this chapter: the augmented fifth resolves upward by semitone to the third of the chord whose root is a fifth below.

Applied dominant sevenths also appear with raised fifths:

Example 34–14. Piano reduction of *Richard Strauss, Till Eulenspiegels lustige Streiche (Op. 28) [red. Otto Singer II], mm. 1–3.*

0:00 / 0:00

example_34-14

$$\hat{5} \tag{3.8.4}$$

▼ Activity 34-3

Activity 34–3

The following excerpt contains two chords with raised fifths, one in m. 8 and one in mm. 9–10.

Exercise 34–3a:

Question

Ignoring, for the moment, the raised fifth, what Roman numeral should appear under mm. 9–10?

Johannes Brahms, 5 Lieder (Op. 105), 1. "Wie Melodien zieht es Mir," mm. 7–12.

0:00 / 0:00

activity_34-3

▼ Hint

The chord is in root position.

▼ Answer

V

Follow-up question

Identify the raised fifth of the chord in mm. 9–10.

▼ Hint

First identify the root of the chord, then determine which voice or voices are sounding an augmented fifth above the root.

▼ Answer

any of the three B#s in mm. 9–10

Exercise 34–3b:

Question

Ignoring, for the moment, the raised fifth, what Roman numeral should appear under m. 8?

0:00 / 0:00

activity_34-3

▼ Hint

The D# on the downbeat of this measure indicates that this is not a diatonic chord in A major.

▼ Answer

V7/V

Follow-up question

Identify the raised fifth of the chord in m. 8.

▼ Hint

First identify the root of the chord, then determine which voice or voices are sounding an augmented fifth above the root.

▼ Answer

either Fx on the second half of beat four

$$\hat{2} \tag{3.8.5}$$

Example 34–15. *Edvard Grieg, Lyric Pieces (Op. 47), 3. Melody, mm. 37–42.*

0:00 / 0:00



$$\hat{1} \tag{3.8.6}$$

As it turns out, the structure of a dominant seventh chord with a lowered fifth is enharmonically identical to a French augmented sixth:

Example 34–16.

0:00 / 0:00



$$\hat{2} \tag{3.8.7}$$

The following reduction of an excerpt from a symphony shows a dramatic dominant seventh with lowered fifth in m. 7:

Example 34–17. *Johannes Brahms, Symphony No. 4 (Op. 98) [red. Otto Singer II], IV. Allegro energico e passionato, mm. 1–9.*

0:00 / 0:00



$$\hat{2} \tag{3.8.8}$$

The following excerpt, taken from the concluding measures of a string quintet, provides a particularly dramatic dominant seventh with lowered fifth:

Example 34–18. *Franz Schubert, String Quintet (D.956), IV. Allegretto, mm. 400–405.*

0:00 / 0:00



$$\hat{1} \tag{3.8.9}$$

Now consider the following example:

Example 34–19. *Frédéric Chopin, Nocturnes (Op. 27), 1. Larghetto in C# minor, mm. 11–18.*

0:00 / 0:00

example_34-19

In this piece, we find a dominant seventh chord with a lowered fifth in root position. After a series of alternating tonic and dominant seventh chords in mm. 11–12, the fifth of the V7 chord (D#) is lowered to D§ in m. 13, emphasizing the cadence at the end of the phrase. The phrase repeats nearly verbatim in mm. 15–17, though here the cadence is further emphasized with a Neapolitan—which shares the lowered second scale degree with the altered dominant—on the third beat of m. 17.

34.4 Summary

Augmented triads typically function as chromatic representatives of diatonic chords. They are usually derived by replacing the fifth of a major triad with the pitch a semitone above it, though minor triads can become augmented as well by lowering the root. In some cases, the chromatic pitch is introduced as an embellishing tone while elsewhere it is simply absorbed into the chord. Augmented triads typically resolve to a chord whose root is a fifth below.

Because the raised fifth of a major tonic triad undermines the function of the original chord, we typically interpret such occurrences of augmented triads as chromatically altered applied dominants when the root motion descends by fifth. Tonic and dominant triads are the most common locations for these procedures, but augmented triads also appear as applied chords and auxiliary sonorities. The symmetrical construction of the chord allows for enharmonic respellings to avoid tricky accidentals—though this can make things confusing for the analyst!

Before the Romantic Era, augmented triads were used sparingly and seldom as functional harmonies on their own. With the increasing chromaticism of the nineteenth century, however, they eventually gained greater structural significance, both in the chord-to-chord action and in the large-scale relationships among keys in a piece.

Dominant seventh chords can also feature raised fifths. Since the root, third, and fifth of a dominant seventh chord form a major triad, raising the fifth will result in an augmented triad with a minor seventh above the root. As with the augmented triad, the raised fifth in a dominant seventh is typically introduced as an ascending chromatic passing tone.

$$\hat{2} \tag{3.8.10}$$

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CHAPTER OVERVIEW

4: Form

4.1: Sentences and Periods

4.2: Binary Form

4.3: Ternary and Rondo Forms

4.4: Sonata Form

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4.1: Sentences and Periods

35.1 Introduction

In the preceding chapters of this book we have been primarily concerned with the building blocks of music. Out of necessity, our discussions have been focused on the effects of relatively isolated musical moments. But in reality, of course, a typical musical experience lasts much longer than the brief examples included here. In other words, composers, performers, and listeners of tonal Western art music are primarily interested in entire pieces! And just as we may observe the structure and mechanisms of small spans of music, so too may we make analytical observations on a larger scale.

In this and the following chapters we will be talking about *form*, the structure and organization of musical composition. In the course of this discussion we will see all of the various dimensions of music coming together. Among these, though, melody and harmony will play the most significant roles since for many practitioners of this art the thematic content and the way it both projects and interacts with the underlying key structure is central to the musical experience.

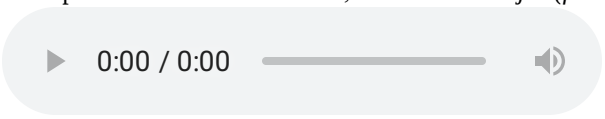
Music theorists and teachers have traditionally conceived of form as being hierarchical in nature. The smallest musical elements—notes—combine to form ever larger units, eventually reaching the level of an entire composition. We have already introduced one level of this hierarchy, the phrase (see Chapter 22 and Chapter 24), so we will begin there. We will first look at how certain phrases are structured internally and then at how phrases combine to form larger sections of a piece.

35.2 Sentences

As we have already seen, phrases come in a wide variety of sizes and styles. But despite any superficial differences, many of them share a similar harmonic structure. The T–PD–D–T tonal phrase model and its variants describe a great many phrases throughout the tonal Western art music canon. (See Chapter 24 to review the tonal phrase model.) In some cases, though, the similarities between phrases go beyond the placement of harmonic functions.

Consider the following example, which consists of a single phrase:

Example 35–1. *Christian Petzold, Minuet in G major (from the Notebook for Anna Magdalena Bach, BWV Anh. 114), mm. 1–16.*



example_35-1

When we analyze musical form we are primarily concerned with the interaction of the thematic as well as the harmonic content of a piece or passage—that is, with the pitches and rhythm of its melodies as well as the harmonic functions within its phrases and how they fit into the broader key structure. This phrase begins with a tonic triad in G major and ends with a half cadence in the same key eight bars later. Over the course of those eight bars, we hear the melody rise and fall above a series of sustained notes in the bass prolonging the initial tonic as it works its way toward the dominant.

In this phrase, the constituent parts of the melody are particularly interesting. Look, for example, at mm. 1–2. After the initial D on beat one the melody leaps down a perfect fifth to G. It then changes direction and fills in the gap between the first two notes with stepwise motion in eighth notes. In the second measure, we hear another leap down to G, which is then repeated on the third beat. Now look at the melody in mm. 3–4. Although the pitches have changed, the rhythm and melodic contour are immediately recognizable. The melody heard in mm. 3–4 is like an echo of the opening measures. Elements of this echo are present in the second half of the phrase as well. In mm. 5–7 we find the same rhythm as m. 1, though here the eighth notes are descending by step. These linkages in rhythm and contour tie the whole melody together.

Rather than a series of disconnected ideas, we hear a cohesive melody from start to finish. The entire melodic line is held together by the small musical idea presented in mm. 1–2. We refer to such an idea as a *motive* since it is presented as the melodic motivation for what comes after. Not all musical ideas are motives, only those that are repeated in some transformed state.

Compare Example 35–1 to the following:

Example 35–2. *Ludwig van Beethoven, Piano Sonata No. 1 in F minor, (Op. 2, No. 1), I. Allegro, mm. 1–9.*

0:00 / 0:00



Like Example 35–1, a motive is presented in the opening two measures. In this case, the motive consists of a tonic arpeggio in staccato quarter notes followed by a sixteenth-note-triplet figure. The motive comes back, transformed, in mm. 3–4, here arpeggiating a V7 chord and with the triplet figure transposed up a step. Despite these changes, the listener immediately recognizes mm. 1–2 as the motivation for mm. 3–4. When the phrase continues, we hear only the second part of the motive in m. 5 and then the transposed version immediately after in m. 6. As was the case Example 35–1, the motive evolves as the phrase moves toward the cadence.

Though sounding quite different on the surface, the phrases in Example 35–1 and Example 35–2 are remarkably similar in structure. They both start with a small musical idea, a motive, in the opening bars. The motive is then repeated with different pitches but a recognizable contour. The motive continues to develop in mm. 5–8 as the phrase drives toward the cadence. This particular phrase format is known as a *sentence*.

A sentence consists of two parts. The first part of a sentence is called the *presentation*. Usually four bars long, the presentation is itself further divided into two halves. The first half of the presentation presents the listener with a brief musical idea and the second half repeats that idea. When the idea is repeated, it is almost always transformed in some way. It may, for example, have different pitches or a modified contour; the rhythm may be altered in some way; or it may be re-harmonized. Regardless of the nature of transformation, the listener will recognize it as echoing the motive from the opening bars.

The second half of a sentence is called the *continuation* for it typically continues the motivic development of the presentation. In most sentences, the continuation is the same length as the presentation, usually four bars. Although the tempo typically remains the same, the continuation seems to increase in energy as it drives toward the cadence. More often than not, the continuation will feature *fragmentation*, a breaking down of the initial idea into even smaller parts, repeated at a faster pace, and enhancing the listener's perception that the musical development is quickening.

The following diagram summarizes:

Example 35–3. Sentence form.



The individual parts are labeled to clarify the structure of the following sentence. (Note that the first four bars of the excerpt are an introduction and that the sentence does not begin until m. 5.)

Example 35–4. *Cécile Chaminade, Havanaise (Op.57), mm. 1–12.*

0:00 / 0:00



As with the examples above, the germinating idea in this sentence is a two-bar motive (mm. 5–6) consisting of a triplet figure followed by four harmonic thirds. The idea is recognizable in mm. 7–8 even though the triplet figure is harmonized in thirds and with a different contour. The motive undergoes fragmentation in the continuation: it is truncated to just the first measure of the initial idea.

Usually, the repetition alters the basic idea in some way, but this is not a requirement. In the following sentence, mm. 3–4 repeat the basic idea note for note:

Example 35–5. *Elisabetta de Gambarini, Harpsichord Sonata in D minor (Op. 1, No. 6), II. Minuetto, mm. 1–8.*

0:00 / 0:00



In other cases, the repetition may be far less recognizable. In the example below, the repetition of the basic idea switches from the right hand in mm. 1–2 to the left hand in mm. 3–4.

Example 35–6. *Johann Sebastian Bach, English Suite No. 5 in E minor (BWV 810), 5. Passepied I, mm. 1–8.*

0:00 / 0:00



Note that while most sentences are eight bars long (2 + 2 + 4), these dimensions are not universal. At slower tempos a sentence may be four bars long (1 + 1 + 2) and at faster tempos sixteen (4 + 4 + 8). In other cases, the proportions may be skewed as a result of, say, an extended continuation. In the following example, the idea and repetition are two bars each—offset metrically to begin with an anacrusis—but the extended continuation is six bars long:

Example 35–7. *Wolfgang Amadeus Mozart, Piano Sonata No. 5 in G major (K.283/189h), I. Allegro, mm. 1–16.*

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▼ Activity 35-1

Activity 35–1

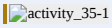
Exercise 35–1:

Question

Does the continuation portion of the sentence in Example 35–7 incorporate fragmentation of the basic idea?

Wolfgang Amadeus Mozart, Piano Sonata No. 5 in G major (K.283/189h), I. Allegro, mm. 1–16.

0:00 / 0:00



▼ Hint

Look for rhythmic or melodic elements from the first two bars in the bracketed continuation part of the phrase.

▼ Answer

Yes, the dotted-eighth-sixteenth figure from the pickup to m. 1 appears several times in the continuation. The slurred step down at the beginning of m. 5 and m. 6 is similarly related to the slurred quarter notes in mm. 1–2 and mm. 3–4.

Now consider the following example:

Example 35–8. *Maria Agata Szymanowska, Caprice sur la romance de Joconde, mm. 1–8.*

0:00 / 0:00



Like Example 35–1, Example 35–2, and Example 35–4, this excerpt is eight bars long. A small musical idea presented in the first two measures is repeated with different pitches in mm. 3–4. Elements of this idea—the three eighth notes from m. 1 and the slurred descending thirds from m. 2—are developed in mm. 5–7 before the cadence in m. 8. In this case, though, the first four bars feel more or less complete, ending with an authentic cadence of their own in m. 4. The next four bars feel less like a continuation and more like the beginning of a new—but related—phrase.

It is important to remember that many terms like “sentence,” “presentation,” and “continuation,” were developed by music theorists after the music was already written. These concepts are designed to draw out connections between different works or different parts of a single work. They were not necessarily something the composer had in mind at the time they wrote the piece. You should not, in other words, try to force a piece or passage into a category. Use these terms to the extent that they are helpful and fall back on detailed descriptions to highlight interesting features and inconsistencies.

As with our discussion of the tonal phrase model, our purpose here is not to suggest that all such passages are the same. In fact, analyzing music in this way helps to draw out those qualities that make a piece or passage unique.

▼ Activity 35-2

Activity 35–2

Analyze each of the following sentences. Identify the location and boundaries of the presentation (idea and repetition) and the continuation.

Exercise 35–2a:

Question

Cécile Chaminade, Valse No. 4 (Op. 91), mm. 9–16.

0:00 / 0:00

activity_35-2a

▼ Answer

Cécile Chaminade, Valse No. 4 (Op. 91), mm. 9–16.

0:00 / 0:00

activity_35-2a_answer

Exercise 35–2b:

Question

Sophia Dussek, Sonata in Bb major (Op. 2, No. 1), I. Allegro moderato, mm. 1–16.

0:00 / 0:00

activity_35-2b

▼ Answer

Sophia Dussek, Sonata in Bb major (Op. 2, No. 1), I. Allegro moderato, mm. 1–16.

0:00 / 0:00

activity_35-2b_answer

Exercise 35–2c:

Question

Wolfgang Amadeus Mozart, Piano Sonata No. 13 in Bb major (K.333/315c), I. Allegro, mm. 1–10.

0:00 / 0:00

activity_35-2c

▼ Answer

Wolfgang Amadeus Mozart, Piano Sonata No. 13 in Bb major (K.333/315c), I. Allegro, mm. 1–10.

0:00 / 0:00

activity_35-2c_answer

Exercise 35–2d:

Question

Ludwig van Beethoven, Piano Sonata No. 5 (Op. 10, No. 1), I. Allegro molto e con brio, mm. 1–16.

0:00 / 0:00

activity_35-2d

▼ Answer

Ludwig van Beethoven, Piano Sonata No. 5 (Op. 10, No. 1), I. Allegro molto e con brio, mm. 1–16.

0:00 / 0:00

activity_35-2d_answer

Exercise 35–2e:

Question

Joseph Haydn, String Quartet in D minor (Hob.III:43), I. Andante ed Innocentemente, mm. 1–8.

0:00 / 0:00

activity_35-2e

▼ Answer

Joseph Haydn, String Quartet in D minor (Hob.III:43), I. Andante ed Innocentemente, mm. 1–8.

0:00 / 0:00

activity_35-2e_answer

Exercise 35–2f:

Question

Frédéric Chopin, Piano Sonata No.1 (Op. 4), IV. Presto, mm. 1–8.

0:00 / 0:00

activity_35-2f

▼ Answer

Frédéric Chopin, Piano Sonata No.1 (Op. 4), IV. Presto, mm. 1–8.

0:00 / 0:00

activity_35-2f_answer

35.3 Periods

In discussing sentences, we looked at the interior structure of a phrase. But we may also look outward, to structures that contain more than just a single phrase. The excerpt below consists of two phrases in Bb major:

Example 35–9 *Maria Agata Szymanowska, 6 Marches for Piano, 1. March in Bb major, mm. 1–8.*

0:00 / 0:00

example_35-9

The two phrases in this example go together. The beginnings of the two phrases are nearly identical, leading the listener to hear them as an obvious pair. Where the phrases differ, though, is at their conclusions. The first phrase ends with an inconclusive half cadence. The second phrase ends with a much more conclusive perfect authentic cadence. If the music were to stop in m. 4, the listener would be left expecting something more.

Such a pair of phrases, where the second ends more conclusively than the first, is known as a *period*. In a period, the first, inconclusive phrase is called the *antecedent* and the second, comparatively conclusive phrase is called the *consequent*. To the listener, the effect is as though the antecedent poses a question and the consequent provides the answer.

In Example 35–9, the antecedent ended with a HC and the consequent with a PAC. This combination of cadences is common in a period, but there are other possibilities. For instance, a period may have an IAC in the antecedent followed by a PAC in the consequent.

Example 35–10. Common cadence combinations in periods.

example_35-10

Note:

Regardless of the exact types of cadences heard, the second phrase must sound *relatively* more conclusive than the first. If the first phrase ends more conclusively than the second, or if there is no substantial difference between the two phrases, the music in question will not be heard as a period. Consider the phrases in the following example:

Example 35–11. *Franz Schubert, Winterreise (D.911), 1. "Gute Nacht," mm. 7–15.*

0:00 / 0:00

example_35-11

Despite consisting of two phrases, this excerpt would be better described as a repeated phrase. The cadence in m. 15 is virtually identical to the cadence heard in m. 12. Without the antecedent/consequent relationship, the passage will not be heard as a period.

In addition to the inconclusive/conclusive relationship heard between the two cadences, a pair of phrases must sound like they go together to be heard as a period. Example 35–9 was unambiguous in this regard since the two phrases began so similarly. When the

antecedent and consequent of a period begin the same way, we call it a *parallel period*. Note that the differences between the left hand notes in m. 1 and m. 5 are not enough to dissuade a listener from hearing the two phrases as having the same beginning.

When the two phrases in a period begin in different ways, as in the following example, we call it a *contrasting period*:

Example 35–12. *Ludwig van Beethoven, Piano Sonata No. 8 (Op. 13), III. Rondo. Allegro, mm. 1–8.*

0:00 / 0:00



As with Example 35–9, the antecedent in this period ends with an inconclusive HC and the consequent with a much more conclusive PAC. Unlike Example 35–9, however, these two phrases do not begin the same way. Compare m. 1 to m. 5 including the pickups. The right hand part is quite different in these two measures and yet we still hear these phrases as halves of a larger unit. The similar arpeggio figures in the left hand, among other things, dissuade the listener from hearing the two phrases as being completely unrelated.

▼ Activity 35-3

Activity 35–3

Exercise 35–3:

Question

Does the example below show a parallel period or a contrasting period?

Elisabetta de Gambarini, Minuet in A major (Op. 2, No. 5), mm. 1–8.

0:00 / 0:00



▼ Hint

Look at the beginnings of the two phrases.

▼ Answer

This is a parallel period because the beginnings of the two phrases (m. 1 and m. 5) are identical.

The following example is a parallel period because m. 1 and m. 5 are identical. Notice, too, that the cadences are in different keys:

Example 35–13. *Elisabetta de Gambarini, Minuet in A major (Op. 2, No. 5), mm. 1–8.*

0:00 / 0:00



The antecedent in this period ends with a weak IAC in the home key of A major. The consequent begins in exactly the same way, but starts to diverge in m. 6. With the introduction of D# we hear the consequent straying from the original key, a move confirmed by the PAC in E major (the dominant key). The changing key does not affect our hearing of these two phrases as working together to form a period. Because it starts and ends in different keys, we refer to this as a *modulating period*.

The following example shows another modulating period:

Example 35–14. *Elisabetta de Gambarini, Harpsichord Sonata in F major (Op. 1, No. 3), III. Minuet, mm. 17–24.*

0:00 / 0:00

example_35-14

This period has the same harmonic structure as Example 35–13: the antecedent ends with an IAC in the home key (F major) and the consequent ends with a PAC in the dominant key (C major). In this case, however, the two phrases do not begin the same way. The melody in m. 17 features an ascending figure followed by a repeated eighth note while m. 21 begins with a rest followed by a descending sixteenth-note scale segment. This, then, is a contrasting, modulating period.

There is one more characteristic to take into account when analyzing periods. In all of the periods discussed so far, the antecedent and consequent were equal in length. Keeping that in mind, consider the following example:

Example 35–15. *Wolfgang Amadeus Mozart, Violin Sonata No. 14 in D major (K.29), II. Menuetto, mm. 1–12.*

0:00 / 0:00

example_35-15

There is nothing surprising about the antecedent in this period. It is four bars long and ends with an IAC. The consequent, on the other hand, is not four bars long. The figures in the violin part and the right hand of the piano in mm. 5–6 are repeated twice in mm. 7–10 before moving on to the cadence in m. 12. Because the lengths of the antecedent and consequent are uneven, we refer to this as an *asymmetrical period*. (In an asymmetrical period, it is most common for the consequent to be the longer of the two phrases.)

To summarize, there are three criteria used in categorizing periods:

- parallel vs. contrasting
- modulating vs. non-modulating
- asymmetrical vs. symmetrical

Since a sentence is a format for a single phrase and since a period is a pair of phrases, it is possible for a period to be comprised of two sentences:

Example 35–16. *Johann Sebastian Bach, French Suite No. 3 in B minor (BWV 814), 4. Menuet and Trio, mm. 1–16.*

0:00 / 0:00

example_35-16

In this example, the first eight bars form a sentence. The basic idea is presented in the first two measures and repeated with slight variation in mm. 3–4. The next four bars—, the continuation—lead to a half cadence in m. 8. Then, beginning in m. 9, we hear the same sentence. This time, however, the ending has been altered to modulate to D major (the relative key) and end with a perfect authentic cadence. Overall, we may describe this passage as a symmetrical, parallel, modulating period, the antecedent and consequent of which are both sentences.

▼ Activity 35-4

Activity 35–4

Analyze each of the following periods. Be sure to identify the type and location of the two phrase-ending cadences as well as the type of period: parallel or contrasting, modulating or non-modulating.

Exercise 35–4a:

Question

Maria Hester Park, Divertimento, II. Allegro spiritoso, mm. 1–8.

0:00 / 0:00

activity_35-4a

▼ Hint

Look at the phrase beginnings to determine if the period is parallel or contrasting. Look at the cadences to determine if the period modulates or not.

▼ Answer

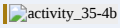
Parallel non-modulating period. (Antecedent: HC in m. 2 / Consequent: PAC in m. 4)

Exercise 35–4b:

Question

Maria Agata Szymanowska, 18 Danses de Différent Genre, Trio in Db major, mm. 1–8.

0:00 / 0:00



▼ Hint

Look at the phrase beginnings to determine if the period is parallel or contrasting. Look at the cadences to determine if the period modulates or not.

▼ Answer

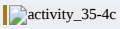
Contrasting non-modulating period. (Antecedent: HC in Db major m. 4 / Consequent: PAC in Db major in m. 8)

Exercise 35–4c:

Question

Amanda Maier, 6 Pieces for Violin and Piano, II. Allegretto con moto, mm. 13–20.

0:00 / 0:00



▼ Hint

Look at the phrase beginnings to determine if the period is parallel or contrasting. Look at the cadences to determine if the period modulates or not.

▼ Answer

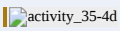
Parallel modulating period. (Antecedent: HC in E minor in m. 16 / Consequent: PAC in B minor in m. 20)

Exercise 35–4d:

Question

Elisabetta de Gambarini, Harpsichord Sonata in F major (Op. 1, No. 3), III. Minuet, mm. 1–8.

0:00 / 0:00



▼ Hint

Look at the phrase beginnings to determine if the period is parallel or contrasting. Look at the cadences to determine if the period modulates or not.

▼ Answer

Contrasting modulating period. (Antecedent: IAC in F major in m. 4 / Consequent: PAC in C major in m. 8)

Exercise 35–4e:

Question

Wolfgang Amadeus Mozart, String Quartet No. 6 in B-flat major (K.159), III. Rondo–Allegro grazioso, mm. 1–8.

0:00 / 0:00

activity_35-4e

▼ Hint

Look at the phrase beginnings to determine if the period is parallel or contrasting. Look at the cadences to determine if the period modulates or not.

▼ Answer

Parallel non-modulating period. (Antecedent: HC in Bb major m. 4 / Consequent: PAC in Bb major m. 8)

Exercise 35–4f:

Question

Sophia Dussek, Variations on Beauty in Tears, mm. 1–8.

0:00 / 0:00

activity_35-4f

▼ Hint

Look at the phrase beginnings to determine if the period is parallel or contrasting. Look at the cadences to determine if the period modulates or not.

▼ Answer

Contrasting non-modulating period. (Antecedent: HC in Bb major in m. 4 / Consequent: PAC in Bb major in m. 8)

35.4 Double periods

The following example is comprised of four phrases, all of which work together to form a cohesive sixteen-bar unit:

Example 35–17. *Sophia Dussek, Harp Sonata No. 1 in Bb major (Op. 2), II. Rondo–Allegro, mm. 1–16.*

0:00 / 0:00

example_35-17

The first two phrases (mm. 1–8) each end with a half cadence in Bb major on the second beat of the measure. The phrase-ending dominant is preceded by a pre-dominant ii6/5 in the first phrase (m. 4) and a cadential 6/4 in the second (m. 8). Beginning in m. 9, we hear the same material from the beginning returning with only slight variation. The cadence at the end of the third phrase, then, is the same half cadence heard at the end of the first. (Compare m. 12 to m. 4.) The fourth phrase, however, is slightly different. Instead of continuing to echo the opening phrases, the fourth phrase begins to diverge. (Compare m. 15 to m. 7.) This divergence leads to a PAC in m. 16, the only authentic cadence in the entire passage.

The return of the opening melody in m. 9 invites the listener to hear this passage in two eight-bar parts. In this hearing, the first eight bars act as an antecedent and the second eight bars as a parallel consequent. The entire sixteen-bar passage, then, may be heard as a period. A normal period, though, is comprised of just two phrases. Since there are four phrases in this period, we refer to it as a *double period*.

The following example shows another double period, this time in Eb major:

Example 35–18. *Friedrich Kuhlau, Piano Sonatina in G major (Op. 20, No. 2), mm. 1–16.*

0:00 / 0:00

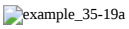


Like Example 35–17, this passage consists of four four-bar phrases. Also like Example 35–17, it is possible to hear this passage in eight-bar segments—though here the cadences in m. 4 and m. 12 are somewhat more pronounced. The first eight bars consist of two phrases, with an IAC in m. 4 and a HC in m. 8. The next eight bars are identical until m. 14, where the music is changed to lead to a conclusive PAC in m. 16. Overall we may hear this excerpt as a double period: a two-phrase antecedent in the first half with a two-phrase consequent in the second half.

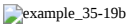
The following table summarizes the cadence schemes of the double periods shown above. (These are the two most common formats for a double period.

Example 35–19. Common double period cadence schemes.

a.



b.



Note: The term “double period” can be somewhat misleading since it seems to imply the presence of *two* periods. Looking at Example 35–17, one might be tempted to make the argument that the second of the four cadences is somewhat stronger than the first due to the presence of a cadential 6/4 chord. The first eight bars by themselves, then, could be heard as a period. The third and fourth phrases—ending with an HC and PAC, respectively—would form a second period. Heard this way, the overall passage is a period, the antecedent and consequent of which are both themselves periods.

One would have a harder time making this same argument about Example 35–18, since the IAC in m. 4 inherently sounds more resolved than the half cadence in m. 8. It is better, then, to think of the word “double” in the term “double period” as an indication that both the antecedent and consequent each contain two phrases.

▼ Activity 35-5

Activity 35–5

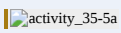
Identify the four phrase-ending cadences in each of the following double periods.

Exercise 35–5a:

Question

Sophia Dussek, Harp Sonata No. 2 in G major (Op. 2), III. Rondo–Allegro moderato, mm. 1–16.

0:00 / 0:00



▼ Hint

Listen for moments of melodic/harmonic closure and look at the outer voices.

▼ Answer

Sophia Dussek, Harp Sonata No. 2 in G major (Op. 2), III. Rondo–Allegro moderato, mm. 1–16.

0:00 / 0:00

activity_35-5a_answer

Exercise 35–5b:

Question

Ludwig van Beethoven, Piano Sonata No. 12 (Op. 26), I. Andante con Varizione, mm. 1–16.

0:00 / 0:00

activity_35-5b

▼ Hint

Listen for moments of melodic/harmonic closure and look at the outer voices.

▼ Answer

Ludwig van Beethoven, Piano Sonata No. 12 (Op. 26), I. Andante con Varizione, mm. 1–16.

0:00 / 0:00

activity_35-5b_answer

Exercise 35–5c:

Question

Sophia Dussek, Harp Sonata No. 2 in G major (Op. 2), II. Allegro, mm. 1–16.

0:00 / 0:00

activity_35-5c

▼ Hint

Listen for moments of melodic/harmonic closure and look at the outer voices.

▼ Answer

Sophia Dussek, Harp Sonata No. 2 in G major (Op. 2), II. Allegro, mm. 1–16.

0:00 / 0:00

activity_35-5c_answer

While the cadence schemes listed in Example 35–19 are the most common for a double period, there are other possibilities. Consider the following example:

Example 35–20. *Franz Schubert, 4 Impromptus (D.935), No. 2 in A-flat Major, mm. 1–16.*

0:00 / 0:00

example_35-20

In this case, we hear three phrases ending with IACs followed by a fourth ending with a PAC. Compared to the IAC in m. 8, the PAC in m. 16 sounds much more resolved and so this passage fits our definition of a double period.

Identifying cadences is an essential part of formal analysis. In this regard, the two examples shown above are clear. In some cases, however, there are different ways of hearing a single passage of music. Listen to the following example and count the number of cadences you hear:

Example 35–21. *Theresia Demar, Fandango et Landon Portugais varié, mm. 43–50.*

0:00 / 0:00

example_35-21

It is possible to hear this passage as containing just two cadences, each of which is signaled by half-note suspensions: a HC in Bb major in m. 4 and a PAC in the same key in m. 8. In this hearing, the excerpt would be considered a period with a four-bar antecedent and a four-bar consequent. It is also possible to hear this passage as being comprised of *four* phrases, each of which begins with a three-note pickup—the F–G–A eighth notes at the end of m. 42, m. 44, m. 46, and m. 48. In this hearing, the excerpt would be considered a double period with half cadences in m. 42 and m. 44 in addition to the cadences mentioned earlier. In a sense, the distinction between these two hearings is inconsequential. In both cases, the overall passage is heard as a period. Whether or not this is an example of a double period is a matter of subjective hearing.

Now consider the following example. Is this a double period?

Example 35–22. *Josephine Frances L. Hummell, Favorite Waltzes, Collection 4, 7. Spanish Waltz, mm. 1–16.*

0:00 / 0:00

example_35-22

Like the examples shown above, this excerpt contains four phrases: HC (m. 4), PAC (m. 8), HC (m. 12), PAC (m. 16). One might argue that this is *not* a period since both eight-bar halves end with equally conclusive cadences. In this hearing we would describe the passage as consisting of two separate but related periods, one after another. On the other hand, one might also argue that this passage *is* a (double) period. In this hearing, various details such as the lower register of the melody, denser chords, and descending melodic motion in both hands at the cadence make mm. 9–16 sound slightly more conclusive. Both of these arguments are valid, and rather than become overly preoccupied with categorization, you are encouraged to instead focus on the details as they appear in the music, for this is often what makes a piece unique and engaging.

35.5 Summary

The term *form* refers to the way a musical composition is structured and organized. Although all musical dimensions contribute to our experience of form, in analyzing this aspect of music we are primarily concerned with the interaction of thematic and harmonic content—of melodies and the way they work together with harmonic functions and key structures. In tonal Western art music, form is conceived as being hierarchical in nature, with small elements combining to create larger and larger units up to the level of an entire composition. *Phrases* occupy one of the intermediate levels of this hierarchy: we may observe both the interior parts of a phrase as well as the way phrases work in and with the surrounding music.

A *sentence* is a type of phrase that follows a particular thematic plan. A typical sentence begins with a *motive*, a small musical idea which will undergo various transformations. This idea is then repeated, usually with some variation in contour, rhythm, voicing, or harmonization. The idea and repetition together are referred to as the *presentation*, which comprises the first half of a sentence. The second half of a sentence is called the *continuation*, for it typically continues both the phrase and, in most cases, the development of the motive. The continuation portion of a sentence frequently includes *fragmentation*, a more rapid articulation of some recognizable element of the initial idea, heightening the dramatic energy of the phrase as it drives toward the cadence.

Looking beyond the scope of just a single phrase, we see that phrases can combine to form a *period*: a pair of phrases in which the second ends more conclusively than the first. The relatively inconclusive first phrase of a period is known as the *antecedent*. It

usually ends with a HC or IAC. The more conclusive second phrase of a period is known as the *consequent*. It usually ends with a strong authentic cadence, in most cases a PAC though an IAC is sometimes used instead. Not all pairs of consecutive phrases form periods. If the second of two phrases ends *less* conclusively than the first or if the two endings are equally conclusive, the pair will not be heard as a period.

Periods are categorized according to several criteria. If the beginnings of the antecedent and consequent are thematically similar, they are said to form a *parallel period*. If the phrase beginnings are different, they are said to form a *contrasting period*. Some periods stay in a single key throughout while other, *modulating periods* begin in one key and end in another. In most periods, the antecedent and consequent are more or less equal in length; in an *asymmetrical period*, one of the phrases (usually the consequent) is longer than the other. A *double period* is one in which the antecedent and consequent are each comprised of two phrases.

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4.2: Binary Form

36.1 Introduction

As discussed in Chapter 35, we may think of form in tonal Western art music as being hierarchically constructed. Notes may combine to form motives, motives may evolve and combine to form phrases, phrases may combine to form periods or double periods, and so on. In many cases, we can trace this combining of musical elements all the way to the highest level of the formal hierarchy: a complete composition.

In this and the following chapters, we will discuss several full-piece forms. As with such smaller forms as phrases and periods, which comprise only a fraction of a composition, we will see that there are numerous variations on each form having to do with the key plan (harmonic structure) and layout of various melodic content (thematic design). We will begin with *binary form*, one of the most common full-piece forms, particularly for shorter compositions.

36.2 Binary form overview

The following example shows a complete composition.

Example 36–1. *Christian Petzold, Minuet in G major (from the Notebook for Anna Magdalena Bach, BWV Anh. 114).*

0:00 / 0:00

- example_36-1_0001
- example_36-1_0002
- example_36-1_0003
- example_36-1_0004

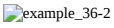
Note: Note that all of the labels identifying cadences in Example 36–1 indicate the type of cadence as well as the current key and the relation of that key to the home key. The first cadence, for example, is a half cadence in G major, the home key (I) whereas the cadence in m. 20 is a half cadence in D major, the dominant key (V).

We hear a motive in the first two bars of this piece. This motive is repeated in mm. 3–4, transposed and with a slightly different contour. The motive is truncated in the following measures and repeated three more times with an inverted contour as the phrase drives toward a half cadence in m. 8. To put it succinctly, these opening eight bars form a sentence. In mm. 9-16, we hear the sentence again but with the half cadence replaced by a PAC in the home key. Taken together, the two sentences found in mm. 1–16 form a parallel period.

After a repeat of mm. 1–16, we hear something new. This phrase begins in G major, but ends with a HC in the dominant key (D major) in m. 20. The move to the dominant is confirmed by a PAC in D major four bars later. These two phrases (mm. 17–24) constitute another period, although this time the phrases are contrasting and only four bars in length. The remaining measures present another contrasting period with the antecedent and consequent ending on a HC and PAC, respectively, both in the home key. After these two smaller periods repeat together as a unit, we have reached the conclusion of the piece.

The example below provides summarizing diagram of Example 36–1:

Example 36–2. Form diagram of *Christian Petzold, Minuet in G major (from the Notebook for Anna Magdalena Bach, BWV Anh. 114).*



Note: In diagrams such as the one shown above, we use capital letters (A, B, C, etc.) to label large-scale sections. When it becomes necessary to describe finer details, we will use lowercase letters (a, b, c, etc.) to label sub-sections. If a section or sub-section reappears later in a piece, it will be labeled with the same letter as the original. If a section or sub-section comes back in an altered but recognizable form, we will indicate that with one or more prime symbols (A′, A″, etc.). (Other texts use superscript numbers instead of prime symbols: A^1, A^2, etc.)

At the highest level, the piece shown in Example 36–1 is divided into two sections. This is made clear in several ways. The first sixteen bars form a cohesive unit—a period made of two eight-bar sentences. The next sixteen bars, on the other hand, are thematically contrasting and are therefore set off from that which comes before them. Furthermore, each of these sixteen bar spans

is repeated independently from the other. Visually, this is made very clear on the score with the double bar lines and repeat symbols.

Pieces such as this are said to be in *binary form*—the prefix *bi–* specifying that there are two sections. The repeat pattern in Example 36–1 is standard: in a binary form the first and second sections are almost always repeated independently. Because of this, the two large-scale sections are sometimes called *reprises* and some theorists and teachers use the term *two-reprise form* instead of *binary form*.

Note: Students sometimes confuse periods and binary forms since both are comprised of two parts. The distinction between the two is one of scale. The term "period" refers to a short passage of music consisting of just two phrases (or four in the case of a double period). The term "binary," on the other hand, is typically used to refer to the form of an entire composition, likely consisting of many more than two or four phrases. A piece in binary form can—and often will—contain one or more periods, but it would be nonsensical to say that a period contains one or more binary forms.

36.3 Harmonic structure

When discussing the harmonic structure of a binary form, we are concerned primarily with how each section ends relative to the home key. If a section ends conclusively—that is, with an authentic cadence—in the home key it is said to be *tonally closed* since it gives the listener a sense of harmonic closure. If a section ends with an inconclusive cadence—such as a half cadence—or if it ends in some key other than the home key, it is said to be *tonally open* since it leaves the listener with a sense of open-endedness. The A section of the piece shown in Example 36–1 is tonally closed because it concludes with a PAC in G major, the home key.

In both of the examples below, the opening section is tonally closed:

Example 36–3 *Franz Schubert, 38 Waltzes, Ländler and Ecossaises (D.145), Ländler No. 1 in Eb major*.

0:00 / 0:00

example_36-3

Example 36–4. *Maria Agata Szymanowska, 18 Danses de Différent Genre, Polonoise No. 2 in E minor*.

0:00 / 0:00

example_36-4

Example 36–3 begins in Eb major and the first section ends conclusively with a PAC in the home key. The first section in Example 36–4 follows suit, beginning and ending conclusively in E minor. When a binary form begins with a tonally-closed first section, it is said to be a *sectional binary*. The word "sectional" indicates that since it is tonally closed, the opening section could exist as a standalone piece since the vast majority of tonal Western art music begins and ends in the same key.

Note: Notice that the very beginning of the second section of Example 36–4 seems to be in the key of G major, the relative of E minor. This has no bearing on our identification of this piece as a sectional binary. In determining whether or not a binary form is sectional, one is concerned with only the first section.

Now compare Example 36–3 and Example 36–4 to the following example:

Example 36–5. *Ludwig van Beethoven, German Dance in C major (WoO 13, No. 10)*.

0:00 / 0:00

example_36-5

In this binary form, the first section is tonally open. It begins in C major and ends with a PAC, but the cadence in m. 8 is in a different key. When a binary form begins with a tonally-*open* first section it is said to be a *continuous binary*. In this case, the opening section modulates to the dominant key (G major).

Continuous binary forms are more common than sectional binary forms. An open-ended first section invites the listener to expect more music and the piece as a whole is more coherent. The modulation from C major to G major in Example 36–5 is typical: the vast majority of major-key continuous binaries modulate to the dominant.

Note: A half cadence is considered tonally open since it does not project a sense of harmonic closure. A binary form in which the opening section ends on a half cadence would therefore be considered continuous. The following piece provides an example:

Example 38–6. *George Frideric Handel, Minuet in D major, (HWV A15.4).*

0:00 / 0:00



When a continuous binary is set in a minor key, on the other hand, there are two common modulatory destinations. The opening section might modulate to the relative major, as in the following example:

Example 36–7. *George Frideric Handel, Minuet in D minor, (HWV 462).*

0:00 / 0:00

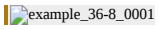
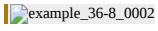


Here, the tonally-open first section begins in D minor and ends with a PAC in F major. The fact that D minor and F major have the same key signature allows for a very smooth transition into the new key.

The other common modulatory destination for the first section of a minor-key continuous binary is the minor dominant. Consider the following example:

Example 36–8. *Johann Sebastian Bach, French Suite No. 1 in D minor (BWV 812), Menuet I.*

0:00 / 0:00

- 
- 
- 
- 
- 

In this case, the opening section begins in D minor and ends with a PAC in A minor.

Note: There is a C# in m. 8, making a major triad out of what would otherwise be minor. This should not be interpreted as an indication of a modulation to the *major* dominant key. The major dominant of a minor key is not a closely-related key. (Consider the keys in question here: D minor has one flat in the key signature whereas A major has three sharps, a difference of four accidentals! A minor, on the other hand, shares six of its seven scale degrees with D minor.) Instead of hearing this as the tonic of a major key, the C# should be considered a Picardy third. The C§s in the preceding bars support this hearing.

You may have noticed that unlike all of the other examples shown above, the second large-scale section of Example 36–8 (mm. 9–24) is larger than the first large-scale section. Despite the number of evenly-divided examples shown in this chapter, binary forms with a longer second section are actually much more common.

You may have also noticed that the piece passes through F major (the relative major) on its way back to home key. Composers frequently include a small passage in a third key in the middle of a longer second section. This third key is not as structurally significant as the two keys heard before it. It is more of a stepping stone on the way back to the tonic than a foundational key area. The key scheme seen here—with a short passage in the relative major—is common for minor-key binaries that modulate to the minor dominant in the first section.

In continuous binaries that modulate to the relative major, you will sometimes see a brief modulation to the minor dominant in this same location. The following example illustrates:

Example 36–9. *Johann Sebastian Bach, Suite in A minor (BWV 818), II. Courante.*

0:00 / 0:00

- example_36-9_0001
- example_36-9_0002
- example_36-9_0003
- example_36-9_0004
- example_36-9_0005

Likewise, major-key continuous binaries are often found passing through the relative minor on their way back to the home key:

Example 36–10. *George Frideric Handel, Minuet in F major (HWV 520).*

0:00 / 0:00

example_36-10

The following tables summarize the most commonly-encountered harmonic structures in continuous binary forms:

Example 36–11. Typical harmonic structure of major-key continuous binary forms.

example_36-11

Example 36–12. Typical harmonic structure of minor-key continuous binary forms.

a. modulation to relative major

example_36-12a

b. modulation to minor dominant

example_36-12b

▼ Activity 36-1

Activity 36–1

Analyze each of the following binary forms and determine whether it is sectional or continuous.

Exercise 36–1a:

Question

Is the following binary form sectional or continuous?

Maria Agata Szymanowska, 6 Minuets, No. 4 in G minor.

0:00 / 0:00

- activity_36-1a_0001
- activity_36-1a_0002
- activity_36-1a_0003
- activity_36-1a_0004
- activity_36-1a_0005
- activity_36-1a_0006

▼ Hint

Does the first section end conclusively in the home key?

▼ Answer

This is a sectional binary form in G minor. The first section ends with a PAC in the home key.

Exercise 36–1b:

Question

Is the following binary form sectional or continuous?

George Frideric Handel, Minuet in G major, (HWV A15.2).

0:00 / 0:00

- activity_36-1b_0001
- activity_36-1b_0002
- activity_36-1b_0003
- activity_36-1b_0004

▼ Hint

Does the first section end conclusively in the home key?

▼ Answer

This is a continuous binary form. The first section ends with a PAC in the dominant key.

Exercise 36–1c:

Question

Is the following binary form sectional or continuous?

Joseph Haydn, Keyboard Sonata in G major (Hob.XVI:27), II. Trio.

0:00 / 0:00

- activity_36-1c_0001
- activity_36-1c_0002
- activity_36-1c_0003
- activity_36-1c_0004
- activity_36-1c_0005

▼ Hint

Does the first section end conclusively in the home key?

▼ Answer

This is a continuous binary form. The first section ends with a PAC in the (minor) dominant key.

Exercise 36–1d:

Question

Is the following binary form sectional or continuous?

Johann Sebastian Bach, Cello Suite No. 3 in C major (BWV 1009), V. Bourrée I.

0:00 / 0:00

- activity_36-1d_0001
- activity_36-1d_0002
- activity_36-1d_0003
- activity_36-1d_0004
- activity_36-1d_0005
- activity_36-1d_0006
- activity_36-1d_0007

▼ Hint

Does the first section end conclusively in the home key?

▼ Answer

This is a continuous binary form. The first section ends with an authentic cadence in the dominant key.

36.4 Thematic design

In addition to the harmonic structure, one must consider the melodic content—as well as its relationship to the underlying key plan—when analyzing a binary form. Here we are primarily concerned with the presence of any repeated material from the first large-scale section in the second large-scale section.

Consider the following example and take note of the important event that occurs in m. 17:

Example 36–13. *Joseph Haydn, Partita in Bb major (Hob.XVI:2).*

0:00 / 0:00

- example_36-13_0001
- example_36-13_0002
- example_36-13_0003
- example_36-13_0004
- example_36-13_0005

In this continuous binary, the first large-scale section (mm. 1–12) is a modulating period—it begins in Bb minor and ends in the relative major (Db major). After the repeat we hear four bars of contrasting material. Then, in m. 17, the opening material comes back in the original key. When the opening material of a binary form reappears toward the end of the second section, we call it a *rounded binary*.

Notice that when the opening material comes back, the melody has been adjusted. Had the first section been copied note for note into the end of the second section, the piece would modulate again and would not end in the home key. Composers circumvent this by using one or more of a number of strategies. In this case, mm. 17–22 are identical to mm. 1–6. Then, mm. 23–28 simply take mm. 7–12 and transpose them up a sixth so that they stay in the home key.

A continuous rounded binary, then, has a two-part harmonic structure and a three-part thematic structure. The two parts of the harmonic structure correspond with the large-scale sections: the first section moves away from the tonic and the second section returns to the tonic. The first large-scale section also corresponds with the first part of the thematic structure. The second and third part—the contrasting material after the double barline and the return of the opening material—combine to form the second large-scale section.

The following example shows another continuous rounded binary:

Example 36–14. *Elisabetta de Gambarini, Harpsichord Sonata in G major (Op. 1, No. 4), I. Tempo di Gavotta*.

0:00 / 0:00

- example_36-14_0001
- example_36-14_0002

- example_36-14_0003
- example_36-14_0004
- example_36-14_0005

In this case, we find the return of the opening material beginning in m. 25. Compare this moment to the beginning, measure by measure. The material heard in m. 25 corresponds with that of m. 1, but after that the two passages begin to diverge until mm. 30–32, which correspond with mm. 10–12, the conclusion of the first section. Unlike Example 36–13, we do not hear the entire opening section return. Even with this truncated and modified repetition, however, this is still considered a rounded binary. The most important criterion in identifying a rounded binary is whether or not the listener recognizes a return of the opening material in the original key.

The following diagram shows the harmonic and thematic structure of a rounded binary. Note that A′ (A prime) is used to designate the return of the opening material:

Example 36–15. Typical harmonic structure of rounded binary forms.

example_36-15

When the opening material does *not* return in the second section, a piece is said to be in *simple binary form*. Consider the following example:

Example 36–16. *Wolfgang Amadeus Mozart, Minuet in C major (K.15f).*

0:00 / 0:00

example_36-16

In this continuous binary form, the second section consists of entirely new material. There are similarities between the two sections, of course, but we never hear the opening measure return, let alone in the original key. This piece is, therefore, in continuous *simple* binary form.

In the following piece, we *do* hear the opening material come back, but not in the original key:

Example 36–17. *George Frideric Handel, Passepied in A major (HWV 560).*

0:00 / 0:00

example_36-17

Comparing the two sections of this continuous binary we can see a lot of similarities. The opening thematic material certainly returns with the pickup to m. 9, but since it is there written in a different key it does not qualify this piece as a rounded binary. Instead, like Example 36–16, this is a continuous simple binary.

The following table summarizes simple binary forms:

Example 36–18. Typical structure of simple binary forms.

a. Opening material returns in a different key:

example_36-18a

b. Opening material does not return at all:

example_36-18b

In the following example you will hear material from the first section come back toward the end of the second section, but this is not a rounded binary:

Example 36–19. *Maria Agata Szymanowska, Polonaise in C major.*

0:00 / 0:00

- example_36-19_0001
- example_36-19_0002
- example_36-19_0003
- example_36-19_0004
- example_36-19_0005

In this sectional binary, we never hear the material from mm. 1–4 return in the second section. We do, however, hear the closing gesture from the first phrase (mm. 5–8) return to conclude the second section (mm. 13–16). This does not qualify as a rounded binary since the opening measures do not come back. Instead, a piece is said to be a *balanced binary* when the two sections *end* with the same material.

Note that in Example 36–19 the closing phrase from the first section is repeated note for note at the end of the second section. In the case of a continuous binary, however, this repeated material will appear in a slightly altered form the second time around since the piece needs to end in the home key. The following piece provides an example:

Example 36–20. *Ludwig van Beethoven, 6 Minuets (WoO 10), No. 6 in C major (Trio).*

0:00 / 0:00

example_36-20

This continuous binary is in C major and modulates to G major in the first section. The material heard in mm. 5–8 returns in mm. 13–16, transposed and slightly altered so as to end in the home key. This, too, is a *balanced binary*.

Note: Some of the terminology here can become a little bit confusing. We used the word “balanced” in Chapter 35 as a synonym for “symmetrical,” referring to periods in which the two phrases were of equal length. Here the word refers to they way the two sections of a binary form conclude and has nothing to do with the length of the two sections.

Unfortunately, discussions of form tend to be rather inconsistent. The terminology you encounter in one book will often be noticeably different from the terminology found in another book. Much of this inconsistency may be attributed to the creative impulses of the composers themselves—many of whom strove for innovation over consistency—and to generations of music theorists who struggled to keep up! Your best course through this sometimes murky territory is to default to descriptions of the music as it appears instead of trying to force creative work into somewhat artificial categories.

▼ Activity 36-2

Activity 36–2

Analyze each of the following binary forms and determine whether it is rounded, balanced, or simple.

Exercise 36–2a:

Question

Is the following binary form rounded, balanced, or simple?

Maria Agata Szymanowska, 6 Minuets, No. 4 in G minor.

0:00 / 0:00

- activity_36-2a_0001
- activity_36-2a_0002
- activity_36-2a_0003
- activity_36-2a_0004
- activity_36-2a_0005
- activity_36-2a_0006

▼ Hint

Does any of the thematic material from the opening section come back at the end?

▼ Answer

This is a balanced binary form. The second half of the first section (mm. 9–16) comes back at the end of the piece (mm. 25–32).

Exercise 36–2b:

Question

Is the following binary form rounded, balanced, or simple?

George Frideric Handel, Minuet in G major, (HWV A15.2).

0:00 / 0:00

- activity_36-2b_0001
- activity_36-2b_0002
- activity_36-2b_0003
- activity_36-2b_0004

▼ Hint

Does any of the thematic material from the opening section come back at the end?

▼ Answer

This is a simple binary form. None of the thematic material from the opening section comes back at the original pitch level in the second section.

Exercise 36–2c:

Question

Is the following binary form rounded, balanced, or simple?

Joseph Haydn, Keyboard Sonata in G major (Hob.XVI:27), II. Trio.

0:00 / 0:00

- activity_36-2c_0001
- activity_36-2c_0002
- activity_36-2c_0003
- activity_36-2c_0004
- activity_36-2c_0005

▼ Hint

Does any of the thematic material from the opening section come back at the end?

▼ Answer

This is a rounded binary form. The entire first section (mm. 1–8) comes back at the end (mm. 18–24), recomposed so as to close the piece in the home key.

Exercise 36–2d:

Question

Is the following binary form rounded, balanced, or simple?

Johann Sebastian Bach, Cello Suite No. 3 in C major (BWV 1009), V. Bourrée I.

0:00 / 0:00

- activity_36-2d_0001
- activity_36-2d_0002
- activity_36-2d_0003
- activity_36-2d_0004
- activity_36-2d_0005
- activity_36-2d_0006
- activity_36-2d_0007

▼ Hint

Does any of the thematic material from the opening section come back at the end?

▼ Answer

This is a simple binary form. None of the thematic material from the opening section comes back at the original pitch level in the second section.

36.5 Introductions and codas

Very frequently you will encounter small passages of music that do not participate in the main body of a form. Take the following piece, for example:

Example 36–21. *Franz Schubert, 36 Originaltänze (D.365), No. 34 in F major*.

0:00 / 0:00

example_36-21

As the double bar lines and repeat symbols make clear, this piece is in binary form. The first section, however, does not start right at the beginning. Instead, this piece begins with an *introduction*, a small segment of music designed to establish the key, meter, tempo, etc., preparing the listener for the beginning of the first main section. The presence of an introduction does not affect the status of this piece as a binary form.

In the following example we find a similar passage, this time at the end of the piece:

Example 36–22. *Maria Agata Szymanowska, 18 Danses de Différent Genre, Waltz in F major*.

0:00 / 0:00

- example_36-22_0001
- example_36-22_0002
- example_36-22_0003
- example_36-22_0004
- example_36-22_0005
- example_36-22_0006

In this sectional binary, the second large-scale section ends conclusively in m. 33. The two bars after the double barline re-articulate the cadence that closes the piece. A small passage such as this, which echoes the closing cadence, is known as a *coda*. Like the introductory measures seen in Example 36–21, the coda has no bearing on the status of this piece as a binary form.

36.6 Summary

Many composers, performers and listeners conceive of form in tonal Western art music as being hierarchical in nature. Small elements combine to form larger and larger elements all the way up to the highest level: a complete composition. Phrases, for example, can combine in various configurations to create large-scale sections of a piece. When a piece divides into two large scale sections it is said to be in *binary form*.

With regards to harmonic structure of a binary form, we are concerned primarily with whether or not the first section ends conclusively in the home key. If the first section is *tonally closed*, it is a *sectional binary*; if the first section is *tonally open*, it is a *continuous binary*. Of these two types of binary forms, the latter is the more common. If a continuous binary is in a major key, it will very likely modulate to the dominant; if it is in minor it will most likely modulate to either the minor dominant or the relative major. Some continuous binaries—particularly those with a longer second section—may also pass through a third key area on their way back to the home key.

When considering the thematic design of a binary form, we are primarily concerned with whether or not the opening material from the first large-scale section reappears in the second. If the opening material returns in the original key somewhere toward the end of the second section, the piece is said to be a *rounded binary*. If the opening material does not reappear in the second section—or if it reappears but in the wrong key—the piece is said to be a *simple binary*. If the closing material from the first section is also used to close the second section, the piece is said to be a *balanced binary* (even if this music is transposed or altered in some other way to end in the home key).

Finally, some pieces have short passages of music that do not participate in the main body of the form: an *introduction* if it is at the beginning and a *coda* if it is at the end. Generally speaking, such inclusions do not affect the form of the piece overall.

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4.3: Ternary and Rondo Forms

37.1 Introduction

In our discussion of rounded binary form (Chapter 36) we saw how music from the beginning of a composition may come back later on in the piece with new purpose. For many listeners, this can be a particularly enjoyable event, combining the satisfaction of recognition with the excitement of re-contextualizing familiar material. In this chapter, we will discuss several formal designs in which the return of the opening music is the foundational principle.

We will begin with *ternary form*, a three-part form where the opening section comes back more or less intact after a contrasting middle section. From there we will move on to *rondo forms* where the opening section is repeated two or more times, each after a different contrasting passage.

37.2 Ternary form

As you listen to the sonata movement below, keep the following questions in mind:

1. How would you characterize the opening melody?
2. Where does the opening melody end?
3. Does the opening melody return later in the piece?
4. If so, how would you characterize the intervening material?

Example 37–1. *Robert Schumann, Kinder Sonate No. 1 in G major (Op. 118), I. Allegro.*

0:00 / 0:00

- example_37-1_0001
- example_37-1_0002
- example_37-1_0003
- example_37-1_0004
- example_37-1_0005
- example_37-1_0006
- example_37-1_0007
- example_37-1_0008
- example_37-1_0009
- example_37-1_0010

In this piece, the opening section is 14 bars long and ends with a PAC in the home key of G major. A double barline at the end of m. 14 provides a visual cue that something is about to happen and the material that follows has a remarkably different character. Whereas the opening theme is serene and smooth, flowing from beginning to end without a single rest, the thematic material beginning in m. 15 seems stilted, is more forceful, and has sharper attacks. The change of key to E minor further emphasizes this contrast. When the opening material returns with the pickup to m. 35, the moment stands out, not just because of the reappearance of a familiar melody, but by virtue of the dramatically different material heard in between. The piece closes with a replaying of the entire opening section (compare mm. 1–14 with mm. 35–50), differing only in the final bars, where the music has been modified to provide a more conclusive ending. Just like the opening section, the closing section begins and ends conclusively in G major.

The following table summarizes the form of this movement:

Example 37–2. Form diagram of *Robert Schumann, Kinder Sonate No. 1 in G major (Op. 118), I. Allegro*.

example_37-2

This piece is in *ternary form*. Whereas the prefix “bi-” in “binary form” indicates that there are two distinct sections, the prefix “ter-” indicates that a ternary form has *three* distinct sections: || A || B || $A^{(\prime)}$ ||. There are, however, several additional qualifications pertaining to the thematic and harmonic structure of such a piece.

The degree of contrast between the A sections and the B section heard between them is typical of a ternary form. Unlike binary forms—which have some moderately contrasting material but are usually more or less thematically unified—ternary forms tend to

have dramatically different middle sections. The B section will often be set off from the A sections around it and will feature easily noticeable differences in rhythm, meter, tempo, articulation, and dynamics.

Note: ABA and ABA′ are the most common ternary forms. There are, however, other three-part forms. A piece may, for example, proceed through three contrasting sections (ABC) or through three different versions of a single section (AA′A″). Alternatively, the repeat of the opening section may appear before the second section (AAB) or the second section may repeat to end the piece (ABB). Be aware, though, that since these alternative formats are less common, many texts and teachers limit their definition of ternary form to just ABA and ABA′.

With regards to the harmonic structure of a ternary form, there are two important characteristics to keep in mind. First, the A section tends to be tonally closed. (Compare this with the opening section of a binary form which may be tonally closed but is more frequently tonally open.) When a ternary A section returns, its harmonic structure does not need to be adjusted to end the piece in the home key. The B section may be tonally closed or open. When the B section is tonally open, there may be a short *transitional* or *bridging* passage that connects back to the home key for the return of A. In Example 37–1, on the other hand, the B section ends with a strong E-minor PAC in m. 34, and the concluding A section starts immediately after.

Second, the key of the middle section is often selected for the sake of emphasizing the contrast described above. Ternary form B sections sometimes appear in the same closely-related keys typically found in binary forms: the dominant or relative. Often, however, they are set in some less predictable key. Historically speaking, ternary form developed later than binary form. Many composers—particularly those working in the nineteenth century and beyond—favored harmonically adventurous key areas and this preference is evident in many ternary forms from the era.

The following table lists some of the possible key areas of the middle section in a ternary form:

Table 37–1. Common key areas for ternary form middle sections.

	Traditional:	**More adventurous:**
Major keys:	V (dominant)	i (parallel minor) IV (subdominant) iv (minor subdominant) vi (submediant/relative) bVI (flat submediant)
Minor keys:	III (mediant/relative) v (minor dominant)	I (parallel major) iv (subdominant) VI (submediant)

Overall, Example 37–1 passes through three keys: it begins with a tonally-closed A section in G major, moves to a contrasting B section in E minor (also tonally closed in terms of its own tonality), and concludes with the same A section heard at the beginning. You may have noticed, however, that these are not the only keys heard in this piece. Within each A section, we also hear a brief passage in D major. The following example shows the opening section with each of the five cadences labeled by type and key:

Example 37–3. *Robert Schumann, Kinder Sonate No. 1 in G major (Op. 118), I. Allegro, mm. 1–14.*

0:00 / 0:00

- example_37-3_0001
- example_37-3_0002
- example_37-3_0003

Both A sections begin with a four-bar period in G major: the antecedent ends with a HC on the third beat of m. 2 and the consequent ends with a PAC on the third beat of m. 4. After this, we find that all of the Cs have become C#s, suggesting a move to the dominant which is subsequently confirmed by an IAC in m. 10. This move to D major is fleeting: the opening period returns with the pickup to m. 11 and the A section ends in the home key of G major.

In a sense, the form of the A section resembles the form of the whole movement but on a smaller scale. The contrasting D-major material in mm. 5–10 is framed by tonally closed sections in G major, like a miniature ternary form! Given that the individual sections of a ternary form are often tonally closed and could work as standalone pieces, it is not uncommon for one or both of them

to have a recognizable formal design of their own. As discussed in Chapter 36, form in tonal Western art music tends to be hierarchically structured.

Note: Ternary form is often confused with rounded binary form. This is quite reasonable since on the surface both forms look very similar. In both cases, the opening material comes back in the original key at the end of the second section. There are, however, several important distinctions that will help you in arriving at your analytical conclusions:

- Most binary-form compositions are continuous, meaning that the opening section does not end conclusively with an authentic cadence in the original key and is therefore tonally open. When such an opening returns at the end of the second section, it will need to be recomposed to ensure that the piece ends in the home key. In a ternary form, the opening section is almost always tonally closed. When it comes back at the end of the piece it will not require substantial revision.
- In most binary forms, each of the two sections is played twice—first the opening section, then the entire second section including both the contrasting material and the return of the opening: ||: A :||: B $A^{(\prime)}$:||. In a ternary form, the three sections are more independent. If the B section repeats, it will repeat by itself, separate from the $A^{(\prime)}$ that follows.
- The individual parts of a rounded binary are much more thematically unified than those found in a typical ternary form. If the material in a B section exhibits a dramatically different character from the opening material heard before it, the piece is likely in ternary form.

Of course, ambiguous cases do exist. A sectional rounded binary with no repeat signs might easily be heard as a ternary form. (Some theorists require that the opening section be tonally open for a piece to be considered binary for this very reason.) Fortunately for the analyst, these pieces are less commonly encountered.

Now consider the following example, another ternary form. This piece features much more adventurous chromaticism than the movement heard in Example 37–1, even in the A sections. Still, the ternary form is immediately apparent.

Example 37–4. *Dora Pejačević, Walzer-Capricen (Op. 28), 9. Moderato.*

0:00 / 0:00

- example_37-4_0001
- example_37-4_0002
- example_37-4_0003
- example_37-4_0004
- example_37-4_0005
- example_37-4_0006
- example_37-4_0007
- example_37-4_0008
- example_37-4_0009
- example_37-4_0010
- example_37-4_0011
- example_37-4_0012
- example_37-4_0013
- example_37-4_0014

[Math Processing Error]

The B section is in the contrasting key of the submediant (D major). Like the F#s in the bass in the A section, the sustained Ds in the B section reinforce the tonality, even in the face of more adventurous chromaticism. Despite lacking even a single traditional cadence, we may hear the B section as being divided into four phrases, each consisting of a series of chords followed by a pair of sweeping arpeggios. The first phrase ends with an arpeggiated ii4/2 and the second with a tonic triad, again suggesting a kind of period. This period repeats with more fully-voiced chords in mm. 33–48.

The opening figures from the A section reappear in m. 49, but here they are transposed to D with several small alterations. This is not the beginning of the second A section. Rather, it is a bridge section that reintroduces elements from the beginning, setting up the true return of A in m. 57 following an arpeggiated augmented dominant in F# minor. The closing A section repeats the period heard at the beginning with some variation and ends in m. 72, after which a brief coda extends the final cadence.

Despite the many obvious differences, the overall form of this piece is remarkably similar to that of Example 37–1. Compare the following diagram with the one shown in Example 37–2:

Example 37–5. Form diagram of *Dora Pejačević, Walzer-Capricen (Op. 28), 9. Moderato.*



▼ Activity 37-1

Activity 37–1

After listening to the ternary form below, answer the questions that follow.

Ludwig van Beethoven, Piano Sonata No. 25 in G major (Op. 79), II. Andante.

0:00 / 0:00

- activity_37-1_0001
- activity_37-1_0002
- activity_37-1_0003
- activity_37-1_0004
- activity_37-1_0005
- activity_37-1_0006
- activity_37-1_0007
- activity_37-1_0008
- activity_37-1_0009
- activity_37-1_0010
- activity_37-1_0011
- activity_37-1_0012

Exercise 37–1a:

Question

In what key does this piece begin?

▼ Hint

Look at m. 1 and consider the key signature.

▼ Answer

G minor

Exercise 37–1b:

Question

In which measure does the B section begin? How does the key of the B section relate to the home key?

▼ Hint

Look for a change in texture, character, etc.

▼ Answer

The B section begins in m. 10. It is in Eb major, the submediant of the home key.

Exercise 37–1c:

Question

In which measure does the A section return? Is it exactly the same as the opening section?

▼ Hint

Look for a measure, somewhere after the B section, that is exactly the same as m. 1.

▼ Answer

A returns in m. 22. It is identical to the opening A section.

Exercise 37–1d:

Question

This piece includes several passages that are not part of the main sections. How would you label each of the following passages?

1. m. 9
2. mm. 17–21
3. m. 30–34

▼ Hint

Use words like “introduction,” “transition,” and “coda.”

▼ Answer

1. m. 9 = transition
2. mm. 17–21 = transition
3. mm. 30–34 = coda

▼ Activity 37-2

Activity 37–2

After listening to the ternary form below, answer the questions that follow.

Inga Lærum-Liebich, “Witch Dance.”

0:00 / 0:00

- activity_37-2_0001
- activity_37-2_0002
- activity_37-2_0003
- activity_37-2_0004
- activity_37-2_0005
- activity_37-2_0006
- activity_37-2_0007
- activity_37-2_0008
- activity_37-2_0009
- activity_37-2_0010
- activity_37-2_0011
- activity_37-2_0012
- activity_37-2_0013
- activity_37-2_0014
- activity_37-2_0015
- activity_37-2_0016
- activity_37-2_0017

Exercise 37–2a:

Question

In what key does this piece begin?

▼ Hint

Look at m. 1 and consider the key signature.

▼ Answer

C minor

Exercise 37–2b:

Question

In which measure does the B section begin? How does the key of the B section relate to the home key?

▼ Hint

Look for a change in texture, character, etc.

▼ Answer

The B section begins in m. 39. It is in G major, the major dominant of the home key.

Exercise 37–2c:

Question

In which measure does the A section return? Is it exactly the same as the opening section?

▼ Hint

The A section does not start right at the beginning of this piece. Look for a measure, somewhere after the B section, that is exactly the same as m. 7.

▼ Answer

A returns in m. 71. It is almost identical to the opening A section.

Exercise 37–2d:

Question

This piece includes several passages that are not part of the main sections. How would you label each of the following passages?

1. mm. 1–6
2. mm. 103–132

▼ Hint

Use words like “introduction,” “transition,” and “coda.”

▼ Answer

The music in mm. 1–6 should be labeled “introduction.” The music in mm. 103–132 should be labeled “coda.”

Ternary forms are also extremely common in vocal music of the Baroque and Classical eras. Solo songs in operas, oratorios, and cantatas are frequently cast in this form. The following song is an example of a *da capo aria*, so named for the direction at the end of the notated music to go back and sing/play through the opening section one more time.

Note: The text “D.C. al Fine” above the final measure in this piece is an abbreviation of “Da Capo al Fine.” “Da capo” means “from the head,” so the text is a direction that the performers should go back to the beginning and continue from there. The text “al Fine” (“to the fine”) indicates that when they do go back to the beginning they should continue only to m. 44 where the word “fine” appears above the double barline.

Example 37–6. *Jeanne-Renée de Bombelles Travanet, Recueil de Romances et Chansons No. 2, 1. Dieu des combats*.

0:00 / 0:00

- example_37-6_0001
- example_37-6_0002
- example_37-6_0003
- example_37-6_0004
- example_37-6_0005
- example_37-6_0006
- example_37-6_0007
- example_37-6_0008
- example_37-6_0009
- example_37-6_0010
- example_37-6_0011
- example_37-6_0012
- example_37-6_0013
- example_37-6_0014
- example_37-6_0015
- example_37-6_0016
- example_37-6_0017

This aria begins with a twelve-bar piano introduction, ending with a HC in F major. The singer begins in m. 13 and continues until the authentic cadence in m. 42, after which the accompaniment plays a few bars alone to close the section. The contrasting B section begins in the key of the subdominant (Bb major) in m. 45 and ends with a prolonged, tonicized C-major chord in mm. 63–67. This resolves to I in F major when the performers go back to the beginning and play through the introduction and A section one more time, ending at the “fine” in m. 44. In performing a da capo aria, it was customary to play the music as written the first time through. Then, partly to avoid monotony and partly to show off their virtuosity, the singer would add various embellishments to the repeated A section. The repeated beginning is therefore labeled A′ in the following diagram:

Example 37–7. Form diagram of *Jeanne-Renée de Bombelles Travanet, Recueil de Romances et Chansons No. 2, 1. Dieu des combats*.

example_37-7

Note: The accompaniment—a piano in Example 37–6, but usually a small orchestra—plays an important role in a da capo aria. In this example we heard it alone at the beginning and end of each A section, underscoring the boundaries between the large-scale divisions of the form. In other cases, the accompaniment may have its own theme and may interject between phrases in the vocalist’s part. These instrumental passages are sometimes referred to as *ritornello* sections.

37.3 Compound ternary

Because the different sections of a ternary form are tonally closed, they may also be heard as standalone pieces. As such, they may themselves follow standard formal designs. (Recall our earlier discussion about how the A section of Example 37–1 resembled a miniature ternary form.) Keep this in mind as you listen to the minuet and trio below:

Note: Similar to Example 37–6, this piece has some text above the final measure. “Men. D.C.” above m. 34 is an abbreviation of “Menuetto da capo,” so the text is an indication that the performer should go back to the beginning and play through the minuet one more time. (Performers traditionally skip the repeats the second time through the minuet.)

Example 37–8. *Maria Agata Szymanowska, 6 Minuets, No. 3 in Eb major*.

0:00 / 0:00

- example_37-8_0001
- example_37-8_0002
- example_37-8_0003
- example_37-8_0004
- example_37-8_0005
- example_37-8_0006
- example_37-8_0007
- example_37-8_0008

Taken by itself, the minuet in this piece (mm. 1–16) is a sectional rounded binary. There are two sections (mm. 1–8 and mm. 9–16), the second of which features a reappearance of the opening material. Similarly, the trio (mm. 17–34) is also a sectional rounded binary. It too has two sections (mm. 17–24 and mm. 25–34) with material from the first reappearing toward the end of the second. Both the minuet and the trio are tonally closed and could function on their own as standalone pieces. But heard together—and with the minuet replayed after the trio—the two combine to form a ternary structure: the minuet in Eb major serves as the opening and closing A sections and the trio in Ab major (the major subdominant) serves as the B section.

The following diagram summarizes:

Example 37–9. Form diagram of *Maria Agata Szymanowska, 6 Minuets, No. 3 in Eb major*.

example_37-9

When the A and B sections of a ternary form are themselves smaller binary forms, we refer to the overall structure as a *compound ternary form*. (Some texts and teachers use the term *composite ternary form*.) Compound ternary forms are ubiquitous in multi-movement works of the Classical era and beyond. Minuet and trio movements, such as the one shown above, are highly characteristic of symphonies, string quartets, and various types of solo sonatas.

▼ Activity 37-3

Activity 37–3

After listening to the example below, answer the questions that follow.

Joseph Haydn, Partita in E major (Hob.XVI:13), II. Menuet & Trio:.

0:00 / 0:00

- activity_37-3_0001
- activity_37-3_0002
- activity_37-3_0003
- activity_37-3_0004
- activity_37-3_0005
- activity_37-3_0006
- activity_37-3_0007
- activity_37-3_0008
- activity_37-3_0009
- activity_37-3_0010

Exercise 37–3a:

Question

What, specifically, is the key and form of the minuet (mm. 1–24)?

▼ Hint

Based on the double barlines and repeat signs, the minuet has two large-scale sections.

▼ Answer

The minuet is a continuous rounded binary in E major.

Exercise 37–3b:

Question

What, specifically, is the key and form of the trio (mm. 25–52)?

▼ Hint

Based on the double barlines and repeat signs, the trio has two large-scale sections.

▼ Answer

The trio is a continuous rounded binary in E minor.

Exercise 37–3c:

Question

What is the overall form of this piece?

▼ Hint

Note the “da capo” direction in the last bar.

▼ Answer

This minuet and trio is in compound ternary form.

37.4 Rondo forms

In a ternary form, we hear the A section return at the end, after a contrasting B section. Some pieces take this idea and expand it, repeating the opening material after each of a series of intervening sections. Consider the following example:

Example 37–10. *Sophia Dussek, Harp Sonata in Bb major (Op. 2, No. 1), II. Rondo—Allegro.*

0:00 / 0:00

- example_37-10_0001
- example_37-10_0002
- example_37-10_0003
- example_37-10_0004
- example_37-10_0005
- example_37-10_0006
- example_37-10_0007
- example_37-10_0008
- example_37-10_0009
- example_37-10_0010
- example_37-10_0011
- example_37-10_0012
- example_37-10_0013
- example_37-10_0014
- example_37-10_0015
- example_37-10_0016
- example_37-10_0017

- example_37-10_0018
- example_37-10_0019
- example_37-10_0020
- example_37-10_0021
- example_37-10_0022
- example_37-10_0023
- example_37-10_0024

This example opens with a sixteen-bar double period in Bb major. (Note the double barline at the end of m. 16.) Over the course of the entire piece, this music comes back three more times: mm. 36–51, mm. 72–87, and mm. 107–122. When a composition returns to the opening material numerous times as it does here, it is said to be in *rondo form*. In this case, we hear four instances of the opening material with three sections in between. Since this rondo has seven distinct sections, we call it a *seven-part rondo*. The repeated material is called the *refrain* and the passages in between are called *episodes*.

The form of Example 37–10 is summarized in the following diagram with the refrain passages labeled A and the episodes labeled B and C:

Example 37–11. Form diagram of *Sophia Dussek, Harp Sonata in Bb major (Op. 2, No. 1), II. Rondo—Allegro*.

example_37-11

Notice that the episodes in this piece are not nearly as harmonically contrasting as the B sections in the ternary forms discussed above. The first episode (labeled B in the diagram) begins in the home key and moves temporarily to the dominant (F major), but the piece abruptly returns to the tonic with the following refrain. The second episode (C) does not modulate and, in fact, does not contain any chromatic notes whatsoever. The piece is also more or less thematically unified, with none of the dramatic changes of character seen in a typical ternary form.

Note: As shown in the diagram above, the form of Example 37–10 is ABACABA, with B returning in the third episode. Other seven-part rondos follow an ABACADA form, with three distinct episodes.

The harmonic and thematic consistency seen in Example 37–10 is typical, but some pieces do feature more harmonic and thematic variety. Consider the following example:

Example 37–12. *Clémentine Padieu, Rondo (Op. 6)*.

0:00 / 0:00

- example_37-12_0001
- example_37-12_0002
- example_37-12_0003
- example_37-12_0004
- example_37-12_0005
- example_37-12_0006
- example_37-12_0007
- example_37-12_0008
- example_37-12_0009

In this seven-part rondo, the last three sections are an exact repeat of the first three sections. Notice that aside from the occasional tonicization, the tonic stays consistent throughout this entire piece. Each of the episodes, however, moves to the parallel minor and, in doing so, exhibits more contrast than was seen in the previous example. (Note that the key changes in this piece are notated with accidentals instead of key signatures.)

Example 37–13. Form diagram of *Clémentine Padieu, Rondo (Op. 6)*.

example_37-13

Note: Seven-part rondo form has more in common with ternary form than just the inclusion of a repeated section. Recall once more the ternary form seen in Example 37–1 above. There, we noticed that the A section—with its brief motion to the dominant—could be thought of as a miniature ternary form. This is similar to the first three sections in Example 37–12, where the opening A, B, and

A sections are set off from the longer C section (32 bars with the repeat). In other words, we might also hear Example 37–12 as a ternary form:

Example 37–14. Form diagram of *Clémentine Padieu, Rondo (Op. 6)*.



This is not to suggest that this piece is in ternary form. The title clearly indicates that it is a rondo. You should, however, be aware that ambiguities such as this are common.

The following rondo does not include a repeat of the B section:

Example 37–15. *Joseph Haydn, Keyboard Sonata in D major (Hob.XVI:37), III. Finale. Presto ma non troppo*.

0:00 / 0:00

- example_37-15_0001
- example_37-15_0002
- example_37-15_0003
- example_37-15_0004
- example_37-15_0005
- example_37-15_0006
- example_37-15_0007
- example_37-15_0008
- example_37-15_0009
- example_37-15_0010
- example_37-15_0011
- example_37-15_0012
- example_37-15_0013
- example_37-15_0014
- example_37-15_0015
- example_37-15_0016
- example_37-15_0017
- example_37-15_0018
- example_37-15_0019
- example_37-15_0020
- example_37-15_0021

In this rondo, the refrain is a continuous rounded binary in D major (mm. 1–20). Unlike the rondos discussed above, however, the refrain in Example 37–15 is heard just four times, the last of which is an embellished variation with the repeats written out (mm. 94–134). Correspondingly, there are just two episodes instead of three: a continuous rounded binary in the parallel minor (mm. 21–40) and another one in the subdominant key (mm. 61–80). The passage from mm. 81–93 is a bridge back to the tonic for the final refrain. Like a compound ternary form, the individual sections of this rondo are all binary forms and so we may think of this as a *compound rondo*.

This is also an example of a *five-part rondo*. Instead of the seven-part ABACABA form, five-part rondos usually follow an ABACA scheme. The following diagram summarizes the form of Example 37–15:

Example 37–16. Form diagram of *Joseph Haydn, Keyboard Sonata in D major (Hob.XVI:37), III. Finale. Presto ma non troppo*.



▼ Activity 37-4

Activity 37–4

After listening to the rondo below, answer the questions that follow.

Ludwig van Beethoven, Rondo (WoO 49).

0:00 / 0:00

- activity_37-4_0001
- activity_37-4_0002
- activity_37-4_0003
- activity_37-4_0004
- activity_37-4_0005
- activity_37-4_0006
- activity_37-4_0007
- activity_37-4_0008
- activity_37-4_0009
- activity_37-4_0010
- activity_37-4_0011
- activity_37-4_0012
- activity_37-4_0013
- activity_37-4_0014
- activity_37-4_0015
- activity_37-4_0016
- activity_37-4_0017
- activity_37-4_0018
- activity_37-4_0019
- activity_37-4_0020

Exercise 37–4a:

Question

What is the form of the refrain (mm. 1–8) by itself?

▼ Hint

The refrain consists of two phrases that go together.

▼ Answer

The refrain is a parallel period.

Exercise 37–4b:

Question

In which measures does the refrain return in this piece? (Do not count the return in m. 99 since this is not a complete statement of the refrain. Instead, consider mm. 91–104 a coda.)

▼ Hint

Look for measures that match up with m. 1. In some cases the pickup may not be present.

▼ Answer

The refrain comes back in m. 21, m. 53, and m. 84

Exercise 37–4c:

Question

Is this seven-part rondo an ABACABA form or an ABACADA form?

▼ Hint

Compare the first episode (mm. 9–20) with the third episode (mm. 61–83).

▼ Answer

This is an ABACADA seven-part rondo.

37.5 Summary

A *ternary form* has three sections and usually follows an ABA or ABA′ design. Unlike in binary form, where the first large-scale section is usually left tonally open, the A section of a typical ternary form is tonally closed. As such, the A section may be repeated at the end for a satisfying conclusion in the home key. Also unlike binary form, a typical ternary form is characterized by dramatic contrast.

With regards to harmonic structure, the contrasting middle section may be in one of the traditional secondary keys—the dominant or relative major—but will often be in a less closely-related key such as the submediant, subdominant, or parallel key. The B section may be tonally closed in its own key, but is often left open and may proceed to a bridge section that transitions back to the tonic. Thematically, the middle section tends to project a noticeably contrasting character in terms of rhythm, meter, dynamics, tempo, and articulation. The repeat of the A section at the end is sometimes written out, particularly if the composer chooses to add embellishments. In some cases, though, there may simply be a written direction in the score to go back to the beginning. Such is the case with a *da capo aria*, where embellishments in the repeated A section are left to the discretion of the performer.

The individual sections of a ternary piece may themselves follow a standard formal design. The A section, for example, may have its own contrasting middle section. Each individual section of a ternary form may be in binary form, too. If both the A section and B section are in binary form—as in a minuet and trio movement—the piece overall is said to be a *compound ternary*.

Pieces that feature more than one repetition of the opening section are said to be in *rondo form*. In a rondo, the repeated section is called the *refrain* and the intervening sections are called *episodes*. A *seven-part rondo* has four instances of the refrain and three episodes with the third episode typically being a repeat of the first: ABACABA. Other seven-part rondos follow an ABACADA design. A *five-part rondo* has just three instances of the refrain with two intervening episodes: ABACA. While the different sections of a rondo form each have their own distinct character, the contrast heard between the refrain and the episodes is typically much more subtle than the contrast heard between the sections of a ternary form.

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4.4: Sonata Form

38.1 Introduction

Many historians, theorists, and teachers consider one form in particular to be the premier compositional structure of tonal Western art music. *Sonata form*, as it is commonly known, emerged as one of the most popular thematic/harmonic designs during the Classical and Romantic eras. It is found in nearly every type of composition—not just solo sonatas, but works for chamber groups and orchestras as well. And although it grew out of instrumental traditions, elements of sonata form may even be found in vocal music from this period. In fact, the form had such sweeping influence that we might even go so far as to think of it as a style instead of just an organizational framework for melodies and keys.

For reasons that will become clear momentarily, we will begin this chapter with an abstract overview of the sonata form design. We will then trace the form through three separate works—the first two will be relatively straightforward, whereas the third will demonstrate some of the playful alterations that composers tend to make when writing in sonata form. Our discussion will conclude with a brief overview of several common variations.

Note: Some texts and teachers refer to *sonata form* as *first movement form*, since it is frequently found in the first movement of a multi-movement sonata. Others use the term *sonata allegro form* since these opening movements are typically set at a relatively rapid tempo. Neither of these terms is completely accurate, though, since the form may be found beyond the first movement and in slower tempos as well. Given that the form is frequently found in works outside the solo sonata genre, one might even argue that the term *sonata form* itself is misleading. Nonetheless, the term is widely used and we will use it here.

38.2 Overview

Due in part to the wide variety of locations in which it may be found, sonata form as a whole tends to exhibit much more flexibility than the other forms discussed in this book. Whereas straightforward examples of binary, ternary, and rondo forms are plentiful, most instances of sonata form tend to have some unique or quirky qualities. It would be misleading, then, to point to a singular thematic/harmonic design as universal. Instead, we will highlight some general characteristics that are common to many sonata forms and, in doing so, describe a kind of idealized model. The analyses that follow will illuminate a few of the many ways composers tend to adjust and reconfigure this model.

Generally speaking, a sonata form may be thought of as an expansion of a continuous rounded binary, the form of which (as discussed in Chapter 36) is shown in the following diagram:

Example 38–1. Continuous rounded binary form.



Like a continuous rounded binary, the first large-scale section of a sonata form accomplishes two things: first, it presents the main thematic material of the piece, and second, it modulates away from the home key. The second section then begins with some contrasting material in the secondary key. Finally, the opening material returns in the home key to end the piece. This time, however, it is adjusted, recomposed to avoid the modulation that led away from the tonic in the first place.

In a binary form, the difference in character between the A and B sections is relatively subdued. In a sonata form, the B section plays a much more substantial role. In fact, in many later works written in sonata form, the B section is much longer than would ever be found in a rounded binary. It is dramatic and exciting, and for many listeners it is the highlight of the composition. In this sense, the B section of a sonata form is more like the B section of a ternary form. Sonata form overall, then, is best thought of as a hybrid of the two: it takes the basic thematic/harmonic structure of continuous rounded binary form and combines it with the characteristic contrast of ternary form. In other words, a sonata form has a three-part thematic organization superimposed over a two-part tonal plan.

The three parts of a sonata form—corresponding with the A, B, and A′ of a rounded binary—tend to be much longer and more substantial than any of the large-scale formal sections we've seen so far and as such, they are given special names. The A section is called the *exposition* when it is heard at the beginning and the *recapitulation* when it comes back at the end. The intervening B section is called the *development*. The following diagram replaces the letter labels of Example 38–1 with these names:

Example 38–2. Sonata form, structural overview.



Each of these three sections plays a crucial role in a sonata form. One introduces musical ideas, one provides contrast, and one brings the opening ideas back in a transformed state. And just as we may talk about the place and purpose of each of these sections in the form overall, we may also examine their internal structures and describe what a listener might expect to hear and experience from each.

The exposition

The exposition section of a sonata form presents the main thematic material as well as the complementary key areas in which the themes are presented. In its most essential form, the exposition will consist of one theme in the home key and a different theme in a secondary key with a transitional passage in between. The most common secondary keys in a sonata form are the same as those seen in continuous binary forms: if the piece begins in a major key it will most likely modulate to the dominant; if it begins in a minor key it will most likely modulate to the relative major or minor dominant. Within this basic framework, though, there is quite a bit of flexibility.

Most expositions begin directly with the *primary theme area*, the first melody or melodies heard in the piece, presented in the home key. (In some cases, though, a sonata form may begin with a brief introduction—a passage designed to prepare the listener for the arrival of the primary theme.) The listener is expected to remember the opening melodic material, and so composers typically present it in a clear and tonally unambiguous manner. The primary theme area is therefore frequently presented in a recognizable standard form such as a sentence, period, or double period.

The primary theme typically concludes in a clear cadence, after which the *transition* begins. The role of this section is to depart from the primary theme area. A typical transition may feature scalar passages, sequences, and various musical elements designed to disorient the listener. Elements of the primary theme area may be present, but if so tend to be fragmentary and disintegrating as the piece moves away from its origin.

An important musical event is found marking the end of most transitions: the *medial caesura*. The term “caesura” refers to a rest or break in the music and indeed the transition section is often followed by a short pause, sometimes drawn out with a fermata. The word “medial,” in this case, indicates that the event typically occurs close to the middle of the exposition. In some cases, the music continues through the medial caesura without stopping. When this happens, the listener will likely still have a strong sense that the departing trajectory of the transition has halted abruptly. Almost invariably, the medial caesura is marked by a dramatic half cadence setting up for the arrival of the next important melody.

Note: The modulation to the secondary key may or may not actually take place in the transition. If it does, the medial caesura will occur with a half cadence in the secondary key—ending, in other words, on a dominant function, the implied resolution of which is the tonic of the new key. If the transition does not modulate, the medial caesura will coincide with a half cadence in the home key, after which the following material reinterprets the home-key V chord as the new tonic. More importantly, the transition section will almost always destabilize the home key and prepare the listener for the new key, regardless of whether or not the modulation takes place within or without.

The *secondary theme area* follows immediately after the medial caesura. Here, the listener is presented with a new melody. This melody typically has a contrasting character when compared to the thematic material heard at the beginning. In many sonatas, the primary theme has a bold or aggressive nature while the secondary theme is comparatively sweet or lyrical. These characterizations are far from standard, though, and should not necessarily be taken as the norm. More importantly, the new melody is set in the secondary key (again, the dominant or relative major).

Note: You may occasionally encounter a sonata form in which the secondary theme is simply a transposition of the primary theme to the new key. Such pieces are said to be in a *mono-thematic* sonata form.

The word “area” is more appropriate here because, unlike the primary theme area, which typically includes just a single theme, the secondary theme area frequently features multiple distinct melodic ideas. Some texts and teachers use the term *secondary theme group* for this very reason. One of the more common inclusions in this group is a *closing theme*, a short melody heard at or near the end of the exposition that projects a sense of conclusiveness. Just as an exposition may begin with an introduction, it may also end with a brief passage—usually just two to four bars—called a *codetta* which reasserts the secondary key with one or more clear PACs. In most sonata forms, the entire exposition then repeats before proceeding on to the development.

Note: More so than with other formal paradigms, the terminology used to describe sonata forms is inconsistent from one text or teacher to another. The following table displays some of the semi-synonymous terms used to describe various parts of the exposition:

Table 38–1. Sonata form terminology synonyms.

Primary theme area:	Secondary theme area:	Closing section:
first theme main theme primary theme first tonal area first theme group	second theme subordinate theme secondary theme second tonal area second theme group	closing theme terminative section

The following diagram summarizes the structure of a typical exposition:

Example 38–3. Structure of exposition section.



The development

The development section typically begins where the exposition left off, in the secondary key. In some cases, a composer may take the primary theme and transpose it to the new key, giving the listener the sense that they have returned to the beginning once more. This sense does not last long, however, as development sections typically waste little time in revealing their true function and nature.

Unlike the exposition, which, aside from the transition section, is harmonically stable and clearly organized, the typical development is chaotic. In some cases, the listener will recognize elements of melodies heard earlier in the piece. When this happens, though, the melodies are not exactly the same as when they were first heard. They are instead—as the name of the section implies—*developed*. The themes from the exposition may be transposed, fragmented, rearranged, combined in new ways, or otherwise altered and transformed. The listener may also hear entirely new material in the development section. Like the transition section from the exposition, a development section may also include passages of scales and sequences. The effect of all this can be very exciting, a peculiar experience in which moments of clarity emerge from an otherwise dizzying musical landscape.

Aside from working out various figures and melodies heard earlier in the piece—and occasionally presenting new thematic ideas—the other function of the development is to prepare the listener for the recapitulation. Harmonically, a development section may move through several keys before leading back to the home key. To rein in this harmonic instability, most development sections end with a *retransition*, typically written as a prolonged V or V7 chord in the home key. The intention here is to get the listener to expect a resolution to the home key tonic and in doing so set up for the return of the primary theme area.

The recapitulation

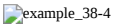
The recapitulation is essentially a repeat of the exposition with one crucial difference. Whereas the exposition begins and ends in different keys, the recapitulation must omit the modulation in order to avoid ending the piece in the wrong key. Most recapitulations will therefore recompose one or more sections of the exposition.

In a typical sonata form, the initial modulation to the secondary key takes place in the transition section of the exposition. It is in the corresponding section of the recapitulation, then, that the recomposition usually takes place. In most cases, the various melodic elements that made up the transition in the first place will still be present. The listener, in other words, will still recognize this passage as a transition. But in the recapitulation these elements may be transposed or otherwise altered to avoid modulating. A composer may employ any one of a number of strategies to accomplish this task, but in almost all cases the transition section of the recapitulation will conclude with a medial caesura that sets up the secondary theme or themes to be presented *in the home key*.

Everything from the exposition that was originally presented in the secondary key—the themes, the closing, the codetta—will here be transposed to the opening tonality, thereby combining the thematic closure of the exposition with the harmonic closure of the home key and reconciling the thematic/harmonic conflict established by the exposition.

The following diagram summarizes the structure of the development and recapitulation in a typical exposition:

Example 38–4. Structure of development and recapitulation sections.



Many authors writing about sonata form describe it in terms of a dramatic narrative. At its heart, this narrative—like so many fictional and historical stories—is one of conflict and resolution. In musical terms, the conflict is manifest in the juxtaposition of

different melodies set in opposing keys. Following the initial presentation of these melodies and their respective tonalities (the exposition), the form proceeds through a tumultuous period in which the conflict is complicated by the reworking of previously heard ideas and the introduction of new elements (the development). The form concludes with a dramatic resolution when the conflicting melodies are both united in a single key (the recapitulation).

38.3 Analysis

Now that we have discussed the general structure of a sonata form, let us look at several examples. The first two will be relatively straightforward; the third will present some complications. As you listen to each example, keep track of the basic formal elements discussed above. Identifying cadences as you hear them—their key and their type—will be particularly helpful. But also consider the character and nature of each section as you listen to it. When listening to a sonata form, you will very likely encounter passages that are:

- *introductory*, preparing the listener for music that is more structurally significant,
- *expository*, presenting thematic material with clarity in a harmonically stable context,
- *transitional*, loosening the grasp of a key or theme and moving toward something new (often using sequences and other busy-sounding figuration),
- *developmental*, taking previously heard material and presenting it in new ways (typically in a harmonically unstable context), and
- *terminative*, signaling to the listener that an important ending point is coming up through the use of repetitive, conclusive sounding cadences.

Just as a chord may perform a particular function within a phrase, so too may a section of music perform a particular function in building a larger form. At each new turning point, ask yourself, “What is this passage trying to communicate or accomplish?” This mode of listening will help illuminate the way each section contributes to the overall form.

The following piece is in sonata form, and the various sections have been labeled.

Example 38–5. *Johann Christian Bach, Keyboard Sonata in E-flat major (Op. 5, No. 4; W.A 4), I. Allegro.*

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As in most sonata forms, the boundaries of this exposition are clearly identifiable thanks to the double barline and repeat symbol at the end of m. 43. The primary theme in this exposition is a sentence, heard first in mm. 1–8:

Example 38–6. *Johann Christian Bach, Keyboard Sonata in E-flat major (Op. 5, No. 4; W.A 4), I. Allegro, mm. 1–8.*

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example_38-6

The harmonic setting is stable and unambiguous, giving the listener a solid sense of the key: Eb major. The theme itself is clear and easy to remember. It ends with a half cadence in m. 8 and then again in m. 16 when the sentence repeats.

Notice, however, that in the second half cadence the embellishing notes around the Bb in the upper staff include an A§. As a listener, it is safe to assume that because this piece begins in a major key it will modulate to the dominant—in this case, Bb major, which will need A§s to cancel out the third flat in the key signature. This A§, then, is the first indication that the piece is moving away from the stability of the primary theme area and into the transition.

The new material in m. 17 confirms this suspicion. The left hand switches to a more energetic triplet rhythm while the right hand plays figures that are sequenced first up (mm. 17–20) and then down (mm. 21–23). These types of patterns are the hallmarks of a transition section and, as the now consistent A§s confirm, that is exactly where we are in the exposition. These elements project a strong sense of motion toward something new, inviting the listener to keep on the lookout out for a clear indication of where the passage will lead.

The expected signal turns out to be a prolonged F-major chord in mm. 24–28. When a minor seventh (Eb) is added to a clear arpeggiation of the chord in m. 28, the listener will hear it as the dominant seventh, a half cadence in the key of Bb major. This is the medial caesura. Although the music does not stop, there is still a clear halting of the harmonic motion heard earlier in the transition. The F dominant seventh clearly implies a resolution to Bb and that is exactly what happens next.

The secondary theme area begins with a new melody in Bb major (m. 29). The melody is not entirely unrelated to the primary theme, but is distinct enough to identify it as something new. Whereas the primary theme area consisted of a repeated sentence, the main melodic material of the secondary theme area consists of a parallel period—the antecedent ends with a HC in m. 32 and the consequent with a PAC four bars later. The remainder of the exposition presents a series of conclusive PACs in Bb major, confirming the move to the new key. We may call the material in mm. 36–41 a closing theme and mm. 42-43 a codetta.

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The development begins after the exposition repeats. In this case, we hear quite a bit of the opening material coming back in new and interesting ways. The triplets, for example, are reminiscent of the transition section heard after the primary theme area. (This is appropriate since, like the transition section itself, one of the functions of the development is to transition back to the original key area.) In m. 60 we find a passage that is again reminiscent of the transition. Compare mm. 60–64 with mm. 24–28. They are nearly identical, though here it is a G-major chord that is being prolonged. Since the F-major prolongation led to the secondary theme in the key of Bb major, the listener might expect to hear the secondary theme in C major next. Instead, we are presented with the second half of the primary theme, but now in the relative key of C minor! False leads such as this and other surprises are to be expected in a typical development section.

The retransition begins in m. 72, immediately following the passage in C minor. At this point in the development section the listener may have given up on trying to figure out where things are going! We first hear the V7 of the home key in m. 73, but coming after a cadence in C minor the listener will likely hear it as VII7 or V7/III. The following measures clear things up a bit.

Several repetitions of this same chord resolving to Eb-major, indicate that we have returned to the home key. The big HC in m. 84 sets up the recapitulation in much the same way that the HC in m. 28 set up the secondary theme.

The following example shows the retransition and the first measure of the recapitulation:

Example 38–7. *Johann Christian Bach, Keyboard Sonata in E-flat major (Op. 5, No. 4; W.A 4), I. Allegro, mm. 77–85.*

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The recapitulation proceeds as expected with some minor adjustments. Here, for example, we hear only the first eight bars of primary theme area. The repetition of the sentence—the phrase that originally introduced the A§s (mm. 9–16)—has here been omitted since the recapitulation does not need to modulate. The transition section also returns more or less intact, but with one very important change. Here in the recapitulation it has been transposed down a perfect fifth (compare m. 93 to m. 17). The transposed transition now leads to a half cadence in Eb major instead of Bb major. Everything that follows matches the secondary theme area of the exposition, but now in the home key.

The following piece presents another clear example of sonata form:

Example 38–8. *Maria Hester Park, Piano Sonata (Op. 7), I. Allegro spirito.*

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The primary theme in this sonata form is a double period. Phrases ending in an IAC (m. 4) and a HC (m. 8) make up the antecedent and phrases ending in an IAC (m. 12) and a PAC (m. 16) make up the consequent. The transition section begins on an *elided cadence*, a phrase overlap in which the concluding tonic of one phrase also serves as the beginning of the next phrase. Again, the transition section is marked not only by a cadence ending the opening section but also by a shift in figuration. In this case, the octave scales in mm. 16–19 are designed to alert the listener that the piece is moving in a new direction.

Since this piece begins in major, we can expect it to modulate to the dominant somewhere before the secondary theme area. Since the dominant of C major is G major, the telltale accidental will be an F#. Sure enough, the F§s consistently become F#s starting in m. 21. To the listener expecting a half cadence in the new key, the arpeggiated dominant seventh chord in m. 28 sounds a lot like a medial caesura—compare this moment to m. 28 in Example 38–5—and the melody that follows sounds a lot like a secondary theme.

The new theme in m. 30 seems to fit all of the requirements for the secondary theme: it is in G major, it appears after a pronounced half cadence in the new key, and its lyrical character provides contrast to the comparatively brash primary theme. The only problem is that it does not last. After just four bars we find another large half cadence: a highly unstable V7 chord in third inversion marked by a fermata and followed by rests in both staves. This is the true medial caesura—the arpeggiated dominant in m. 28 was a ruse! As mentioned at the beginning of this chapter, sonata form was exceptionally popular during the common practice era. We may understand moments such as these, then, as composers having a bit of fun, playing with the expectations of an informed listener.

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The development in this sonata begins with material that is reminiscent of the secondary theme area but distinct enough that it may be heard as a new melody—compare, for example, mm. 65–68 with mm. 34–37. When this ends in m. 76, we find the same octave scales that began the transition. In this case, though, they end on G# and lead to a new melody in A minor, the relative minor of the home key (mm. 78–84). After a pronounced half cadence in m. 84, we hear what sounds at first like another theme in A minor but turns out to be the retransition, pivoting back to C major in m. 89:

Example 38–9. *Maria Hester Park, Piano Sonata (Op. 7), I. Allegro spirito, mm. 93–91*.

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example_38-9

Only minor alterations are made in the recapitulation, mostly in the form of omissions. In the primary theme area, for example, we hear only the second half of the double period that opened the piece. The transition section is much shorter, too, consisting of only the false secondary theme from m. 30, here transposed to lead to a medial caesura in the home key. The first eight bars of the secondary theme area are cut entirely in the recapitulation, but the material from mm. 42 to the end of the exposition remains intact and is, as expected, united with the primary theme in the home key.

Our third analytical example of sonata form is taken from a harp sonata and incorporates several features that may surprise a listener familiar with the type of thematic/harmonic structures discussed above:

Example 38–10. *Marie-Elizabeth Cléry, Harp Sonata in C major (Op. 1, No. 1), I. Allegro moderato*.

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▼ Activity 38-1

Activity 38–1

The following questions pertain to the sonata form shown in Example 38–10.

Exercise 38–1a:

Question

In what key does this sonata form begin?

▼ Hint

Note the lack of sharps and flats in the key signature and the authentic cadence in m. 9.

▼ Answer

C major

Exercise 38–1b:

Question

In what measure does the primary theme area end and the transition begin?

▼ Hint

Listen for a change in character in which the clear presentation of a melody shifts to arpeggios and passagework.

▼ Answer

m. 17

Exercise 38–1c:

Question

In which key does the exposition conclude? And is this the expected secondary key?

▼ Hint

Sonata forms in major keys almost always modulate to their respective dominants.

▼ Answer

G major and yes.

Exercise 38–1d:

Question

Through which keys does the development pass?

▼ Hint

Listen for the standout cadences: HC in m. 53 (note the accidentals in the melody that follows), HC in m. 74, HC in m. 83.

▼ Answer

G major to G minor to Bb major to C major.

Exercise 38–1e:

Question

In what key does the piece conclude?

▼ Hint

Sonata forms almost invariably end with material from the end of the exposition transposed to the home key.

▼ Answer

C major

One of the most surprising features of this sonata form is the repeated delay of the secondary theme area. Following a pair of parallel phrases in the primary theme area, the transition begins in m. 17. Since this piece begins in C major, we may expect to find F#s indicating a move to the dominant. We find the first of these in m. 18, but in m. 20 find it has reverted back to to F§.

The next F#, at the end of m. 23, tonicizes the half cadence in m. 24. This may at first seem like the medial caesura. It is even followed by a new theme. But this melody is still in the home key and so must be considered a part of the transition. The cadence in m. 24 was not the medial caesura, but instead was a misdirection. Another tonicized half cadence appears in m. 33. The listener might wonder if this is the medial caesura. But once again, the F§ in the melody that follows confirms that we have not yet fully departed from the home key.

F#s appear once again beginning in m. 36, and this time they are here to stay. When the listener hears the prolonged arpeggiation of a D-dominant-seventh chord in m. 39, they might wonder if this is the true medial caesura or if it is just another trick. A fermata at the end of the measure helps confirm that this is finally the end of the transition. At this point, however, the end of the exposition is near and the secondary theme area consists of just a short G-major melody in octaves ending with a conclusive PAC in the secondary key, a closing theme to complete the exposition. The effect is as though time has run out and skipping over the secondary theme was done out of necessity, or perhaps that the melodies that should have been played in G major were accidentally put in the home key. Regardless, the way the exposition unfolds in this piece seems almost like a parody. This kind of playful self-awareness, however, is common in sonata forms. It happens so frequently that it may be better understood as characteristic of the form and not just as an occasional anomaly.

The development section begins in G major and passes through several surprising keys on its way back to the tonic. A half cadence in m. 53, for example, leads to a passage in G minor—the parallel minor of the dominant key. This passage features a new theme,

first in octaves on the upper staff (mm. 54–61) and then on the lower (beginning in m. 64). A sequence in mm. 71–73 leads to another cadence, just like the one in m. 53 but here consisting of three F-major chords. Although coming after the sequence it may not be heard as such, it soon becomes clear that this is another half cadence. It leads to a familiar melody (compare m. 75 with the first false secondary theme in m. 24), but now presented in Bb major, the key of the subtonic. As is often the case, this development section balances new material and new keys with old material presented in new ways.

The development retransitions back to the home key by tonicizing the ii (C minor) chord in Bb major. When the third V/ii resolves to a C major chord it is the beginning of the primary theme in the recapitulation:

Example 38–11. *Marie-Elizabeth Cléry, Harp Sonata in C major (Op. 1, No. 1), I. Allegro moderato, mm. 79–85*.

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example_38-11

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38.4 Other forms

As we have now seen, composers writing in sonata form are fond of mixing things up and playing with their listeners' expectations. In some cases, these tricks and variations are common enough to warrant names. Composers will sometimes include, for example, a *false recapitulation*. In such pieces, the listener will hear an instance of the primary theme in the midst of the development, but rather than starting the recapitulation, it will lead instead to more developmental material. In other cases, the development may lead to a *subdominant return*, a recapitulation in which the entire exposition appears intact but transposed down a perfect fifth. With the recapitulation starting in the key of the subdominant, the modulation that led up a fifth to the dominant in the exposition will instead lead up a fifth to the home key, the proper harmonic goal at the end of the piece. As you listen to and analyze sonata forms you should keep in mind that the form is flexible, and twists like these make it appealing to composers and listeners alike.

Some alterations to sonata form are substantial enough that we may think of them as creating an entirely new form. One example of this may be found when a sonata form is set at a slower tempo: in a *sonatina* or *slow-movement form*, the development section is greatly reduced or omitted altogether. After the repeat of the exposition, the listener hears a brief retransition followed immediately by the recapitulation—or, where the development is omitted, just the recapitulation:

Example 38–12. Sonatina form, structural overview.

example_38-12

Note: In the interest of conserving space we will not include examples of the forms discussed in this section. Readers are advised to analyze the following pieces to see sonatina form in action:

- Wolfgang Amadeus Mozart, Piano Sonata No.3 in Bb major (K.281/189f), II. Andante amoroso
- Marianne Auenbrugger, Keyboard Sonata in Eb major, II. Largo

In each of these two movements, the second large-scale section features a brief retransition leading directly into the recapitulation. Neither has a substantial development.

Some sonata forms incorporate elements of other forms. A *sonata rondo*, for example, combines sonata form with the seven-part rondo (see Chapter 37). The form is very similar to a regular sonata form, but includes a repeat of the primary theme area at the end of the exposition and again at the end of the recapitulation. If the form is mapped out as ABACABA, the A sections and B sections represent, respectively, the primary and secondary theme area. A and B combined, then, form the exposition and C the development.

The following diagram provides an overview of sonata rondo form. Notice that the primary theme area (A) is typically set in the home key in each of its four appearances. This is a rather significant departure from sonata form as described above, where the exposition ends in the secondary key and leads directly into the development:

Example 38–13. Diagram of sonata rondo form.

example_38-13

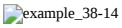
The primary characteristic that distinguishes a sonata rondo from a regular seven-part rondo is the development section. For a rondo to be considered a *sonata* rondo, the C section must incorporate developmental passages in the manner found in a typical sonata.

Note: Examples of sonata rondo form may be found in:

- Wolfgang Amadeus Mozart, Piano Sonata No. 13 in Bb major (K.333/315c), III. Allegretto grazioso
- Ludwig van Beethoven, Piano Sonata No. 8 in C minor [Pathétique] (Op. 13), III. Rondo. Allegro

As mentioned above, sonata forms routinely appear in symphonic works as well including a variant typically found in the first movement of a concerto, where a soloist is accompanied by an orchestra. In *concerto form*, the soloist plays through all three of the main sections—exposition, development, recapitulation—in order. (The solo sections are labeled with an "S" in the diagram below.) Alternating with these sections, however, are passages in which the musical focus is on the orchestra. (In the diagram below, the orchestral sections are labeled with a "T" for *tutti*, the Italian word for "all" or "together.")

Example 38–14. Diagram of concerto form.



A concerto form begins with the full orchestra playing through the primary theme area in the primary key. They may play through the transition and secondary theme area, too, but if they do they will stay in the home key. The main action in a concerto form—including, for example, the modulation to the secondary key—is reserved for the soloist, who plays through the exposition again in S_1. (Some teachers and texts prefer the term *double exposition form* over *concerto form* for exactly this reason.) At the end of the soloist's exposition, the orchestra typically comes back (T_2) and plays a short passage, often featuring a brief melody, before the soloist launches into the development (S_2). It is important to note that during the solo sections, the orchestra does not sit quietly. It plays behind the soloist, providing the supporting harmonies and musical punctuations. When the soloist reaches the end of the development, the orchestra may return once again (T_3), but more often than not the soloist's retransition will lead directly into the recapitulation (S_3). At the end of the recapitulation, just before the final structural cadence, most concerto forms will include a *cadenza*, in which the soloist, unaccompanied, will play through or improvise an extended passage full of virtuosic figuration. The cadenza typically concludes with a trill, a signal to the conductor to cue the orchestra, and the piece concludes with the full orchestra playing once again (T_4).

Note: For an example of concerto form, the reader is directed to Wolfgang Amadeus Mozart's Piano Concerto in Eb major (K.107.3). This piece is particularly instructive since it takes as its basis the sonata written by Johann Christian Bach discussed in Example 38–5 above. In other words, the three main sections of Bach's sonata—the exposition, the development, and the recapitulation—are found in the S_1, S_2, and S_3 sections of Mozart's concerto. The T sections use material from the same source.

38.5 Summary

Sonata form is often considered one of the premier thematic/harmonic structures of the common practice era and its influence may be found extending to most Classical and Romantic styles and genres. The form may be thought of as an extended continuous rounded binary, but with its substantial and contrasting middle section it also bears a meaningful resemblance to ternary form. Descriptions of sonata form typically go into much more detail than just the number and harmonic structure of the large-scale sections, but due to the remarkable variety found between pieces exhibiting sonata-form qualities, it is difficult to pin down a definitive and universal model. Instead, we describe some of the most commonly encountered general characteristics.

The first part of a sonata form, known as the *exposition*, typically presents contrasting thematic material divided between two conflicting keys—most often the home key and the dominant or relative major. In most sonata forms, the *primary theme area* is heard first, followed by a *transition*, and then, after an abrupt break in the musical texture called the *medial caesura*, the *secondary theme area*. Some sonata forms present a single theme in each theme area, but many others feature multiple themes per area, particularly the second which often includes a *closing theme* to conclude the exposition. Some expositions include *introductions* and *codettas* as well. The exposition is typically repeated.

The second part of a sonata form is the *development*, a lengthy section in which material from the exposition is reworked in new and exciting ways. Some developments present new thematic material as well and in some cases do not incorporate old material at all. The effect of a development section, with characteristic sequences and surprising changes of key, can be very exciting and for some composers, performers, and listeners it is the highlight of the form. The development section usually concludes with a *retransition* leading back to the original key for the *recapitulation*, a replaying of all of the main thematic material from the exposition, though here recomposed to avoid modulating to the secondary key.

More so than with the other formal designs discussed in this book, composers of sonata forms are often found defying or otherwise playing with expectations related to the listener's presumed familiarity with standard thematic/harmonic structures. Misleading cadences and false themes are common and add to the overall excitement of a piece. Along similar lines, we find several common variants of the form including sonata forms which lack a development (*sonatina* or *first-movement form*), incorporate the repeated refrain of a rondo (*sonata-rondo form*), and assign the main sections to a soloist between passages played by a full orchestra (*concerto* or *double-exposition form*).

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