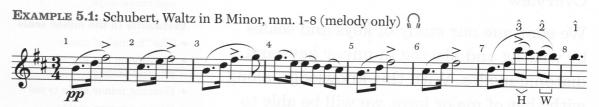
Parallel Keys: Shared Tonic

If all music were composed in major keys, the palette of musical colors would be severely limited. Listen, for example, to the expressive qualities of the Schubert melody shown in Example 5.1. This melody begins on B and ends with the familiar $\hat{3}$ - $\hat{2}$ - $\hat{1}$ pattern leading to B; the key is B minor. Its sound is different from a major-key melody, in part because the whole- and half-step arrangement differs from major. The $\hat{3}$ - $\hat{2}$ - $\hat{1}$ ending of this minor melody, for example, descends by half then whole step, in contrast to two whole steps in major. We begin our study of minor keys by comparing a minor key with the major key that begins on the same note, a relationship called parallel minor and major.



Listen to another work by Schubert, his now-familiar song "Der Lindenbaum," specifically the passages shown in Examples 5.2a and 5.3a. Part (b) in each example gives a portion of the scale—the pentachord from $\hat{1}$ to $\hat{5}$ —that corresponds with the passage's melody pitches.

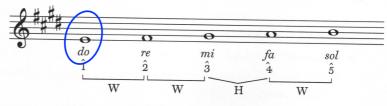
Example 5.2: Schubert, "Der Lindenbaum," mm. 9-12

(a) Vocal line with piano accompaniment \(\int_{\text{\(a\)}} \)



Translation: At the well in front of the gate, there stands a linden tree.

(b) Major pentachord: Scale degrees $\hat{1}$ to $\hat{5}$ from the vocal line

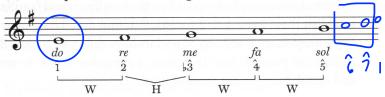


Example 5.3: Schubert, "Der Lindenbaum," mm. 29-32

(a) Vocal line with piano accompaniment Ω



(b) Minor pentachord: Scale degrees $\hat{1}$ to $\hat{5}$ from the vocal line



The two passages are written in **parallel keys**: E major and E minor. Parallel keys share the same tonic, but a different key signature and different arrangement of whole and half steps. The first five scale degrees of these keys differ by only one note: $\hat{3}$ (mi) in major is \hat{b} (me) in minor.

- The major pentachord is sung as do-re-mi-fa-sol and written $\hat{1}$ - $\hat{2}$ - $\hat{3}$ - $\hat{4}$ - $\hat{5}$.
- The minor pentachord is sung as do-re-me-fa-sol and written as $\hat{1}$ - $\hat{2}$ - $\hat{3}$ - $\hat{4}$ - $\hat{5}$.

We write the third scale degree of the minor pentachord with a flat sign $(\flat \hat{3})$ even when (as in E minor) there is no flat in the key signature or next to the note; the \flat symbol simply indicates that the third scale degree has been lowered. In some keys (as here), the correct spelling of $\flat \hat{3}$ will need no accidental at all.

KEY CONCEPT

- Parallel keys share the same tonic.
- Parallel-key pentachords share four scale degrees $(\hat{1},\hat{2},\hat{4},$ and $\hat{5})$.
- The third scale degree of the minor pentachord is a half step lower than in the major pentachord: $3 \pmod{3}$ (mi).
- You could also think of the major and minor pentachords in terms of their whole and half steps: W-W-H-W for the major pentachord and W-H-W-W for the minor.

Parallel keys often appear within a single piece or movement, as in "Der Lindenbaum," to set a different mood. In this song, the minor-key passage reflects a change in the text from daytime to a foreboding "dead of night." Parallel keys might also be used for different variations in a theme-and-variations piece or for separate movements in a larger work.

Relative Keys

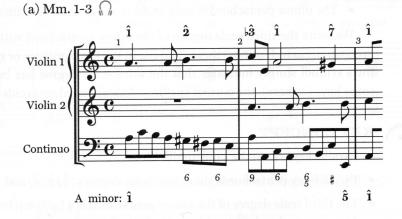
Relative Minor: Shared Key Signatures

Now listen to two brief passages from Corelli's Allemanda, while looking at the score excerpts in Example 5.4. Both passages share the same key signature (no flats or sharps)—yet part (a) is in A minor and part (b) in C major. Scale degrees written above the melody and below the bass line reveal familiar patterns that help establish these keys: $\hat{1}-\hat{2}-\hat{3}$ (or $\hat{3}$), $\hat{7}-\hat{1}$, and $\hat{5}-\hat{1}$. These excerpts are in **relative keys**: they share a key signature but have different tonics. By moving between relative (or parallel) keys in a piece, a composer is able to vary the music's color and mood, heightening musical interest.



KEY CONCEPT Relative keys have different tonics, but share the same key signature and diatonic collection.

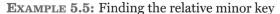
EXAMPLE 5.4: Corelli, Allemanda, from Trio Sonata in A Minor

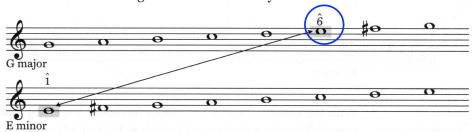




Finding the Relative Minor and Major Keys

Example 5.5 compares the scales for two relative keys: G major and E minor. As you can see, the relative minor scale is made from the same pitch-class collection as its relative major, but it begins on scale degree $\hat{\mathbf{G}}$ of the major key.





KEY CONCEPT To find the relative minor of any major key, identify scale degree $\hat{6}$ of the major scale: that pitch is the tonic of the relative minor. (Shortcut: Count down three half steps from the major-key tonic.)

If you are counting half steps, be careful to choose the correct spelling: it should conform to the key signature of the major key *and* span three different letter names. The relative minor of A major, for example, is F# minor (A-G-F), not Gb minor.

Try it #1 ...

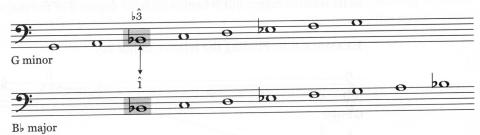
Given the major key below, supply the name of the relative minor.

RELATIVE MINOR	KEY	RELATIVE MINOR	Pa Pa
C# minor	Ab major		
	E _b major	6	
	F major		
	The state of the s	C# minor Ab major Eb major	C# minor Ab major Eb major



KEY CONCEPT To find the relative major of any minor key, identify scale degree $\flat \hat{3}$ of the minor scale: that pitch is the tonic of the relative major (Example 5.6). (Shortcut: Count up three half steps from the minor-key tonic.)

EXAMPLE 5.6: Finding the relative major key



With the shortcut, again, remember to choose a spelling that spans three letter names. The relative major of G minor is $B \triangleright (\text{not } A \sharp) \text{ major } (G-A-B)$.

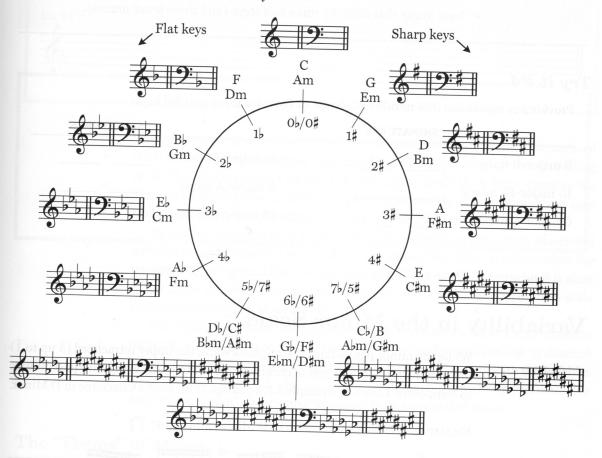
Try it #2

Given the minor key below, supply the name of the relative major.

KEY RELATIVE MAJOR
C# minor
F minor
E minor
Bb minor

For speed and facility in sight-reading and analysis, memorize the minor key signatures as well as the major. The circle of fifths in Figure 5.1, with the relative keys added, may help you. If you compare parallel keys in the figure, you will see that they differ by three accidentals: for example, B major (five sharps) and B minor (two sharps). You could think of this as three "steps" counterclockwise around the circle of fifths: D major (two sharps) is three steps away from D minor (one flat).

FIGURE 5.1: Circle of fifths with minor keys added



Try it #3

KEY SIGNATURE	MINOR KEY	KEY SIGNATURE MINOR KEY
) ## [#] #	G# minor	### # ********************************
> -	- Hammerik minar	
		2##

SUMMARY.

Parallel keys

- share the same tonic, $\hat{1}$ (as well as $\hat{2}$, $\hat{4}$, and $\hat{5}$);
- have key signatures that differ by three accidentals.

Relative keys

- share the same key signature and diatonic collection;
- have tonics that differ by three half steps (and three letter names).

Try it #4

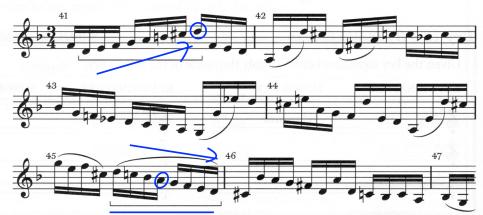
Provide key signatures (the number of sharps or flats) for these parallel keys:

	SIGNATURES	50 MO	SIGNATURES
B major-B minor	5#2#	F# major-F# minor	- 5
Bb major-Bb minor		A major-A minor	
C major-C minor	A -	C# major-C# minor	

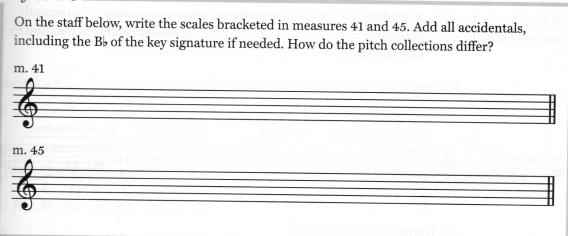
Variability in the Minor Scale

While the minor pentachord is straightforward, the upper tetrachord $(\hat{5} \text{ up to } \hat{1})$ of a minor key offers a variety of chromatic inflections, and expressive possibilities to composers. Listen to Example 5.7, a passage from Bach's Chaconne in D Minor.

EXAMPLE 5.7: Bach, Chaconne in D Minor, mm. 41-47







The bracketed scales are both D minor; they share the same minor pentachord (D-E-F-G-A). But the upper tetrachords differ. Sing or play the ascending A-B\\(\beta-C\\(\psi\)-D from measure 41 and the descending D-C\\(\beta-B\\(\beta\)-A from measure 45. This variability in scale degrees is typical in minor-key compositions: you may find \(\beta \hat{\hat6} \) or \hat{G} (B\\(\beta\) or B\\(\beta\) in D minor), as well as \(\beta \hat7 \) or $\hat{7}$ (C\\(\beta\) or C\\(\psi\)).

In musical contexts, as in Bach's Chaconne, rising lines are usually associated with the raised forms of $\hat{6}$ and $\hat{7}$: B\$\psi\$-C\$\psi\$ in measure 41. These pitches follow the tendency of the upward line toward the tonic. The A-B\$\psi\$-C\$\psi\$-D tetrachord is sung to the same syllables as in the parallel major, sol-la-ti-do, and written as scale degrees the same way as well: $\hat{5}$ - $\hat{6}$ - $\hat{7}$ - $\hat{1}$.

Falling lines, on the other hand, are usually associated with $\flat \hat{6}$ and $\flat \hat{7}$: $C \flat - B \flat$ in measure 45. The lowered pitches here follow the tendency of the line to descend toward the tonic. The descending D-C $\flat - B \flat$ -A tetrachord is sung with the syllables do-te-le-sol and written $\hat{1}-\flat \hat{7}-\flat \hat{6}-\hat{5}$ (even if the actual pitches are written without a flat). Think of "flat" as meaning "lowered" from the parallel major.

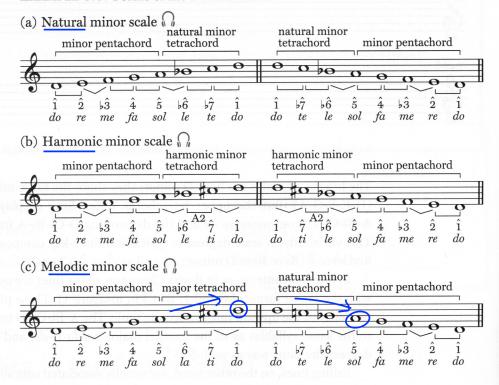
The "Forms" of Minor

Because of this variability in the upper tetrachord, musicians distinguish between different "forms" of the minor scale: natural, harmonic, and melodic minor. These are shown in Example 5.8.

- Natural minor (part a) is the scale whose accidentals exactly match the key signature of the relative major.
- Harmonic minor (part b) raises the seventh scale degree from \$\hat{7}\$ to \$\hat{7}\$ to create a leading tone. This scale has a distinctive sound, because the distance between \$\hat{6}\$ and \$\hat{7}\$—here, B\$ to C\$\$\#=\$—is larger than a whole step: it is an augmented second (A2), equivalent to a step and a half.

• Melodic minor (part c) differs in its ascending and descending forms. Ascending, the sixth and seventh scale degrees are raised, corresponding exactly to the major scale. Descending, melodic minor is identical to natural minor, with \$\delta\$ and \$\delta\$7.

EXAMPLE 5.8: Forms of the D minor scale



Another Way

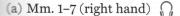
You can form any of these scales by combining a minor pentachord with one of three different upper tetrachords, also marked in Example 5.8:

- the natural minor tetrachord, H-W-W (to make natural minor),
- the harmonic minor tetrachord, H-A2-H (to make harmonic minor), or
- the major tetrachord, W-W-H (to make ascending melodic minor).

One of the distinctive aural features of the natural minor scale is the absence of a leading tone, which leaves a whole step between $\flat \hat{7}$ and $\hat{1}$ (although composers will usually raise $\flat \hat{7}$ to $\hat{7}$ in a piece). In harmonic minor, the leading tone's presence poses a melodic problem: the distinctive sound of the A2 from $\flat \hat{6}$ to $\hat{7}$ stands out from the surrounding whole- and half-step motion. One way to solve this problem is to place the leading tone in the accompanying harmony—a reason for the harmonic minor scale's name. Another solution is shown in Bach's Invention in

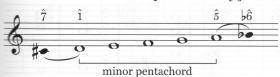
D Minor (mm. 1-2 in Example 5.9a). When the entire harmonic minor scale appears in a melody, it often extends from $\hat{7}$ below the tonic to $\hat{6}$ above (part b). This *embellished* minor pentachord features half-step motion at both extremes: above the dominant, $\hat{5}$ - $\hat{6}$ - $\hat{5}$, and below the tonic, $\hat{1}$ - $\hat{7}$ - $\hat{1}$.

EXAMPLE 5.9: Bach, Invention in D Minor





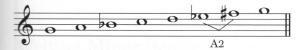
(b) Embellished D minor pentachord Ω

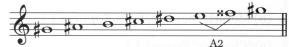


KEY CONCEPT In harmonic minor scales, accidentals may be mixed (e.g., flats and sharps together, as in Example 5.10a), and double sharps may be necessary (part b).

EXAMPLE 5.10: Spelling harmonic minor scales

- (a) Mixed accidentals in G harmonic minor
- (b) Double sharp in G# harmonic minor





Identifying the Key of a Musical Passage

Because the upper tetrachord is variable, minor-key music often features accidentals—especially to raise $bar{1}{7}$ to make the leading tone. Keep this in mind when identifying the key of a piece or passage.

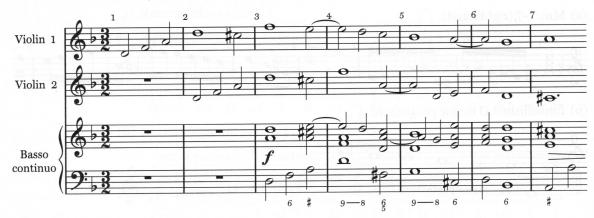


KEY CONCEPT To identify a key:

- 1. Look at the key signature, and think of *both* the major and minor key associated with it.
- 2. Look at the beginning and end of the melody and bass line for motion to and from the major-key or minor-key tonic (1).
- $3. \ \, \text{Look}$ for accidentals that might indicate the leading tone in minor.

In Example 5.11, the key signature of one flat suggests either F major or D minor. But when you see that the violins and bass line all begin on D, and the only accidental in the excerpt is C#, the leading tone of D minor, you can safely assume the key is D minor. (The key itself is called D minor, not D harmonic minor.)

EXAMPLE 5.11: Corelli, Preludio, from Sonata in D Minor, mm. 1-7



Try it #6

Look at the anthology score for each of the following pieces to determine its major or minor key. Then listen to the beginning of each work to check your answer by ear.

	KEY
(a) Joplin, "Pine Apple Rag" 🎧	() Mixed accidentals in C harmonic minor
(b) Mozart, Dies irae, from Requiem 🞧	
(c) "Chartres" (hymn) 🞧	
(d) C. Schumann, "Liebst du um Schönheit" \bigcap_{i}	many reports provide make one in three differents.
(e) Schubert, "Du bist die Ruh" 🮧	dentifying the Key of a Musical

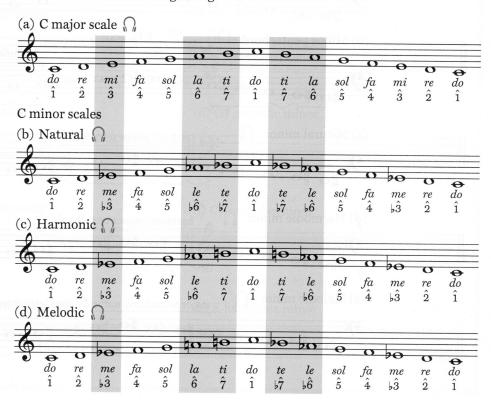
Hearing Minor Scale Types

Example 5.12 shows the C major scale and all three forms of the C minor scale. To distinguish between scale types by ear:

- Listen first for the quality of the third scale degree (3 vs. $\flat 3$, mi vs. me).
- If minor, then listen for a leading tone: natural minor and descending melodic minor have no leading tone, but rather a whole step from β² to 1 (te-do). In harmonic minor, you hear the distinctive A2 approach to its leading tone (β²6-7, le-ti).

• If you hear $\hat{6}$ - $\hat{7}$ (la-ti), the same as major, the scale is ascending melodic minor.

EXAMPLE 5.12: Scales beginning on C

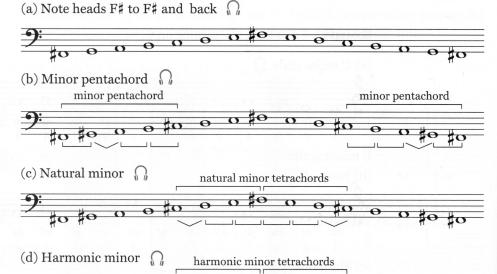


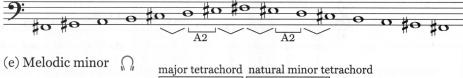
Writing Minor Scales

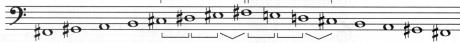
When writing minor scales, the relative-major key signature provides a good starting point; be sure you have memorized these.

- (a) Begin your minor scale by writing note heads from tonic to tonic, as in Example 5.13a.
- (b) Count up three half steps from the tonic, spanning three letter names, to get the relative major of F# minor: A major, three sharps. Add the appropriate accidentals from that key signature, and you have completed the natural minor scale (parts b and c).
- (c) Add further accidentals as needed: raise $\flat \hat{7}$ to $\hat{7}$ for harmonic minor (part d).
- (d) Raise $\flat \hat{6}$ and $\flat \hat{7}$ to $\hat{6}$ and $\hat{7}$ for ascending melodic minor. Descending melodic minor is the same as natural. Remember that $\flat \hat{6}$ and $\flat \hat{7}$ may be written with naturals (part e).

EXAMPLE 5.13: Writing F# minor scales







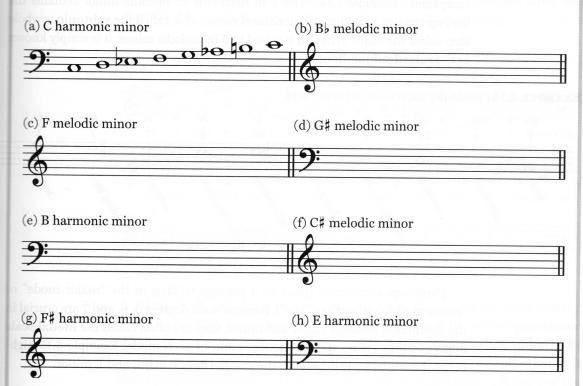
Another Way

You may prefer to write the minor scale beginning with the minor pentachord, then vary the type of tetrachord.

- (a) Write pitches on the staff from tonic to tonic, ascending and descending.
- $(b) \, Add \, accidentals \, to \, make \, the \, minor \, pentachord, W-H-W-W \, (ascending \, and \, descending).$
- (c) For natural minor, add accidentals to create a natural minor tetrachord (H–W–W) on the upper part of the scale, both ascending and descending.
- (d) For harmonic minor, add accidentals to create a harmonic minor tetrachord (H-A2-H), ascending and descending.
- (e) For melodic minor, use the major tetrachord (W–W–H) ascending; descending is the same as natural minor.

Try it #7

Write, then play, the ascending forms of the minor scales below, paying special attention to the spelling of the upper tetrachord.



SUMMARY.

Natural minor: Same key signature as the relative major, no additional accidentals.

Harmonic minor: Same key signature as the relative major, but raise $\flat \hat{7}$ a half step to $\hat{7}$.

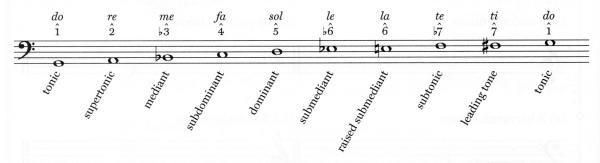
Melodic minor, ascending: Same key signature as the relative major, but raise $\flat \hat{6}$ and $\flat \hat{7}$ a half step to $\hat{6}$ and $\hat{7}$.

Melodic minor, descending: Same as natural minor.

Scale Degrees in Minor

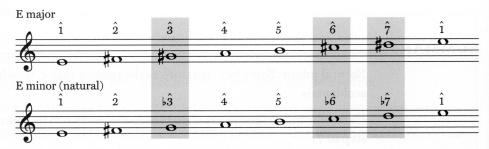
The scale-degree names in minor are identical to those in major with only a few exceptions (Example 5.14). The $\hat{7}$ in harmonic or melodic minor remains the leading tone, as in major. But in natural minor, $\flat \hat{7}$ is called the **subtonic**, a whole step below the tonic. When $\flat \hat{6}$ is raised to $\hat{6}$ in melodic minor, it is simply known as the **raised submediant**.

EXAMPLE 5.14: Scale-degree names in minor keys



Musicians sometimes speak of a passage written in the "major mode" or "minor mode" (rather than "key"). Because scale degrees $\hat{3}$, $\hat{6}$, and $\hat{7}$ are crucial in the distinction between major and minor, they are often called the **modal scale degrees**—they create the distinctive sound of each mode. Example 5.15 highlights the modal scale degrees in the parallel keys E major and E minor.

EXAMPLE 5.15: Modal scale degrees in parallel keys \bigcap_{i}



The Minor Pentatonic Scale

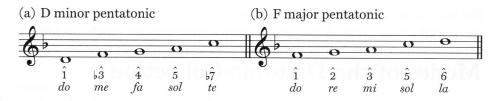
Embedded within the natural minor scale is a five-note scale often heard in folk melodies. For an example, listen to "Wayfaring Stranger" (Example 5.16), and identify which scale degrees of the natural minor scale are missing.

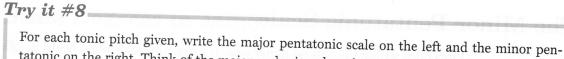
EXAMPLE 5.16: "Wayfaring Stranger," mm. 1-8 (melody)

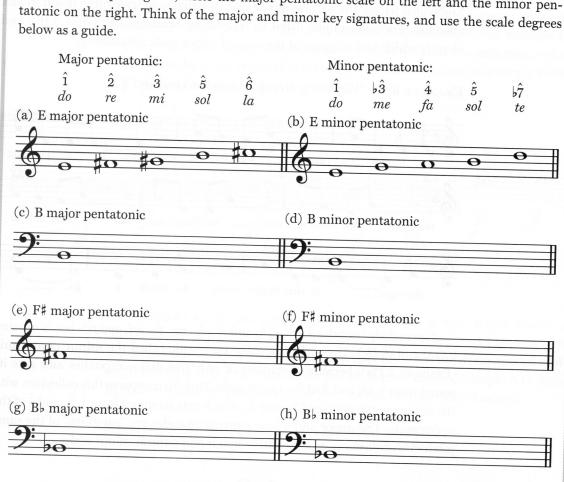


The melody includes $\hat{1}$, $\hat{1}$, $\hat{3}$, $\hat{4}$, $\hat{5}$, and $\hat{1}$ (do, me, fa, sol, and te), but is missing $\hat{2}$ (re) and $\hat{1}$ (le). These pitches make up a scale called the **minor pentatonic** (Example 5.17a), because it consists of only five diatonic pitches and gets its sound from $\hat{1}$, $\hat{1}$, and $\hat{5}$ of the minor scale. Part (b) compares this collection with the major pentatonic (see Chapter 3), which gets its sound from $\hat{1}$, $\hat{3}$, and $\hat{5}$ of the major scale. The major and minor pentatonic scales are "rotations" of the same pitch-class collection, as are relative-major and natural-minor scales.

EXAMPLE 5.17: Pentatonic scales \bigcap







Modes of the Diatonic Collection

Perhaps you know pieces whose underlying scales don't fit neatly into the major or minor scale types discussed so far. Listen to the beginning of one such melody, "Greensleeves" (Example 5.18). The tune appears to be in A minor, since it begins and ends on A. Yet its key signature (F \sharp) yields the same pitch-class collection as G major (or E minor).

This type of scale is neither major nor minor, but **modal**—in this case, the mode known as **Dorian**. Dorian sounds like natural minor, but with a raised sixth scale degree. In some arrangements (as in your anthology version), the

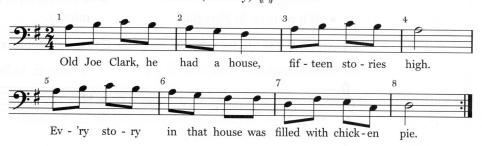
Dorian melody is altered at the end (with an added G#, the leading tone to A), but the version shown here is purely Dorian. Modal melodies are typically found in music of the Renaissance and early Baroque, folk and popular music, world musics, and some rock and jazz.

EXAMPLE 5.18: Dorian melody, "Greensleeves," mm. 1-8



Now listen to Example 5.19, "Old Joe Clark." This folk tune sounds somewhat major, with D as the tonic and starting on $\hat{5}$, but its key signature of only one sharp means that the seventh scale degree in D is lowered (C $\$). This mode is called **Mixolydian**.

EXAMPLE 5.19: "Old Joe Clark" (melody)



Sometimes a composer will use only a segment of a mode or scale, as Bartók does in the piano piece shown in Example 5.20. In that case, the melody will inevitably feature characteristic sounds of the mode. Here, the **Lydian** mode (which sounds like a major scale but with $\sharp \hat{4}$) is identified in the title, and the melody, with F as the tonic, features a prominent downbeat on B\\\\ (\\dagger \hat{4}\) in measures 2 and 5.

EXAMPLE 5.20: Bartók, "In Lydian Mode," mm. 1-8



The "Relative" Identification of Modes

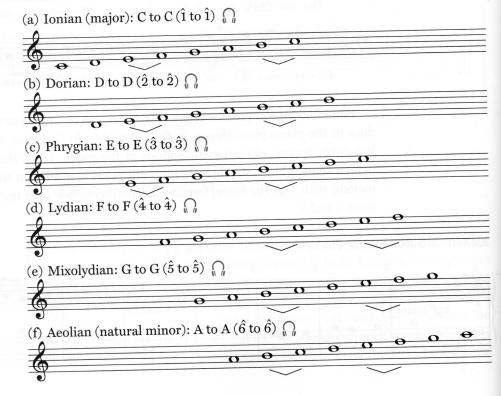
There are six traditional **diatonic modes**, sometimes called the "church" modes because of their association with early plainsong chants sung in the Christian church. These modes share the same diatonic collection as a major (or natural minor) scale, but each begins on a different pitch. Sing or play the six "rotations" shown in Example 5.21, and listen to how the new arrangement of whole and half steps gives each mode a distinctive sound.

KEY CONCEPT The diatonic collection of pitches from C to C may be rotated to begin with any pitch. Each rotation forms a diatonic mode. These are (in order, from C): Ionian, Dorian, Phrygian, Lydian, Mixolydian, and Aeolian. (As a shortcut to learning their names, think of a sentence with the first letter of each mode in order, like "I don't particularly like magic acts.")

To identify a mode with the "relative" method, think of the major key associated with the work's key signature (for example, C major, as below).

- If the melody rests on î as its most stable pitch, it is Ionian (major).
- If it rests on 2: Dorian.
- If it rests on 3: Phrygian.
- If it rests on 4: Lydian.
- If it rests on 5: Mixolydian.
- If it rests on 6: Aeolian (natural minor).

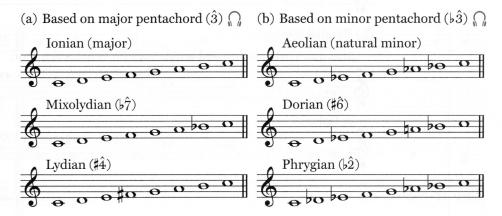
EXAMPLE 5.21: Modes as rotations of the C major diatonic collection



The "Parallel" Identification of Modes

Because our twenty-first-century ears are accustomed to the major and minor scales, we sometimes hear the modes as alterations of these more familiar scales. We can therefore group the modes into two families, according to whether their third scale degree comes from the major or minor pentachord. Example 5.22 summarizes this approach, with each mode beginning on C.

EXAMPLE 5.22: Modes grouped by families (on C)



Spelling Modal Scales

Now you can spell a mode from any given starting note by using either the relative or parallel method, as described below.



KEY CONCEPT To write a Dorian scale beginning on G:

Relative method (Example 5.23a):

- 1. Write note heads on the staff from G to G.
- 2. Remember that Dorian begins on $\hat{2}$ of a major scale; G is $\hat{2}$ in the scale of F major.
- 3. The key signature of F major has one flat, so add a flat to B.

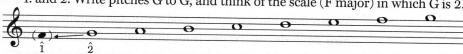
Parallel method (part b):

- Remember that Dorian sounds like natural minor, with a raised sixth scale degree.
- 2. Write a G natural-minor scale, with two flats (Bb and Eb).
- 3. Raise bô by changing Eb to E4.

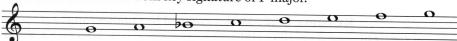


(a) Relative method

1. and 2. Write pitches G to G, and think of the scale (F major) in which G is 2.

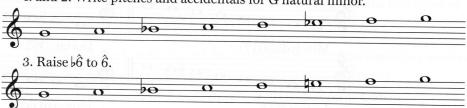


3. Add accidentals from key signature of F major.

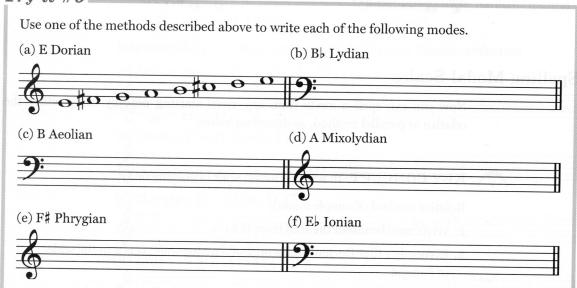


(b) Parallel method

1. and 2. Write pitches and accidentals for G natural minor.



Try it #9.



Twentieth-Century and Contemporary Modal Practice

After years of neglect in the late eighteenth and nineteenth centuries (outside of folk music), the diatonic modes received renewed interest in the twentieth century as jazz and popular musicians—as well as classical composers—rediscovered their beauty. In modern use, even though the six diatonic modes can be transposed to begin on any pitch class, they are most often seen in their white-key

versions, or with one flat or one sharp. Musicians occasionally draw on a seventh diatonic mode as well—the **Locrian**, or B to B.

Just as composers mix major and minor for expressive effect, musical passages may express one mode, then shift to another. For example, consider Lennon and McCartney's "Eleanor Rigby" (Example 5.24). Its key signature of one sharp and repeated Es in the cello and second violin suggest E minor. Yet the melody of measures 9-12 features a C# alteration—a $\hat{6}$ that temporarily invokes the Dorian mode.

EXAMPLE 5.24: Lennon and McCartney, "Eleanor Rigby," mm. 9-12



Did You Know?

In the early eighteenth century (during the lifetimes of Johann Sebastian Bach, George Frideric Handel, and Joseph Haydn), writers argued over whether the old modes should be taught or be replaced by the more modern major and minor scales. Those preferring to retain the modes lamented the possible loss of their beauty and richness; those in favor of major and minor observed that the scales worked better with the functional harmonies of tonal music. You may be surprised to learn that to these writers, the model minor scale was not Aeolian (or natural minor) but Dorian. Manuscripts of music in minor from that time often show one fewer flat in the key signature than we would expect; the extra flat (for the sixth scale degree) was carefully written in every time that pitch class appeared in the music. For example, Bach's Minuet II from the Cello Suite No. 1, shown here, is in G minor (note the F# leading tone), yet the key signature shows only one flat. The other flat, Eb, is added as an accidental in measures 25, 27, and 29.

