

CHAPTER 2

Rhythm, Melody, and HARMONY

START... experiencing this chapter's topics with an online video activity.

LEARNING OBJECTIVES

After studying the material in this chapter, you should be able to:

- 1 Outline the basics of the first of the fundamental elements of music: rhythm.
- 2 Distinguish different levels of rhythmic activity in different pieces of music.
- 3 Recognize the melodic contour of different pieces of music.
- 4 Differentiate major from minor.
- 5 Identify consonance and dissonance, and then cadences.
- 6 Identify chord changes in harmony.

Personal use only, do not reproduce.
2022-01-19
kabbeh1@gmail.com

Music is an unusual art. You can't see it or touch it. But it has matter—compressed air molecules yielding sounding pitches—and these pitches are organized in three main ways: as rhythms, as melodies, and as harmonies. Rhythm, melody, and harmony, then, are the three primary elements—the *what*—of music.

Rhythm

Humans are rhythmic beings. Our heartbeat, brain waves, and breathing are all rhythmic. How fundamental is rhythm? Remember that recognition of the beat, as mentioned in Chapter 1, is mainly a function of the cerebellum, that part of the brain to develop first in human evolution. Consider, too, that we heard the beat of our mother's heart before we were aware of any sort of melody or tune. Consequently, our brain reacts powerfully and intuitively to a regularly recurring, strongly articulated "beat" and a catchy, repeating rhythmic pattern. We have a direct, even physical, response to rhythm, especially as expressed in pop music (Figure 2.1). We move, exercise, and dance to its pulse.

The basic pulse of music is the **beat**, a regularly recurring sound that divides the passing of time into equal units. **Tempo** is the speed at which the beat sounds. Some tempos are fast (*allegro*) or very fast (*presto*), and some are slow (*lento*) or very slow (*grave*). Sometimes the tempo speeds up, producing an **accelerando**, and sometimes it slows down, creating a **ritard**. But oddly, whether the tempo proceeds rapidly or slowly, undifferentiated streams of anything aren't appealing to us humans. We organize passing time into seconds, minutes, hours, days, years, and centuries. We subconsciously group the chirping of a seatbelt warning chime into units of two or three "dings." So, too, with the undifferentiated stream of musical beats: Our psyche demands that we organize the musical beats into groups, each containing two, three, four, or more pulses. The first beat in each unit is called the **downbeat**, and it gets the greatest **accent**, or stress. Organizing beats into groups produces **meter** in music, just as arranging words in a consistent pattern of emphasis produces meter in poetry. In music, each group of beats is called a **measure** (or **bar**). Although there are several different kinds of meter in music, about 90 percent of the music we hear falls into either a **duple meter** or a **triple meter** pattern. We mentally count "ONE-two" or "ONE-two-three." There's a quadruple pattern as well, but in most instances, our ear perceives this as simply a double duple meter pattern.

Rhythmic Notation

About 800 years ago, in thirteenth-century Paris to be precise, musicians began to devise a system to notate the beats, meters, and rhythms of their music. They created visual symbols that stood for long or longer, and short or shorter, durations. Over the centuries, these visual symbols developed into the notational symbols that we use today, as seen in Example 2.1.

READ... the complete chapter text in a rich, interactive online platform.

LISTEN TO... a podcast about tempo online.



WATCH... Michael Jackson respond to and redefine the beat in a YouTube video online. Compare with screen actor Christopher Walken in action.







FIGURE 2.1



When we listen to a song with a strong beat, auditory neurons stimulate motor neurons, causing us to dance. In the realm of pop song and dance, perhaps no one was better at this immediate connection between the auditory and the motor than Michael Jackson. Although he died in 2009, the estate of the "King of Pop" still generates about \$100 million annually from the sale of music and merchandise.

EXAMPLE 2.1 Notational symbols for rhythmic durations

(whole note)  =  (2 half notes = 4 beats)


(half note)  =  (2 quarter notes = 2 beats)


(quarter note)  =  (2 eighth notes = 1 beat)

(eighth note)  =  (2 sixteenth notes = 1/2 beat)

To help the performer keep the beat when playing, the smaller note values—specifically, those with flags on the vertical stem—are beamed, or joined together, in groups of two or four (Example 2.2).
















EXAMPLE 2.2 Short durations grouped

 becomes 

Today, the symbol that usually represents, or “carries,” one beat in music is the quarter note (). Normally, it moves along roughly at the rate of the average person’s heartbeat. As you might suspect from its name, the quarter note is shorter in length than the half note and the whole note, but it is longer than the eighth note and the sixteenth note. There are also signs, called **rests**, to indicate the absence of sound for different lengths of time.

If music proceeded only with beats organized into meter, it would be dull indeed—like the endless sound of a bass drum (ONE-two, ONE-two, or ONE-two-three, ONE-two-three). In fact, what we hear in music by way of duration is **rhythm**, the division of time into compelling patterns of long and short sounds (see Listening Cue, “The Basics of Rhythm”). Rhythm emerges from, and rests upon, the durational grid set by the beat and the meter. In fact, no one actually plays just the beat, except perhaps a drummer; rather, we hear a mass of musical rhythms, and our brain extracts the beat and the meter from them. To see how this works, let’s look at a patriotic song from the time of the American Revolution in duple ($\frac{2}{4}$) meter, in Example 2.3.

EXAMPLE 2.3 Beat and rhythm in duple meter

	Yan - kee	doo - dle	went to town,	rid - ing on a	po - ny.	
Rhythm:						
Beat:						
	ONE	two	ONE	two	ONE	two
	Stuck a feath - er	in his hat and	called it	ma - ca - ro - ni.		
Rhythm:						
Beat:						
	ONE	two	ONE	two	ONE	two

Example 2.4 shows another patriotic song, “America” (first known in England and Canada as “God Save the King”—or “Queen”), arranged the same way. It is in triple ($\frac{3}{4}$) meter.

EXAMPLE 2.4 Beat and rhythm in triple meter

My coun - try 'tis of thee, sweet land of

Rhythm:

Beat:

lib - er - ty of thee I sing.

Rhythm:

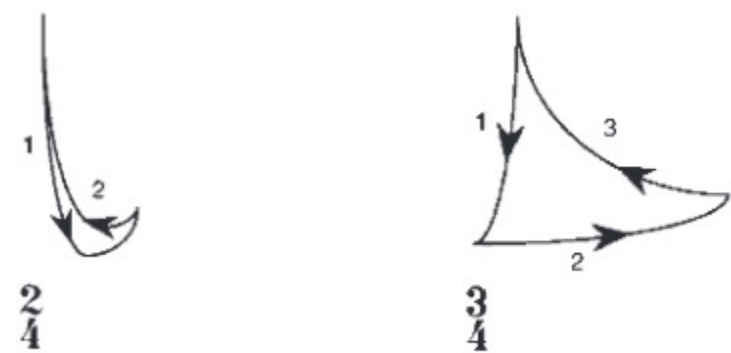
Beat:

The numbers $\frac{2}{4}$ and $\frac{3}{4}$ aren't fractions but, rather, **meter signatures** (also called **time signatures**). A meter signature tells the performer how the beats of the music are grouped to form a meter. The bottom number of the signature (usually a 4, representing the quarter note) indicates what note value receives the beat, and the top number tells how many beats there are in each measure. The small vertical lines in the preceding examples are called **bar lines**; they help performers keep the music of one measure, or bar, separate from the next and thus tell the performers how to keep the beat. Although all of this terminology of music theory might seem intimidating, the important question is this: Can you hear the downbeat and then recognize a duple meter (as in a ONE-two, ONE-two march) contrasted with a triple meter (as in a ONE-two-three, ONE-two-three waltz)? If so, you're well on your way to grasping the rhythmic element of music.

Hearing Meters

One way you can improve your ability to hear a given meter is to establish some sort of physical response to the music: Keep time with your foot, stomping hard on the downbeat and tapping softly on the weak beats; or conduct with your hand (Figure 2.2), using a conductor's pattern (down-up, or down-over-up), as shown in Example 2.5.

EXAMPLE 2.5 Conducting patterns for duple and triple meter



One final observation about meters and conducting patterns: Almost all music that we hear, especially dance music, has a clearly identifiable meter and a strong



FIGURE 2.2 Marin Alsop, musical director of the Baltimore Symphony Orchestra, conducts during a rehearsal.

LISTEN TO... a podcast about the basics of hearing meter online.

downbeat. But not all music *starts* with the downbeat. Often a piece will begin with an upbeat. An upbeat at the very beginning of a piece is called a pickup. The **pickup** is usually only a note or two, but it gives a little momentum or extra push into the first downbeat, as can be seen, in Example 2.6, at the beginning of two other patriotic songs.

EXAMPLE 2.6 Pickup

Oh | beau- ti- ful | for | spa- cious | skies
two | ONE two | ONE two | ONE two | ONE two

Oh | say can you | see by the | dawn's ear - ly | light
three | ONE two three | ONE two three | ONE two three | ONE two

Syncopation

Surprisingly, much Western classical music *doesn't* have a strong rhythmic component; rather, the beauty of the music rests in the melody and harmony. Popular music, on the other hand, is often irresistible, not only because of a strong beat, but also because of a catchy rhythm, created by syncopation. In most music, the accent, or musical emphasis, falls directly on the beat, with the downbeat getting the greatest emphasis of all. **Syncopation**, however, places the accent either on a weak beat or between beats—literally, it's “off beat.” This unexpected, offbeat moment in the music creates the catchy “hook” of the tune, the part that pops up when you least expect it and sticks in your head.

A short example of syncopation can be heard in bar 2 of the chorus of The Beatles' song “Lucy in the Sky with Diamonds.” The arrows in Example 2.7 show the moments of syncopation.

EXAMPLE 2.7 Simple syncopation

Lu - cy in the sky with di - a - monds

A far more complex example of syncopation can be found in Example 2.8, the popular theme song to *The Simpsons*.

EXAMPLE 2.8 Complex syncopation

ONE two ONE two ONE two ONE two ONE two

If you're a fan of jazz, Afro-Cuban music, or Latin music, you may be responding to the syncopation that gives these styles their bounce or lift.

LISTENING CUE

The Basics of Rhythm

WHAT TO LISTEN FOR: Practice recognizing different levels of rhythmic activity in different pieces of music.

WATCH ... an Active Listening Guide of this demonstration online.

DO ... Listening Exercise 2.1, Hearing Meters, online.

Melody

A **melody**, simply put, is the tune. It's the part we sing along with, the part we like, the part we're willing to listen to again and again. Amazon and iTunes offer album downloads of "50 All-Time Favorite Melodies," yet there are no similar collections devoted to rhythms or harmonies. Needless to say, Beyoncé, Adele, Taylor Swift, Sam Smith, and Renée Fleming sing the melody. They, and it, are the stars.

Every melody is composed of a succession of pitches, usually energized by a rhythm. **Pitch** is the relative position, perceived high or low, of a musical sound. We traditionally assign letter names (A, B, C, and so on) to identify specific pitches. When an instrument produces a musical tone, it sets into motion vibrating sound waves that travel through the air to reach the listener's ears. A faster vibration will produce a higher pitch, and a slower one, a lower pitch. Pressing the lowest key on the piano sets a string vibrating back and forth 27 cycles (times) per second, while the highest key does the same at a dizzying 4,186 times per second. Low pitches lumber along and sound "fuzzy," whereas high pitches are clear but fleeting. A low note can convey sadness; a high one, excitement (we don't usually hear a high-pitched piccolo as sad, for example). In Western music, melodies move along from one discrete pitch to another. In other musical cultures—Chinese, for example—melody often "slides," and much of its beauty resides *between* the pitches.

Have you ever noticed, when singing a succession of tones up or down, that the melody reaches a tone that sounds like a duplication of an earlier pitch but is higher or lower? That duplicating pitch is called an **octave**, for reasons that will become clear shortly, and it's usually the largest distance between notes that we encounter in a melody. When a melody leaps up an octave, our spirits soar.

Pitches that are an octave apart sound similar because the frequency of vibration of the higher pitch is precisely twice that of the lower pitch. The ancient Greeks, from whom much of our Western civilization derives, knew of the octave and its 2:1 ratio, and they divided it into seven pitches using other ratios. Their seven pitches plus the eighth (the octave) yield the white keys of the modern keyboard. When early musicians reached the repeating pitch, the octave, they began to repeat the A, B, C letter names for the pitches. Eventually, five additional notes were inserted. Notated with symbols called **flats** (b) and **sharps** (#), they correspond to the black keys of the keyboard (Figure 2.3).

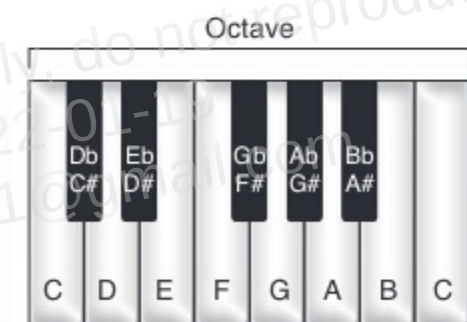


FIGURE 2.3
An octave

When a tune moves from one pitch to another, it moves across a melodic **interval**. Some of these distances are small; others, such as the octave, are large. Melodies with large leaps are usually difficult to sing, whereas those with repeated or neighboring pitches are easier. Example 2.9 shows the beginning of a well-known melody based on a large interval; both phrases of the tune begin with an ascending leap of an octave. To hear the octave, try singing “Take me...” to yourself.

LISTEN TO...

Example 2.9 online.

EXAMPLE 2.9 An octave in “Take Me Out to the Ball Game”



Take me out to the ball game, take me out to the crowd

Now, Example 2.10 shows the opening to Beethoven’s famous *Ode to Joy* from his Symphony No. 9 (1823), in which almost all of the pitches are adjacent. It is known and beloved around the world because it is tuneful and singable. Try it—you’ll recognize the melody. If you’re not comfortable with the words, try singing the syllable “la” to each pitch.

LISTEN TO...

Example 2.10 online.

EXAMPLE 2.10 Adjacent pitches in *Ode to Joy*



Praise to Joy the God de - scend - ed, Daugh - ter of E - ly - si - um.



Ray of mirth and rap - ture blend - ed, God - dess to thy shrine wel - come.

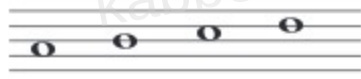
“Take Me Out to the Ball Game” and Beethoven’s *Ode to Joy* are very different in both intervallic structure and mood. Indeed, using all possible combinations of rhythms and pitches, an almost endless number of melodies can be created.

Melodic Notation

The type of notation used above for “Take Me Out to the Ball Game” and *Ode to Joy* is useful if we need only to be reminded of how a melody goes, but it isn’t precise enough to allow us to sing it if we don’t already know it. When the melody goes up, how *far* up does it go? Around the year 1000, even before the advent of rhythmic notation, church musicians added precision to pitch notation in the West. They started to write black and, later, white circles on horizontal lines and spaces so that the exact distance between these notes could be judged immediately. This grid-work of lines and spaces came to be called a **staff**. The higher on the staff a note is placed, the higher its pitch (Example 2.11).

Personal use only, do not reproduce.
2022-01-19
kabbeh1@gmail.com

EXAMPLE 2.11 Pitches on a staff



Over the course of centuries, the note heads also came to imply different durations, by means of stems and flags. Example 2.12A shows low, slow pitches that become gradually higher and faster, while Example 2.12B shows the reverse.

EXAMPLE 2.12A Pitches becoming higher and faster



EXAMPLE 2.12B Pitches becoming lower and slower



In notated music, the staff is always provided with a **clef** sign to show the range of pitch in which the melody is to be played or sung (Example 2.13). One clef, called the **treble clef**, designates the upper range and is appropriate for higher-sounding instruments, such as the trumpet and the violin, or a woman's voice. A second clef, called the **bass clef**, covers the lower range and is used for lower-sounding instruments, such as the tuba and the cello, or a man's voice.

EXAMPLE 2.13 Clefs



For a single vocal part or a single instrument, a melody could easily be placed on either of these two clefs. But for two-handed keyboard music with a greater range, both clefs are used, one on top of the other (Figure 2.4). The performer looks at this combination of clefs, called the **great staff** (also **grand staff**), and relates the

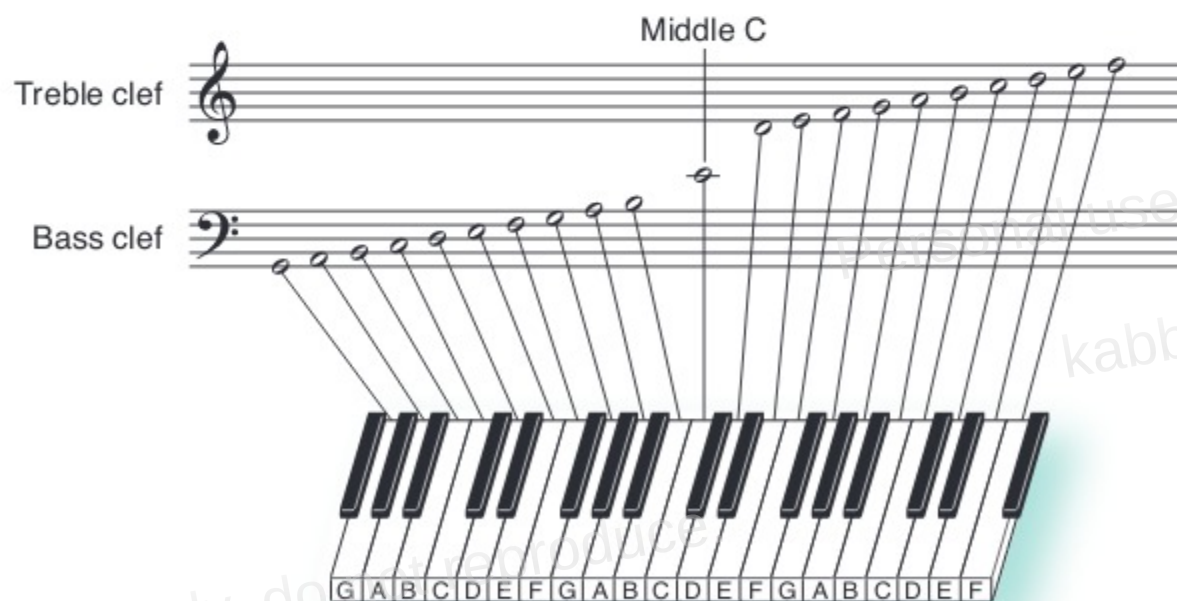


FIGURE 2.4
The great staff

Personal use only, do not reproduce.
2022-01-19
kabbeh1@gmail.com

notes to the keys beneath the fingers. The two clefs join at middle C (the middle-most C key on the piano).

Each musical pitch can be represented by a particular line or space on the great staff as well as by a letter name (like C). We use only seven letter names (in ascending order, A, B, C, D, E, F, and G) because, as we've seen, melodies are made up of only seven pitches within each octave. As a melody reaches and extends beyond the range of a single octave, the series of letter names is repeated (see Figure 2.4, bottom). The note above G, then, is an A, which lies exactly one octave above the previous A. In Example 2.14, "Twinkle, Twinkle, Little Star" is notated on the great staff, with the pitches doubled at the octave, as might happen when male and female voices sing together—the women an octave higher than the men.

LISTEN TO...

Example 2.14 online.

EXAMPLE 2.14 "Twinkle, Twinkle, Little Star"

The image shows musical notation for the song "Twinkle, Twinkle, Little Star". It consists of two staves: a treble clef staff for "Women" and a bass clef staff for "Men". The lyrics are written below the notes: "Twin - kle twin - kle lit - tle star, how I won - der what you are." Below the staves, the letter names for the notes are listed: C C G G A A G F F E E D D C. The notes are represented by whole notes on a five-line staff.

Scales, Modes, Tonality, and Key

When we listen to music, our brain hears a succession of pitches spaced out on a grid. That grid is a **scale**, a fixed pattern of tones within the octave that ascends and descends. Think of the scale as a ladder with eight rungs, or steps, between the two fixed points, low and high, formed by the octave. You can go up or down the ladder, but not all the steps are an equal distance apart. Five are a full step apart, but two are only a half step apart. For example, the distance between A and B is a full step, but the distance between B and C is only a half step—that's just the way the ancient Greeks built their musical ladder, an odd arrangement that Western musical culture retains to the present day.

The position of the two half steps functions something like an aural global positioning system (GPS), providing both a general and an exact location. Specifically, it tells us what kind of scale is in play and where we are within that scale. Since the seventeenth century, almost all Western melodies have been written following one of two seven-note scale patterns: the major one and the minor one. The **major scale** follows a seven-pitch pattern moving upward 1-1- $\frac{1}{2}$ -1-1-1- $\frac{1}{2}$. The **minor scale** goes 1- $\frac{1}{2}$ -1-1- $\frac{1}{2}$ -1-1. Once the eighth pitch (octave) is reached, the pattern can start over again. Figure 2.5 shows a major and minor scale, first on the pitch C and then on the pitch A.

The choice of the scale (whether major or minor)—and our ability to hear the difference—is crucial to our enjoyment of music. To Western ears, melodies based on major scales sound bright, cheery, and optimistic, whereas minor ones come across as dark, somber, and even sinister. Go back to the end of Chapter 1 and compare the bright, heroic sound of Richard Strauss's *Also sprach Zarathustra*, built on a major scale, with the almost-threatening sound of Beethoven's Symphony No. 5, written in a minor scale. Switching from a major to a minor scale, or from a minor to a major scale, is called a change of **mode**. Changing the mode affects the mood of the music. To prove the point, listen to the familiar tunes in Example 2.15.

Personal use only, do not reproduce.
2022-01-19
kabbeh1@gmail.com

C major scale

Interval: 1 1 1/2 1 1 1 1/2

C minor scale

Interval: 1 1/2 1 1/2 1 1

A major scale

Interval: 1 1 1/2 1 1 1 1/2

A minor scale

Interval: 1 1/2 1 1/2 1 1

FIGURE 2.5
Major and minor scales

LISTEN TO... audio of Figure 2.5 online.

The mode has been changed from major to minor by inserting a flat into the scale near the last pitch (C), thereby switching from the beginning of the major scale (1-1-1/2) to that of the minor (1-1/2-1). Notice how this alteration sucks all the happiness, joy, and sunshine out of these formerly major melodies.

EXAMPLE 2.15 Major melodies become minor melodies

Joy to the world, the Lord is come

you are my sun - shine, my on - ly sun - shine

Hap - py birth - day to you

LISTEN TO... Example 2.15 online.

DO... Listening Exercise 2.3, Hearing Major and Minor, online.

LISTEN TO... a podcast about hearing major and minor online.

Personal use only, do not reproduce.
2022-01-19
kabbeh1@gmail.com

Finally, a third, special scale sometimes sounds in music: a **chromatic scale** (Example 2.16), which makes use of all twelve pitches, equally divided, within the octave. *Chromatic* (from the Greek *chroma*, “color”) is a good word for this pattern, because the additional five pitches do indeed add color to the music. Unlike the major and minor scales, the chromatic scale is not employed for a complete melody, but only for a moment of twisting intensity. You can hear it in the first line of the song “White Christmas.”

LISTEN TO...

Example 2.16 online.

EXAMPLE 2.16 Chromatic scale



When listening to any music, we take pleasure, consciously or not, in knowing where we are. Again, the steps of the scale play a crucial role, orienting us during the listening experience. Virtually all the melodies that Western listeners have heard since birth have been in major or minor, so these two patterns are deeply ingrained. Intuitively, our brain recognizes the mode and hears one pitch as central and the others as gravitating around it. That central, or home, pitch is called the tonic. The **tonic** is the first of the seven pitches of the scale and, consequently, the eighth and last as well. Melodies almost always end on the tonic, as can be seen in the familiar tunes given in Example 2.15, all of which happen to end on the pitch C. The tonic provides a point of focus and repose, a powerful force that pulls us back home (Figure 2.6).



FIGURE 2.6

Planets rotate around and are pulled toward the sun, just as outlying pitches are pulled toward the tonic pitch.

The organization of music around a central pitch, the tonic, is called **tonality**. We say that such and such a piece is written in the tonality, and similarly the **key**, of C or of A (musicians use the terms *tonality* and *key* almost interchangeably). Composers—classical composers, in particular—like to move temporarily from the home scale and home tonality to another, just for the sake of variety. Such a change is called a **modulation**. In any musical journey, we enjoy traveling away from our tonic “home,” but we experience even greater satisfaction arriving back home. Again, almost all music, pop as well as classical, ends on the tonic pitch.

Finally, the greatest musical mystery of all: What makes a good melody? Why are some pieces (“Greensleeves” and Beethoven’s *Ode to Joy*) timeless and others immediately forgettable? Although there is no certain recipe for composing a great tune, consider the following: Most have an overall arch (shape), are composed of symmetrical phrases (subsections of 4, 8, or 16 bars), progress to a climax, and end with a final affirmation of the home pitch (the tonic). Beyond this, it’s anyone’s guess.

Harmony

Perhaps because of the long history of the piano and organ in the West—keyboard instruments that can play several pitches at once—Western music is exceptional among musical cultures in its emphasis on harmony. Simply said, **harmony** is the

sound of one or more pitches that support and enhance a melody. Almost always, the pitches of the melody are higher than those of the accompanying harmony. At the piano, for example, the “higher” right hand usually plays the melody and the left hand plays the harmony (see Example 2.17). Although a melody can stand by itself, an accompanying harmony adds a richness to it, just as the dimension of depth adds a rich backdrop to a painting.

EXAMPLE 2.17 Harmony supporting a melody

FIGURE 2.7 Claude Monet, *Waterlily Pond: Pink Harmony* (1900). Monet’s painting of this famous bridge at Giverny, France, reveals not only the harmonious qualities of nature but also the painter’s ability to harmonize various colors into a blend of pastels.

By definition, every harmony must be harmonious (Figure 2.7). From this truism we can see that there are two meanings of *harmony*. First, *harmony* means “a general sense that things work or sound well together”; second, *harmony* specifically denotes an exact musical accompaniment, as when we say “the harmony changes here to another chord.”

Building Harmony with Chords

Chords are the building blocks of harmony. A **chord** is simply a group of two or more pitches that sound at the same time. The basic chord in Western music is the **triad**, so called because we construct it using three pitches arranged in a very specific way. Let’s start with a C major scale, beginning with the tonic note C. To form a triad (Figure 2.8), we take one pitch, skip one pitch, and take one pitch—in other words, we select the pitches C, E, G (skipping D and F) and sound them together.

Triads can be constructed in a similar fashion on every pitch of the scale. But, given the irregularity of the scale (remember, not all steps on our musical ladder are the same distance apart), some triads will be major and others, minor. A major triad has its middle pitch a half step closer to its top pitch than to its bottom one; conversely, a minor triad has its middle pitch a half step closer to its bottom pitch than to its top one. While this may seem complicated, the difference between a major and a minor triad is immediately audible. Major triads sound bright; minor ones, dark. Example 2.18 shows triads built on every note of the C major scale. Each is assigned a Roman numeral to indicate on which pitch of the scale it is built.



FIGURE 2.8 A triad

These triads provide all the basic chords necessary to harmonize a melody in C major.

LISTEN TO...

Example 2.18 online.

EXAMPLE 2.18 Triads of the C major scale

Personal use only, do not reproduce.
2022-01-19
kabbbeh1@gmail.com

But why do we need more than one chord to harmonize a melody? Why is it necessary to change chords? The answer lies in the fact that the pitches of a melody continually change, sometimes moving through all the notes of a scale. But a single triadic chord can be harmonious, or consonant, only with the three notes of the scale that it contains. In order to keep the harmony consonant with the melody, then, chords must continually change.

As chords change in a purposeful fashion beneath a melody, they create what is called a **chord progression**. Chords, other than the tonic, are unstable. They want to reach the tonic, “pulling” each other along. One gives way to the next, all gravitating toward the powerful tonic triad. Along the path of the progression, a surprising, unexpected chord might sound, and this can cause a sudden, powerful emotional response. The end of a chord progression is called a **cadence**. Usually, at a cadence, a triad built on degree V of the scale, called the **dominant** triad, will yield to the tonic triad. This is a powerful harmonic move, one conveying a strong feeling of conclusion, as if to say, “THE END.”

To sum up, in Western music, melodies are supported by an enriching, chordal accompaniment—a harmony. The harmony gains force and enriches the melody as the chords move in a purposeful progression. It is necessary to change chords in a harmony so as to avoid unwanted dissonance.

Consonance and Dissonance

What is art? Art can be seen as a parallel life outside of ourselves. As we engage the external work of art, we experience another life of the emotions within us. And just as emotional life is full of consonance and dissonance, so, too, with music.

You’ve undoubtedly noticed, when you’re pressing the keys of the piano at one time or another, that some combinations of keys produce a harsh, jarring sound, whereas others are pleasing and harmonious. The former chords are characterized by **dissonance** (pitches sounding momentarily disagreeable and unstable), and the latter by **consonance** (pitches sounding agreeable and stable). Generally speaking, chords that contain pitches that are very close to one another, just a half or a whole step apart (C joined to D, for example), sound dissonant. On the other hand, chords built with the somewhat larger interval of a third (C joined to E) are consonant, as is the case for each triad in Example 2.18. But culture, and even personal taste, play a role in dissonance perception, too; what might be an unpleasantly spicy, distasteful dissonance to one listener might be a delight to another. While some, for example, find the loud, aggressive distortion of heavy metal bands such as Metallica intolerable, others thrive on it.

But whatever the music, dissonance adds a feeling of tension and anxiety, while consonance produces a sense of calmness and stability (see Listening Cue).

WATCH... YouTube

online to hear how thirty-six pop songs have been constructed on the same chord progression.

LISTEN TO... a podcast

about consonance and dissonance online.

LISTENING CUE

Consonance and Dissonance; Cadences

WHAT TO LISTEN FOR: A demonstration of consonance and dissonance, as well as chord progressions and cadences

WATCH ... an Active Listening Guide of this demonstration online.

Dissonant chords are unstable, and thus they seek out—they want to move to—consonant resolutions. The continual flux between dissonant and consonant chords gives Western music a sense of drama, as a piece moves between moments of tension to longed-for resolution. We humans try not to end the day with an unresolved argument; nor do we want to end our music with unresolved dissonance.

Hearing the Harmony

If you were asked to listen to a new song by your favorite pop artist and sing it back, you'd undoubtedly sing back the melody. The tuneful melody is invariably the line with the highest-sounding pitches. Thus, we've become trained, consciously or unconsciously, to focus on the top part of any musical texture. To hear and appreciate harmony, however, we've got to "get down" with the bass. Chords are usually built on the bass note, and a change in the bass from one pitch to another may signal a change of chord. The bass is the foundation of the chord and determines where the harmony is going, more so than the higher melody. Some pop artists, such as Paul McCartney and Sting, control both the upper melody and the lower harmony simultaneously. While they sing the tune, they play electric bass, setting the bass pitches for the rhythm guitar to fill out as accompanying triads.

To begin to hear the harmony beneath a melody, let's start with two completely different pieces, one from the world of popular music and the other, a well-known classical favorite. The first one is a bit of soul music called doo-wop. **Doo-wop** emerged in the 1950s as an outgrowth of the gospel hymns sung in African American churches in urban Detroit, Chicago, Philadelphia, and New York. Often doo-wop was improvised **a cappella** (voices only; that is, unaccompanied) on the street because it was direct and repetitive—the accompanying singers could easily hear and form a harmony against the melody. And because the lyrics that the accompanying singers sang were often little more than "doo wop, doo wah," the name "doo-wop" stuck to describe these songs. Finally, doo-wop harmony used a short chord progression, most commonly a sequence of triads moving I-VI-IV-V-(I) that repeated over and over again (for these four repeating chords, see Listening Guide, "Harmony (Chord Changes)").

In music, any element (rhythm, melody, or harmony) that continually repeats is called an **ostinato** (from the Italian word meaning "obstinate thing"). In the doo-wop song "Duke of Earl," we hear the bass voice lead, not with "doo, doo, doo," but with "Duke, Duke, Duke," setting the foundation for the chords that soon enter in the other voices. The tempo is moderately fast, and each of the four chords lasts for four beats. Every time the harmony voices sing "Earl," the chords change. The I-VI-IV-V-(I) chord progression lasts for about nine seconds and then repeats over

LISTEN TO... a podcast about hearing the bass line online.

LISTEN TO... a podcast about chord changes online.

LISTENING GUIDE

Harmony (Chord Changes)

Download 3 (2:33)

Gene Chandler, "Duke of Earl" (1962)

WHAT TO LISTEN FOR: A harmony that repeats as a four-bar ostinato. The bass singer first sets the bass line, and the other singers then add a chordal harmony in support of the melody.



- 0:00 Bass leads with:
Duke, Duke, Duke, Duke of Earl, Duke, Duke, Duke of Earl, Duke, Duke, Duke of Earl
I-----VI-----IV-----V
- 0:09 Other voices and instruments enter, filling out harmony
- 0:18 Voice of Gene Chandler enters with lyrics
- 0:27 Further statement of harmonic pattern
- 0:37 Each chord now holds for two bars rather than one.
- 0:54 (and 1:03) Each chord again holds for one bar.
- 1:13 Each chord again holds for two bars rather than one.
- 1:32 (and 1:41) Each chord again holds for one bar.

For the rest, you're on your own!

LISTEN TO ... this selection streaming online.

WATCH ... an Active Listening Guide of this selection online.

WATCH... Vitamin C's "Graduation (Friends Forever)," in which you can hear the Pachelbel harmony very clearly.

DO... Listening Exercise 2.4, Hearing the Bass Line and Harmony, online.

and over again. As you listen to this doo-wop classic, sing along with the bass, no matter what your vocal range. Anyone can hear this harmony change.

Finally, for a similar, but slightly more complex, piece from the classical repertoire, we turn to the famous Pachelbel Canon. (See also "Pachelbel and His Canon" in Chapter 7.) Johann Pachelbel (1653–1706), who lived in Germany and was a mentor to musicians in the Bach family, composed this piece for four musical lines. The top three, here played by violins, are performed as a **canon** (a "round" in which one voice starts out and the others duplicate it exactly, as in "Three Blind Mice"). Below, the three-part canon is a harmonic ostinato, this one consisting of eight chords. So popular has Pachelbel's harmony become that it has been "borrowed" by countless pop singers, including The Beatles ("Let It Be"), U2 ("With or Without You"), and Vitamin C ("Graduation [Friends Forever]"). For Pachelbel, musical imitation has been an endless form of flattery.

KEY WORDS

beat (17)	meter signature (19)	clef (23)	harmony (26)
tempo (17)	time signature (19)	treble clef (23)	chord (27)
<i>accelerando</i> (17)	bar line (19)	bass clef (23)	triad (27)
<i>ritard</i> (17)	pickup (20)	great staff (grand staff) (23)	chord progression (28)
downbeat (17)	syncopation (20)	scale (24)	cadence (28)
accent (17)	melody (21)	major scale (24)	dominant (28)
meter (17)	pitch (21)	minor scale (24)	dissonance (28)
measure (bar) (17)	octave (21)	mode (24)	consonance (28)
duple meter (17)	flat (♭) (21)	chromatic scale (26)	doo-wop (29)
triple meter (17)	sharp (♯) (21)	tonic (26)	a cappella (29)
rest (18)	interval (22)	tonality (key) (26)	ostinato (29)
rhythm (18)	staff (22)	modulation (26)	canon (30)



Join us on Facebook at Listening to Music with Craig Wright

PRACTICE ... your understanding of this chapter's concepts by reviewing the elements of music and working once more with the chapter's Active Listening Guides online.

DO ... online multiple-choice and critical thinking quizzes that your instructor may assign for a grade.