



Martha Argerich performs a piano concerto with the Houston Symphony Orchestra at the Lucerne Concert Hall in Switzerland.

long, complex works from memory. To perform without music requires intense concentration and many arduous hours of study and practice before the concert.

Even if you are familiar with some of the above observations, you will sense an aura of suspense surrounding concerts. You should try to take full advantage of the opportunities available—try something completely unfamiliar, perhaps the opera or the symphony, and continue enjoying concerts of whatever music you already like.

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I


Melody: Musical Line

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"It is the melody which is the charm of music, and it is that which is most difficult to produce. The invention of a fine melody is a work of genius."

—JOSEPH HAYDN

KEY POINTS

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- A *melody* is the line, or tune, in music, a concept that is shared by most cultures.
- Each melody is unique in its *contour* (how it moves up and down) and in its *range*, or span of pitches.
- An *interval* is the distance between any two pitches in a melody. A melody that moves in small, connected intervals is considered *conjunct*, while one that moves by leaps is called *disjunct*.
- The units that make up a melody are *phrases*.
- Phrases end in resting places called *cadences*.
- A melody may be accompanied by a secondary melody, or a *countermelody*.



The skyline of the majestic Grand Teton mountains in Wyoming resembles the rise and fall of melodic lines.

Melody is the element in music that appeals most directly to the listener. It is what we remember, what we whistle and hum. We know a good melody when we hear one, and we recognize its power to move us. We will see that melody is a universal concept shared by most musical cultures of the world.

Defining Melody

A *melody* is a succession of single pitches that we perceive as a recognizable whole. We relate to the pitches of a melody in the same way we hear the words of a sentence—not singly but as an entire cohesive thought. Each melody has its own distinct character based on its range, contour, and movement. A melody goes up and down, with one pitch being higher or lower than another; its *range* is the distance between the lowest and highest notes. This span can be very narrow, as in a children's song that is easy to sing, or very wide, as in some melodies played on an instrument. Although this distance can be measured in numbers of notes, we will describe range in approximate terms—narrow, medium, or wide.

Range

Contour

The *contour* of a melody is its overall shape as it turns upward, downward, or remains static. We can visualize a melody in a simple line graph, resulting in an ascending or descending line, an arch, or a wave (see Melodic Examples on facing page).

Interval

Conjunct and disjunct movement

The distance between any two pitches of a melody is called an *interval*. Melodies that move principally by small intervals in a joined, connected manner are called *conjunct*, while those that move in larger, disconnected intervals are described as *disjunct*. The movement of a melody does not necessarily remain the same throughout: it may, for example, begin with a small range and conjunct motion and, as it develops, expand its range and become more disjunct.

The Structure of Melody

Phrase

The component units of a melody are like parts of a sentence. A *phrase* in music, as in language, is a unit of meaning within a larger structure. The phrase ends in a resting place, or *cadence*, which punctuates the music in the same way that a comma or period punctuates a sentence.

Cadence

The cadence may be inconclusive, leaving the listener with the impression that more is to come, or it may sound final, giving the listener the sense that the melody has reached the end. The cadence is where a singer or instrumentalist pauses to draw a breath.

Melodic Examples

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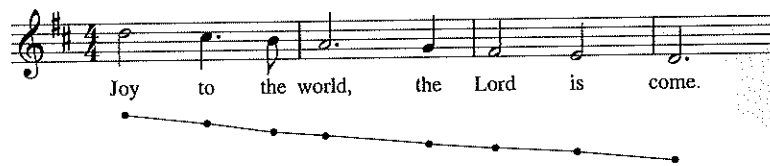
Ode to Joy (Beethoven, Symphony No. 9)

Range: narrow (5-note span)
Contour: wavelike
Movement: conjunct



Joy to the World (Christmas carol)

Range: medium (8-note span)
Contour: descending
Movement: conjunct, then a few leaps



The Star-Spangled Banner (U.S. national anthem)

Range: wide (10-note span)
Contour: wavelike
Movement: disjunct (many wide leaps)



If the melody has words, the text lines and the musical phrases will generally coincide. Let's consider the well-known hymn *Amazing Grace* (see p. 14). Its four phrases, both the text and the music, are of equal length, and the rhyme scheme of the text is *a-b-a-b*. (The *rhyme scheme* of a poem describes the similarity in sound of the last syllables in each line—here they are “sound,” “me,” “found,” and “see.”) The first three cadences (at the end of each of the first three phrases) are inconclusive, or incomplete; notice the upward inflection like a question at the end of the second phrase. The fourth phrase, with its final downward motion, provides the answer; it gives the listener a sense of closure.

A world of variety is possible when it comes to forming melodies. In order to maintain the listener's interest, a melody must be shaped carefully, either by the composer who plans it out in advance or by the performer who invents it on the spot. What makes a striking effect is the *climax*, the high point in a melodic line, which usually represents a peak in intensity as well as in range. Sing through, or listen to, *The Star-Spangled Banner* and note its climax in the last stirring phrase, when the line rises to the words “O'er the land of the free.”

Rhyme scheme

Climax

Melodic Phrases and Cadences

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Amazing Grace (traditional hymn):

4 text phrases = 4 musical phrases

Final cadence = end of verse



Phrase 1



Phrase 2



Phrase 3



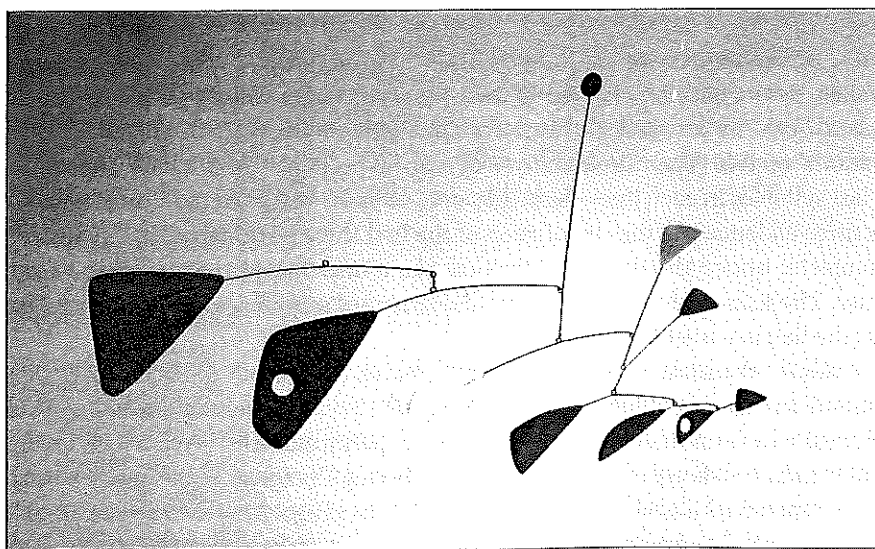
Phrase 4

Counter melody

More complex music can feature several simultaneous melodies. Sometimes the relative importance of one melody over the other is clear, and the added tune is called a *counter melody* (literally, “against a melody”). In other styles, each melodic line is of seemingly equal importance, as we will note in our discussion of musical texture.

For much of the music we will study, melody is the most basic element of communication between the composer or performer and the listener. As the twentieth-century composer Aaron Copland aptly put it, “The melody is generally what the piece is about.”

Line is as important in art as in music. Notice how the eye is drawn to the disjunct movement implied in the mobile sculpture from 1955, by **Alexander Calder** (1898–1976).



Listening Activity: Melody

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Bernstein: *Tonight*, from *West Side Story*

Let's try out your understanding of some terms relating to melody with this familiar musical theater song.

What to Listen For:

- 4 symmetrical phrases.
- How each phrase ends on long note (cadence).
- Rhyme scheme *a-a-b-b* ("star," "are," "light," "night").
- Disjunct movement with wide range (span of 12 notes).
- Conjunct movement (3rd phrase, "Today the minutes seem like hours").
- Countermelody in violins against voice (3rd phrase).

Reviewing Concepts of Melody:

Conjunct movement, small range: *America* (patriotic song)
 Disjunct movement, large range: *Ride of the Valkyries* (Wagner)
 Wavelike contour: *La Marseillaise* (French national anthem)
 Regular phrasing/cadence: *My Bonnie Lies over the Ocean* (folk song)
 Countermelody: *Stars and Stripes Forever*, Trio (Sousa)

2

Rhythm and Meter: Musical Time

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"I got rhythm, I got music. . ."

—IRA GERSHWIN

KEY POINTS



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- *Rhythm* is what moves music forward in time.
- *Meter*, marked off in *measures*, organizes the *beats* in music.
- Measures often begin with a strong *downbeat*.
- *Simple meters*—duple, triple, and quadruple—are the most common.
- *Compound meters* subdivide each beat into three, rather than two, subbeats.
- Rhythmic complexities occur with *upbeats*, *off-beats*, *syncopation*, and *polyrhythm*.
- *Additive meters* are used in some world musics.
- Some music is *nonmetric* or has an obscured pulse.

Music is propelled forward by *rhythm*, the movement of music in time. Each individual note has a length, or duration—some long and some short. The *beat* is the basic unit of rhythm—it is a regular pulse that divides time into equal segments. Some beats are stronger than others—we perceive these as *accented*, or strong, beats. In

Beat

IN HIS OWN WORDS

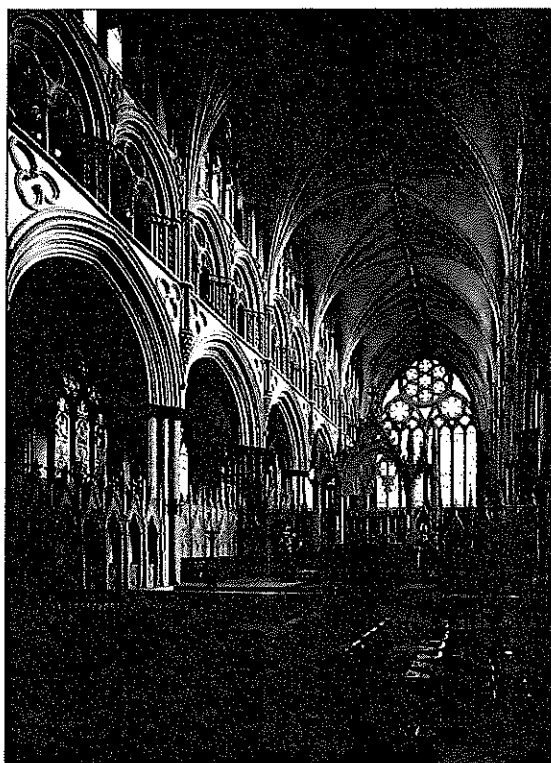
*Rhythm and motion, not the
element of feeling, are the
foundations of musical art.*

—IGOR STRAVINSKY

much of the Western music we hear, these strong beats occur at regular intervals—every other beat, every third beat, every fourth, and so on—and thus we hear groupings of two, three, four, or so on. These organizing patterns of rhythmic pulses are called *meters* and, in notation, are marked off in *measures*. Each measure contains a fixed number of beats, and the first beat in a measure generally receives the strongest accent. Measures are marked off by *measure lines*, regular vertical lines through the staff (on which the music is notated; see p. A-4).

Meter organizes the flow of rhythm in music. In Western music, its patterns are simple, paralleling the alternating accents heard in poetry. Consider, for example, this well-known stanza by the American poet Robert Frost. It has a meter that alternates a strong beat with a weak one. A metrical reading of the poem will bring out the regular pattern of accented (˘) and unaccented (˘) syllables:

Thē wōods āre love-ly, dārk ānd dēep.
Būt Ī hāve prōm-is-ēs tō kēep,
Ānd mīles tō gō bē-fōre Ī slēep,
Ānd mīles tō gō bē-fōre Ī slēep.



The duple subdivisions of the bays above the vaulted arches in Lincoln Cathedral (c. 1282) in England can be compared to simple meters in music.

Metrical Patterns

You will hear the regularly recurring patterns of two, three, or four beats in much of the music we will study. As in poetry, these patterns, or meters, depend on the regular recurrence of an accent. In music, the first accented beat of each pattern is known as a *downbeat*, referring to the downward stroke of a conductor's hand (see conducting patterns on p. 55). The most basic pattern, known as *duple meter*, alternates a strong downbeat with a weak beat: ONE-two, ONE-two, or, in marching, LEFT-right, LEFT-right.

Triple meter, another basic pattern, has three beats to a measure—one strong beat and two weak ones (ONE-two-three). This meter is traditionally associated with dances such as the waltz and the minuet.

Quadruple meter contains four beats to the measure, with a primary accent on the first beat and a secondary accent on the third. Although it is sometimes difficult to distinguish duple and quadruple meter, quadruple meter usually has a broader feeling.

Meters in which the beat has duple subdivisions are called *simple meters*. However, in some patterns, the beat is divided into three; these are known as *compound meters*.

The most common compound meter is *sextuple meter*, which has six beats to the measure, with accents on beats one and four (ONE-two-three, FOUR-five-six). Marked by a gently flowing effect, this pattern is often found in lullabies and nursery rhymes:

Lit - tle Boy Blue, come blow your horn, the
sheep's in the meadow, the cow's in the corn.

Examples of Meters

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ˈ = primary accent ˘ = secondary accent - = unaccented beat

Duple meter: *Ah! vous dirai-je, maman* (Mozart), same tune as
Twinkle, Twinkle, Little Star (children's song):

Accents:	Twin- ^ˈ	kle, [˘]	twi- ^ˈ	kle, [˘]	lit- ^ˈ	tle [˘]	star. ^ˈ	
Meter:	1	2		1	2		1	2

Triple meter: *America* (patriotic song):

Mý	coun-	try	'tis	of	thee.
1	2	3		1	2 3
Sweet	land	of	li-	ber-	ty
1	2	3		1	2 3

Quadruple meter: *Battle Hymn of the Republic* (Civil War song):

Glo - ry, glo-ry hal- le - lu - - - jah!	Glo - ry, glo-ry hal- le - lu - - - jah!
1 2 3 4	1 2 3 4

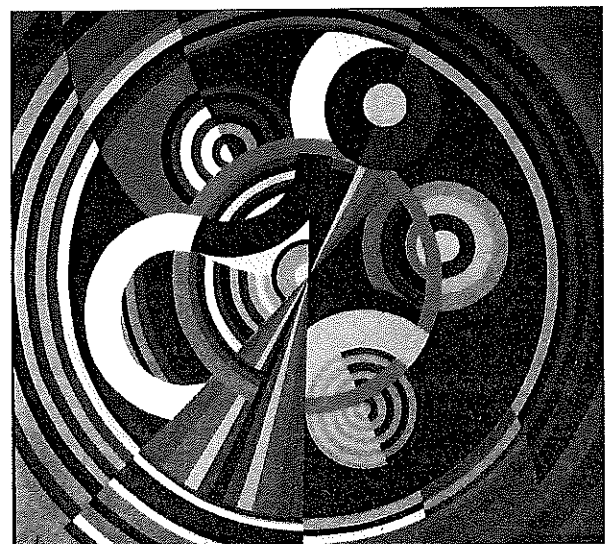
Sextuple meter: *Greensleeves* (folk song, United Kingdom)

A- las my love, you do me wrong, to cast me off dis - cour-teous - ly,
6 1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6

The examples above illustrate the four basic patterns. Not all pieces begin on a downbeat (or beat one). For example, *Greensleeves* is in sextuple meter and begins with an *upbeat*, that is, the last beat of the measure. (Notice that the Frost poem given earlier is in duple meter and begins with an upbeat on "the.")

Composers have devised a number of ways to keep the recurrent accent from becoming monotonous. The most common technique is *syncopation*, a deliberate upsetting of the normal pattern of accentuation. Instead of falling on the strong beat of the measure, the accent is shifted to a weak beat or to an *offbeat* (in between the stronger beats). Syncopation is a device used in the music of all centuries and is particularly characteristic of the African-American dance rhythms out of which jazz developed. The example on page 18 illustrates the technique.

Syncopation is only one technique that throws off the regular patterns. A composition may change meters during its course. Indeed, certain twentieth-century pieces shift meters nearly every measure. Another technique is the simultaneous use of rhythmic patterns that



Like meter in music, basic repeated patterns provide the interest in this painting by artist **Robert Delaunay** (1885–1941). *Rhythm No. 1, 1937*.



	<h2 style="margin: 0;">Syncopation</h2>	CD iMusic CD iMaterials
	<p>Swing Low, Sweet Chariot (African-American spiritual):</p> <p>Try singing or speaking this song in time with a regular beat. (Note that the words in the first measure come between the beats.)</p> <p>Swing low, _____ sweet char i- ot, _____</p> <p style="text-align: center;">1 2 1 2 </p> <p>comin' for to car-ry me home _____</p> <p style="text-align: center;">1 2 1 2 </p>	

Polyrhythm

Additive meter

conflict with the underlying beat, such as “two against three” or “three against four”—in a piano piece, for example, the left hand might play two notes to a beat, while the right hand plays three notes to the same beat. This is called *polyrhythm* (“many rhythms”) and occurs frequently in the music of many African cultures as well as in jazz and rock. In some non-Western musics, the rhythmic organization is even more complex, based on an *additive meter*, or grouping of irregular numbers of beats that add up to a larger overall pattern. For example, a rhythmic pattern of fourteen beats common in the music of India divides into groupings of 2 + 4 + 4 + 4. We will see that certain folk styles employ similar additive patterns of accents.

	<h2 style="margin: 0;">Listening Activity: Rhythm</h2>	CD iMusic CD iMaterials
	<p>Bernstein: <i>Tonight</i>, from <i>West Side Story</i></p> <p>Let's return to the song <i>Tonight</i> and note its rhythmic and metric concepts.</p> <p>What to Listen For:</p> <ul style="list-style-type: none"> • Duple meter (strong beat, weak beat). • Initial upbeat (To- NIGHT, last part of word is downbeat). • Complex rhythms with offbeats and syncopations. • Polyrhythms in accompaniment. <p>Reviewing Concepts of Rhythm and Meter:</p> <p>Duple meter: <i>Camptown Races</i> (Stephen Foster)</p> <p>Triple meter: <i>Lullaby</i> (Brahms)</p> <p>Quadruple meter: <i>O Canada</i> (Canadian national anthem)</p> <p>Sextuple meter: <i>Pop Goes the Weasel</i> (traditional, United Kingdom)</p> <p>Offbeat: <i>Oh! Susannah</i> (Stephen Foster)</p> <p>Syncopation: <i>Pine Apple Rag</i> (Scott Joplin)</p> <p>Shifting meter: <i>El Cihualteco</i> (Mexico, mariachi song)</p> <p>Polyrhythm: <i>Osain</i> (Cuba, Santeria)</p> <p>Nonmetric: <i>Kyrie</i> (Hildegard of Bingen)</p>	

Some music moves without any strong sense of beat or meter. We might say that such a work is *nonmetric* (this is the case in the chants of the early Christian church) or that the pulse is veiled or weak, with the music moving in a floating rhythm that typifies certain non-Western styles.

Nonmetric

Time is a crucial dimension in music, and music's first law is rhythm. This is the element that binds together the parts within the whole: the notes within the measure and the measure within the phrase. It is thereby the most fundamental element of music.

3

Harmony: Musical Space

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"We have learned to express the more delicate nuances of feeling by penetrating more deeply into the mysteries of harmony."

—ROBERT SCHUMANN

KEY POINTS

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- *Harmony* describes the simultaneous events in music.
- A *chord* is the simultaneous sounding of three or more pitches; chords are built from a particular *scale*, or sequence of pitches.
- The most common chord in Western music is a *triad*, which has three notes built on alternate pitches of a scale.
- Most Western music is based on *major* or *minor scales*, from which melody and harmony are derived.
- The *tonic* is the central tone around which a melody and its harmonies are built; this principle of organization is called *tonality*.
- *Dissonance* is created by an unstable, or discordant, harmony, while *consonance* occurs with the resolution of dissonance, producing a concordant sound.
- In music of some cultures, a single sustained tone, or *drone*, constitutes the harmony.

To the linear movement of the melody, harmony adds another dimension: depth, which results from simultaneous events in music. Harmony can be compared to the concept of perspective in painting (see illustration, p. 20)—it introduces the impression of musical space. Not all musics of the world rely on harmony for interest, but it is central to most Western styles.

We know that an *interval* is the distance between any two tones. Intervals can occur successively—that is, when one note follows another—or simultaneously. When three or more tones are sounded together, a *chord* is produced. *Harmony* describes the simultaneous sounding of notes to form chords and the progression from one chord to the next. We hear chords in terms of their relationships to each other. Harmony therefore implies movement and progression. It is the progression of harmony in a musical work that creates a feeling of order and unity.

Chord and harmony

Let us consider first how simple chords are formed. The intervals from which

Scale and octave

chords and melodies are built are chosen from a particular collection of pitches arranged in ascending or descending order known as a *scale*. To the tones of the scale we assign syllables, *do-re-mi-fa-sol-la-ti-do*, or numbers, 1-2-3-4-5-6-7-8. An interval of eight notes is called an *octave*.

Do	re	mi	fa	sol	la	ti	do
1	2	3	4	5	6	7	8
Octave							

Triad

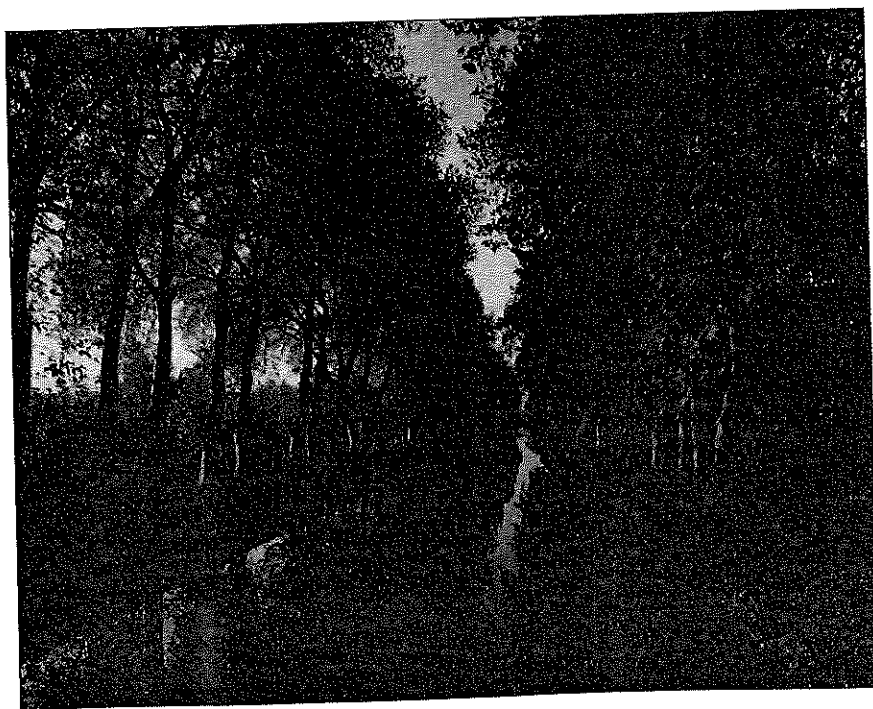
The most common chord in Western music is a particular combination of three tones known as a *triad*. Such a chord may be built on any note of the scale by combining every other note. For example, a triad built on the first tone of a scale consists of the first, third, and fifth pitches of the scale (*do-mi-sol*); on the second degree, steps 2-4-6 (*re-fa-la*); and so on. The triad is a basic formation in our music. In the example on p. 21, the melody of *Camptown Races* is harmonized with triads. We can see at a glance how melody is the horizontal aspect of music, while harmony, comprising blocks of tones (the chords), constitutes the vertical. Melody and harmony do not function independently of one another. On the contrary, the melody suggests the harmony that goes with it, and each constantly influences the other.

The Organization of Harmony

Tonic

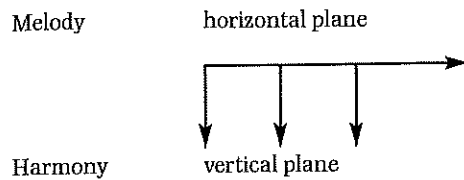
In all music, regardless of the style, certain tones assume greater importance than others. In Western music, the first note of the scale, *do*, is considered the *tonic* and serves as a home base around which the others revolve and to which they ultimately gravitate. We observed this principle at work earlier with the tune *Amazing Grace* (p. 14), noting that it does not have a final cadence until its last phrase. It is this sense

Harmony lends a sense of depth to music, as perspective does in this photograph, by **Fernand Ivaldi**, of a view down a tree-lined canal in France.



Example of Harmony

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Camptown Races (Stephen Foster):

Melody

De Camp-town la - dies sing this song, doo - dah doo - dah

Harmony (chords)

do re mi fa sol la ti do

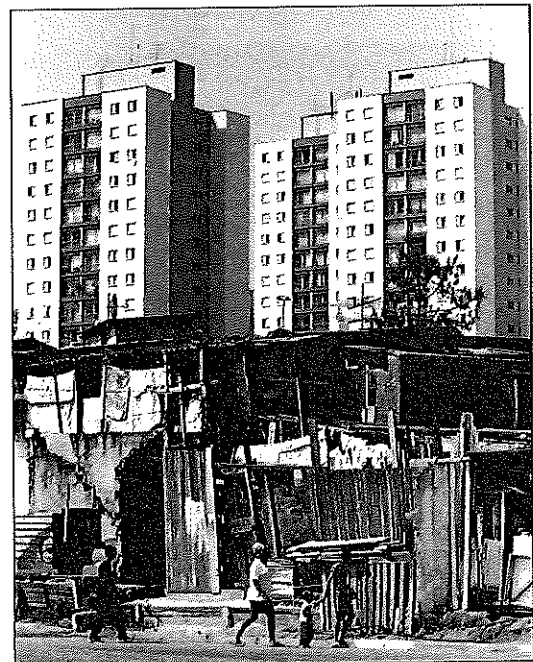
1 2 3 4 5 6 7 8

of a home base that helps us recognize when a piece of music ends.

The principle of organization around a central tone, the tonic, is called *tonality*. The scale chosen as the basis of a piece determines the identity of the tonic and the tonality. Two different types of scales predominate in Western music written between about 1650 and 1900: major and minor. Each scale has a distinct sound because of its unique combination of intervals. (We will learn more about the formulation of scales later, in Chapter 17.) For the moment, we should note the difference in character or mood between scales: music in major is usually thought of as bright or cheerful, while minor often sounds more subdued and sometimes sad. A composer would not be likely to choose a minor tonality for a triumphal march, nor a major tonality for a lament.

Consonance and Dissonance

The movement of harmony toward resolution is the dynamic force in Western music. It shapes the forward movement, providing focus and direction. As music moves in time, we feel moments of tension and release. The tension is a perceived instability that results from *dissonance*, a combination of tones



Just as dissonance provides tension in music, the discord and conflict in life is underscored by this juxtaposition of a slum in São Paulo, Brazil, against modern, high-rise apartments in the background.

Dissonance that sounds discordant, in need of resolution. Dissonance introduces conflict into music in the same way that suspense creates tension in drama. Dissonance resolves

Consonance in *consonance*, a concordant, or agreeable, combination of musical tones that provides a sense of relaxation and fulfillment. At their extremes, dissonance can sound harsh, while consonance is more pleasing to the ear. Each complements the other, and each is a necessary part of the artistic whole.

In general, music has grown more dissonant through the ages. You may wonder why this is so. A combination of tones that sound extremely harsh when first introduced will seem less dissonant as the sound becomes increasingly familiar through frequent exposure to it. As a result, each later generation of composers uses ever more dissonant harmonies in order to maintain a high level of excitement and tension.

Harmony appeared much later historically than melody and its development took place largely in Western music. In many Asian cultures, harmony is relatively simple, consisting of a single sustained tone, called a *drone*, against which melodic and rhythmic complexities unfold. This harmonic principle also occurs in some types of European folk music, where, for example, a bagpipe might play one or more accompanying drones to a lively dance tune.

Our system of harmony has advanced steadily over the past millennium (harmony was first introduced around the year 900), continually responding to new needs. Composers have tested the rules as they have experimented with innovative sounds and procedures. Yet their goal remains the same: to impose order on sound, organizing the pitches so that we perceive a unified idea.

IN HIS OWN WORDS

Do you know that our soul is composed of harmony?

—LEONARDO DA VINCI

Listening Activity: Harmony

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Haydn: Symphony No. 94 in G major (*Surprise*), second movement

This symphonic work will help us recognize elements of harmony.

What to Listen For:

- Simple, folklike melody with accompaniment (chords).
- Melody and chords built on a major scale (sounds cheery and bright).
- Melody revolving around a central tone, or tonic.
- "Surprise" as a loud, crashing chord, or block of harmony.
- Changes to minor tonality, becoming louder, more dramatic, and emotional.
- Return to original melody and chords, built on major scale.
- Predominate consonant harmonies.

Reviewing Concepts of Harmony:

Chord: *If I Had a Hammer* (Pete Seeger)

Tonic: *Greensleeves* (folk song, United Kingdom)

Major scale and tonality: *Joy to the World* (Christmas carol)

Minor scale and tonality: *Moonlight Sonata* (Beethoven)

Consonance: *America* (patriotic song)

Dissonance: "In the lovely month of May" (Schumann)

Drone: *Skye Crofters* (bagpipe, Scottish dance music)

4

Musical Texture

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"The composer . . . joins Heaven and Earth with threads of sound."

—ALAN HOVHANESS

KEY POINTS



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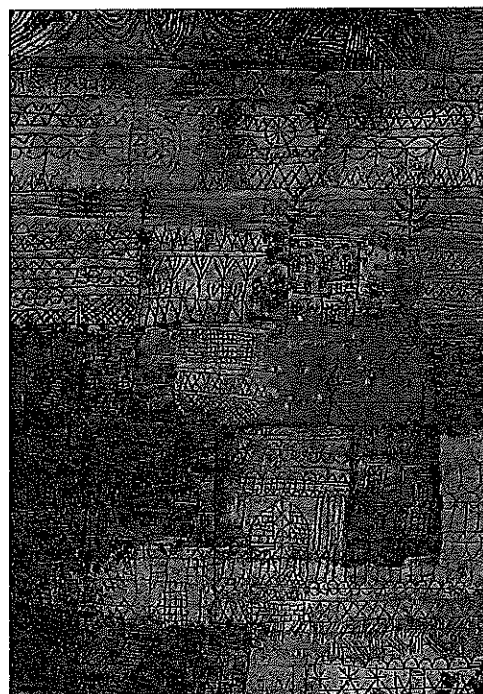
- *Texture* refers to the interweaving of the melodic lines with harmony in music.
- The simplest texture is *monophony*, or single-voiced music without accompaniment.
- *Heterophony* refers to multiple voices elaborating the same melody at the same time.
- *Polyphony* describes a many-voiced texture based on *counterpoint*—one line set against another.
- *Homophony* occurs when one melodic voice is prominent over the accompanying lines, or voices; *homorhythmic texture* is a subcategory of homophony in which all the voices move in the same rhythm.
- *Imitation*—when a melodic idea is presented in one voice, then restated in another—is a common unifying technique in polyphony; *canons* and *rounds* are two types of strictly imitative works.

Types of Texture

Melodic lines may be thought of as the various threads that make up the musical fabric, or the *texture*. The simplest texture is *monophony*, or single-voiced. ("Voice" refers to an individual part or line, even when we are talking about instrumental music.) Here, the melody is heard without any harmonic accompaniment or other melodic lines. It may be accompanied by rhythm and percussion instruments that embellish it, but interest is focused on the single melodic line rather than on any harmony. Until about a thousand years ago, the Western music we know about was monophonic, as some music of the Far and Middle East still is today.

One type of texture widely found outside the tradition of Western art music is based on two or more voices (lines) simultaneously elaborating the same melody, usually in an improvised performance. Called *heterophony*, this technique usually results in a melody combined with an ornamented version of itself. It can be heard too in some folk musics as well as in jazz and spirituals, where *improvisation* (in which some of the music is created on the spot) is central to performance.

Distinct from heterophony is *polyphony* ("many-voiced" texture), in which two or more different melodic lines are combined, thus distributing melodic interest among all the parts. Polyphonic texture is based on *counterpoint*. This term comes from the Latin *punctus contra punctum*, "point against point" or "note against note"—that is, one musical line set against another. Counterpoint is the art of combining two or more simultaneous melodic lines, usually with rules defined in a particular era.



Line and texture are the subject of **Paul Klee's** (1879–1940) painting *Neighborhood of the Florentine Villas* (1926).

Homophony

In another commonly heard texture, *homophony*, a single voice takes over the melodic interest, while the accompanying lines take a subordinate role. Normally, they become blocks of harmony, the chords that support, color, and enhance the principal line. Here, the listener's interest is directed to a single melodic line, but this is conceived in relation to harmony. Homophonic texture is heard when a pianist plays a melody in the right hand while the left sounds the chords, or when a singer or violinist carries the

Examples of Musical Texture

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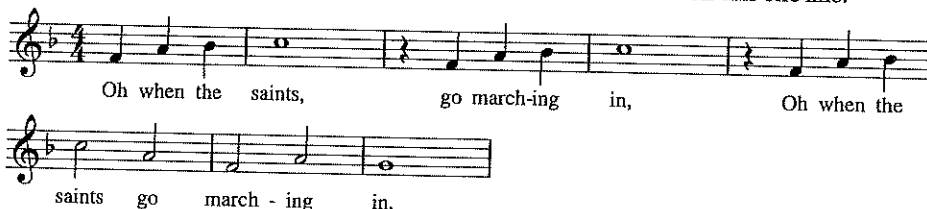
Monophonic: 1 melodic line, no accompaniment.

Hildegard of Bingen: *Kyrie* (chant):



Heterophonic: *When the Saints Go Marching In* (traditional, America)

Notice in the recording how the voice and instruments all elaborate on this one line:



Polyphonic: 2 independent melodic lines combined.

Bach: Organ chorale prelude, *Jesu, Joy of Man's Desiring*:



Homophonic: 1 melody with accompaniment (melody in top voice).

Mozart: *Clarinet Concerto, Adagio*:



Homorhythmic: a type of homophonic texture with all voices moving together.

Handel: "Hallelujah Chorus," opening, from *Messiah*:

tune against a harmonic accompaniment on the piano. Homophonic texture, then, is based on harmony, just as polyphonic texture is based on counterpoint.

Finally, there is *homorhythm*, a kind of homophony where all the voices, or lines, move together in the same rhythm. When there is text, all words are clearly sounded together. Like homophonic structure, it is based on harmony moving in synchronization with a melody.

Homorhythm

A composition need not use one texture exclusively throughout. For example, a large-scale work may begin by presenting a melody with accompanying lines (homophony), after which the interaction of the parts becomes increasingly complex as more independent melodies enter (creating polyphony).

We have noted that melody is the horizontal aspect of music, while harmony is the vertical. Comparing musical texture to the cross weave of a fabric makes the interplay of the parts clear. The horizontal threads, the melodies, are held together by the vertical threads, the harmonies. Out of their interaction comes a texture that may be light or heavy, coarse or fine.

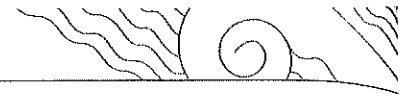
Contrapuntal Devices

When several independent lines are combined (in polyphony), one method that composers use to give unity and shape to the texture is *imitation*, in which a melodic idea is presented in one voice and then restated in another. While the imitating voice restates the melody, the first voice continues with new material. Thus, in addition to the vertical and horizontal threads in musical texture, a third, diagonal line results from imitation (see the example on p. 26).

Imitation

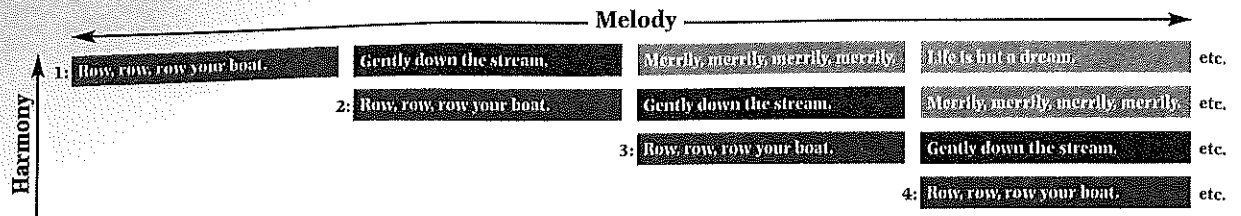
The duration of the imitation may be brief or it may last the entire work. A strictly imitative work is known as a *canon*. (The name comes from the Greek word for "law" or "order.") The simplest and most familiar form of canon is a *round*, in which each voice enters in succession with the same melody, that can be repeated endlessly. Well-known examples include *Row, Row, Row Your Boat* and *Frère Jacques* (*Are You Sleeping?*). In the example on page 26, the round begins with one voice singing "Row, row, row your boat," then another voice joins it in imitation, followed by a third voice and finally a fourth, creating a four-part polyphonic texture.

Canon and round



Round: *Row, Row, Row Your Boat* (in 4-voice imitation):

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Musical Texture and the Listener

Different textures require different kinds of listening. Monophonic music has only one focus—the single line of melody unfolding in real time. In homophonic music, the primary focus is on the main melody with subordinate harmonies as accompaniment. Indeed, much of the music we have heard since childhood—including many traditional and popular styles—consists of melody and accompanying chords. Homorhythmic texture is easily recognizable as well, in its simple, vertical conception and hymnlike movement. Here, the melody is still the most obvious line. Polyphonic music, with several independent melodies woven together, requires more experienced listening. The simplest polyphonic texture is the round. With practice, we can hear the roles of individual voices and determine how they relate to each other, providing texture throughout a musical work.

Listening Activity: Texture

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Handel: "Hallelujah Chorus," from *Messiah*

The famous "Hallelujah Chorus" from *Messiah* (often heard at Christmas or Easter) can help us review different textures as they change throughout the chorus.

What to Listen For:

- Opening homorhythmic texture, in which all choral voices sing the text "Hallelujah" together.
- Monophonic texture alternating with homorhythm (above) on text "For the Lord God Omnipotent reigneth."
- Polyphonic texture developing as the two ideas above are combined.
- Imitative polyphony, as each voice in turn states "And He shall reign for ever and ever"; voices enter from lowest (bass) to highest (soprano).
- Alternation of homorhythm and polyphony as the chorus proceeds.

Reviewing Concepts of Texture:

Monophonic texture: *Toccata in D minor*, opening (Bach)

Homophonic texture: *Surprise Symphony No. 94* (Haydn)

Homorhythmic texture: *Alla hornpipe*, from *Water Music* (Handel)

Heterophonic texture: *Los Jilicatas* (Peru, panpipes)

Changing texture: *Simple Gifts* (Shaker hymn)

Polyphonic texture: *Brandenburg Concerto No. 1*, first movement (Bach)

Imitation: *Contrapunctus 1*, from *The Art of Fugue* (Bach)

5

Musical Form

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"The principal function of form is to advance our understanding. It is the organization of a piece that helps the listener to keep the idea in mind, to follow its development, its growth, its elaboration, its fate."

—ARNOLD SCHOENBERG

KEY POINTS



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- *Form* is the organizing principle in music; its basic elements are repetition, contrast, and variation.
- *Strophic form*, common in songs, features repeated music for each stanza of text.
- Some music is created spontaneously in performance, through *improvisation*.
- *Binary form (A-B)* and *ternary form (A-B-A)* are basic structures in music.
- A *theme* is a melodic idea used as a building block in a large-scale work and can be broken into small, component fragments known as *motives*. A *sequence* results when a motive is repeated at a different pitch.
- Many cultures use *call-and-response* (or *responsorial*) music, a repetitive style involving a soloist and a group.
- An *ostinato* is the repetition of a short musical melodic, rhythmic, or harmonic pattern.
- Large-scale compositions, such as symphonies and sonatas, are divided into sections, or *movements*.

Form refers to a work's structure or shape, the way the elements of a composition have been combined, or balanced, by the composer to make it understandable to the listener. In all the arts, a balance is required between unity and variety, symmetry and asymmetry, activity and repose. Nature too has embodied this balance in the forms of plant and animal life and in what is perhaps the supreme achievement—the human form.

Structure and Design in Music

Music of all cultures mirrors life in its basic structural elements of *repetition* and *contrast*—the familiar and the new. Repetition fixes the material in our minds and satisfies our need for the familiar, while contrast stimulates our interest and feeds our desire for change. The contours of musical form come from the interaction between the repeated elements and the contrasting ones. Every kind of musical work, from a nursery rhyme to a symphony, has a conscious structure. One of the most common in vocal music, both popular and classical, is *strophic form*, in which the same melody is repeated with each stanza of the text. In this structure, while the music of one stanza offers contrast, the repetition binds the song together.

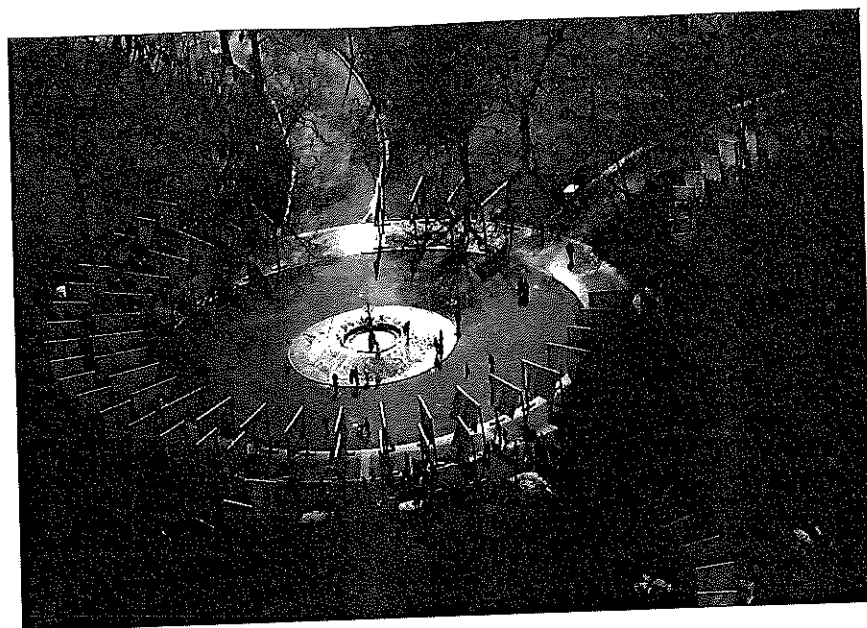
One principle of form that falls between repetition and contrast is *variation*, where some aspects of the music are altered but the original is still recognizable. We hear this formal technique when we listen to a new arrangement of a well-known popular song: the tune is recognizable, but many features of the version we know may be changed. All musical structures are based in one way or another on

Repetition and contrast

Strophic form

Variation

The Gates in Central Park (2005), by artists **Christo** and **Jeanne-Claude**, show the reliance of art on the basic element of repetition. This massive public art installation included 7,500 orange gates extending over 23 miles of footpaths in New York's Central Park.



IN HIS OWN WORDS

Improvisation is not the expression of accident but rather of the accumulated yearnings, dreams, and wisdom of our very soul.

—YEHUDI MENUHIN

repetition and contrast. The forms, however, are not fixed molds into which composers pour their material. What makes each piece of music unique is the way the composer adapts a general plan to create a wholly individual combination. We will see that no two symphonies of Haydn or Mozart, no two sonatas of Beethoven, are exactly alike. Each work presents a fresh and distinctive solution to the problem of fashioning musical material into a logical and coherent form.

Performers sometimes participate in shaping a composition. In works based primarily on *improvisation* (pieces created spontaneously in performance—typical of jazz, rock, and in certain non-Western styles), all the elements described above—repetition, contrast, and variation—play a role. Thus, even when a piece is created on the spot, a balance of these structural principles is present.

Two-Part and Three-Part Form

Binary and ternary form

Two of the most basic structural patterns found in art and in music are two-part, or *binary* form, based on a statement and a departure, without a return to the complete opening section; and three-part, or *ternary* form, which extends the idea of statement and departure by bringing back the first section. Formal patterns are generally outlined with letters: binary form as **A-B** and ternary form as **A-B-A** (illustrated in the chart on the facing page).

Both two-part and three-part forms are common in short pieces such as songs and dances. Ternary form, with its logical symmetry and its balance of the outer sections against the contrasting middle one, constitutes a clear-cut formation that is favored by architects and painters as well as musicians.

The Building Blocks of Form

Theme

When a melodic idea is used as a building block in the construction of a larger musical work, we call it a *theme*. The introduction of a theme and its spinning out, sometimes weaving and reweaving its lines, is the essence of musical thinking. This

Binary and Ternary Form

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Binary form: **Greensleeves** (traditional, United Kingdom)

Statement A (repeated with varied final cadences):

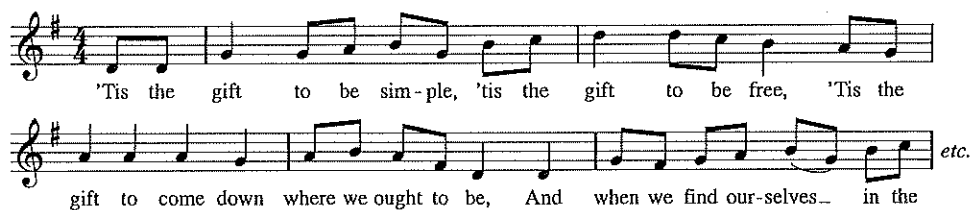


Departure B (with different cadences):

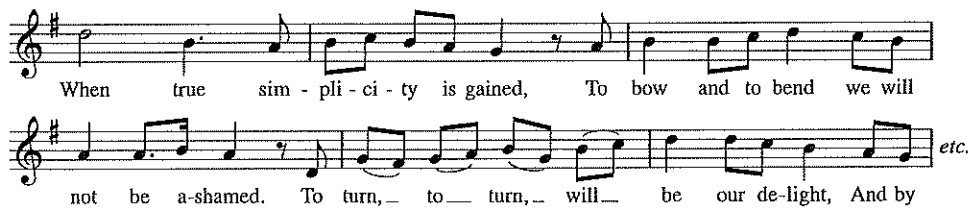


Ternary Form: **Simple Gifts** (Shaker hymn)

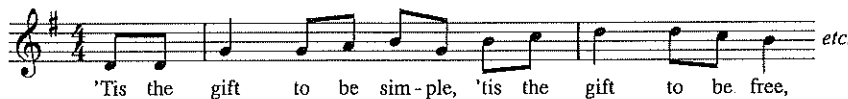
Statement A (repeated):



Departure B (ending resembles A with new text):

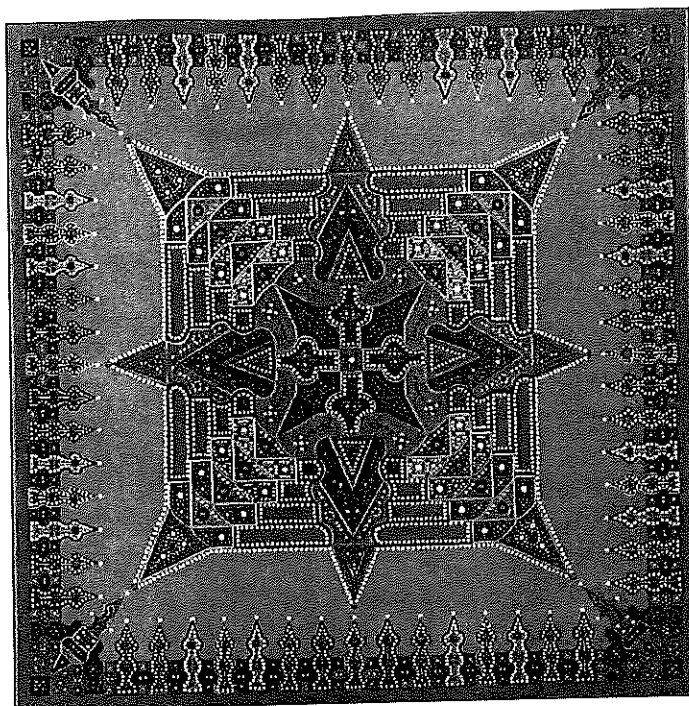


Repeated Statement A:



process of growth has its parallel in writing, where an idea—a topic sentence—is stated at the beginning of a paragraph and enlarged upon and developed by the author. Just as each sentence leads logically from one to the next, every phrase in a musical work takes up where the one before left off and continues convincingly to the next.

Some artists explore symmetrical patterns that relate to the compositional building blocks of motives and sequences in music. *Rosace* (1941), by **Fleury-Joseph Crépin** (1875–1948), is a good example.



Sequence and motive

Certain procedures aid the process of musical development. The simplest is repetition, which may be either exact or varied. Or the idea may be restated at a higher or lower pitch level; this restatement is known as a *sequence*. A melody, or theme, can be broken up into its component parts, or motives. A *motive* is the smallest fragment of a theme that forms a melodic-rhythmic unit. Motives are the cells of musical growth, which, when repeated, varied, and combined into new patterns, impart the qualities of evolution and expansion. These musical building blocks can be seen even in simple songs, such as the popular national tune *America* (see facing page). In this piece, the opening three-note motive ("My country") is repeated in sequence (at a different pitch level) on the words "Sweet land of." A longer melodic idea is treated sequentially in the second line of the work, where the musical phrase "Land where my fathers died" is repeated one note lower beginning on the words "Land of the pilgrim's pride."

Call-and-response

Whatever the length or style of a composition, it will show the principles of repetition and contrast, of unity and variety. One formal practice based on repetition and heard in music throughout much of the world is *call-and-response*, or *responsorial music*. This style of performance, predominant in early Western church music, is also common in music of African, Native American, and African-American cultures, and involves a singing leader who is imitated by a chorus of followers. Another widely used structural procedure linked to the principle of repetition is *ostinato*, a short musical pattern—melodic, rhythmic, or harmonic—that is repeated throughout a work or a major section of a composition. This unifying technique is especially prevalent in popular styles such as blues, jazz, rock, and rap, which rely on repeated harmonies that provide a scaffolding for musical development.

Ostinato

Movement

Music composition is an organic form in which the individual tones are bound together within a phrase, the phrases within a section, the sections within a *movement* (a complete, comparatively independent division of a large-scale work), and the movements within the work as a whole—just as a novel binds together the individual words, phrases, sentences, paragraphs, chapters, and parts.

Motive and Sequences

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America (also *God Save the Queen*):

My coun - try 'tis of thee, Sweet land of our
God save our gra - cious Queen, Long live our
li - ber - ty, Of thee I sing.
no - ble Queen; God save the Queen!
Land where my fa - thers died, Land of the pil - grim's pride,
Send her vic - to - ri - ous, Hap - py and glo - ri - ous,
From ev - 'ry moun - tain - side, Let free - dom ring.
Long to - reign o - ver us, God save the Queen!

(Brackets show repeated motives at different pitch levels, or in sequences.)

Listening Activity: Musical Form

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Tchaikovsky: *March*, from *The Nutcracker*

The march from the popular ballet *The Nutcracker* helps us test our musical memory in listening for form, or structure, of a composition.

What to Listen For:

- Catchy, accented march tune set in 3-part form (ternary, **A-B-A**).
- Opening melody (**A**) played by brass, answered by strings, then repeated.
- Short middle section (**B**), with rushing downward lines; heard first in woodwinds, then in strings.
- Return of opening music (**A**), with variation in accompaniment.
- Use of basic formal components: repetition, contrast, variation.

Reviewing Concepts of Form:

Variation: *Pop Goes the Weasel* (traditional, United Kingdom)

Improvisation: *Amazing Grace* (traditional hymn)

Strophic form: *Lullaby* (Brahms)

Binary form: *Minuet in D* (*Anna Magdalena Notebook*)

Ternary form: *March*, from *The Nutcracker* (Tchaikovsky)

Motive and sequence: *Symphony No. 5* (Beethoven)

Responsorial: *If I Had a Hammer* (Pete Seeger)

6


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Musical Expression:
Tempo and Dynamics

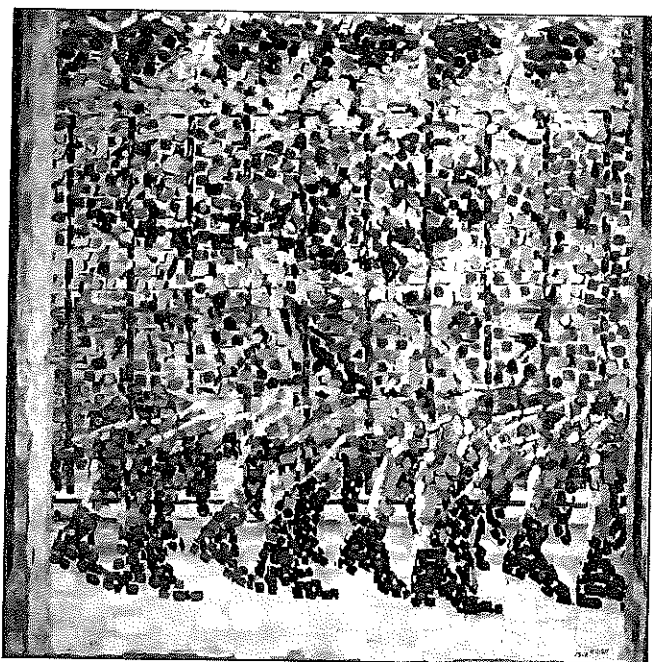
"Any composition must necessarily possess its unique tempo. . . . A piece of mine can survive almost anything but a wrong or uncertain tempo."

—IGOR STRAVINSKY

KEY POINTS

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- *Tempo* is the rate of speed, or pace, of the music.
- We use Italian terms to describe musical tempo: some of the most common are *allegro* (fast), *moderato* (moderate), *adagio* (quite slow), *accelerando* (speeding up the pace), and *ritardando* (slowing the pace).
- A *metronome* is a device that indicates the tempo, or beats per minute, by sounding a pulse.
- *Dynamics* describe the volume, or how loud or soft the music is played; Italian dynamic terms include *forte* (loud) and *piano* (soft).
- Composers indicate tempo and dynamics in music as a means of expression.



Italian Futurist painter **Giacomo Balla** (1871–1958) creates a pictorial depiction of speed and movement in *Girl Running on a Balcony* (1912).

The Pace of Music

We know that most Western music has steady beats underlying the movement; whether these occur slowly or rapidly determines the *tempo*, or rate of speed, of the music. Consequently, the flow of music in time involves meter patterns, governing the groupings and relative emphasis of the beats, and tempo.

Tempo carries emotional implications. We hurry our speech in moments of agitation or eagerness. Vigor and gaiety are associated with a brisk speed, just as despair usually demands a slow one. Music is a temporal art (one that moves in time), therefore its pace is of prime importance, drawing from listeners responses that are both physical and psychological.

Because of the close connection between tempo and mood, tempo markings indicate the character of the music as well as the pace. The markings, along with other indications of expression, are traditionally given in Italian. This practice reflects the domination of Italian music in Europe during the period from around 1600 to 1750, when performance directions were established. Here are some of the most common tempo markings:

<i>grave</i>	solemn (very, very slow)
<i>largo</i>	broad (very slow)
<i>adagio</i>	quite slow
<i>andante</i>	a walking pace
<i>moderato</i>	moderate
<i>allegro</i>	fast (cheerful)
<i>vivace</i>	lively
<i>presto</i>	very fast

Frequently, we also encounter modifiers such as *molto* (very), *meno* (less), *poco* (a little), and *non troppo* (not too much). Also important are terms indicating a change of tempo, among them *accelerando* (getting faster), *ritardando* (holding back, getting slower), and *a tempo* (in time, or returning to the original pace).

Loudness and Softness

Dynamics denote the volume (degree of loudness or softness) at which music is played. Like tempo, dynamics can affect our emotional response. The main dynamic indications, listed below, are based on the Italian words for soft (*piano*) and loud (*forte*).

<i>pianissimo</i> (<i>pp</i>)	very soft
<i>piano</i> (<i>p</i>)	soft
<i>mezzo piano</i> (<i>mp</i>)	moderately soft
<i>mezzo forte</i> (<i>mf</i>)	moderately loud
<i>forte</i> (<i>f</i>)	loud
<i>fortissimo</i> (<i>ff</i>)	very loud

Directions to change the dynamics, either suddenly or gradually, are also indicated by words or signs. Here are some of the most common ones:

<i>crescendo</i>	(<): growing louder
<i>decrescendo</i> or <i>diminuendo</i>	(>): growing softer
<i>sforzando</i> (<i>sf</i>)	"forcing": accent on a single note or chord; also shown by an accent (>)

Tempo and Dynamics as Elements of Musical Expression

The composer adds markings for tempo and dynamics to help shape the expressive content of a work. We will see that these expression marks increased in number during the late eighteenth and nineteenth centuries, when composers tried to make their intentions known ever more precisely, until in the early twentieth century when few decisions were left to the performer.

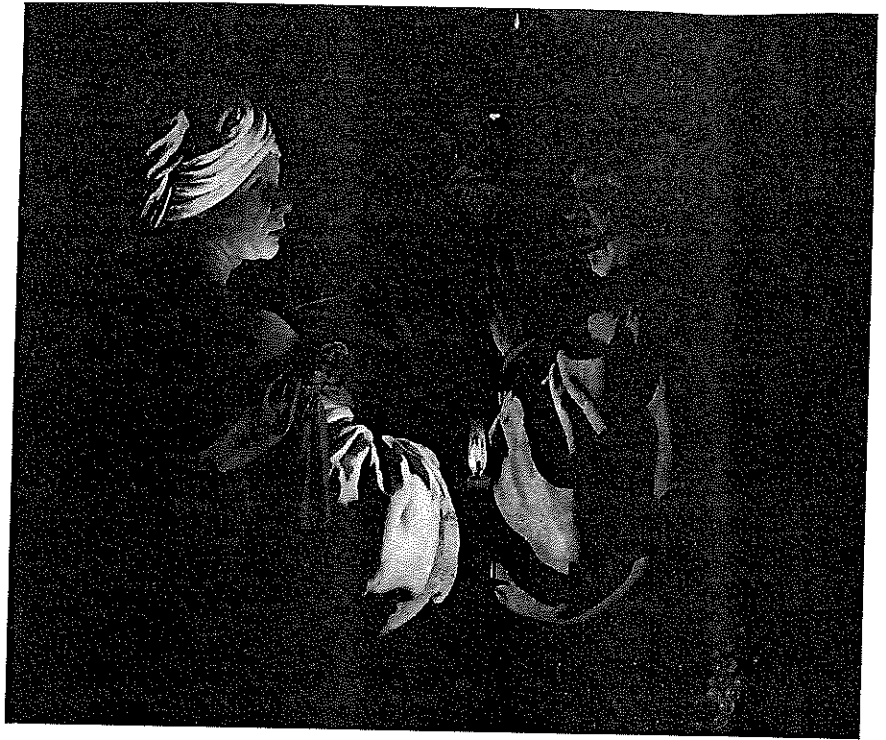
If tempo and dynamics are the domain of the composer, what is the role of performers and conductors in interpreting a musical work? Performance directions can be somewhat imprecise—what is loud or fast to one performer may be

IN HIS OWN WORDS

Voices, instruments, and all possible sounds—even silence itself—must tend toward one goal, which is expression.

—C. W. GLUCK

Dynamic contrasts in music may be compared to light and shade in painting. *The Concert* (1626), by **Hendrik Terbruggen** (1588–1629).



Metronome

moderate in volume and tempo to another. Even when composers give precise tempo markings in their scores (using a device known as a *metronome*, which measures the exact number of beats per minute), performers have the final say in choosing a tempo that best delivers the message of the music. And for the many styles of music—non-Western, folk, and popular, among others—that do not rely on composer directions or even printed music, the performer takes full responsibility for interpreting the music.

Tempo and Dynamics in a Musical Score

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Beethoven: **Symphony No. 5**, opening:

Allegro con brio

Tempo: Fast (*Allegro*) with vigor (*con brio*)

Dynamics: Very loud (*fortissimo*), then soft (*piano*), growing louder (*crescendo*) to loud (*forte*)

Listening Activity: Tempo and Dynamics

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Haydn: Symphony No. 94 in G major (*Surprise*), second movement

Let's return to the slow movement of Haydn's *Surprise* Symphony to consider how he treats elements of expression in the music:

What to Listen For:

- How tempo (pace) and dynamics (volume) affect the listener's response.
- Moderate tempo (*Andante*), a walking pace.
- Soft opening (marked *piano*), then repeated even softer (*planissimo*).
- Jarring, loud chord played *fortissimo*, which abruptly changes the mood.
- Alternation between soft (*piano*) and loud (*forte*) sections.
- New character in middle section, set in minor key and very loud (*fortissimo*).

Reviewing Concepts of Tempo and Dynamics:

Tempos:

Adagio: **Clarinet Concerto** (Mozart)

Andante: **Lullaby** (Brahms)

Moderato: **Für Elise** (Beethoven)

Allegro: **Symphony No. 5** (Beethoven)

Presto: **William Tell Overture** (Rossini)

Dynamics:

Pianissimo: **Moonlight Sonata** (Beethoven)

Piano: **Clarinet Concerto** (Mozart)

Forte: **Eine kleine Nachtmusik**, minuet (Mozart)

Fortissimo: **Ode to Joy** (Beethoven)

Crescendo: **William Tell Overture** (Rossini)

Changing dynamics: **Toreador Song**, from *Carmen* (Bizet)

Musical Instruments and Ensembles


7

Voices and Musical Instrument Families

"It was my idea to make my voice work in the same way as a trombone or violin—not sounding like them but 'playing' the voice like those instruments."

—FRANK SINATRA

KEY POINTS

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- Properties of sound include pitch, duration, volume, and *timbre*, or tone color.
- An *instrument* generates vibrations and transmits them into the air.
- The human voice can be categorized into various ranges, including *soprano* and *alto* for female voices, and *tenor* and *bass* for male voices.
- The world instrument classification system divides into *aerophones* (such as flutes or horns), *chordophones* (such as violins or guitars), *idiophones* (such as bells or cymbals) and *membranophones* (drums).

CD iMaterials

Musical Timbre

Timbre

We know that musical tone has pitch, duration, and volume. A fourth property of sound—known as tone color, or *timbre*—accounts for the striking differences in the sound quality of instruments. It is what makes a trumpet sound altogether different from a guitar or a drum. Timbre is influenced by a number of factors, such as the size, shape, and proportions of the instrument, the material from which it is made,

and the manner in which the vibration is produced. A string, for example, may be bowed, plucked, or struck.

People produce music vocally (by singing or chanting) or by playing a musical instrument. An *instrument* is a mechanism that generates musical vibrations and launches them into the air. Each voice type and instrument has a limited melodic range (the distance from the lowest to the highest tone) and dynamic range (the degree of softness or loudness beyond which the voice or instrument cannot go). We describe a specific area in the range of an instrument or voice, such as low, middle, or high, as its *register*.

Instrument

Register

The Voice as Instrument

The human voice is the most natural of all musical instruments; it is also one of the most widely used—all cultures have some form of vocal music. Each person's voice has a particular quality, or character, and range. Our standard designations for vocal ranges, from highest to lowest, are *soprano*, *mezzo-soprano*, and *alto* (short for *contralto*) for female voices, and *tenor*, *baritone*, and *bass* for male voices.

In earlier eras, Western social and religious customs severely restricted women's participation in public musical events. Thus young boys, and occasionally adult males with soprano- or alto-range voices, sang female roles in church music and on the stage. In the sixteenth century, women singers came into prominence in secular (nonreligious) music. Tenors were most often featured as soloists in early opera; the lower male voices, baritone and bass, became popular soloists in the eighteenth century. In other cultures, the sound of women's voices has always been preferred for certain styles of music; for example, in certain Muslim cultures of northern Africa, wedding songs are traditionally performed by professional women singers, and in many cultures, lullabies are the domain of women (see CP 2, p. 60).

Throughout the ages, the human voice has served as a model for instrument

Vocal ranges

IN HIS OWN WORDS

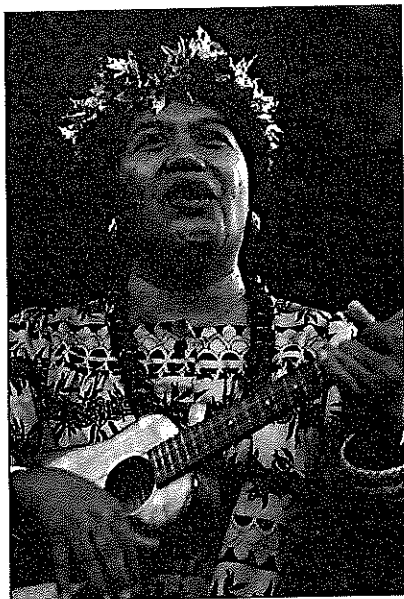
If you can walk you can dance. If you can talk you can sing.

—ZIMBABWE PROVERB



(Left): Angela Gheorghiu and tenor Roberto Alagna are two of the most talented young opera singers today.

(Right): A European bagpipe aerophone, often used in folk music, sounds a drone under the melodic line.



(Left): A native woman strums a ukulele, a traditional chordophone from the Hawaiian islands.



(Right): A Chinese band, with children playing cymbals (idiophones).

builders and players who have sought to duplicate its lyric beauty, expressiveness, and ability to produce *vibrato* (a throbbing effect) on their instruments.

The World of Musical Instruments

The diversity of musical instruments played around the world defies description. Since every conceivable method of sound production is used, and every possible raw material employed, it would be impossible to list them all here. However, specialists have devised a method of classifying instruments that is based solely on the way their sound is generated. Called the Sachs-Hornbostel System (after its inventors Curt Sachs and Erich von Hornbostel), the system uses four basic categories.



A drum (membranophone) ensemble from Burundi in Central Africa.

Aerophones produce sound by using air. Common instruments in this grouping are flutes, whistles, accordions, bagpipes, and horns—in short, nearly any wind instrument. **Chordophones** are instruments that produce sound from a vibrating string stretched between two points. The string may be set in motion by bowing, plucking, or striking, so the instruments are as disparate as the violin, harp, guitar, Japanese koto, Chinese hammered dulcimer (yangqin), and Indian sitar.

Idiophones produce sound from the substance of the instrument itself. They may be struck, shaken, scraped, or rubbed. Examples of idiophones are bells, rattles, xylophones, and cymbals—in other words, a wide variety of percussion instruments. **Membranophones** are drum-type instruments that are sounded from tightly stretched membranes. These instruments can be struck, plucked, rubbed, or even sung into, thus setting the skin in vibration (see illustrations on p. 38).

In the next chapter we will review, the instruments used most frequently in Western music. Throughout the book, however, you will learn about other instruments associated with popular and art music cultures around the world that have influenced the Western tradition.

Aerophones

Chordophones

Idiophones

Membranophones

Listening Activity: Voices

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Row, Row, Row Your Boat

Let us investigate the character and range of the standard voice designations in this round, which allows us to hear four of the vocal ranges, first in succession and then singing together.

What to Listen For:

- Voices that differ in timbre (tone color) and range.
- Standard voice ranges (soprano, alto, tenor, bass).
- Each choral voice sings the tune individually.
- Performance of round has voices entering from highest to lowest.

Reviewing Concepts of Timbre:

Voices:

Soprano: **Lullaby** (Brahms)

Mezzo-soprano: **Amazing Grace** (traditional hymn)

Tenor: **Tonight**, from *West Side Story* (Bernstein)

Baritone: **Toreador Song**, from *Carmen* (Bizet)

Vocal quartet (soprano, alto, tenor, bass): **Row, Row, Row Your Boat**

Instruments:

Aerophones: **Los Jillicatas** (panpipes, Peru)

Skye Crofters (bagpipe, Scotland)

Idiophones: **Doula Dance** (steel drums, Trinidad)

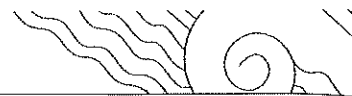
Tabuh Kenilu Sawik (gongs, Indonesia)

Chordophones: **Avaz of Bayate Esfahan** (santur or hammer dulcimer, Iran)

In a Mountain Path (bowed erhu, China)

Membranophones: **Gota** (drums, Ghana, West Africa)

Bhimpalāsi (tabla drum, North India)




8

Western Musical Instruments

*"In music, instruments perform the function
of the colors employed in painting."*

—HONORÉ DE BALZAC

KEY POINTS

 **StudySpace** online at www.wwnorton.com/enjoy

- The four families of Western instruments are *strings, woodwinds, brass, and percussion*.
- String instruments (chordophones) are sounded by *bowing* and *plucking*.
- Bowed strings include *violin, viola, cello, and double bass*; plucked strings include *harp* and *guitar*.
- Woodwind instruments (aerophones) include *flute, oboe, clarinet, bassoon, and saxophone*.
- Brass instruments (aerophones) include *trumpet, French horn, trombone, and tuba*.
- Percussion instruments include idiophones (*xylophone, cymbals, triangle*) and membranophones (*timpani, bass drum*); some instruments are pitched (*chimes*) while others are unpitched (*tambourine*).
- Keyboard instruments, such as *piano* and *organ*, do not fit neatly into the Western classification system.

CD iMaterials

Instruments

CD iVideo

Instruments of the Orchestra

The instruments of the Western world—and especially those of the orchestra—may be categorized into four familiar groups: strings, woodwinds, brass, and percussion. We will see, however, that these families of instruments are not entirely homogeneous; that is, all woodwinds are not made of wood, nor do they share a common means of sound production. Furthermore, certain instruments do not fit neatly into any of these convenient categories (the piano, for example, is both a string and a percussion instrument).

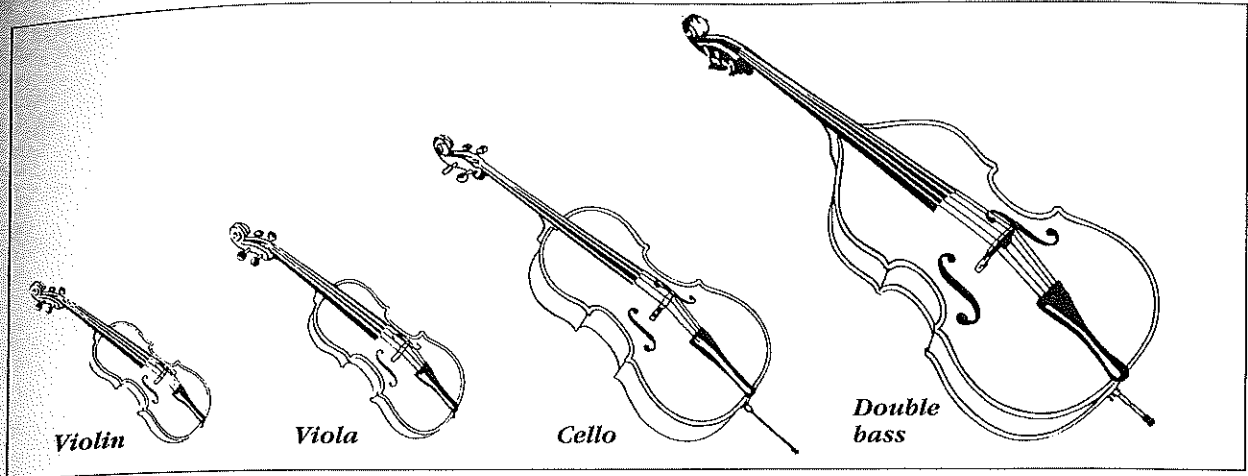
String Instruments

The string family, all chordophones, includes two types of instruments: those that are bowed and those that are plucked. The bowed string family has four principal members: violin, viola, violoncello, and double bass, each with four strings (double basses sometimes have five) that are set vibrating by drawing a bow across them. The bow is held in the right hand, while the left hand is used to “stop” the string by pressing a finger down at a particular point, thereby leaving a certain portion of the string free to vibrate. By stopping the string at another point, the performer changes the length of the vibrating portion, and with it the rate of vibration and the pitch.

Violin

The *violin* evolved to its present form at the hands of the brilliant instrument makers who flourished in Italy from around 1600 to 1750 (see p. 41). It is capable of brilliance and dramatic effect, subtle nuances from soft to loud, and great agility in rapid passages throughout its extremely wide range.

The *viola* is somewhat larger than the violin and thus has a lower range. Its strings are longer, thicker, and heavier. The tone is husky in the low register, somber



and penetrating in the high. It often fills in the harmony, or it often may double another part. One instrument is said to *double* (reinforce) another when it plays the same notes an octave higher or lower.

The *violoncello*, popularly known as *cello*, is lower in range than the viola and is notable for its singing quality and its dark resonance in the low register. Cellos often play the melody and they enrich the sound with their full timbre.

The *double bass*, known also as a *contrabass* or *bass viol*, is the lowest of the string instruments of the orchestra. Accordingly, it plays the bass part—that is, the foundation of the harmony. Its deep tones support the cello part an octave lower.

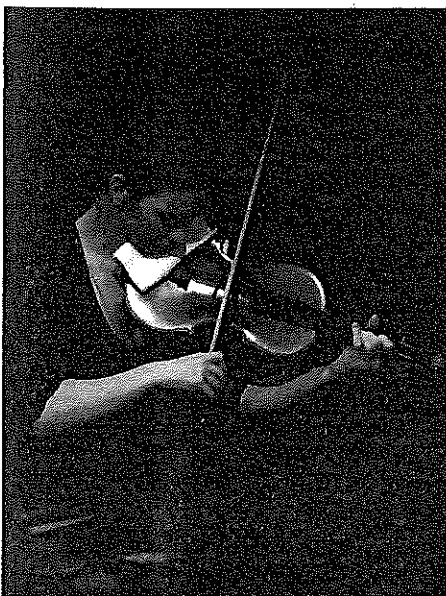
These four string instruments constitute the core or “heart of the orchestra,” a designation that indicates the section’s versatility and importance.

Orchestral string instruments can be played in many styles and can produce many special effects. They excel at playing *legato* (smoothly, connecting the notes) as well as the opposite, *staccato* (with notes short and detached). A special effect, *pizzicato* (plucked), is created when a performer plucks the string with a finger instead of using the bow. *Vibrato*, a throbbing effect, is achieved by a rapid

Violoncello

Double bass

Special effects



(Left): Violinist Hilary Hahn.

(Right): The virtuoso cellist Yo-Yo Ma.



(Left): Julie Barnes playing harp.

(Right): Milt Hinton playing the double bass.



wrist-and-finger movement on the string that slightly alters the pitch. For a *glissando*, a finger of the left hand slides along the string while the right hand draws the bow, thereby sounding all the pitches under the left-hand finger, in one swooping sound. *Tremolo*, the rapid repetition of a tone through a quick up-and-down movement of the bow, is associated with suspense and excitement. No less important is the *trill*, a rapid alternation between a tone and one adjacent to it.

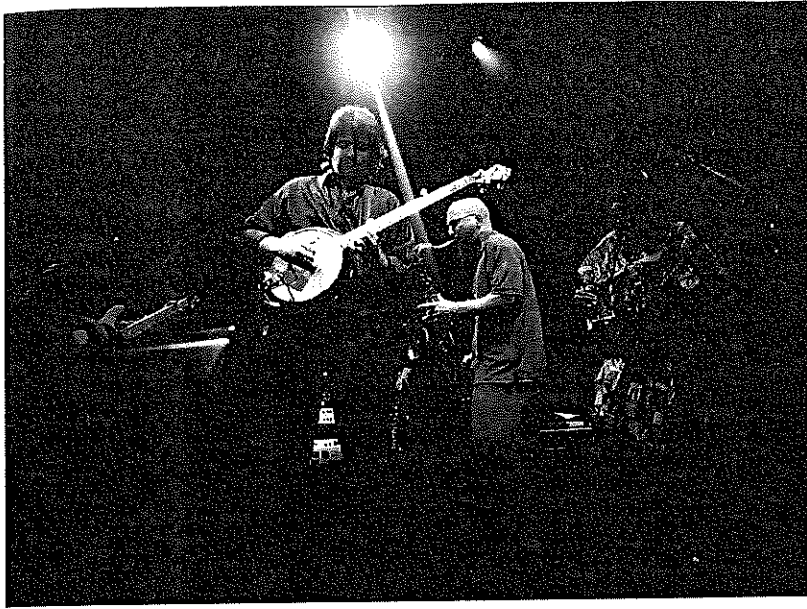
String instruments are capable of playing several tones simultaneously, thereby producing harmony: *double-stopping* means playing two strings at once; playing three or four strings together is called *triple-* or *quadruple-stopping*. Another effect is created by the *mute*, a small attachment that fits over the bridge, muffling the sound. *Harmonics* are crystalline tones in a very high register that are produced by lightly touching the string at certain points while the bow is drawn across the string.

Two popular plucked string instruments are the harp and the guitar. The *harp* is one of the oldest of musical instruments, with a home in many cultures outside Europe. Its plucked strings, whose pitches are changed by means of pedals, produce an ethereal tone. Chords on the harp are frequently played in broken form—that is, the tones are sounded one after another instead of simultaneously. From this technique comes the term *arpeggio*, which means a broken chord (*arpa* is Italian for “harp”). Arpeggios can be created in a variety of ways on many instruments.

The *guitar*, another old instrument, dating back at least to the Middle Ages, probably originated in the Middle East. A favorite solo instrument, it is associated today with folk and popular music as well as classical styles. The standard *acoustic* (as opposed to electric) *guitar* is made of wood and has a fretted fingerboard and six nylon strings, which are plucked with the fingers of the right hand or with a pick. The *electric guitar*, an electronically amplified instrument capable of many specialized techniques, comes in two main types: the hollow-bodied (or electro-acoustic), favored by jazz and popular musi-

Guitarist Carlos Santana, during his 2005 *Embrace the Light* tour.





Banjo player Béla Fleck and the Flecktones.

cians, and the solid-bodied, used more often by rock musicians. Related to the guitar are such traditional instruments as the *banjo* (see illustration above) and *mandolin*.

Woodwind Instruments

Woodwind instruments (aerophones) produce sound with a column of air vibrating within a pipe that has fingerholes along its length. When one or another of these holes is opened or closed, the length of the vibrating air column within the pipe is changed. Woodwind players are capable of remarkable agility on their instruments by means of an intricate mechanism of keys arranged to suit the natural position of the fingers.

This group is less homogeneous than the strings. Nowadays woodwinds are not necessarily made of wood, and they employ several different methods of setting up vibration: blowing across a mouth hole (flute family), blowing into a mouthpiece that has a single reed (clarinet and saxophone families), or blowing into a mouthpiece fitted with a double reed (oboe and bassoon families). They do, however, have one important feature in common: the holes in their pipes. In addition, their timbres are such that composers think of them and write for them as a group.

The *flute* is the soprano voice of the woodwind family. Its tone is cool and velvety in the expressive low register, and often brilliant in the upper part of its range. The present-day flute, made of a silver alloy rather than wood, is a cylindrical tube, closed at one end, that is held horizontally. The player blows across a mouth hole cut in the side of the pipe near the closed end. The flute is used frequently as a melody instrument—its timbre stands out against the orchestra—and offers the performer great versatility in playing rapid repeated notes, scales, and trills. The *piccolo* (from the Italian *flauto piccolo*, “little flute”) is actually the highest pitched instrument in the orchestra. In its upper register, it takes on a shrillness that is easily heard even when the orchestra is playing *fortissimo*.



Flutist Hae Sung Choe.



Oboe players in an orchestra.

Oboe

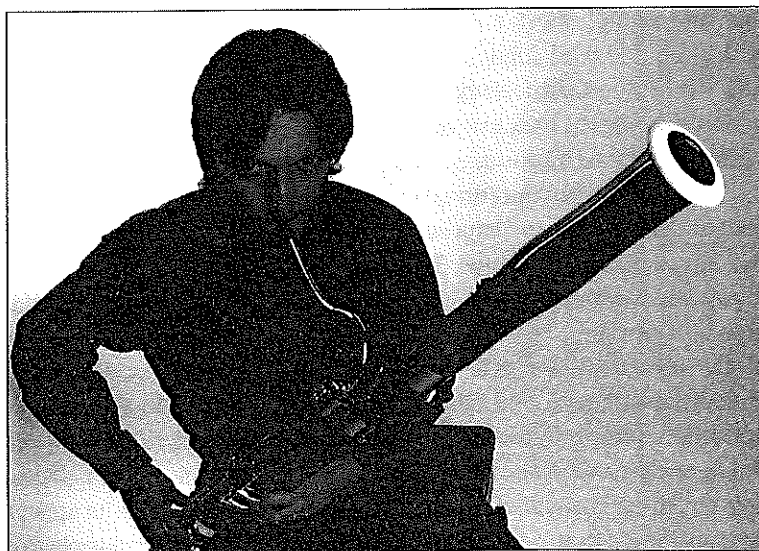
The *oboe* continues to be made of wood. The player blows directly into a double reed, which consists of two thin strips of cane bound together with a narrow passage for air. The oboe's timbre, generally described as nasal and reedy, is often associated with pastoral effects and nostalgic moods. The oboe traditionally sounds the tuning note for the other instruments of the orchestra. The *English horn* is an alto oboe. Its wooden tube is wider and longer than that of the oboe and ends in a pear-shaped opening called a *bell*, which largely accounts for its soft, expressive timbre.

The *clarinet* has a single reed, a small thin piece of cane fastened against its chisel-shaped mouthpiece. The instrument possesses a smooth, liquid tone, as well as a remarkably wide range in pitch and volume. It too has an easy command of rapid scales, trills, and repeated notes. The *bass clarinet*, one octave lower in range than the clarinet, has a rich dark tone and a wide dynamic range.



(Above): Richard Stolzman playing the clarinet in Carnegie Hall.

(Right): Jaroslaw Augustyniak playing bassoon.



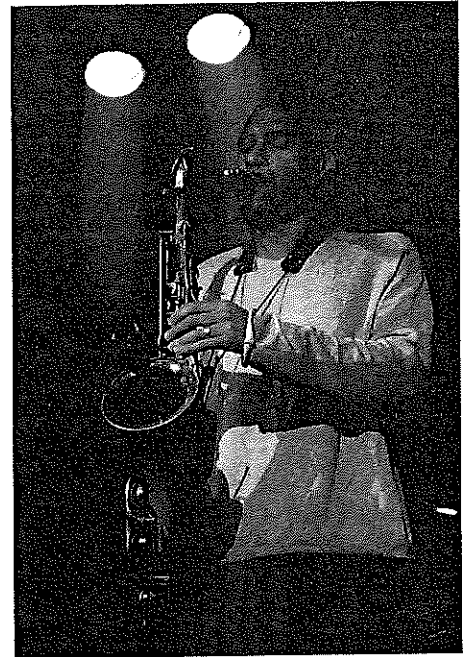
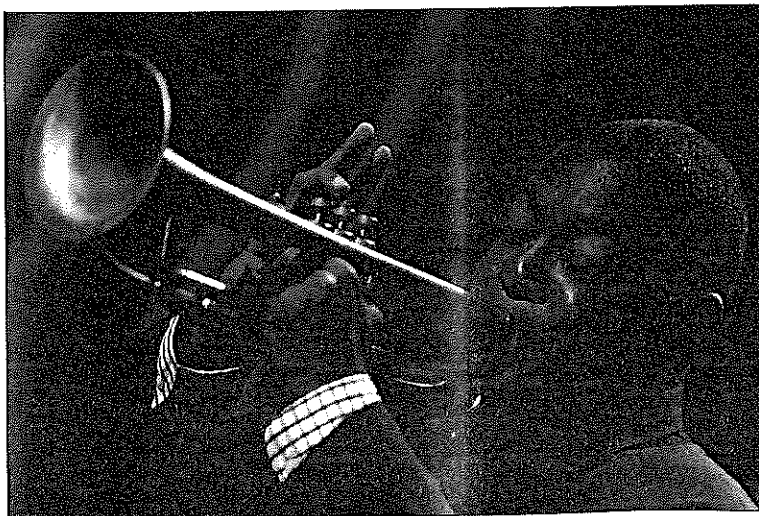
The *bassoon*, another double-reed instrument, possesses a tone that is weighty in the low register and reedy and intense in the upper. Capable of a hollow-sounding staccato and wide leaps that can sound humorous, it is at the same time a highly expressive instrument. The *contrabassoon* produces the lowest tone of the woodwinds. Its function in the woodwind section of supplying a foundation for the harmony may be compared with that of the double bass among the strings.

The *saxophone*, invented by the Belgian Adolphe Sax in 1840, is the most recent of the woodwind instruments. It was created by combining the features of several other instruments—the single reed of the clarinet along with a conical bore and the metal body of the brass instruments. There are various sizes of saxophone: the most common are soprano, alto, tenor, and baritone. By the 1920s, the saxophone had become the characteristic instrument of the jazz band, and it has remained a favorite sound in popular music today.

Brass Instruments

The main instruments of the brass family (also aerophones) are the trumpet, French horn (or horn), trombone, and tuba. All these instruments have cup shaped mouthpieces attached to a length of metal tubing that flares at the end into a bell. The column of air within the tube is set vibrating by the tightly stretched lips of the player, which are buzzed together. Going from one pitch to another involves not only mechanical means, such as a slide or valves, but also muscular control to vary the pressure of the lips and breath. Brass and woodwind instrument players often speak about their *embouchure*, referring to the entire oral mechanism of lips, lower facial muscles, and jaw.

Trumpets and horns were widely used in the ancient world. At first, they were fashioned from animal horns and tusks and were used chiefly for religious ceremonies and military signals. Their tone could be terrifying—remember that in the biblical account, the walls of Jericho came tumbling down to the sound of trumpets.



Joshua Redman playing tenor saxophone.



(Above): The French horn section of the orchestra.

(Left): World-famous trumpet player Wynton Marsalis.



(Top): Trombonist Isrea Butler.



(Bottom): Carol Jantsch recently won the tuba position in the Philadelphia Orchestra.

The *trumpet*, highest in pitch of the brass family, possesses a brilliant, clear timbre. It is often associated with ceremonial display. The trumpet can also be muted, using a pear-shaped, metal or cardboard device that is inserted in the bell to achieve a muffled, buzzy sound.

The *French horn* is descended from the ancient hunting horn. Its mellow resonance can be mysteriously remote in soft passages and sonorous in loud ones. The muted horn has a distant sound. The horn is played with the right hand inserted in the bell and is sometimes "stopped" by plugging the bell with the hand, producing an eerie and rasping quality. The timbre of the horn blends well with woodwinds, brasses, and strings.

The *trombone*—the Italian word means "large trumpet"—has a full and rich sound in the tenor range. In place of valves, it features a movable U-shaped slide that alters the length of the vibrating air column in the tube.

The *tuba* is the bass instrument of the brass family. Like the string bass and contrabassoon, it furnishes the foundation for the harmony. The tuba adds depth to the orchestral tone, and a dark resonance ranging from velvety softness to a rumbling growl.

Other brass instruments are used in concert and brass bands as well as marching bands. Among these is the *cornet*. In the early twentieth century, the cornet was very popular in concert bands. The *bugle*, which evolved from the military (or field) trumpet of early times, has a powerful tone that car-

ries well in the open air. Since it has no valves, it is able to sound only certain tones of the scale, which accounts for the familiar pattern of duty calls in the army. The *fluegelhorn*, used in jazz and brass bands, is really a valved bugle with a wide bell. The *euphonium* is a tenor-range instrument whose shape resembles the tuba. And the *sousaphone*, an adaptation of the tuba designed by the American bandmaster John Philip Sousa, features a forward bell and is coiled to rest over the shoulder of the marching player.

Percussion Instruments

The percussion section of the orchestra is sometimes referred to as "the battery." The instruments are used to accentuate the rhythm, generate excitement at the climaxes, and inject splashes of color into the orchestral sound.

The percussion family (encompassing a vast array of idiophones and membranophones) is divided into two categories: instruments capable of producing definite pitches, and those that produce an indefinite pitch. In the former group are the *timpani*, or *kettledrums*, which are generally played in sets of two or four. The timpani has a hemispheric copper shell across which is stretched a "head" of plastic or calf-

Timpani

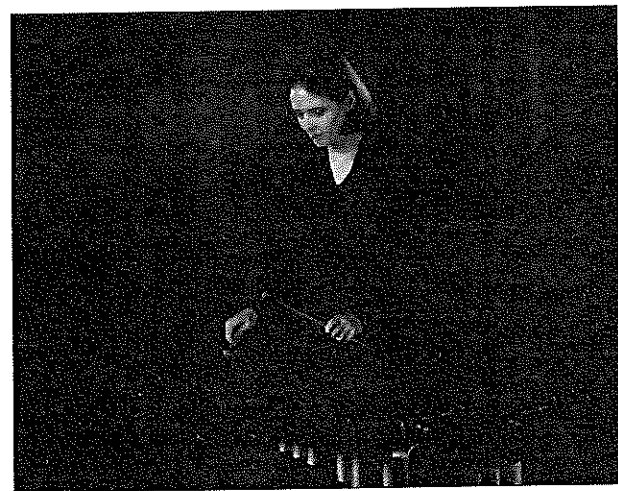
skin held in place by a metal ring. A pedal mechanism enables the player to change the tension of the head, and with it the pitch. The instrument is played with two padded sticks. Its dynamic range extends from a mysterious rumble to a thunderous roll. The timpani first arrived in western Europe from the Middle East, where Turks on horseback used them in combination with trumpets (see CP 9).

Also among the pitched percussion instruments are several members of the *xylophone* family; instruments of this general type are used in Africa, Southeast Asia, and throughout the Americas. The xylophone consists of tuned blocks of wood or metal laid out in the shape of a keyboard. Struck with mallets with hard heads, the instrument produces a dry, crisp sound. The *marimba* is a more mellow xylophone of African origin. The *vibraphone*, used in jazz, combines the principle of the xylophone with resonators, each containing revolving disks operated by electric motors that produce an exaggerated vibrato.

The *glockenspiel* (German for "set of bells") consists of a series of horizontal tuned steel bars of various sizes, which when struck produce a bright, metallic, bell-like sound. The *celesta*, a kind of glockenspiel that is operated by means of a keyboard, resembles a miniature upright piano. The steel plates are struck by small hammers to produce a sound like a music box. *Chimes*, or *tubular bells*, a set of tuned metal tubes of various lengths suspended from a frame and struck with a hammer, are frequently called on to simulate church bells.

The percussion instruments that do not produce a definite pitch include the *snare drum* (or *side drum*), a small cylindrical drum with two heads (top and bottom) stretched over a shell of metal and played with two drumsticks. This instrument owes its brilliant tone to the vibrations of the lower head against taut snares (strings). The *tenor drum*, larger in size, has a wooden shell and no snares. The *bass drum* is played with a large soft-headed stick and produces a low, heavy sound. The *tom-tom* is a colloquial name given to Native American or African drums of indefinite pitch. The *tambourine* is a round, hand-held drum with "jingles"—little metal plates—inserted in its rim. The player can strike the drum with the fingers or elbow, shake it, or pass a hand over the jingles. Of Middle Eastern origin, it is particularly associated with music of Spain, as are *castanets*, little wooden clappers moved by the player's thumb and forefinger.

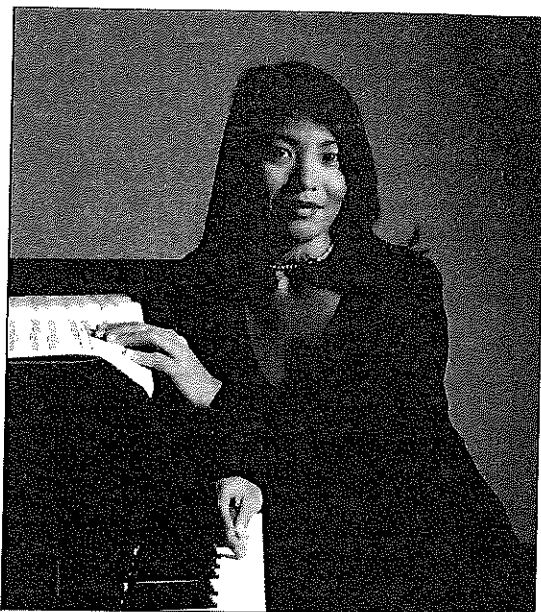
The *triangle* is a slender rod of steel bent into a three-cornered shape; when struck with a steel beater, it gives off a bright, tinkling sound. *Cymbals* came to the West from central Asia during the Middle Ages. They consist of two large circular brass plates of equal size, which when struck against each other produce a shattering sound. The *gong*, or *tam-tam*, is a broad circular disk of metal, suspended in a frame so as to hang freely. When struck with a heavy drumstick, it produces a deep roar. The gong has found its widest use in the Far East and Southeast Asia, where it is central to the ensemble known as the *gamelan* (see pp. 431–33).



(Top): Evelyn Glennie, who is profoundly deaf, is percussionist with the Los Angeles Philharmonic.

(Bottom): Melanie Sehman plays xylophone.

Indefinite pitch instruments



Piano virtuoso Cecile Licad.

Keyboard Instruments

The *piano* was originally known as the *pianoforte*, Italian for “soft-loud,” which suggests its wide dynamic range and capacity for nuance. Its strings are struck with hammers controlled by a keyboard mechanism. The piano cannot sustain tone as well as the string and wind instruments, but in the hands of a fine performer, it is capable of producing a singing melody.

The piano has a notable capacity for brilliant scales, arpeggios, trills, rapid passages, and octaves, as well as chords. Its range from lowest to highest pitch spans more than seven octaves, or eighty-eight semitones. It has several pedals that govern the length of time a string vibrates as well as its volume.

The *organ* is a type of wind instrument. The air flow to each of its many pipes is controlled by the organist from a console containing two or more keyboards and a pedal keyboard played by the feet. The organ’s multicolored sonority can easily fill a huge space. Electronic keyboards, or synthesizers, capable of imitating pipe organs and other timbres, have become commonplace. (On early organ types and their music, see pp. 98, 146, and 157–58.)

Listening Activity: Western Instruments

Resource CD

Britten: *The Young Person's Guide to the Orchestra*

Britten’s *The Young Person’s Guide to the Orchestra* introduces the listener first to the entire orchestra, then to each of its instrument families. The work passes the principal melody through each instrument individually, proceeding from the highest-ranged instrument to the lowest.

What to Listen For:

- Entire orchestra playing together, then the 4 groups of instruments: *woodwinds, brass, strings, percussion*.
- Individual instruments in each family, playing in order from highest to lowest (see Listening Guide 1 on pp. 56–57).

CD iMusic

CD iMaterials

Reviewing Instruments and Families:

Strings: **Canon in D** (Pachelbel)

Woodwinds: **Woodwind Quintet Op. 88, No. 2** (Reicha)

Brass: **Contrapunctus I**, from *The Art of Fugue* (Bach)

Percussion (bass drum, cymbals, glockenspiel): **Stars and Stripes Forever** (Sousa)

Cornet: **Oh! Susannah** (Stephen Foster)

Guitar: **Greensleeves** (traditional, United Kingdom)

Piano: **Spring Song** (Mendelssohn)

Organ: **Toccata in D minor** (Bach)

Harpsichord: **Minuet in D minor** (*Anna Magdalena Notebook*)

Another early keyboard instrument, much used in the Baroque era, is the *harp-sichord*. Its sound is produced by quills that pluck its metal strings (see p. 146). The instruments described in this and the previous chapter form a vivid and diversified group, which can be heard and viewed through the iVideo module of your Resource CD. To composers, performers, and listeners alike, they offer an endless variety of colors and shades of expression.


Harp-sichord

9

Musical Ensembles

CD iMaterials

KEY POINTS

 StudySpace online at www.wwnorton.com/enjoy

- Choral groups often feature a *cappella singing*, with no accompaniment.
- *Chamber music* is ensemble music for small groups, with one player per part.
- Standard chamber ensembles include *string quartets* as well as *woodwind quintets* and *brass quintets*.
- The modern *orchestra* features eighty to one hundred players.
- Large ensembles generally use a *conductor* who beats patterns with a *baton* to help the performers keep the same tempo.

The great variety in musical instruments is matched by a wide assortment of ensembles, or performance groups. Some are homogeneous—for example, choral groups using only voices or perhaps only men's voices. Others are more heterogeneous—for example, the orchestra, which features instruments from the different families. Across the world, nearly any combination is possible.

Choral Groups

Choral music is sung around the world, both for religious purposes (sacred music) and for non-spiritual (secular) occasions. Loosely defined, a *chorus* is a fairly large body of singers who perform together; their music is usually sung in several voice parts. Many groups include both men and women, but choruses can also be restricted to women's or men's voices only. A *choir* is traditionally a smaller group, often connected with a church or with the performance of sacred music. The standard voice parts in both chorus and choir correspond to the voice ranges described earlier: soprano, alto, tenor, and bass (abbreviated as SATB). In early times,

Elektra Women's Choir, from Vancouver, British Columbia.





The Jupiter String Quartet performing in Banff, Alberta (Canada).



choral music was often performed without accompaniment, a style of singing known as *a cappella* (meaning “in the chapel”).

A cappella singing

Smaller, specialized vocal ensembles include the *madrigal choir* and *chamber choir*. The madrigal choir might perform *a cappella* secular works, known as *part songs*. The designation “chamber choir” refers to a small group of up to twenty-four singers, performing either *a cappella* or with piano accompaniment.

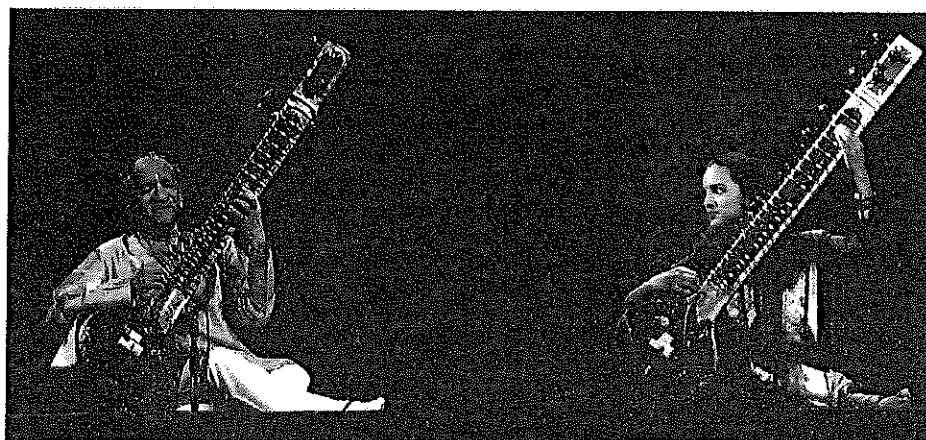
Instrumental Chamber Ensembles

Chamber music is ensemble music for a group of two to about a dozen players, with one player to a part—as distinct from orchestral music, in which a single instrumental part may be performed by as many as eighteen players or more. The essential trait of chamber music is its intimacy.

String quartet

Many of the standard chamber music ensembles consist of string players. One well-known combination is the *string quartet*, made up of two violins, viola, and cello. Other popular combinations are the *duo sonata* (soloist with piano); the *piano trio*, *quartet*, and *quintet*, each made up of a piano and string instruments; the *string quintet*; as well as larger groups—the *sextet*, *septet*, and *octet*. Winds too form

Sitarist Ravi Shankar and his daughter Anoushka perform in a charity concert in Kuala Lumpur. The traditional Indian ensemble also includes *tabla*, a hand drum (not shown).



standard combinations, especially *woodwind* and *brass quintets*. Some of these ensembles are listed below.

We will see that contemporary composers have experimented with new groupings that combine the voice with small groups of instruments and electronic elements with live performers. In some cultures, chamber groups mix what might seem to be unlikely timbres to the Western listener—in India, plucked strings and percussion are standard (see opposite), and in some styles of Chinese music, plucked and bowed strings are combined with flutes.

The Orchestra

In its most general sense, the term “orchestra” may be applied to any performing body of diverse instruments—this would include the Japanese ensemble used for court entertainments (called *gagaku*) or the *gamelan* orchestras of Bali and Java, made up largely of gongs, xylophone-like instruments, and drums (see illustration on p. 336). In the West, the term is now synonymous with *symphony orchestra*, an ensemble of strings coupled with an assortment of woodwinds, brass, and percussion instruments.

IN HIS OWN WORDS

You listen to four sensible persons conversing, you profit from their discourse, and you get to know the peculiar properties of their instruments.

—JOHANN WOLFGANG VON GOETHE (ABOUT QUARTETS)

Standard Chamber Ensembles

DUOS

Solo instrument
Piano

TRIOS

String trio
Violin 1
Viola or Violin 2
Cello

Piano trio

Piano
Violin
Cello

QUARTETS

String quartet
Violin 1
Violin 2
Viola
Cello

Piano quartet

Piano
Violin
Viola
Cello

QUINTETS

String quintet

Violin 1
Violin 2
Viola 1
Viola 2
Cello

Piano quintet

Piano
String quartet
(Violin 1, Violin 2, Viola, Cello)

Woodwind quintet

Flute
Oboe
Clarinet
Bassoon
French horn (a brass instrument)

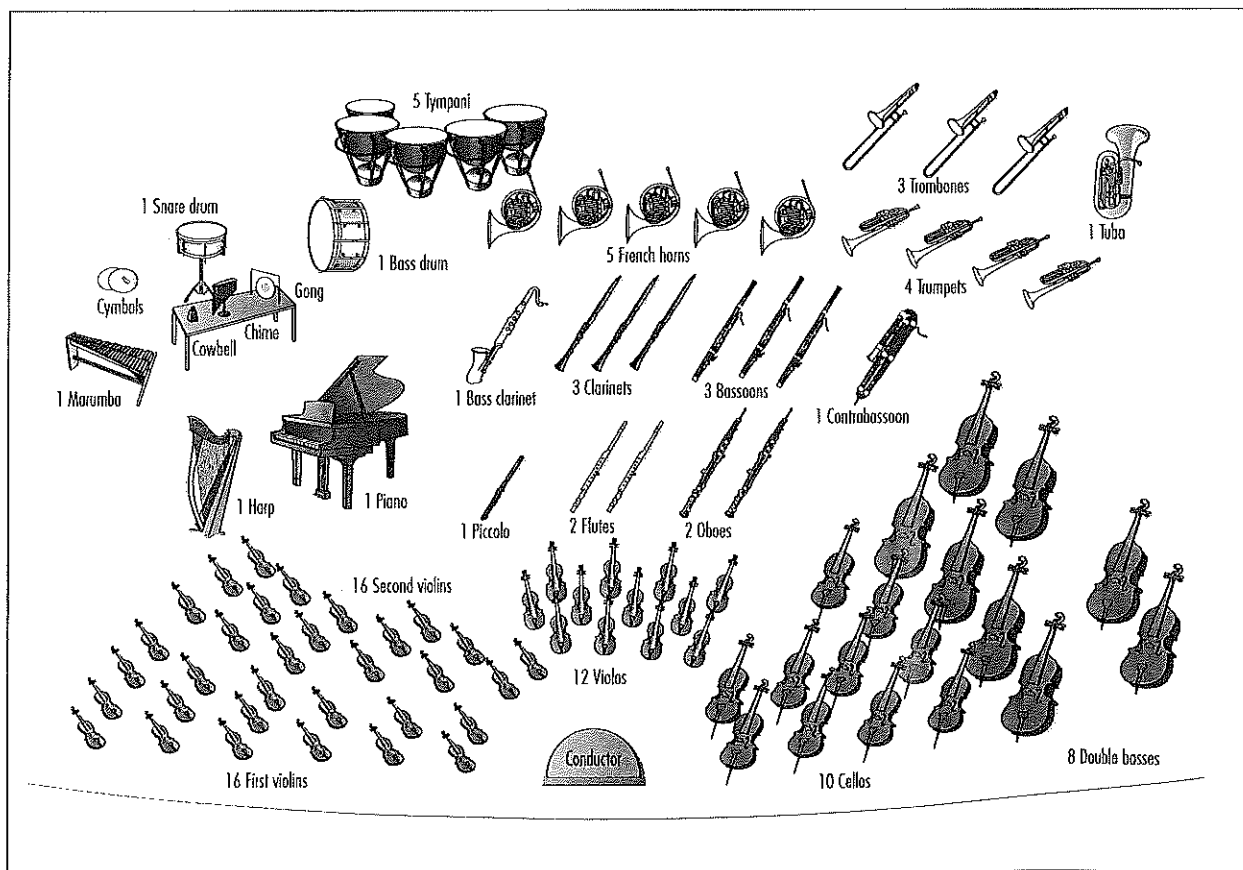
Brass quintet

Trumpet 1
Trumpet 2
French horn
Trombone
Tuba



Cincinnati Symphony Orchestra, Paavo Järvi, Music Director, 2005.

The Orchestra's seating plan.



Typical Distribution of Orchestral Instruments

STRINGS	18 first violins
	15 second violins
	12 violas
	12 cellos
	9 double basses
	1–2 harps, when needed
WOODWINDS	3 flutes, 1 piccolo
	3 oboes, 1 English horn
	3 clarinets, 1 bass clarinet
	3 bassoons, 1 double bassoon
BRASS	4–6 French horns
	4 trumpets
	3 trombones
	1 tuba
PERCUSSION	3–5 players
	1 timpani player (2–4 timpani)
	2–4 on the other instruments

The symphony orchestra has varied in size and makeup throughout its history but has always featured string instruments as its core. From its origins as a small group of twenty or so members, the orchestra has grown into an ensemble of more than a hundred musicians, approximately two-thirds of whom are string players. The list above shows the distribution of instruments typical of a large orchestra today.

The instruments of the orchestra are arranged to achieve the best balance of tone. Thus, most of the strings are near the front, as are the gentle woodwinds. The louder brass and percussion are at the back. A characteristic seating plan for the Cincinnati Symphony Orchestra is shown opposite; this arrangement varies somewhat from one orchestra to another.

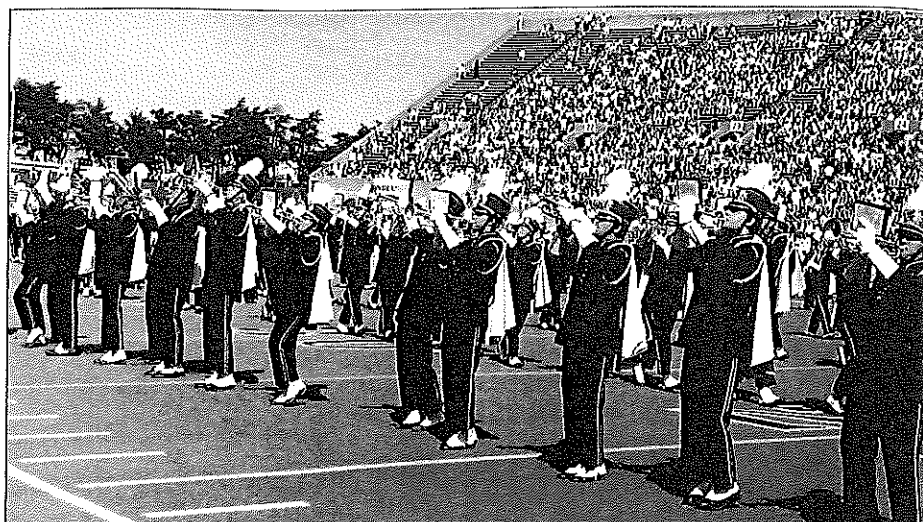
Concert, Jazz, and Rock Bands

"Band" is a generic name applied to a variety of ensembles, most of which feature winds and percussion at their core. The band is a much-loved American institution, whether it is a concert, marching, or military band or a jazz or rock ensemble. The earliest wind and percussion groups (including Turkish "Janissary" bands—see p. 214) were used for military purposes: musicians accompanied soldiers to war, playing their brass and percussion instruments from horseback and their fifes and drums from among the ranks of the foot soldiers to spur the troops on into battle. Concert wind groups originated in the Middle Ages. In northern Europe, a wind band of three to five musicians played each evening, often from the high tower of a local church or city hall. From these traditions grew the military bands of the French

The string-band and the wind-band are among the brightest constellations in the melodic heavens. The former may be likened to a woman, the latter to a man, for like maid and man, brought together in divine harmony, they can breathe into life the soulful, the sentimental, the heroic and the sublime.

—JOHN PHILIP SOUSA

The Indiana University marching band in formation at a football game.



Revolution and American Civil War. One American bandmaster, John Philip Sousa (1854–1932), achieved worldwide fame with his concert band and the repertory of marches he wrote for it.

Concert band

In the United States today, the *concert band* (sometimes called a *wind ensemble*) ranges in size from forty to eighty or so players; it is an established institution in most secondary schools, colleges, and universities, and in many communities as well. Modern composers like to write for this ensemble, since it is usually willing to play new compositions. The *marching band*, well known today in the United States and Canada, commonly entertains at sports events and parades. Besides its core of winds and percussion, this group often features remnants from its military origins, including a display of drum majors (or majorettes), flags, and rifles.

Marching band

The precise instrumentation of *jazz bands* depends on the particular music being played but generally includes a reed section made up of saxophones of various sizes and an occasional clarinet, a brass section of trumpets and trombones, and a rhythm section of percussion, piano, double bass, and electric guitar. *Rock bands* typically feature amplified guitars, percussion, and synthesizers. We will discuss jazz and rock bands in later chapters.



American conductor Leonard Bernstein.

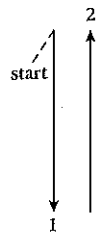
The Role of the Conductor

Large ensembles, such as an orchestra, concert band, or chorus, generally need a conductor, who serves as the group's leader. Conductors beat time in standard metric patterns to help the performers keep the same tempo; many conductors use a thin stick known as a *baton*, which is easy to see. These conducting patterns, shown in the diagrams on page 55, further emphasize the strong and weak beats of the measure. Beat 1, the strongest in any meter, is always given a downbeat, or a downward motion of the hand; a secondary accent is shown by a change of direction; and the last beat of each measure, a weak beat, is always an upbeat or upward motion, thereby leaving the hand ready for the downbeat of the next measure.

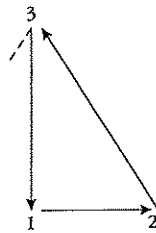
Equally as important is the conductor's role in interpreting the music for the group. This includes deciding the precise tempo—how fast or

Basic Conducting Patterns

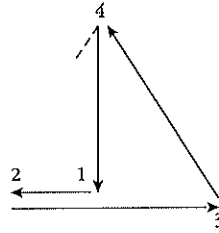
Duple meter



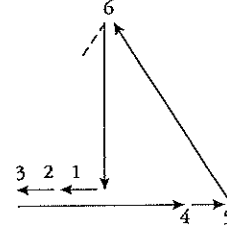
Triple meter



Quadruple meter



Sextuple meter



slow—and the dynamics—how soft or loud—for each section of the piece. In most cases, the composer's markings are relative (how loud is *forte*?) and thus open to interpretive differences. Conductors also rehearse ensembles in practice sessions, helping the musicians to learn and interpret their individual parts. String players depend on the conductor, or sometimes the *concertmaster* (the first-chair violinist), to standardize their bowing strokes so that the musical emphasis, and therefore the interpretation, is uniform.

Below is the process that a musical work undergoes before you hear it.

Concertmaster

COMPOSITION → REHEARSAL → PERFORMANCE

Composer

Creates the work

Musician/conductor

Practices/interprets the work

Listener

Hears/enjoys the work

The Orchestra in Action

A helpful introduction to the modern orchestra is Benjamin Britten's *Young Person's Guide to the Orchestra*, which was written expressly to illustrate the timbre of each instrument. The work, composed in 1946 and subtitled *Variations and Fugue on a Theme of Purcell*, is based on a dance tune by Henry Purcell (1659–1695), a great seventeenth-century English composer. You can listen to Purcell's original dance tune—a rondeau in a broad triple meter, set in a minor key—included in the iMusic examples; the work is played here by the Los Angeles Baroque Orchestra, using Baroque-period string instruments (with gut rather than metal strings) and harpsichord. You will note that Britten uses only the first section of the dance as the basis for his composition. Compare the soft, sweet sound of the Baroque string instruments with the louder and richer sonorities of the modern orchestral strings.

In Britten's *Young Person's Guide*, the composer introduces the sound of the entire orchestra playing together, then the sonorities of each instrumental family as a group—woodwinds, brasses, strings, percussion—and finally repeats the statement by the full orchestra. Once the listener has the theme, or principal melody, well in mind, every instrument is featured in order from highest to lowest within each family. Next we encounter variations of the theme, each played by a new instrument

CD iMusic

Purcell: Rondeau

with different accompanying instruments. (See Listening Guide 1 for the order of instruments.) The work closes with a grand fugue, a polyphonic form popular in the Baroque era (1600–1750), which is also based on Purcell's theme. The fugue, like the variations, presents its subject, or theme, in rapid order in each instrument. (For a discussion of the fugue, see pp. 158–59.)

The modern orchestra, with its amplitude of tonal resources, its range of dynamics, and its infinite variety of color, offers a memorable experience to both the musician and the music lover. It is clearly one of the wonders of Western musical culture.

Listening Guide 1		Resource CD
<p>Britten: <i>The Young Person's Guide to the Orchestra</i> <i>(Variations and Fugue on a Theme of Purcell)</i> (Total time: 17:14)</p>		
DATE OF WORK:	1946	
THEME:	Based on a dance (rondeau) from Henry Purcell's incidental music to the play <i>Abdelazar (The Moor's Revenge)</i> ; theme played by the Los Angeles Baroque Orchestra	
MUSICAL FORM:	Theme and variations, followed by a fugue	
WHAT TO LISTEN FOR:	<p>Purcell</p> <p>Original dance tune played on Baroque-period string instruments. Difference in timbre between Baroque instruments and modern strings (in Britten).</p> <p>Britten</p> <p>Stately dance theme, played first by the full orchestra. Different timbres of each of the 4 instrument families. Sounds of individual instruments, played in turn by each instrument family (highest to lowest). Imaginative variations of the original theme. Special orchestral effects (<i>pizzicato</i>, <i>glissando</i>, <i>trill</i>). Change from major to minor tonality; changing meters (duple, triple, compound). Complex fugue at end, with overlapping statements of the theme.</p>	CD iMusic
1 0:00	<p>I. Theme: 8 measures in D minor, stated 6 times to illustrate the orchestral families:</p> <ol style="list-style-type: none"> 1. Entire orchestra 2. Woodwinds 3. Brass 4. Strings 5. Percussion 6. Entire orchestra 	

II. Variations: 13 short variations, each illustrating a different instrument.

	VARIATION		FAMILY	SOLO INSTRUMENT	ACCOMPANYING INSTRUMENTS
2	2:03	1	Woodwinds:	flutes, piccolo	violins, harp, and triangle
		2		oboes	strings and timpani
		3		clarinets	strings and tuba
		4		bassoons	strings and snare drum
3	4:55	5	Strings:	violins	brass and bass drum
		6		violas	woodwinds and brass
		7		cellos	clarinets, violas, and harp
		8		double basses	woodwinds and tambourine
		9		harp	strings, gong, and cymbal
4	9:36	10	Brass:	French horns	strings, harp, and timpani
		11		trumpets	strings and snare drum
		12		trombones, tuba	woodwinds and high brass
5	12:14	13	Percussion:	various	strings

(Order of introduction: timpani, bass drum, and cymbals; timpani, tambourine, and triangle; timpani, snare drum, and wood block; timpani, castanets, and gong; timpani and whip; whole percussion section)

- 6 14:13 **III. Fugue:** Subject based on a fragment of the Purcell theme, played in imitation by each instrument of the orchestra in same order as variations:

Woodwinds: piccolo
flutes
oboes
clarinets
bassoons

Strings: first violins
second violins
violas
cellos
double basses
harp

Brass: French horns
trumpets
trombones, tuba

Percussion: various



- 7 16:22 Full orchestra at the end with Purcell's theme heard over the fugue.