

Understanding Music

Seventh Edition

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An Overview

The twentieth century was a time of extraordinary contrasts. Technology reached dizzying heights of achievement. Radio, telephone, television, satellites, and computers radically altered both personal and worldwide communication. Travel was completely revolutionized. Medical science conquered many infectious diseases and invented complex surgical procedures for prolonging life.

But the twentieth century also displayed mankind's weaknesses, cruelty, and inhumanity at their worst. Two world wars decimated populations across Europe. World War II brought one of the most appalling instances of organized murder (the Holocaust) in human history and introduced a new word, "genocide," into the language. The destructive power of military technology was displayed by the explosion of two atomic bombs on civilian populations in Japan. In the Soviet Union, the Communist dictator Joseph Stalin—whose reign of repression, forcible resettlement, and prison camps was responsible for the murder, starvation, and terrorizing of countless millions of his countrymen—managed to wield his authority for over 30 years until the mid-1950s. The Vietnam War killed 3 to 4 million Vietnamese, 2 million Laotians and Cambodians, and 58,159 U.S. soldiers. In China from the mid-1960s to the mid-1970s, the so-called Cultural Revolution disguised a vicious power struggle within the country that led to the deaths of 3 million people and the permanent injury of a million more. In Cambodia from 1975 to 1979 nearly a third of the entire population of the country died from disease, starvation, or murder at the hands of the Communist ruling party. In 1994 in the small country of Rwanda, in east-central Africa, one ethnic group went on a killing spree, murdering between half a million and a million of their fellow countrymen, whose crime was belonging to a different ethnic group. In 2003 the United States invaded Afghanistan and Iraq, for reasons that much of the population thought were false or unnecessary. Although the United States deliberately does not keep statistics on casualties of the ordinary people of Iraq and Afghanistan, responsible groups have estimated a million soldiers and civilians killed on all sides in both wars, and perhaps as many as two million injured. Apart from the human cost, the massive financial cost of these wars threw the U.S. into economic turmoil, from which it may not recover. What has been gained from the invasions is not yet clear.

Although science made impressive gains in the last century, its limitations became more apparent as the century waned. AIDS swept through populations of Africa, the Caribbean, Europe, Asia, and North America, seeming to represent a return to the incurable plagues of the Middle Ages. Shortsighted economic policies and commercial greed caused widespread destruction to the world's environment. And most damning of all, the richest and most wasteful countries of the world were not able to find a way to save millions of people in other countries from starvation. By the end of the first decade of the twenty-first century the contrast between modern civilization's successes and its failures seemed particularly stark.

History and the Arts, 1900–1939

In 1900, Europe and the United States were in a period of unusual stability, peace, and prosperity. Economic growth was strong, the standard of living was improving rapidly, and scientific breakthroughs contributed to health and comfort.

At this time, the movement known as Modernism began to affect all the arts: literature, painting, sculpture, architecture, and music. Modernism was a movement of self-conscious innovation. Artists, writers, intellectuals, poets, and painters reacted strongly to the accepted rules of the nineteenth century and created works of striking experimentation and revolutionary force. Composers rejected tonality, the harmonic basis of music since the seventeenth century, and adopted radically new harmonic structures.

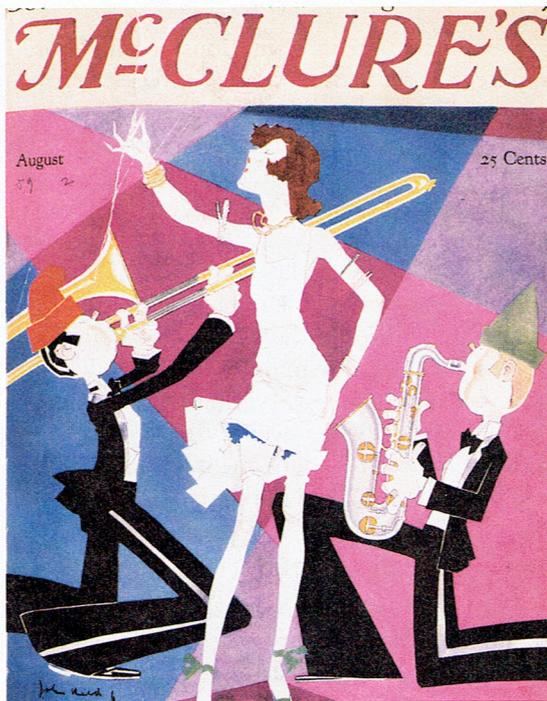
In this period of excitement, experimentation, and optimism, the greatest composers were Debussy, Schoenberg, and Stravinsky. The works they created during the period were innovative and daring. Their brilliance matched the extraordinary accomplishments of the greatest poets and painters of the age.

World War I (1914–1918) shattered this sense of optimism. In this long drawn-out conflict—ugly, brutal, and often senseless—40 million people died and 20 million were wounded. A sense of the devastation and despair caused by this war is given in the poems of Wilfred Owen, poems that were later used in the magnificent *War Requiem* of the English composer Benjamin Britten.

The period after the war was one of uncertainty and a gradual decline into new conflict. The Bolshevik revolution had given rise to the first Communist state, one of the most influential political developments of the whole twentieth century. The economic devastation

“Flapper” (fashionable young woman) on the cover of a magazine in the 1920s.

Courtesy of the Library of Congress.



of Germany led directly to Hitler's rise to power. In Italy in 1922, Mussolini founded the first Fascist state in Europe. A Fascist government was established in Spain after the Spanish Civil War of 1936–1939.

During the 1920s, the United States experienced a period of prosperity. The war had strongly stimulated America's economy. American products were sold all over the world, and President Calvin Coolidge made his famous statement that “the business of America is business.” A break in this upward spiral came with the Great Depression of 1929–1933, which caused widespread unemployment and hunger. During the 1930s, President Franklin D. Roosevelt's policies

President Roosevelt (at head of table) is cheered by members of a crew of workers helping to bring the country back from the Depression in 1933.



instilled confidence in the nation and led to gradual economic recovery, the full impact of which was not felt until the new boom brought about by the outbreak of World War II.

In social terms, the period between the wars was one of turmoil and change. Women won the right to vote in 1920. Prohibition created an entire counterculture of bootleg liquor and organized crime. Many intellectuals were attracted by the social ideals of Marxism.

The greatest composers of the period between the wars were still Schoenberg and Stravinsky (Debussy had died in 1918) but also included two students of Schoenberg—Berg and Webern—as well as Bartók in Hungary, Shostakovich in the Soviet Union, Britten in England, and Ives and Copland in the United States.

1939–2000

World War II (1939–1945) broke out only 21 years after the end of the First World War. Thirty million people died; cities and towns in England, continental Europe, and the Far East suffered enormous and widespread damage; irreplaceable works of art and buildings, some of them dating back to the Middle Ages, were destroyed. The economy of Europe was in shambles, and the political map was highly uncertain. The Soviet Union and the United States emerged as the dominant powers of the postwar period, and Europe was divided by its allegiance to one or the other of these powers. Populations around Europe were uprooted, and many countries were flooded with refugees.

One of the magnets for refugees was the United States. Large numbers of people—including scholars, artists, writers, composers, and performing musicians—came from Europe to America. This influx made the United States the most prominent center of Western culture after the war.

From 1945 to the 1960s, two musical trends asserted themselves. The first was a tendency toward intellectualization. Music became so organized, so mathematical in its structure that many audiences turned away from classical music altogether. It seemed as though composers were writing only for other composers and were no longer interested in communicating to audiences.

The second trend in this period involved radical experimentation, parallel in some ways to the period of early Modernism at the beginning of the century. Composers experimented with music in every conceivable way, throwing out all the conventionally accepted norms of music making. They put the compositional process

into the hands of the performers. They challenged audiences and violated conventions of time, performing medium, and concert decorum. Most particularly, they experimented with *sound*. Conventional instruments were pushed to new limits, exotic instruments were introduced, and new instruments were invented. Most influential was the use of tape and then synthesizers and computers in the production of musical sounds. The foremost figures of this period were Pierre Boulez and John Cage.

Since the mid-1960s, a new movement was evident in Western culture, a movement called Postmodernism. (It is a troubling term. If “modern” means up-to-date, how can you have a historical period that is after that?) Indeed, literature, art, and music in the last few decades of the twentieth century were in a period of severe self-examination, which has continued into the twenty-first century. From the start of Postmodernism, everything was cast into doubt, including the worth and meaning of Western culture itself. Literary works struggled for identity. Paintings juxtaposed the old and the new in startling ways. Postmodern buildings became highly eclectic, combining an exaggerated variety of styles in a single unit. And music made a radical move away from the intellectualized compositions of the postwar period toward a new accessibility of style.

Composers began again to address their audiences. They borrowed ideas from rock music to appeal to a wider public. They expanded their frame of reference to include the rhythms, timbres, and harmonies of other countries. And many of them made a conscious return to traditional tonality, to provide an aural context and meaning that many Modernists had rejected.

General Characteristics of Twentieth-Century Music

Music of the twentieth century embodied more experimentation and diversity than in previous eras. Everything was called into question, including the tonal system upon which Western music had been based for centuries, and even the very idea of a concert itself. The length of



Arnold Schoenberg.

compositions changed a great deal: pieces could be very tiny or immensely long. All types of sound were used, and the distinction between sound and noise was often erased.

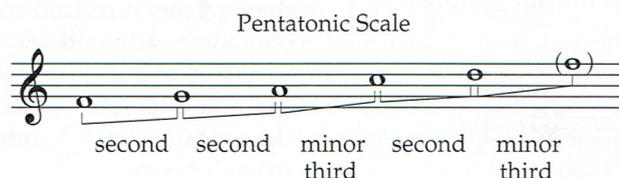
The Replacement of Tonality

As we have seen, the idea of **tonality**—the use of scales, chords, and harmonies—in music developed over many centuries, reaching its heights in the Classic and Romantic periods. However, by the late nineteenth century, composers were already experimenting with new ways of approaching tonality, including starting a piece in one key and ending in another, composing passages where it is difficult to determine what the key is, and other innovations.

This trend accelerated in the early twentieth century in the works of composers like Debussy, and reached its culmination in a musical revolution led by Arnold Schoenberg. Schoenberg and his students created a new theory that would become known as **atonality**—an attempt to “liberate” music from the traditional rules of composition. Schoenberg’s work also led to the creation of new scales based on his new theory.

New scale patterns included the **pentatonic scale**, the **whole-tone scale**, and the **octatonic scale**.

The **pentatonic scale** has only five notes, usually in the following pattern:



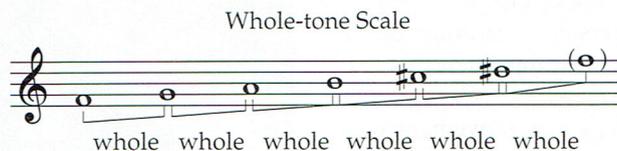
This pattern of intervals can be reproduced by playing only the black keys on the piano. (You can easily compose your own pentatonic melody this way. Just improvise on the black keys. The music will sound evocative and folk-like.) Pentatonic scales had been around for a

long time in many Asian musics and Western folk musics, but they were new to Western classical music.

The **whole-tone scale** has a whole step between each pitch and the next, and the scale has only six notes:

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"Whole-Tone Scale on the Piano"

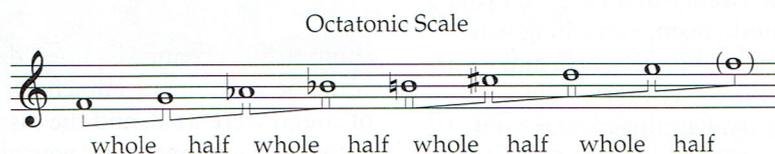


Because there are no half steps in this scale, the sense of "pull" given by the last half step in the traditional octave scale is missing, and tonality is bypassed.

The third new scale developed by composers in the twentieth century was the **octatonic scale**. This has eight pitches *within* the octave, in a pattern of alternating whole and half steps:

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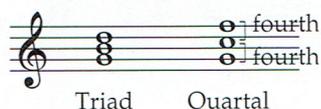
"Octatonic Scale"



As well as inventing new scales, composers sometimes turned to a system that had been in use *before* the establishment of tonality. This was the **modal** system, the basis of music during the Middle Ages and the Renaissance. (See Chapter 4 for a discussion of the medieval modes.) The use of an old system made music sound new again and provided composers with a further alternative to tonality.

In addition to using new (or very old) scales, composers experimented with polytonality and nontriadic harmony. **Polytonality** means the simultaneous sounding of two or more keys at once. Both Igor Stravinsky and the American composer Charles Ives used polytonality. Ives once wrote a piece for two brass bands, each playing in a different key.

Nontriadic harmony means harmony that is not based on the triad, the standard basis for chords in conventional tonality. In the twentieth century, many composers experimented with alternative types of chord structure. The German composer Paul Hindemith, who emigrated to the United States in 1940 and was an extremely influential teacher, often used **quartal chords**, based on fourths instead of thirds:

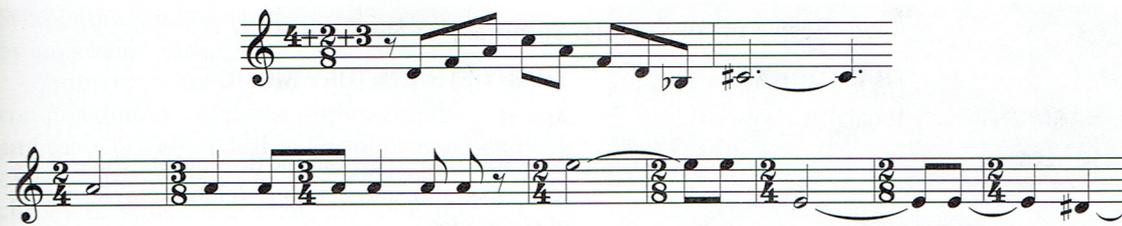


Melody

Before the twentieth century, melody was generally smooth, balanced, and predictable. Pitches were usually closely connected, gaps were small, and phrases were balanced. In the twentieth century, melody often became erratic, with wide leaps, irregular rhythms, and unexpected notes. Phrase lengths changed constantly. It was impossible to anticipate where a melody would go next.

Rhythm

One of the greatest changes in twentieth-century music was in the use of rhythm. Compared with the music of other cultures, Western music had always used relatively simple rhythmic patterns. In the twentieth century, composers began to adopt far more complex rhythms in their music. Sometimes they achieved this goal by calling for constantly changing meters in the course of a composition. For example, instead of remaining in $\frac{4}{4}$ meter, a piece might have a measure in $\frac{3}{4}$ followed by a measure in $\frac{6}{8}$, then a $\frac{2}{4}$ measure, and so on. Sometimes composers adopted very unusual meters, such as $\frac{5}{4}$ or $\frac{7}{4}$, which give an irregular beat to the music. And sometimes they grouped the notes *within* a regular meter in an irregular way.



Irregular metrical groupings in twentieth-century music.

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"Bartók Quartet No. 5, 3rd Movement"

Another way in which rhythms became more complex was by the use of rhythmic *freedom*. Composers frequently directed each individual performer to play at his or her own speed, thus creating a series of overlapping rhythms in place of one steady pulse. Finally, the advent of the computer allowed composers to manipulate rhythm in an infinite variety of complex ways.

Length

Until the last part of the nineteenth century, the length of most musical compositions had been quite standardized. Audiences knew what to expect when they went to hear a symphony or a chamber work. But in the twentieth century, this changed radically. Some pieces were no more than a few measures in length, lasting only seconds, whereas others went on for hours. Some compositions were designed to last *ad infinitum* (or until people's patience wore out!).

Tone Color and Sound

One final element that distinguished twentieth-century music from music of earlier eras was a heightened awareness of tone color. This became a central focus in music, both to provide more variety and interest and to create a new structural element. Webern's *Six Pieces for Orchestra*, for example, written in 1909, calls for an enormous orchestra, including a wide range of brass and percussion—but these forces are rarely used

all at once, and the instruments play mostly alone or in small combinations, creating an immense variety of sound. The piece *depends* upon the tone colors of specific instruments.

In addition, composers in the twentieth century called for greatly expanded playing techniques from instrumentalists. Wind players were asked to produce higher and higher pitches by means of special fingering and blowing techniques, and sometimes they were required to make squawking, squeaking, or chattering noises on their instruments. String players were asked to produce unusual glissandos (slides) on their strings, to bang their instruments with their bows, or to pluck the strings so hard that they hit the fingerboard. And both string and wind players were called upon to produce **quarter tones**—pitches *between* the half steps.

Instruments that had never or only rarely been used in traditional orchestras—such as bass clarinets, alto flutes, tenor tubas, and bass trombones—were now featured regularly. The greatest changes occurred in the percussion section. Previously, orchestral music had called for timpani, sometimes bass drum, and only very occasionally a snare drum, cymbals, or a triangle. Now, percussion sections were often large and varied, calling for a huge collection of instruments—including large and small cymbals, a whole array of drums of different sizes, bells, wooden blocks, whips, rattles, tambourines, bass drums, gongs, and melody percussion instruments, such as the xylophone, marimba, vibraphone, chimes, celesta, and glockenspiel.

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"Berio Sequenza III"

THE LONGEST PIECES IN THE WORLD

In the last hundred years or so, composers have experimented with creating really long pieces of music. Morton Feldman's *Second String Quartet* lasts for over six hours. Erik Satie's *Vexations* consists of one page of music that is to be played 840 times. A performance lasts 18 hours. There is an organ composition by John Cage that is currently being performed in Halberstadt, Germany. The tempo marking is "As Slowly as Possible," and at the current rate, the performance will take 639 years. Jem Finer, one of the founding members of the Irish band The Pogues, has composed a computer piece called *Longplayer*, which began on New Year's Day of the year 2000 and is designed to last for a thousand years. So far the record seems to be held by the English composer "Mel" (Ian Mellish), whose *Olitsky* is for four tape loops that are fractionally out of sync. The length of the piece is 1,648,171 years, 7 weeks, 6 days, 10 hours, 23 minutes, and 33 seconds.

Twentieth-Century Music: Summary of New Methods

	TRADITIONAL	TWENTIETH-CENTURY MUSIC
HARMONY	Tonal (key centered)	Atonal
SCALES	Major and minor scales	New scale types: pentatonic (five-note), whole tone (six-note), and octatonic (eight-note) Revival of old modes
MELODY	Balanced, smooth, predictable	Erratic, with large gaps and unpredictable motions
RHYTHM	Rhythms are regular and largely predictable	Rhythm may change many times in a single piece
LENGTH	All instruments perform a single rhythm together	Individual players may play slightly faster or slower than the group
TONE COLOR/ SOUND	Standardized by genre	Much shorter or much longer than traditional
	Standardized around family of "classical" instruments	Expanded instrumentation and larger orchestras
	Ensemble size/types of instruments conventional for each genre	New ways of playing traditional instruments. New interest in electronic/computer-generated sound

Modern technology strongly influenced the sounds of twentieth-century music. At the beginning of the century, new electronic instruments were invented, including the **telharmonium**, an instrument that produces sound by means of electronic generators; the **theremin**, an instrument that can make oscillating streams of sliding sounds, like ghost noises; and the first electronic organ. Later, in the 1940s and 1950s, the advent of magnetic tape brought many new experiments in sound production.

In the latter half of the century, the production and control of musical sounds were revolutionized by the computer and the synthesizer. On the computer, all the various parameters of sound—pitch, dynamics, duration, timbre, even spatial positioning—can be controlled digitally. Synthesizers can both generate and control sound. Almost any sound can be produced, changed, combined, and controlled on a single small keyboard. Synthesizers can imitate any instrument, including an entire orchestra, or produce a whole array of artificial sounds. Much music of the later twentieth century—including both classical and popular music, whether live or recorded or on a film soundtrack—would not have been possible without the synthesizer.

The Beginnings of Change

As we have seen, the Modernist movement at the beginning of the twentieth century had an effect on all the arts. Painting, poetry, architecture, and music were in the grip of a revolutionary fervor, a feeling that the rules of the past could now be challenged in favor of new forms of expression. In music, the chief figures of this movement were Debussy, Stravinsky, and Schoenberg. Although they were all striking innovators, each contributed to this movement in his own particular way: Debussy in orchestral color, Stravinsky in rhythm, and Schoenberg in the invention of a new system to replace tonality.

Impressionism and Symbolism

In the Modernist movement, which was centered in Paris, there were many parallels between music and the other arts. The most important movement in painting was known as Impressionism. Impressionist paintings are fresh, lively, and atmospheric. They revel in the play of light and color. Outlines are vague, and details are left to the viewer's imagination.

Parallel to the Impressionist movement in painting was the literary movement known as

Find the **Quick Listen** on **MySearchLab**
"Telharmonium"

Find the **Quick Listen** on **MySearchLab**
"Theremin Lesson One"