



Music since 1945: Nine Representative Pieces

Sonatas and Interludes for Prepared Piano (1946–1948), by John Cage

The American composer John Cage (1912–1992) was the highly influential creator of chance music—as discussed in Section 18—and a major figure in the development of percussion music. He invented the prepared piano, a grand piano whose sound is altered by objects such as bolts, screws, rubber bands, pieces of felt, paper, and plastic inserted between the strings of some of the keys. “In practice, the preparation takes about three hours,” Cage explained. Such preparation results in a wide variety of sounds that resemble those of drums, cymbals, xylophones, tambourines, and gongs. When the pianist’s finger strikes a key, sometimes more than one sound is produced.

tional states described in Indian aesthetic theory: “the heroic, erotic, wondrous, mirthful, odious, sorrowful, fearful, angry, and their common tendency toward tranquillity.” We’ll focus on the second sonata of the cycle.

Sonata II

Basic Set:

CD 8 18

Brief Set:

CD 4 47

Part A

18 47

Part B

19 48

The two-minute Sonata II, in A A B B form, is characterized by a gradual thickening of texture and increase in rhythmic momentum. Part A moves from a single melodic line—sometimes accompanied by percussive sounds—to a two-voice texture. This part is predominantly soft, in a fairly high register. Short phrases, arranged in question-and-answer pairs, are framed by silences. In two phrases, a melodic fragment immediately repeats.

Part B is almost twice as long as A and has more extended phrases and a richer texture. It begins abruptly with a loud, dense sonority that contrasts with the gentle, lingering sounds and pause ending part A. The concluding phrase of part B is the most extended, climactic, and rhythmically active. It begins with a torrent of high running notes and ends with a high trill-like figure and an upward swoop to a single accented tone.

Semi-Simple Variations (1956), by Milton Babbitt

Basic Set:

CD 8 20

The American Milton Babbitt (b. 1916) is a leading composer and theorist of twelve-tone music and a major figure in the development of electronic music. A brilliant teacher at Princeton University and the Juilliard School, Babbitt has influenced several generations of young composers. In 1982, he was awarded a Pulitzer Prize special citation for “his life’s work as a distinguished and seminal composer.”

Babbitt’s music is very complex; it further develops compositional techniques introduced by Schoenberg and Webern. “I believe in cerebral music—in the application of intellect to relevant matters,” Babbitt has stated. “I never choose a note unless I know precisely why I want it there and can give several reasons why it and not another.”

Babbitt was the first composer to work with the earliest sophisticated synthesizer, the RCA Mark II. He used it to produce such works as *Philomel* (1964), for live soprano, recorded soprano, and synthesized tape.

Babbitt was also a pioneer in extending serial principles of organization to all musical elements—rhythm, dynamics, and tone color as well as pitch. In a serial work by Babbitt, not only are all the pitches derived from a tone row, but all the rhythms are drawn from a *durational row*, a series of rhythmic values. Babbitt’s earliest compositions using such techniques of serialism date from the late 1940s. These techniques are further extended in later compositions, including *All Set*, for jazz ensemble (1957); *String Quartet No. 5* (1982); *The Joy of More Sextets*, for violin and piano (1986); and *Semi-Simple Variations* (1956), which we’ll study.

Semi-Simple Variations, a miniature for piano lasting about 1 minute, illustrates many features of Babbitt’s musical language. It consists of a theme and five variations, each 6 bars long. Both pitch and rhythm are governed by serial organization. The first six tones of the twelve-tone row are presented in the top part of the theme, which is 6 measures, or 16 quarter notes, in length.

(♩ = 84) B \flat F \sharp B \flat

pp mf f mp p pp

Rhythmic series

Quarter notes 1 2 3 4 5 6 7 8

Ab G Ab

mp p mp p mp p

9 10 11 12 13 14 15 16

The rhythmic series is introduced in the top voice and lower parts of the theme (see the rhythmic notation below the theme). Each of the 16 quarter notes in the theme contains a different durational pattern of attacks and silences. In the variations that follow, the rhythmic series is transformed in various ways. For example, in variation 1 it is presented in retrograde, or backward, form.

In *Semi-Simple Variations*, changes of dynamics are frequent and rapid. Changes of register and texture help give each short section an individual stamp. The theme, for instance, lies in the middle to low register, whereas variation 1 is entirely high. Both the theme and variation 1 are homophonic in texture, with a legato melody and a primarily staccato “accompaniment” in rapid notes derived from the tone row. In contrast, variation 3 has an “atomized” texture in which the tones of the melodic line shift rapidly among widely separated registers—a distinctive feature of Babbitt’s music. The piano sound in *Semi-Simple Variations* is clear and often percussive, partly because the damper pedal is rarely used. It is interesting to contrast Babbitt’s treatment of the piano with that of the impressionist composer Debussy in *Voiles* (studied in Section 4), a piece featuring misty sounds.

Listening Outline to be read while music is heard

Basic Set: CD 8

BABBITT, *Semi-Simple Variations*

Piano

Theme and 5 variations

(Duration, 1:10)

Theme

20 0:00 Legato melody, middle to low register, faster staccato “accompaniment,” *p*, pause.

Variation 1

21 0:10 Very high legato melody, *f*, rapid staccato “accompaniment,” fluctuating dynamics.

Variation 2

22 0:18 Jazzy, gently accented chords, *pp*, move upward, decrescendo to *pp*, pause.

Variation 3

23 0:28 Soft melodic tones quickly shifted among different registers.

Variation 4

24 0:43 Sudden *f*, staccato melodic line with chordal punctuations, closes on soft chord.

Variation 5

25 0:53 Accented *fff* chord, decrescendo to *p*, ends gently with repeated notes.

Poème électronique (Electronic Poem, 1958), by Edgard Varèse

Basic Set:

CD 8 **26**

Brief Set:

(Opening section)

CD 4 **49**

Edgard Varèse (1883–1965), one of the great innovators of twentieth-century music, was born in France but spent most of his life in the United States. As early as 1916, he dreamed of freeing music from the limitations of traditional instruments and expanding the vocabulary of sounds. During the 1920s and 1930s, Varèse pioneered in the exploration of percussive and noiselike sounds, and he wrote the first important work for percussion ensemble (*Ionisation*, 1931).

But it was the new electronic developments of the 1950s that enabled Varèse to realize his vision of a “liberation of sound.” In 1958, at the age of seventy-five, he composed *Poème électronique*, one of the earliest masterpieces of electronic music created in a tape studio. The 8-minute work was designed to be heard within the pavilion of the Philips Radio Corporation at the 1958 Brussels World’s Fair. Varèse obtained unique spatial effects by projecting sound from 425 loudspeakers placed all over the interior surfaces of the pavilion. The composer worked in collaboration with the architect Le Corbusier, who selected a series of images—photographs, paintings, and writing—that were projected on the walls as the music was heard. However, Varèse did not make any attempt to synchronize the sounds with the images chosen by Le Corbusier, which included “birds and beasts, fish and reptiles, . . . masks and skeletons, idols, girls clad and unclad, cities in normal appearance and then suddenly askew,” as well as atomic mushroom clouds.



Varèse's *Poème électronique* was first heard within the pavilion of the Philips Radio Corporation, designed by Le Corbusier, at the 1958 Brussels World's Fair.

Because it was created in a tape studio, *Poème électronique* exists in only a single "performance" whose duration (8 minutes) is fixed on audiotape. Varèse's raw sound material—tones and noises—came from a wide variety of sources, including electronic generators, church bells, sirens, organs, human voices, and machines. The sounds are often electronically processed in such a way that they cannot be precisely identified. In the listening outline, the effect of such sounds is conveyed by words placed in quotation marks; for example, "wood blocks" or "chirps." Varèse organized his sounds into an electronic poem that seems weird yet is amazingly logical and compelling.

Poème électronique divides into two main sections, the first lasting 2 minutes 36 seconds and the second 5 minutes 29 seconds. Each section begins with low bell tolls and ends with sirens. Heard several times during *Poème* is a distinctive group of three rising tones. Human voices and recognizable organ tones appear only during the second section. Varèse once remarked about the female voice heard toward the end: "I wanted it to express tragedy—and inquisition."

Listening Outline to be read while music is heard

Basic Set: CD 8 Brief Set: CD 4

VARÈSE, *Poème électronique (Electronic Poem)*

Tape studio

(Duration, 8:00)

- | | | | |
|---|---|-----------------------|---|
| <p>26 49 0:00</p> <p>0:43</p> <p>1:11</p> <p>1:40</p> | <p>27 50 2:36</p> <p>28 3:41</p> <p>4:17</p> <p>5:47</p> | <p>29 6:47</p> | <p>1. a. Low bell tolls. “Wood blocks.” Sirens. Fast taps lead into high, piercing sounds. 2-second pause.</p> <p>b. “Bongo” tones and higher grating noises. Short “squawks.” Three-tone group stated three times.</p> <p>c. Low sustained tones with grating noises. Sirens. Short “squawks.” Three-tone group. 2-second pause.</p> <p>d. Short “squawks.” High “chirps.” Variety of “shots,” “honks,” “machine noises.” Sirens. Taps lead to</p> <p>2. a. Low bell tolls. Sustained electronic tones. Repeated “bongo” tones. High and sustained electronic tones. Low tone, crescendo. Rhythmic noises lead to</p> <p>b. Voice, “Oh-gah.” 4-second pause. Voice continues softly.</p> <p>c. Suddenly loud. Rhythmic percussive sounds joined by voice. Low “animal noises,” scraping, shuffling, hollow vocal sounds. Decrescendo into 7-second pause.</p> <p>d. Sustained electronic tones, crescendo and decrescendo. Rhythmic percussive sounds. Higher sustained electronic tones, crescendo. “Airplane rumble,” “chimes,” jangling.</p> <p>e. Female voice. Male chorus. Electronic noises, organ. High taps. Swooping organ sound. Three-note group stated twice. Rumble, sirens, crescendo.</p> |
|---|---|-----------------------|---|

Threnody: To the Victims of Hiroshima, for 52 Strings (1960) by Krzysztof Penderecki

During the late 1950s, a group of avant-garde composers unexpectedly emerged in Poland. For years, all artistic experimentation had been actively discouraged by the Soviet government and by other regimes in eastern Europe. However, after the revolt against Stalinism in 1955–1956, the new Polish government encouraged cultural independence and free artistic expression in films, painting, theater, and music. Polish composers had at their disposal well-trained performing groups and electronic music studios. The best-known Polish composer today is Krzysztof Penderecki (b. 1933).

Penderecki was a boy when the Nazis occupied Poland and massacred most of its Jewish population. Although not threatened personally, Penderecki felt great compassion for the victims. “That great war crime,” he wrote, “has undoubtedly been in my subconscious mind since the war, when, as a child, I saw the destruction of the ghetto in my small native town of Debica.” His compassion for human suffering has been expressed in such works as *Dies irae* (1967), to the memory of the victims of Auschwitz; and *Threnody: To the Victims of*

Hiroshima. In these works, and in his well-known *St. Luke Passion* (1963–1965), Penderecki draws spectacular and novel sounds from voices and conventional instruments. He often calls for tone clusters, glissandos, noiselike and percussive effects, and choral hissing, laughing, shouting, and whistling.

Penderecki's *Threnody*, or song of mourning, is an almost unbearably intense work; its sounds are not intended to be "pleasant." Fifty-two string instruments—violins, violas, cellos, and double basses—produce a wide variety of noiselike sounds that often seem to come from electronic generators. Many of these sounds are tone clusters. At the beginning of this 9-minute work, shrill clusters are produced by ten groups of instruments playing "the highest note of the instrument (no definite pitch)." At the end of the piece, a huge cluster that sounds like the roar of a jet engine is produced by all fifty-two strings playing pitches a quarter tone apart. Penderecki often uses slides or glissandos to make the clusters expand and contract. Noiselike sounds are also produced by tapping on the body of the instrument and bowing on the tailpiece.

There is no feeling of beat in this music. The duration of its various musical events is indicated in seconds at the bottom of the score. *Threnody* is divided into six sections. Some feature sustained sounds; others contain a variety of rapid percussive attacks. Noiselike sounds are so predominant that the definite pitch heard at the beginning of section 2 is very striking. An overall sense of coherence is produced by the general similarity of the first and last sections, as well as by the climactic character of section 4.

Listening Outline to be read while music is heard

PENDERECKI, *Threnody: To the Victims of Hiroshima* (Recording available in the Online Learning Center)

24 violins, 10 violas, 10 cellos, 8 double basses

- | | |
|------|---|
| 0:00 | <ol style="list-style-type: none"> 1. <ol style="list-style-type: none"> a. Shrill, sustained clusters, one entering after the other. b. Suddenly soft. c. Pizzicatos. Soft, rapid squeaks. Increased rhythmic activity. d. Clusters fade out, squeaks and pizzicatos remain. |
| 1:52 | <ol style="list-style-type: none"> 2. <ol style="list-style-type: none"> a. Sustained tone. b. Upward and downward glissandos (slides). Single, sustained tones expand into clusters, clusters contract into single tones. c. High sustained tone together with clusters; brief silence. |
| 3:23 | <ol style="list-style-type: none"> 3. <ol style="list-style-type: none"> a. Low, sustained cluster, <i>p</i>. Higher sustained cluster, <i>f</i>. Other clusters join, <i>ff</i>. b. Glassy sounds slide upward. Decrescendo into silence. |
| 4:07 | <ol style="list-style-type: none"> 4. <ol style="list-style-type: none"> a. Quick attacks of single tones build to very wide and loud cluster. b. Low, roaring cluster. Slides. Low cluster narrows to single sustained cello tone. Decrescendo into 10-second pause. |
| 5:30 | <ol style="list-style-type: none"> 5. Disconnected pizzicatos, tremolos, blips, scratches at various dynamics and registers. Percussive sounds lead to |
| 7:07 | <ol style="list-style-type: none"> 6. <ol style="list-style-type: none"> a. Sustained clusters in various registers. Momentarily soft, high squeaks and clusters, crescendo to brief silence. b. Sustained cluster like jet roar. Sound gradually fades into silence. |

Fugata (1969), by Astor Piazzolla

The *tango* is a sensuous dance in quadruple meter for couples in close embrace. A musical symbol of Argentina, the tango originated around 1890 in the slums and brothels of Buenos Aires and became a dance craze in Europe and the United States during the early twentieth century.

The Argentinian composer Astor Piazzolla (1921–1992) created a unique style of concert tango music that fuses the traditional dance with elements from classical music and jazz. At first the dissonant harmonies and polyphonic textures of Piazzolla’s “new tango” (*tango nuevo*) angered traditionalists, but since the 1980s his compositions have been performed worldwide by such leading musicians and ensembles as the cellist Yo-Yo Ma and the Kronos Quartet. Today, Piazzolla’s albums may be found in the classical, jazz, and world music sections of record stores.

Piazzolla was born in Argentina but grew up in New York City, where his parents immigrated when he was four. At age eight, he began to play the *bandoneon*, a square accordion used in tango bands, operated entirely with buttons. Piazzolla soon became a virtuoso on this instrument, playing Bach and Chopin as well as tangos, folk music, and jazz. At thirteen, he accompanied the Argentinian superstar tango singer and composer Carlos Gardel during the year Gardel spent in New York.

In 1937, Piazzolla returned to Argentina, where he studied musical composition from age twenty to twenty-five with Alberto Ginastera, an important Argentinian composer, and played in tango bands in nightclubs. “I did my homework in dressing rooms,” Piazzolla later recalled. His homework included analysis of musical scores by Stravinsky and Bartók, composers who had an impact on his own style.

When Piazzolla was thirty-two, his *Buenos Aires Symphony* won a prize that subsidized a year (1954–1955) of study in Paris with Nadia Boulanger, the teacher of Aaron Copland and many other leading composers. After examining his musical scores, Boulanger told Piazzolla that his “classical” pieces were well-written but lacked expressivity. However, after she heard him play his tangos, she exclaimed, “Astor, this is beautiful. I like it a lot. This is the true Piazzolla—do not ever leave him.” For Piazzolla, his teacher’s comment “was the great revelation of my musical life.”

In 1955 Piazzolla returned to Argentina. During the 1960s he became one of the leaders of the avant-garde, admired by intellectuals and university students. He performed in nightclubs with his New Tango Quintet (*Quinteto Nuevo Tango*), and wrote the “little opera” (*operita*) *Maria de Buenos Aires* and the hit song *Balada para un loco* (*Ballad for a Madman*), as well as much film music. In 1974, at age fifty-three, Piazzolla left Argentina for Europe, first settling in Rome and then in Paris. During his late fifties and sixties, Piazzolla toured the world with his second Quintet, and composed many works including *Le Grand Tango* (1981) for the cellist Mstislav Rostropovich and *Five Tango Sensations* (1989) for the Kronos Quartet. In 1990, he had a stroke and asked to be flown from Paris to Argentina, where he died on July 4, 1992. An obituary in *The New York Times* hailed him as the “modern master of tango music.”

Piazzolla once said, “If I do a fugue in the manner of Bach, it will always be ‘tanguificated’”—that is, tango-like. The title *Fugata* derives from the Italian term *fugato*, a fuguelike section in a movement that is not a fugue. *Fugata* opens like

Basic Set:
CD 8 30

Brief Set:
CD 5 7

a fugue but soon becomes a passionate, modernistic tango, with an ostinato, dissonant harmonies, percussive sounds, string glissandi (slides), and irregular rhythmic patterns. In our recording, *Fugata* is performed by a sextet including cello—played by Yo-Yo Ma—piano, bandoneon, violin, electric guitar, and double bass.

The opening fuguelike section is polyphonic in texture: a long, syncopated fugue subject is presented unaccompanied by the cello, and then imitated in turn by the violin, bandoneon, and double bass. After about a minute, the bandoneon presents melodies with a tango flavor as the texture becomes homophonic and contrasts with the polyphony of the fuguelike opening. Later, the bandoneon alternates with the piano as the main solo instrument. During a solo for bandoneon and piano, Piazzolla creates enormous momentum by introducing an accented four-note ostinato in the bass:



Near the end, the ostinato stops and the mood suddenly becomes eerie, as we hear a moaning cello solo together with upward and downward string slides. A long, low note in unison provides a somber conclusion to *Fugata*.

Listening Outline to be read while music is heard

Basic Set: CD 8 Brief Set: CD 5

Piazzolla, *Fugata*

Quadruple meter ($\frac{4}{4}$)

Cello, piano, bandoneon, violin, electric guitar, double bass

(Duration: 3:47)

Fuguelike section

- | | | |
|--------------------|------------------------------|---|
| 30 7 | 0:00
0:15
0:31
0:46 | <ol style="list-style-type: none"> 1. a. Cello alone, <i>f</i>, long, syncopated fugue subject in running notes, minor key. <li style="padding-left: 2em;">b. Violin, fugue subject. cello, countersubject <li style="padding-left: 2em;">c. Bandoneon, <i>f</i>, fugue subject, syncopated cello accompaniment. <li style="padding-left: 2em;">d. Bass, <i>f</i>, fugue subject, violin, high countermelody, upward leaps in violin. |
|--------------------|------------------------------|---|

Tango

- | | | |
|--------------------|--------------------------------------|---|
| 31 8 | 1:03
1:18
1:34
1:49
2:03 | <ol style="list-style-type: none"> 2. a. Bandoneon and strings, <i>ff</i>, syncopated tango melody, bass accompaniment marks the beat. <li style="padding-left: 2em;">b. Bandoneon and strings, running-note melody with syncopations, bass accompaniment continues to mark the beat, high tremolo leads to 3. Bandoneon and violin, melody with downward leaps, piano, irregular accents, violin, upward slide to 4. a. Piano, <i>ff</i>, running-note melody, cello, pizzicato accompaniment. <li style="padding-left: 2em;">b. Bandoneon and guitar melody descends chromatically, syncopated bass solo, pizzicato, slow guitar slides, <i>p</i>. |
|--------------------|--------------------------------------|---|

- 2:22 5. a. Bandoneon and piano, *ff*, accented syncopated chords, four-note ostinato in bass, pizzicato.
- 2:30 b. Piano solo, fast syncopated melody in octaves, bass ostinato continues, piano melody descends, ascends to syncopated chords.
- 3:01 6. a. Repeated phrase in bandoneon and piano with percussive interjections, bass ostinato continues.
- 3:16 b. Ostinato stops, legato cello solo and eerie string slides, decrescendo to long, low ending note in unison, *p*.

Ancient Voices of Children (1970), by George Crumb

During the late 1960s, the American composer George Crumb (b. 1929) became prominent as the result of a series of works that were highly acclaimed by both audiences and critics. His music is personal and emotionally intense; it is distinguished by imaginative use of novel and delicate tone colors. For many years, Crumb taught composition at the University of Pennsylvania.

Like much of his music, Crumb's *Ancient Voices of Children* is set to poetry by Federico García Lorca, the great Spanish writer who was murdered in 1936 during the civil war in Spain. "I have sought musical images," wrote Crumb, "that enhance and reinforce the powerful, yet strangely haunting imagery of Lorca's poetry. I feel that the essential meaning of this poetry is concerned with the most primary things: life, death, love, the smell of the earth, the sounds of the wind and the sea."

Ancient Voices of Children is a cycle of five songs with two instrumental interludes. The work is written for mezzo-soprano, boy soprano, oboe, mandolin, harp, percussion, and "electric piano." (A normal grand piano is amplified by contact microphones attached to its sounding board.) Three percussionists command a variety of instruments, including such unconventional ones as tuned tom-toms, Tibetan prayer stones, and Japanese temple bells. The pianist also plays a toy piano (in the fourth song); the oboist plays a harmonica (also in the fourth song); and the mandolinist plays a "musical saw" (an ordinary saw played with a double-bass bow).

"Perhaps the most characteristic vocal effect in *Ancient Voices*," writes Crumb, "is produced by the mezzo-soprano singing a kind of fantastic vocalise (on purely phonetic sounds) into an amplified piano, thereby producing a shimmering aura of echoes." (A *vocalise* is an extended melody sung without a text, only on vowels.) Gradually fading sounds are produced by gongs, harp, vibraphone, and marimbas—among other instruments—and contribute to the vaguely Asian atmosphere. (A *vibraphone* is a percussion instrument with tuned metal bars and tubular metal resonators that produce a vibrato by means of motor-driven revolving metal vanes; a *marimba* is a large xylophone with resonators.) The composer wants us to savor individual tone colors; in many passages, only a single instrument or voice is heard.

Ancient Voices is theatrical in character and has been used as ballet music by several dance companies. A boy soprano singing offstage heightens the drama. Even the instrumentalists play a dramatic role; they are occasionally required to sing, shout, or whisper. We'll focus on the third song of the cycle.

Yo-Yo Ma, Cellist, Playing Piazzolla's Fugata



Yo-Yo Ma, one of the world's most famous living cellists, plays not only the classical cello repertoire but a wide range of music including Argentinian tangos, Brazilian sambas, and traditional Asian pieces.

Ma was born in Paris in 1955 to Chinese parents who had come there to study music. He began to play the cello when he was four and at age five gave his first public concert at the University of Paris. At seven, Ma and his family left Paris for the United States. There, the seven-year old played in Washington's Cultural Center (now the Kennedy Center) at a fund-raising event hosted and conducted by Leonard Bernstein and attended by President and Mrs. Kennedy.

When he was almost seventeen, Ma entered Harvard College, which had a major impact on his life. During his freshman year, he played about thirty concerts around the world while taking a full schedule of courses. After graduating from Harvard in 1976, Ma began a full-time career as a concert cellist, playing solos with leading orchestras, making award-winning recordings, giving master classes for talented young musicians, and commissioning many new works for cello by contemporary composers.

Since the 1990s, Ma has intensively explored many different kinds of music outside the western classical tradition. He attributes this stretching of boundaries to his experience at Harvard, where he "was systematically introduced to different worlds and ways of thinking." Inspired by a professor of anthropology, Ma traveled to Africa to learn about the music of a people known as the Bushmen of the Kalahari Desert. He played Bach for Kalahari musicians, listened to their music, and tried to play their homemade instruments. Ma was also attracted to Appalachian fiddle music and collaborated with the fiddler Mark O'Connor and the bass player Edgar Meyer to produce two albums, *The Appalachian Waltz* and *Appalachian Journey*.

His most ambitious enterprise is the Silk Road Project, designed to explore the exchange of ideas among the cultures located along the Silk Road, the ancient trade route connecting Asia and Europe. An important part of this project is the Silk Road Ensemble, consisting of Asian and American musicians who perform on eastern and western instruments. The Ensemble's CD, *Silk Road Journeys: When Strangers Meet*, includes traditional music from Mongolia, China, Persia, Azerbaijan, and Finland, as well as music used in the soundtrack of the film *Crouching Tiger, Hidden Dragon* (2000), performed by Ma and composed by a Chinese-American, Tan Dun (b. 1957).

In 1997, Ma went to Buenos Aires to record the album *Soul of the Tango* with leading tango musicians who had performed with Astor Piazzolla. (Ma's performance of Piazzolla's *Fugata* is included in the Basic CD set.) Yo-Yo Ma feels that "Piazzolla's music is endlessly passionate—full of yearning—and at the same time endlessly contemporary." For Ma, Piazzolla "is a great musician who influenced dance, jazz, and modernism, and developed a new style of tango music." Piazzolla "had an amazing ear for musical style, and he combined chosen styles—jazz, Bartók, Stravinsky—into a seamless fusion, a very personal and passionate voice." According to Ma, the combination of the tango, a national music, with "foreign" influences is the reason why Piazzolla's music "has that incredibly tight rhythmic sense, but also the Italian rubato and the erotic tensions. . . . That's what makes you go nuts!"

From Where Do You Come, My Love, My Child? (*Dance of the Sacred Life-Cycle*)

Basic Set:
CD 8 **32**

The most spectacular part of *Ancient Voices of Children* is the central song, which uses the characteristic rhythm of a bolero, the Spanish dance which also inspired Ravel's *Bolero* (see Section 5). The song opens with a mezzo-soprano solo on phonetic sounds, sung into the amplified piano. During this solo, the singer is required to trill the tongue and make laughing sounds. Then the percussionists begin an ostinato in bolero rhythm that continues throughout the piece. They make a gradual crescendo and decrescendo, and progress from whispering to shouting, then back to whispering. Each of the poem's three stanzas has a half-sung question and answer by the two vocalists, a decorative oboe phrase, and an exuberant soprano melody. (Crumb's special music notation for this song is shown on page 490.)

Vocal Music Guide to be read while music is heard Basic Set: CD 8

CRUMB, *From Where Do You Come, My Love, My Child?*

32

Mezzo
soprano,
phonetic
sounds.
Percussion,
bolero rhythm.

Mezzo soprano.	<i>¿De dónde vienes, amor, mi niño?</i>	From where do you come, my love, my child?
Boy soprano.	<i>De la cresta del duro frío.</i>	From the ridge of hard frost.
Mezzo.	<i>¿Qué necesitas, amor, mi niño?</i>	What do you need, my love, my child?
Boy, oboe.	<i>La tibia tela de tu vestido.</i>	The warm cloth of your dress.
Mezzo.	<i>¡Que se agiten las ramas al sol y salten las fuentes alrededor!</i>	Let the branches ruffle in the sun and the fountains leap all around!
Boy.	<i>En el patio ladra el perro, en los árboles canta el viento. Los bueyes mugen al boyero y la luna me riza los cabellos.</i>	In the courtyard a dog barks, in the trees the wind sings. The oxen low to the ox-herd and the moon curls my hair.
Mezzo.	<i>¿Qué pides, niño, desde tan lejos?</i>	What do you ask for, my child, from so far away?
Boy, oboe.	<i>Los blancos montes que hay en tu pecho.</i>	The white mountains of your breast.
Mezzo.	<i>¡Que se agiten las ramas al sol y salten las fuentes alrededor!</i>	Let the branches ruffle in the sun and the fountains leap all around!

*Te diré, niño mío, que sí,
tronchada y rota soy para ti.
¿Cómo me duele esta cintura
donde tendrás primera cuna!
¿Cuándo mi niño, vas a venir?*

I'll tell you, my child, yes,
I am torn and broken for you.
How painful is this waist
where you will have your first cradle!
When, my child, will you come?

Boy.

Cuando tu carne huele a jazmín.

When your flesh smells of jasmine
flowers.

Oboe interlude.

Mezzo

*¡Que se agiten las ramas al sol
y salten las fuentes alrededor!*

Let the branches ruffle in the sun
and the fountains leap all around!

Percussion.

Einstein on the Beach (1976), by Philip Glass

Philip Glass (b. 1937) is an American minimalist composer whose works have reached large audiences and influenced both “classical” and rock musicians. Like other minimalists, he writes music distinguished by a steady, driving pulse, clear tonality, constant repetition of melodic and rhythmic patterns, and a slow rate of change.

Glass was born in Baltimore and studied at the University of Chicago—where he majored in mathematics and philosophy—and the Juilliard School of Music, where he wrote music in a style reminiscent of Aaron Copland. As Copland had done in 1921, Glass went to Paris in 1964 to study with the legendary composition teacher Nadia Boulanger. In Paris Glass also studied Indian drumming and helped the famous Indian sitarist and composer Ravi Shankar notate his improvisations for a film score. (Ravi Shankar’s *Maru-Bihag* is studied in Part XI, Section 3.) Glass’s contact with what he described as the “steady stream of rhythmic pulses” in traditional Indian music triggered his emerging minimalist style. Inspired by Shankar, Glass went to India, where he began his lifelong involvement with Buddhist meditation.

In 1967 Glass returned to New York, wrote minimalist music, and supported himself by working as a plumber and cab driver. He founded a group—later called the Philip Glass Ensemble—that performed his compositions in museums, art galleries, lofts of minimalist artists, and rock clubs. In the 1970s, the ensemble, which included electric keyboards, amplified winds, and two vocalists, presented works throughout Europe, where Glass influenced progressive rock musicians like David Bowie and Brian Eno.

Glass became a celebrity in 1976 when his opera *Einstein on the Beach* sold out two performances at New York’s Metropolitan Opera House. The composer, subsidized by a foundation, had rented the hall of the Metropolitan Opera and presented *Einstein on the Beach* with the same troupe that had already performed the opera in eight European cities. *Einstein’s* success led European opera companies to commission *Satyagraha* (1980), about the Indian leader Mahatma Gandhi; and *Akhmaten* (1984), dealing with an ancient Egyptian pharaoh. *The Voyage*, Glass’s opera about Columbus, was commissioned by the Metropolitan Opera

and was performed on Columbus Day, 1992, five hundred years after the explorer encountered America. Since *Einstein on the Beach*, Glass's works—including the film score *Koyaanisqatsi* (1982)—have become increasingly rich in texture, harmony, and instrumentation.

Einstein on the Beach (1976), created in collaboration with the American playwright-director Robert Wilson, breaks with many conventions of opera. It has no real plot or character development, even though it lasts almost 5 hours with no intermission. Its vocal texts are mostly sung or spoken numerals (1, 2, 3 . . .) and solfège syllables (*do, re, mi* . . .) which represent, respectively, the rhythmic and melodic structure of the music. The “orchestra” consists of the Philip Glass Ensemble—a sound engineer, a female vocalist, and five instrumentalists playing two electric organs, synthesizer bass, keyboards, three saxophones, flute, and clarinet, together with a violin soloist dressed as Albert Einstein. (Einstein, the great physicist, was also an amateur violinist.) The singers, who are not formally trained, dance and act as well. Three visual images recur in *Einstein on the Beach*: a train, a trial with a bed, and a field with a spaceship in the sky. Near the end of the opera, Einstein plays the violin while the statistics of a nuclear disaster appear on a backdrop behind him. (The opera's title refers to Nevil Shute's novel about nuclear destruction, called *On the Beach*.) The opera includes five short pieces called *Knee Plays*, which function as a prelude, interludes, and a postlude. We'll focus on *Knee Play 1* as an example of musical minimalism.

Knee Play 1

Basic Set:
CD 8 33

Knee Play 1 is performed at the opening of the opera by an electric organ, a chorus of men and women, and two female speaking voices while two characters sit at two tables. This collage-like 4-minute piece creates an effect of ceremonial chanting and has the steady beat and repeated melodic patterns characteristic of minimalist music. *Knee Play 1* is built on a musical pattern of three long, low tones (A–G–C) repeated over and over by the electric organ, somewhat like a basso ostinato. Against this constant pattern of three tones, the men and women of the chorus repeatedly sing a series of numbers, or beats (1-2-3-4/1-2-3-4-5-6/1-2-3-4-5-6-7-8) to specific pitches. Men sing the numbers to the descending pitches of the electric organ, A–G–C, while women sing the numbers to the ascending group of pitches C–D–E.

Women:	C	D	E
	1-2-3-4/1-2-3-4-5-6/1-2-3-4-5-6-7-8		
Men (organ):	A	G	C

Sung staccato, the numbers create a steady, rather fast beat. Glass adds variety to *Knee Play 1* by slightly changing the rhythm and by gradually adding different layers of sound. Rhythmic change comes when the chorus produces syncopations by sometimes omitting the numeral 1 on the first pulse: *_*2-3-4/1-2-3-4-5-6/ *_*2-3-4-5-6-7-8. A new sound layer appears when female voices join in the background with spoken numbers and a barely comprehensible text. Yet another layer of sound is added halfway through *Knee Play 1*, when the chorus's pulsatile numbers are joined by men and women singing solfège syllables in long, legato tones. Over and over, men sing *la* (A)–*sol* (G)–*do* (C), while women sing the rising pattern *do* (C)–*re* (D)–*mi* (E). Such small changes in a hypnotically repetitive pattern create Glass's unique world of sound.

Listening Outline to be read while music is heard

Basic Set: CD 8

GLASS, *Knee Play 1*, from *Einstein on the Beach*

Electric organ, chorus of men and women, 2 female speaking voices

C Major

- | | |
|---|--|
| <p>33 0:00
0:21
1:04</p> | <p>1. a. Electric organ alone, pattern of three long, low tones (A–G–C), repeated throughout.
b. Two-part chorus of men and women joins, repeating 1-2-3-4/1-2-3-4-5-6/1-2-3-4-5-6-7-8 throughout; sometimes numeral 1 is omitted, creating syncopation.
c. Female voice joins in background, reciting numbers, then text. Second female speaking voice joins with barely comprehensible text, continuing into</p> |
| <p>34 2:05</p> | <p>2. <i>La-sol-do</i> (men) and <i>do-re-mi</i> (women) repeatedly sung to long, legato tones against recited text and sung numbers. Abrupt ending.</p> |

Concerto Grosso 1985 (To Handel's Sonata in D Major for Violin and Continuo, First Movement), by Ellen Taaffe Zwilich

The American composer Ellen Taaffe Zwilich (b. 1939) won the Pulitzer Prize for Music in 1983 for her Symphony No. 1. Zwilich was born in Miami, Florida; her father was an airline pilot. She studied at Florida State University and at the Juilliard School and played for several years as a professional violinist in the American Symphony Orchestra under the direction of Leopold Stokowski. She has composed an impressive series of widely performed instrumental works, including her String Quartet (1974), Symphony No. 2 (1985), Concerto for Piano and Orchestra (1986), Symphony No. 3 (1992), and *Millennium Fantasy* for Piano and Orchestra (2000). From 1995 to 1999 she occupied Carnegie Hall's first Com-

poser's Chair, and in 1999 she was named *Musical America's* Composer of the Year. A professor at her alma mater, Florida State University, she was elected to the American Academy of Arts and Sciences in 2004.

Concerto Grosso 1985 was commissioned by the Washington Friends of Handel to commemorate Handel's three-hundredth birthday. Each of its five movements uses thematic material drawn from the opening movement of Handel's Sonata for Violin and Continuo in D Major. Zwilich has said: "I performed the [Handel] many years ago, and I especially love the opening theme of the first movement. . . . Throughout [*Concerto Grosso 1985*], I found myself using compositional techniques typical of the baroque period, including



Ellen Taaffe Zwilich.

terraced dynamics, repeated phrases . . . techniques I would not normally use, but I felt inspired to do so because of the fact that this piece was based on Handel.” Like the concerti grossi of Handel and Bach, Zwilich’s *Concerto Grosso 1985* is written for a small orchestra including a harpsichord and gives solo instruments prominent roles. Its five movements are arranged symmetrically: the finale is similar to the opening movement, and the fourth movement parallels the second. The two outer movements include entire passages from the Handel sonata, whereas the three inner movements use no quotations but freely develop the sonata’s opening melodic motive. We’ll focus on the first movement, a clear example of “quotation music.”

First Movement: Maestoso (majestic)

Basic Set:
CD 8 **35**

Brief Set:
CD 4 **51**

The *maestoso* repeatedly alternates quotations from Handel with passages that could have been written only in the twentieth century. Though abrupt, these contrasts somehow add up to a unified whole. Partly, this is because the newly composed sections are often based on a speeded-up variation of Handel’s opening four-note motive.

In addition, Zwilich’s own music uses compositional techniques associated with the baroque. Long pedal points in the bass give a firm definition of key to melodic lines that use dissonances freely in a twentieth-century manner. And these melodic lines include the repeated rhythmic pattern short-short-long, short-short-long found in music by Bach and Handel.

Listening Outline to be read while music is heard

Basic Set: CD 8 Brief Set: CD 4

ZWILICH, *Concerto Grosso 1985*

First Movement

Maestoso (majestic), quadruple meter ($\frac{4}{4}$), D major

Flute, 2 oboes, bassoon, 2 French horns, harpsichord, 1st violins, 2d violins, violas, cellos, double basses

(Duration, 2:45)

35 **51** 0:00

- Orchestra in unison, *f*, single sustained tone presented three times.
 - Violins, *f*, vigorous phrase, short-short-long rhythm, sustained tone in bass;

36 52 0:34

c. Handel quotation, strings and harpsichord, *mp*,

interrupted by

0:55

2. a. Vigorous phrase developed in strings and woodwinds; crescendo to *f*; short string phrases with abrupt pauses.b. Handel quotation continued, oboe *mf*, accompanied by harpsichord and strings.

1:31

3. a. Vigorous phrase in violins, *f*, imitated in flute, *f*; vigorous phrase in violins, *f*.b. Handel quotation continued, *f*; trills in strings and woodwinds; harpsichord; melody closes.

2:03

4. a. Vigorous phrase in violins, flute, and oboes; crescendo to *ff*.

2:13

b. Woodwinds, high sustained dissonant chords; low strings, fragments of vigorous string phrase, *ff*. Ends on sustained dissonant chord, *f*.

Short Ride in a Fast Machine (1986), by John Adams

Basic Set:

CD 8 37

Brief Set:

CD 4 53

John Adams (b. 1947) is a leading American composer who has been aptly described as a postminimalist. His music combines the driving pulse, constant repetition, and clear tonality of minimalism with lyrical, expressive melodies and varied orchestral colors. "I grew up in a household where Benny Goodman and Mozart were not separated," Adams once recalled. Indeed, his works reflect the influence of American popular music as well as composers such as Stravinsky and Reich.

A conductor as well as a composer, Adams taught and directed the New Music Ensemble at the San Francisco Conservatory of Music from 1972 to 1982 and was composer in residence with the San Francisco Symphony Orchestra during 1982–



John Adams.

1985. His works include *Harmonium* (1980), for chorus and orchestra; the orchestral works *Harmonielehre* (1985) and *Short Ride in a Fast Machine* (1986); and the operas *Nixon in China* (1987), *The Death of Klinghoffer* (1991), and *Dr. Atomic* (2005), dealing with J. Robert Oppenheimer, the physicist known as the father of the atomic bomb. In 2003, Adams won the Pulitzer Prize in music for *On the Transmigration of Souls* (2002), a work for chorus and orchestra commissioned by the New York Philharmonic in commemoration of those who died in the terrorist attacks on the Pentagon and the World Trade Center on September 11, 2001.

Short Ride in a Fast Machine, a 4-minute fanfare, is one of the most widely performed

orchestral works by a living American composer. The work was commissioned by the Great Woods Festival to celebrate its inaugural concert at Great Woods, Mansfield, Massachusetts. *Short Ride in a Fast Machine* generates enormous excitement because of its rapid tempo, rhythmic drive, and powerful, colorful sonorities. The large orchestra includes two synthesizers and a variety of percussion instruments played by four musicians. These percussion instruments include a sizzle cymbal (a large cymbal with loose rivets placed in a ring of holes) and crotales (small cymbals of definite pitch). *Short Ride in a Fast Machine* is pervaded by steady beats in the wood block, rapid-note ostinatos in synthesizers and clarinets, and repeated orchestral chords that alternate between regular pulsations and irregular rhythms. The climax comes toward the end, when Adams introduces a stirring, fanfare-like melody in the trumpets.

Listening Outline to be read while music is heard

Basic Set: CD 8 Brief Set: CD 4

ADAMS, *Short Ride in a Fast Machine*

Delirando (deliriously)

2 piccolos, 2 flutes, 2 oboes, English horn, 4 clarinets, 3 bassoons, contrabassoon, 4 French horns, 4 trumpets, 3 trombones, tuba, timpani, wood blocks, pedal bass drum, large bass drum, suspended cymbal, sizzle cymbal, large gong (tam-tam), tambourine, triangle, glockenspiel, xylophone, crotales, 2 synthesizers, 1st violins, 2d violins, violas, cellos, double basses

(Duration 4:11)

- | | |
|---|---|
| <p>37 53 0:00</p> <p>0:36</p> <p>38 54 1:06</p> <p>39 55 1:46</p> <p>2:39</p> <p>2:53</p> <p>40 56 3:00</p> <p>4:03</p> | <p>1. a. Wood block pulsations followed by ostinatos in clarinets and synthesizer, staccato repeated chords in trumpets, <i>f</i>, trombones and French horns join on faster repeated chords; piccolo fragments and snare drum strokes punctuate.</p> <p>b. Pulsating brass chords, piccolo fragments, brass chords in irregular rhythms, quick snare drum strokes and suspended cymbal announce</p> <p>c. String entrance, chords in irregular rhythms, bass drum strokes, chords rise in pitch, cymbal, bass drum and snare drum strokes, crescendo to <i>fff</i>.</p> <p>d. Suddenly softer, “walking” figure in cellos and basses below pulsating, rising orchestral chords, irregular rhythms in percussion, brass, and woodwinds, crescendo to <i>fff</i>.</p> <p>e. Trombones and tubas, <i>fff</i>, low downward skip, repeated chords in brasses and woodwinds; bass drum, gong, cymbals, crescendo to <i>fff</i>.</p> <p>f. Suddenly softer orchestral pulsations, clarinet ostinato.</p> <p>2. a. Trumpets, <i>ff</i>, extended melody, accompanied by pulsating chords and counter-melody in French horns, crescendo to <i>fff</i>.</p> <p>b. Repeated major chords in trumpets and trombones, <i>fff</i>, percussive concluding chord.</p> |
|---|---|

Basic Terms

tango (page 501) vibraphone (503)
bandoeon (501) marimba (503)