

GARDNER'S
ART
THROUGH THE
AGES

THE WESTERN PERSPECTIVE

19TH CENTURY TO PRESENT

VOLUME II

FRED S. KLEINER

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PERSPECTIVE

THIRTEENTH EDITION

Volume II

FRED S. KLEINER



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About the Cover Art



ÉDOUARD MANET, *Claude Monet in His Studio Boat*, 1874. Oil on canvas, 2' 8" × 3' 3¼". Neue Pinakothek, Munich.

In a famous 1860 essay entitled “The Painter of Modern Life, the French poet and critic Charles Baudelaire (1821–1867) argued that “modernity is the transitory, the fugitive, the contingent.” That definition well describes the work of the Impressionists, especially Claude Monet (1840–1926), represented here in a painting by Édouard Manet (1832–1883), seated in his floating studio on the Seine River at Argenteuil in 1874. Monet’s paintings of Parisians at leisure and of the industrialization of 19th-century France stand in forceful opposition to that era’s government-sponsored academic art featuring traditional religious, historical, and mythological subjects and highly polished technique. In contrast, Monet painted the people and places around him, and he did so outdoors (*en plein air*) directly on white canvases without any preliminary sketches and using short, clearly visible brush strokes. The canvas that he is painting characteristically has as its subject sailboats on the Seine and, in the distance, the factories and smokestacks of Argenteuil, but Monet was equally interested in the reflection of light on water at different times of day.

Monet, unlike many of his contemporaries, lived long enough to enjoy international acclaim, but for most of the history of art, artists toiled in anonymity in the services of their patrons, whether Egyptian pharaohs, Roman emperors, or medieval monks. *Art through the Ages* surveys the art of all periods from prehistory to the present and examines how artworks of all kinds, anonymous and signed, have always reflected the historical contexts in which they were created.

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P R E F A C E

When Helen Gardner published the first edition of *Art through the Ages* in 1926, she could not have imagined that more than 80 years later instructors all over the world would still be using her textbook in their classrooms. Indeed, if she were alive today, she would not recognize the book that long ago became—and remains—the most widely read introduction to the history of art and architecture in the English language. During the past half century, successive authors have constantly reinvented Helen Gardner’s groundbreaking survey, always keeping it fresh and current, and setting an ever-higher standard in both content and publication quality with each new edition. I hope both professors and students will agree that this 13th edition lives up to that venerable tradition.

Certainly, this latest edition offers much that is fresh and new (enumerated below), but some things have not changed, including the fundamental belief that guided Helen Gardner—namely, that the primary goal of an introductory art history textbook should be to foster an appreciation and understanding of historically significant works of art of all kinds from all periods. Because of the longevity and diversity of the history of art, it is tempting to assign responsibility for telling its story to a large team of specialists. The Gardner publishers themselves took this approach for the first edition they produced after Helen Gardner’s death, and it has now become the norm for introductory art history surveys. But students overwhelmingly say that the very complexity of the history of art makes it all the more important for the story to be told with a consistent voice if they are to master so much diverse material. I think Helen Gardner would be pleased to know that this new edition of *Art through the Ages* once again has a single storyteller.

Along with the late Richard Tansey and my more recent collaborator, Christin Mamiya, with whom I had the honor and pleasure of working on the 10th, 11th, and 12th editions, I continue to believe that the most effective way to tell the story of art through the ages, especially to someone studying art history for the first time, is to organize the vast array of artistic monuments according to the civilizations that produced them and to consider each work in roughly chronological order. This approach has not merely stood the test of time. It is the most appropriate way to narrate the *history* of art. The principle that underlies my approach to every period of art history is that the enormous variation in the form and meaning of the paintings, sculptures, buildings, and other artworks men and women have produced over the past 30,000 years is largely the result of the constantly changing contexts in which artists and architects worked. A historically based

narrative is therefore best suited for a comprehensive history of art because it permits the author to situate each work discussed in its historical, social, economic, religious, and cultural context. That is, after all, what distinguishes art history from art appreciation.

In the first (1926) edition of *Art through the Ages*, Helen Gardner discussed Henri Matisse and Pablo Picasso in a chapter entitled “Contemporary Art in Europe and America.” Since then many other artists have emerged on the international scene, and the story of art through the ages has grown longer and even more complex. More important, perhaps, the discipline of art history has changed markedly in recent decades, and so too has Helen Gardner’s book. The 13th edition fully reflects the latest art historical research emphases while maintaining the traditional strengths that have made previous editions of *Art through the Ages* so popular. While sustaining attention to style, chronology, iconography, and technique, I also ensure that issues of patronage, function, and context loom large in every chapter. I treat artworks not as isolated objects in sterile 21st-century museum settings but with a view toward their purpose and meaning in the society that produced them at the time they were produced. I examine not only the role of the artist or architect in the creation of a work of art or a building, but also the role of the individuals or groups who paid the artists and influenced the shape the monuments took. Further, I devote more space than previously to the role of women and women artists in diverse societies over time. In every chapter, I have tried to choose artworks and buildings that reflect the increasingly wide range of interests of scholars today, while not rejecting the traditional list of “great” works or the very notion of a “canon.” Consequently, the selection of works in this edition encompasses every artistic medium and almost every era and culture in the Western world, and includes many works that until recently art historians would not have considered to be “art” at all.

The 12th edition of *Art through the Ages* was the number-one choice for art history survey courses and the best-selling version of the book in its long history, and for this 13th edition I have retained all of the features that made its predecessor so successful. Once again, this edition, which contains 25 chapters on the Western tradition and its roots in the ancient Near East and Egypt, plus a chapter on Islamic art and architecture, boasts roughly 1,100 photographs, plans, and drawings, virtually all in color and reproduced according to the highest standards of clarity and color fidelity. The 13th edition, however, also features hundreds of new or upgraded photos by a host of new photographers as well as redesigned maps and plans

and an extraordinary new set of architectural drawings prepared exclusively for *Art through the Ages* by John Burge.

The captions to the illustrations in this edition of *Art through the Ages*, as before, contain a wealth of information, including the name of the artist or architect, if known; the formal title (printed in italics), if assigned, description of the work, or name of the building; the provenance or place of production of the object or location of the building; the date; the material(s) used; the size; and the current location if the work is in a museum or private collection. As in previous editions, scales accompany all plans, but for the first time scales now also appear next to each photograph of a painting, statue, or other artwork. The works illustrated vary enormously in size, from colossal sculptures carved into mountain cliffs and paintings that cover entire walls or ceilings to tiny figurines, coins, and jewelry that one can hold in the hand. Although the captions contain the pertinent dimensions, it is hard for students who have never seen the paintings or statues in person to translate those dimensions into an appreciation of the real size of the objects. The new scales provide an effective and direct way to visualize how big or how small a given artwork is and its relative size compared with other objects in the same chapter and throughout the book.

Also new to this edition are the Quick-Review Captions that students found so useful when these were introduced in 2006 in the first edition of *Art through the Ages: A Concise History*. These brief synopses of the most significant aspects of each artwork or building illustrated accompany the captions to all images in the book. They have proved invaluable to students preparing for examinations in one-semester art history survey courses, and I am confident they will be equally useful to students enrolled in yearlong courses. In the 13th edition, however, I have provided two additional tools to aid students in reviewing and mastering the material. Each chapter now ends with a full-page feature called The Big Picture, which sets forth in bullet-point format the most important characteristics of each period or artistic movement discussed in the chapter. Small illustrations of characteristic works discussed accompany the summary of major points. Finally, I have attempted to tie all of the chapters together by providing with each copy of *Art through the Ages* a poster-size Global Timeline. This too features illustrations of key monuments of each age and geographical area as well as a brief enumeration of the most important art historical developments during that period. The timeline is global in scope to permit students in Western art courses to place developments in Europe and America in a worldwide context. The poster has four major horizontal bands corresponding to Europe, the Americas, Asia, and Africa, and 34 vertical columns for the successive chronological periods from 30,000 BCE to the present.

Another pedagogical tool not found in any other introductory art history textbook is the *Before 1300* section that appears at the beginning of the second volume of the paperbound version of the 13th edition. Because many students taking the second half of a yearlong survey course will not have access to volume one, I have provided a special set of concise primers on religion and mythology and on architectural terminology and construction methods in the ancient and medieval worlds—information that is essential for understanding the history of Western art after 1300. The subjects of these special boxes are The Gods and Goddesses of Mount Olympus; The Life of Jesus in Art; Greco-Roman Temple Design and the Classical Orders; Arches and Vaults; and Medieval Church Design.

Boxed essays once again appear throughout the book as well. This popular feature first appeared in the 11th edition of *Art through the Ages*, which won both the Texty and McGuffey Prizes of the Text and Academic Authors Association for the best college textbook of 2001 in the humanities and social sciences. In this edition the essays are

more closely tied to the main text than ever before. Consistent with that greater integration, most boxes now incorporate photographs of important artworks discussed in the text proper that also illustrate the theme treated in the boxed essays. These essays fall under six broad categories, one of which is new to the 13th edition.

Architectural Basics boxes provide students with a sound foundation for the understanding of architecture. These discussions are concise explanations, with drawings and diagrams, of the major aspects of design and construction. The information included is essential to an understanding of architectural technology and terminology. The boxes address questions of how and why various forms developed, the problems architects confronted, and the solutions they used to resolve them. Topics discussed include how the Egyptians built the pyramids, the orders of classical architecture, Roman concrete construction, and the design and terminology of mosques and Gothic cathedrals.

Materials and Techniques essays explain the various media artists employed from prehistoric to modern times. Since materials and techniques often influence the character of artworks, these discussions contain essential information on why many monuments appear as they do. Hollow-casting bronze statues; fresco painting; Islamic tile work; embroidery and tapestry; perspective; engraving, etching, and lithography; and daguerreotype and calotype photography are among the many subjects treated.

Religion and Mythology boxes introduce students to the principal elements of great religions, past and present, and to the representation of religious and mythological themes in painting and sculpture of all periods and places. These discussions of belief systems and iconography give readers a richer understanding of some of the greatest artworks ever created. The topics include the gods and goddesses of Egypt, Mesopotamia, Greece, and Rome; the life of Jesus in art; and Muhammad and Islam.

Art and Society essays treat the historical, social, political, cultural, and religious context of art and architecture. In some instances, specific monuments are the basis for a discussion of broader themes, as when the Hegeso stele serves as the springboard for an exploration of the role of women in ancient Greek society. Another essay discusses how people's evaluation today of artworks can differ from those of the society that produced them by examining the problems created by the contemporary market for undocumented archaeological finds. Other subjects include Egyptian mummification, Etruscan women, Byzantine icons and iconoclasm, artistic training in Renaissance Italy, 19th-century academic salons and independent art exhibitions, and public funding of controversial art.

Written Sources present and discuss key historical documents illuminating important monuments of art and architecture throughout the Western world. The passages quoted permit voices from the past to speak directly to the reader, providing vivid and unique insights into the creation of artworks in all media. Examples include Bernard of Clairvaux's treatise on sculpture in medieval churches, Giovanni Pietro Bellori's biographies of Annibale Carracci and Caravaggio, Jean François Marmontel's account of 18th-century salon culture, as well as texts that bring the past to life, such as eyewitness accounts of the volcanic eruption that buried Roman Pompeii and of the fire that destroyed Canterbury Cathedral in medieval England.

A new category is *Artists on Art* in which artists and architects throughout history discuss both their theories and individual works. Examples include Sinan the Great discussing the mosque he designed for Selim II, Leonardo da Vinci and Michelangelo debating the relative merits of painting and sculpture, Artemisia Gentileschi talking about the special problems she confronted as a woman artist, Jacques-Louis David on Neoclassicism, Gustave Courbet on Realism, Henri

Matisse on color, Pablo Picasso on Cubism, Diego Rivera on art for the people, and Judy Chicago on her seminal work *The Dinner Party*.

Instructors familiar with previous editions of *Art through the Ages* will also find that many of the chapters in the 13th edition have been reorganized, especially in volume two. For example, the treatment of European 17th-century art now appears in two discrete chapters, one devoted to Baroque Italy and Spain, the other to Northern Europe. A single chapter is devoted to the 18th century, another to the period from 1800 to 1870, and a third to 1870 to 1900. In addition, in recognition that different instructors at different colleges and universities end the first semester and begin the second semester at different points, for the first time *both* volumes of *Art through the Ages* include Chapter 14 on Italian art from 1200 to 1400. And *The Western Perspective* is now also available in a special backpack edition consisting of four, rather than the traditional two, paperback volumes: Book A (Antiquity: chapters 1–7), Book B (The Middle Ages: chapters 8–14), Book C (Renaissance and Baroque: chapters 14–20), and Book D (Modern Europe and America: chapters 21–25). These books can also be purchased separately.

Rounding out the features in the book itself is a Glossary containing definitions of all terms introduced in the text in italics and a Bibliography of books in English, including both general works and a chapter-by-chapter list of more focused studies. In this edition I have also taken care to italicize and define in the text all Glossary terms that appear in volume two even if they have been used and defined in volume one, because many students enrolled in the second semester of a yearlong course will not have taken the first semester and will not be familiar with those terms.

The 13th edition of *Art through the Ages* is not, however, a stand-alone text, but one element of a complete package of learning tools. In addition to the Global Timeline, every new copy of the book comes with a password to *ArtStudy Online*, a web site with access to a host of multimedia resources that students can employ throughout the entire course, including image flashcards, tutorial quizzes, podcasts, vocabulary, and more. Instructors have access to a host of teaching materials, including digital images with zoom capabilities, video, and Google Earth™ coordinates.

A work as extensive as this history of art could not be undertaken or completed without the counsel of experts in all areas of Western art. As with previous editions, the publisher has enlisted more than a hundred art historians to review every chapter in order to ensure that the text lived up to the Gardner reputation for accuracy as well as readability. I take great pleasure in acknowledging here the invaluable contributions to the 13th edition of *Art through the Ages: The Western Perspective* made by the following for their critiques of various chapters: Charles M. Adelman, University of Northern Iowa; Kirk Ambrose, University of Colorado–Boulder; Susan Ashbrook, Art Institute of Boston; Zainab Bahrani, Columbia University; Susan Bakewell, University of Texas–Austin; James J. Bloom, Florida State University; Suzaan Boettger, Bergen Community College; Colleen Bolton, Mohawk Valley Community College; Angi Elsea Bourgeois, Mississippi State University; Kimberly Bowes, Fordham University; Elizabeth Bredrup, St. Christopher’s School; Lawrence E. Butler, George Mason University; Alexandra Carpino, Northern Arizona University; Jane Carroll, Dartmouth College; Hipolito Rafael Chacon, The University of Montana; Catherine M. Chastain, North Georgia College & State University; Violaine Chauvet, Johns Hopkins University; Daniel Connolly, Augustana College; Michael A. Coronel, University of Northern Colorado; Nicole Cox, Rochester Institute of Technology; Jodi Cranston, Boston University; Giovanna De Appolonia, Boston University; Marion de Koning, Grossmont College; John J. Dobbins, University of Virginia; Erika Doss, University of Colorado–Boulder;

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Fred S. Kleiner

About the Author



FRED S. KLEINER (Ph.D., Columbia University) is the co-author of the 10th, 11th, and 12th editions of *Art through the Ages* and more than a hundred publications on Greek and Roman art and architecture, including *A History of Roman Art*, also published by Wadsworth. He has taught the art history survey course for more than three decades, first at the University of Virginia and, since 1978, at Boston University, where he is currently Professor of Art History and Archaeology and Chair of the Art History Department. Long recognized for his inspiring lectures and devotion to students, Professor Kleiner won Boston University's Metcalf Award for Excellence in Teaching as well as the College Prize for Undergraduate Advising in the Humanities in 2002 and is a two-time winner of the Distinguished Teaching Prize in the College of Arts and Sciences Honors Program. He was Editor-in-Chief of the *American Journal of Archaeology* from 1985 to 1998.

Also by Fred Kleiner: *A History of Roman Art* (Wadsworth 2007; ISBN 0534638465), winner of the 2007 Texty Prize as the best new college textbook in the humanities and social sciences. In this authoritative and lavishly illustrated volume, Professor Kleiner traces the development of Roman art and architecture from Romulus' foundation of Rome in the eighth century BCE to the death of Constantine in the fourth century CE, with special chapters devoted to Pompeii and Herculaneum, Ostia, funerary and provincial art and architecture, and the earliest Christian art.



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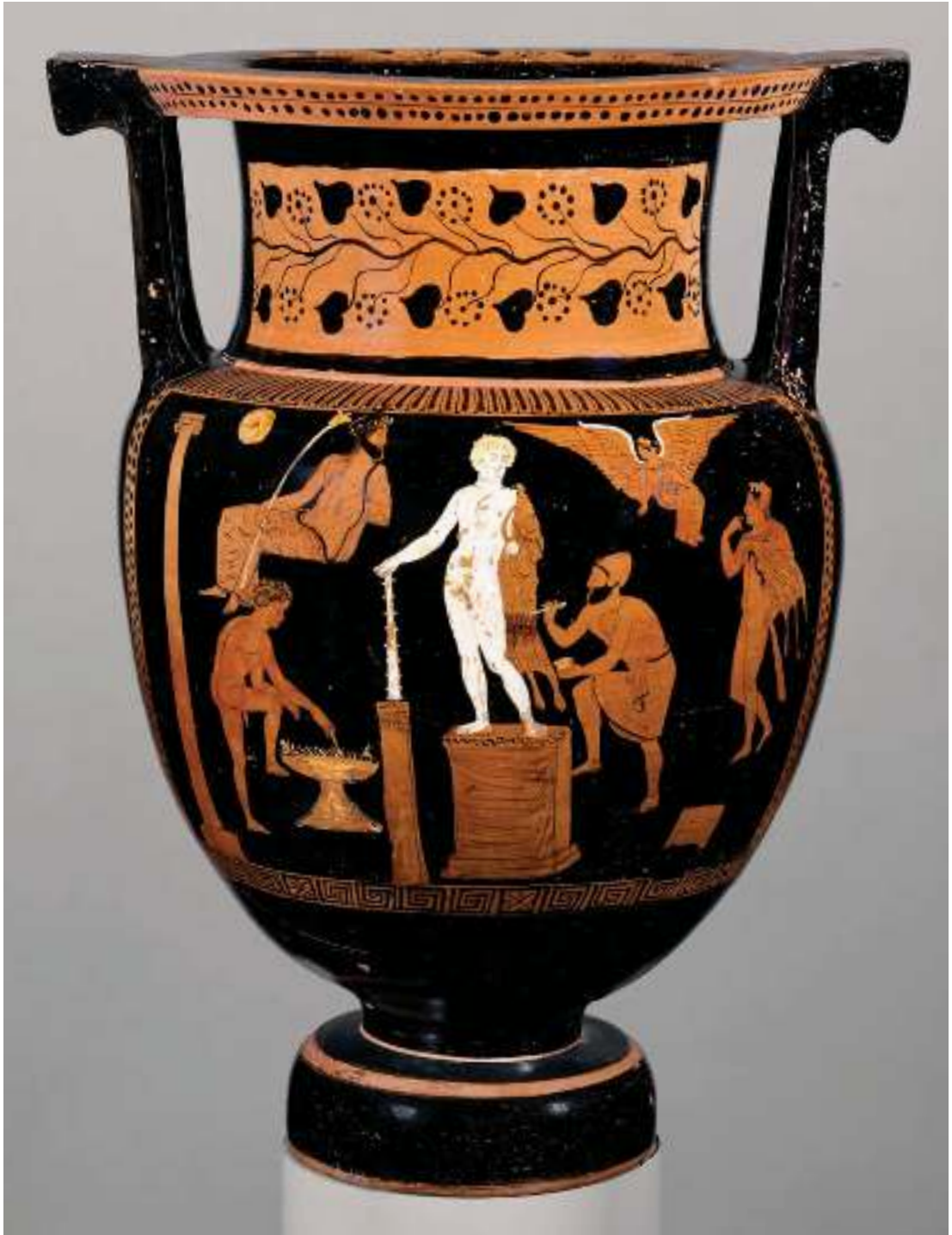
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BEFORE 1300



Artist painting a marble statue of Heracles (Apulian red-figure column krater), ca. 350–320 BCE. 1' 8 $\frac{1}{4}$ " high. Metropolitan Museum of Art, New York (Rogers Fund, 1950).

BEFORE 1300

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The Gods and Goddesses of Mount Olympus

The chief deities of the Greeks ruled the world from their home on Mount Olympus, Greece's highest peak. They figure prominently not only in Greek, Etruscan, and Roman art but also in art from the Renaissance to the present.

The 12 Olympian gods (and their Roman equivalents) were

- **Zeus (Jupiter)** King of the gods, Zeus ruled the sky and allotted the sea to his brother Poseidon and the Underworld to his other brother Hades. His weapon was the thunderbolt. Jupiter was also the chief god of the Romans.
- **Hera (Juno)** Wife and sister of Zeus, Hera was the goddess of marriage.
- **Poseidon (Neptune)** Poseidon was lord of the sea. He controlled waves, storms, and earthquakes with his three-pronged pitchfork (*trident*).
- **Hestia (Vesta)** Sister of Zeus, Poseidon, and Hera, Hestia was goddess of the hearth.
- **Demeter (Ceres)** Third sister of Zeus, Demeter was the goddess of grain and agriculture.
- **Ares (Mars)** God of war, Ares was the son of Zeus and Hera and the lover of Aphrodite, and the father of the twin founders of Rome, Romulus and Remus.
- **Athena (Minerva)** Goddess of wisdom and warfare, Athena was a virgin born from the head of Zeus.

- **Hephaistos (Vulcan)** God of fire and of metalworking, Hephaistos was the son of Zeus and Hera. Born lame and, uncharacteristically for a god, ugly, he married Aphrodite, who was unfaithful to him.
- **Apollo (Apollo)** God of light and music and son of Zeus, the young, beautiful Apollo was sometimes identified with the sun (*Helios/Sol*).
- **Artemis (Diana)** Sister of Apollo, Artemis was goddess of the hunt. She was occasionally equated with the moon (*Selene/Luna*).
- **Aphrodite (Venus)** Daughter of Zeus and a *nymph* (goddess of springs and woods), Aphrodite was the goddess of love and beauty.
- **Hermes (Mercury)** Son of Zeus and another nymph, Hermes was the fleet-footed messenger of the gods. He carried the *caduceus*, a magical herald's rod.

Other important Greek gods and goddesses were

- **Hades (Pluto)**, lord of the Underworld and god of the dead. Although the brother of Zeus and Poseidon, Hades never resided on Mount Olympus.
- **Dionysos (Bacchus)**, god of wine.
- **Eros (Amor or Cupid)**, the winged child-god of love, son of Aphrodite and Ares.
- **Asklepios (Aesculapius)**, god of healing. His serpent-entwined staff is the emblem of modern medicine.



Zeus, from Cape Artemision,
ca. 460–450 BCE



Athena, by Phidias, ca. 438 BCE



Aphrodite, by Praxiteles,
ca. 350–340 BCE



Hermes
and infant Dionysos,
by Praxiteles, ca. 340 BCE

The Life of Jesus in Art

Christians believe that Jesus of Nazareth is the son of God, the *Messiah* (Savior, Christ) of the Jews prophesied in the Old Testament. His life—his miraculous birth from the womb of a virgin mother, his preaching and miracle working, his execution by the Romans and subsequent ascent to Heaven—has been the subject of countless artworks from Roman times through the present day.

INCARNATION AND CHILDHOOD

The first “cycle” of the life of Jesus consists of the events of his conception (Incarnation), birth, infancy, and childhood.

- **Annunciation to Mary** The archangel Gabriel announces to the Virgin Mary that she will miraculously conceive and give birth to God’s son Jesus.
- **Visitation** The pregnant Mary visits her cousin Elizabeth, who is pregnant with John the Baptist. Elizabeth is the first to recognize that Mary is bearing the Son of God.
- **Nativity, Annunciation to the Shepherds, and Adoration of the Shepherds** Jesus is born at night in Bethlehem and placed in a basket. Mary and her husband Joseph marvel at the newborn, while an angel announces the birth of the Savior to shepherds in the field, who rush to adore the child.
- **Adoration of the Magi** A bright star alerts three wise men (*magi*) in the East that the King of the Jews has been born. They travel 12 days to present precious gifts to the infant Jesus.
- **Presentation in the Temple** In accordance with Jewish tradition, Mary and Joseph bring their firstborn son to the temple in Jerusalem, where the aged Simeon recognizes Jesus as the prophesied Savior of humankind.
- **Massacre of the Innocents and Flight into Egypt** King Herod, fearful that a rival king has been born, orders the massacre of all infants, but the Holy Family escapes to Egypt.



Annunciation and Visitation, Reims Cathedral, ca. 1230

- **Dispute in the Temple** Joseph and Mary travel to Jerusalem for the feast of Passover. Jesus, only a boy, debates the astonished Jewish scholars in the temple, foretelling his ministry.

PUBLIC MINISTRY

The public-ministry cycle comprises the teachings of Jesus and the miracles he performed.

- **Baptism** The beginning of Jesus’ public ministry is marked by his baptism at age 30 by John the Baptist in the Jordan River. God’s voice is heard proclaiming Jesus as his son.
- **Calling of Matthew** Jesus summons Matthew, a tax collector, to follow him, and Matthew becomes one of his 12 disciples, or *apostles* (from the Greek for “messenger”).
- **Miracles** Jesus performs many miracles, revealing his divine nature. These include acts of healing and raising the dead, turning water into wine, walking on water and calming storms, and creating wondrous quantities of food.
- **Delivery of the Keys to Peter** Jesus chooses the fisherman Peter (whose name means “rock”) as his successor. He declares that Peter is the rock on which his church will be built and symbolically delivers to Peter the keys to the kingdom of Heaven.
- **Transfiguration** Jesus scales a mountain and, in the presence of Peter and two other disciples, is transformed into radiant light. God announces from a cloud that Jesus is his son.
- **Cleansing of the Temple** Jesus returns to Jerusalem, where he finds money changers and merchants conducting business in the temple. He rebukes them and drives them out.



Annunciation to the Shepherds, *Lectionary of Henry II*, 1002–1014

PASSION

The Passion (Latin *passio*, “suffering”) cycle includes the events leading to Jesus’ death, Resurrection, and ascent to Heaven.

- **Entry into Jerusalem** On the Sunday before his Crucifixion (Palm Sunday), Jesus rides into Jerusalem on a donkey.
- **Last Supper** In Jerusalem, Jesus celebrates Passover with his disciples. During this Last Supper, Jesus foretells his imminent betrayal, arrest, and death and invites the disciples to remember him when they eat bread (symbol of his body) and drink wine (his blood). This ritual became the celebration of *Mass* (*Eucharist*).
- **Agony in the Garden** Jesus goes to the Mount of Olives in the Garden of Gethsemane, where he struggles to overcome his human fear of death by praying for divine strength.
- **Betrayal and Arrest** The disciple Judas Iscariot betrays Jesus to the Jewish authorities for 30 pieces of silver. Judas identifies Jesus to the soldiers by kissing him, and Jesus is arrested.
- **Trials of Jesus** Jesus is brought before Caiaphas, the Jewish high priest, who interrogates Jesus about his claim to be the Messiah. Jesus is then brought before the Roman governor of Judaea, Pontius Pilate, on the charge of treason because he had proclaimed himself King of the Jews. Pilate asks the crowd to choose between freeing Jesus or Barabbas, a murderer. The people choose Barabbas, and the judge condemns Jesus to death.
- **Flagellation** The Roman soldiers who hold Jesus captive whip (flagellate) him and mock him by dressing him as King of the Jews and placing a crown of thorns on his head.
- **Carrying of the Cross, Raising of the Cross, and Crucifixion** The Romans force Jesus to carry the cross on which he will be crucified from Jerusalem to Mount Calvary. Soldiers erect the cross and nail Jesus’ hands and feet to it. Jesus’ mother, John the Evangelist, and

Mary Magdalene mourn at the foot of the cross, while soldiers torment Jesus. One of them stabs Jesus in the side with a spear. After suffering great pain, Jesus dies on Good Friday.

- **Deposition, Lamentation, and Entombment** Two disciples, Joseph of Arimathea and Nicodemus, remove Jesus’ body from the cross (Deposition) and take him to his tomb. Joseph, Nicodemus, the Virgin Mary, Saint John the Evangelist, and Mary Magdalene mourn over the dead Jesus (Lamentation). (When in art the isolated figure of the Virgin Mary cradles her dead son in her lap, it is called a *Pietà*—Italian for “pity.”) Then his followers lower Jesus into a sarcophagus in the tomb (Entombment).
- **Descent into Limbo** During the three days he spends in the tomb, Jesus (after death, Christ) descends into Hell, or Limbo, and frees the souls of the righteous, including Adam, Eve, Moses, David, Solomon, and John the Baptist.
- **Resurrection and Three Marys at the Tomb** On the third day (Easter Sunday), Christ rises from the dead and leaves the tomb. The Virgin Mary, Mary Magdalene, and Mary, the mother of James, visit the tomb, find it empty, and learn from an angel that Christ has been resurrected.
- **Noli Me Tangere, Supper at Emmaus, and Doubting of Thomas** During the 40 days between Christ’s Resurrection and his ascent to Heaven, he appears on several occasions to his followers. Christ warns Mary Magdalene, weeping at his tomb, with the words “Don’t touch me” (*Noli me tangere* in Latin). At Emmaus he eats supper with two astonished disciples. Later, Thomas, who cannot believe that Christ has risen, touches the wound in his side inflicted at the Crucifixion.
- **Ascension** On the 40th day, on the Mount of Olives, with his mother and apostles as witnesses, Christ gloriously ascends to Heaven in a cloud.



Crucifixion, Church of the Dormition, Daphni, ca. 1090–1100



Ascension, *Rabbula Gospels*, 586

Greco-Roman Temple Design and the Classical Orders

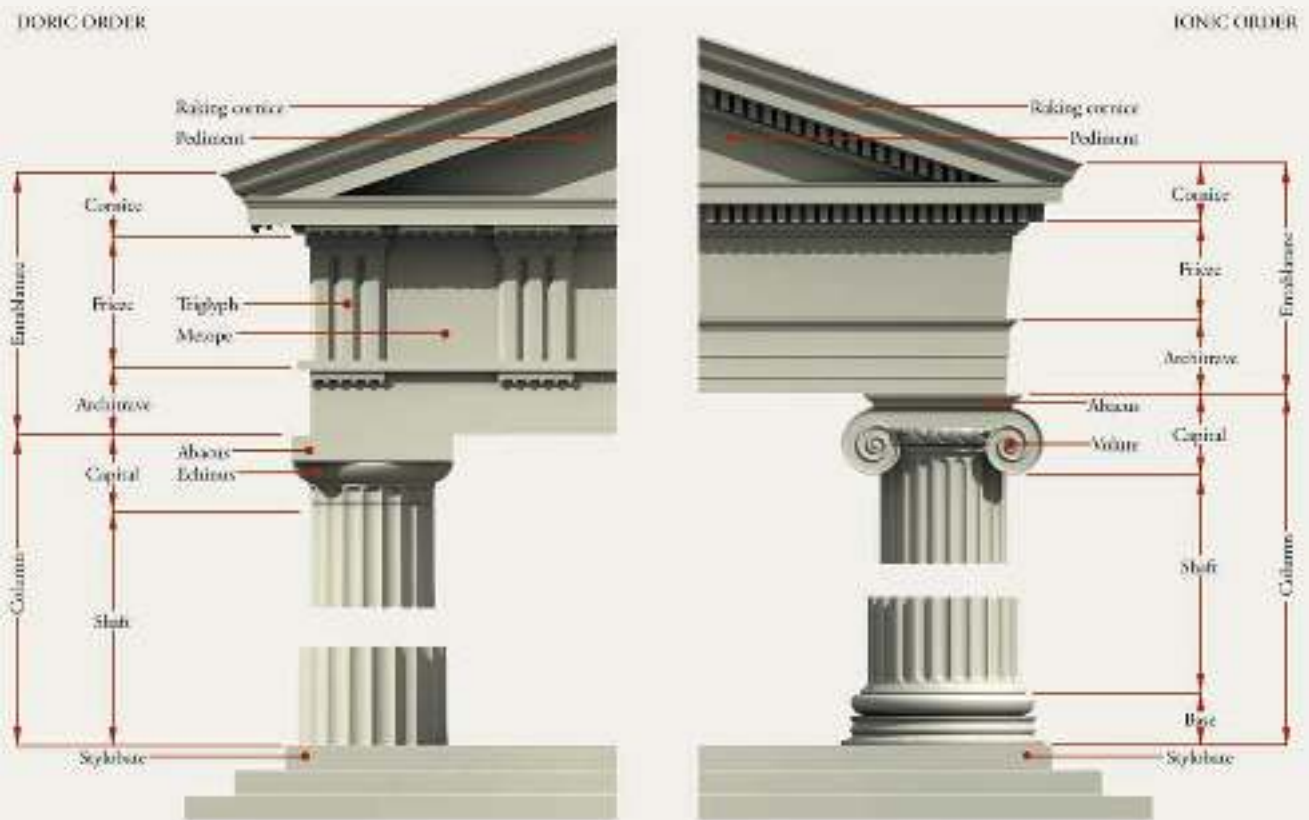
The gable-roofed columnar stone temples of the Greeks and Romans have had more influence on the later history of architecture in the Western world than any other building type ever devised. Many of the elements of classical temple architecture are present in buildings from the Renaissance to the present day. The basic design principles of Greek and Roman temples and the most important components of the classical orders can be summarized as follows.

- Temple design** The core of a Greco-Roman temple was the *cella*, a room with no windows that usually housed the statue of the god or goddess to whom the shrine was dedicated. Generally, only the priests, priestesses, and chosen few would enter the *cella*. Worshipers gathered in front of the building, where sacrifices occurred at open-air altars. In most Greek temples, for example, the second temple erected in honor of Hera at Paestum, a *colonnade* was erected all around the *cella* to form a *peristyle*. In contrast, Roman temples, for example, the Temple of Portunus in Rome, usually have freestanding columns only in a porch at the front of the building. Sometimes, as in the Portunus temple, *engaged* (attached) half-columns adorn three sides of the *cella* to give the building the appearance of a *peripteral* temple. Architectural historians call this a *pseudoperipteral* design.
- Classical orders** The Greeks developed two basic architectural orders, or design systems: the *Doric* and the *Ionic*. The forms of

the columns and *entablature* (superstructure) generally differentiate the orders. Classical columns have two or three parts, depending on the order: the shaft, which is usually marked with vertical channels (*flutes*); the *capital*; and, in the Ionic order, the *base*. The Doric capital consists of a round *echinus* beneath a square abacus block. Spiral *volute*s constitute the distinctive feature of the Ionic capital. Classical entablatures have three parts: the *architrave*, the *frieze*, and the triangular *pediment* of the gabled roof, framed by the *cornice*. In the Doric order, the frieze is subdivided into *triglyphs* and *metopes*, whereas in the Ionic, the frieze is left open.

The *Corinthian capital*, a later Greek invention very popular in Roman times, is more ornate than either the Doric or Ionic. It consists of a double row of acanthus leaves, from which tendrils and flowers emerge. Although this capital often is cited as the distinguishing element of the Corinthian order, in strict terms no Corinthian order exists. Architects simply substituted the new capital type for the volute capital in the Ionic order, as in the *tholos* (round temple) at Epidauros.

Sculpture played a major role on the exterior of classical temples, partly to embellish the deity's shrine and partly to tell something about the deity to those gathered outside. Sculptural ornament was concentrated on the upper part of the building, in the pediment and frieze.



Doric and Ionic orders



Greek Doric peripteral temple (Temple of Hera II, Paestum, Italy, ca. 460 BCE)



Roman Ionic pseudoperipteral temple
(Temple of Portunus, Rome, ca. 75 BCE)



Corinthian capital (Tholos, Epidauros, Greece, ca. 350 BCE)

Arches and Vaults

Although earlier architects used both arches and vaults, the Romans employed them more extensively and effectively than any other ancient civilization. The Roman forms became staples of architectural design from the Middle Ages until today.

- **Arch** The arch is one of several ways of spanning a passageway. The Romans preferred it to the *post-and-lintel* (column-and-architrave) system used in the Greek orders. Builders construct arches using wedge-shaped stone blocks called *voussoirs*. The central voussoir is the arch's *keystone*.
- **Barrel vault** Also called the *tunnel vault*, the barrel vault is an extension of a simple arch, creating a semicylindrical ceiling over parallel walls.
- **Groin vault** The groin vault, or *cross vault*, is formed by the intersection at right angles of two barrel vaults of equal size. When a

series of groin vaults covers an interior hall, the open lateral arches of the vaults function as windows admitting light to the building.

- **Dome** The hemispherical dome may be described as a round arch rotated around the full circumference of a circle, usually resting on a cylindrical *drum*. The Romans normally constructed domes using *concrete*, a mix of lime mortar, volcanic sand, water, and small stones, instead of with large stone blocks. Concrete dries to form a solid mass of great strength, which allowed the Romans to puncture the apex of a concrete dome with an *oculus* (eye), so that much-needed light could reach the interior of the building.

Barrel vaults, as noted, resemble tunnels, and groin vaults are usually found in a series covering a similar *longitudinally* oriented interior space. Domes, in contrast, crown *centrally* planned buildings, so named because the structure's parts are of equal or almost equal dimensions around the center.



Arch



Barrel vault



Groin vault



Hemispherical dome with oculus



Roman arch (Arch of Trajan, Benevento, Italy, ca. 114–118)



Medieval barrel-vaulted church
(Saint-Sernin, Toulouse, France, ca. 1070–1120)



Roman hall with groin vaults
(Baths of Diocletian [Santa Maria degli Angeli],
Rome, Italy, ca. 298–306)



Roman dome with oculus (Pantheon, Rome, Italy, 118–125)

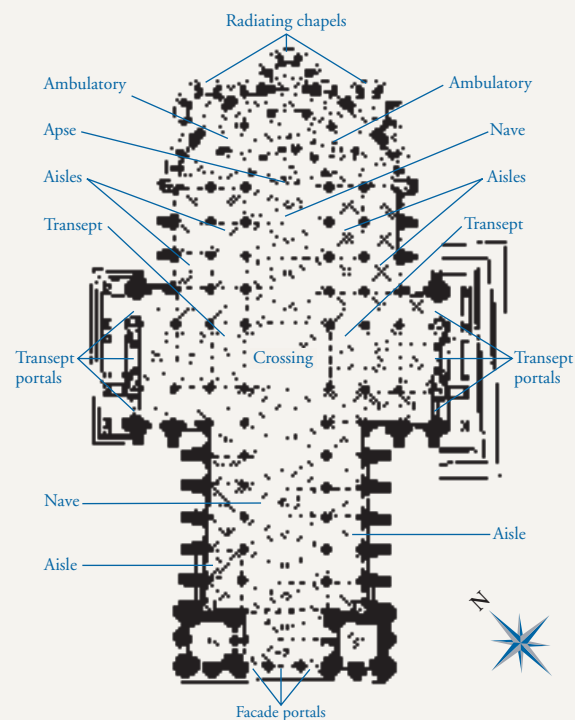
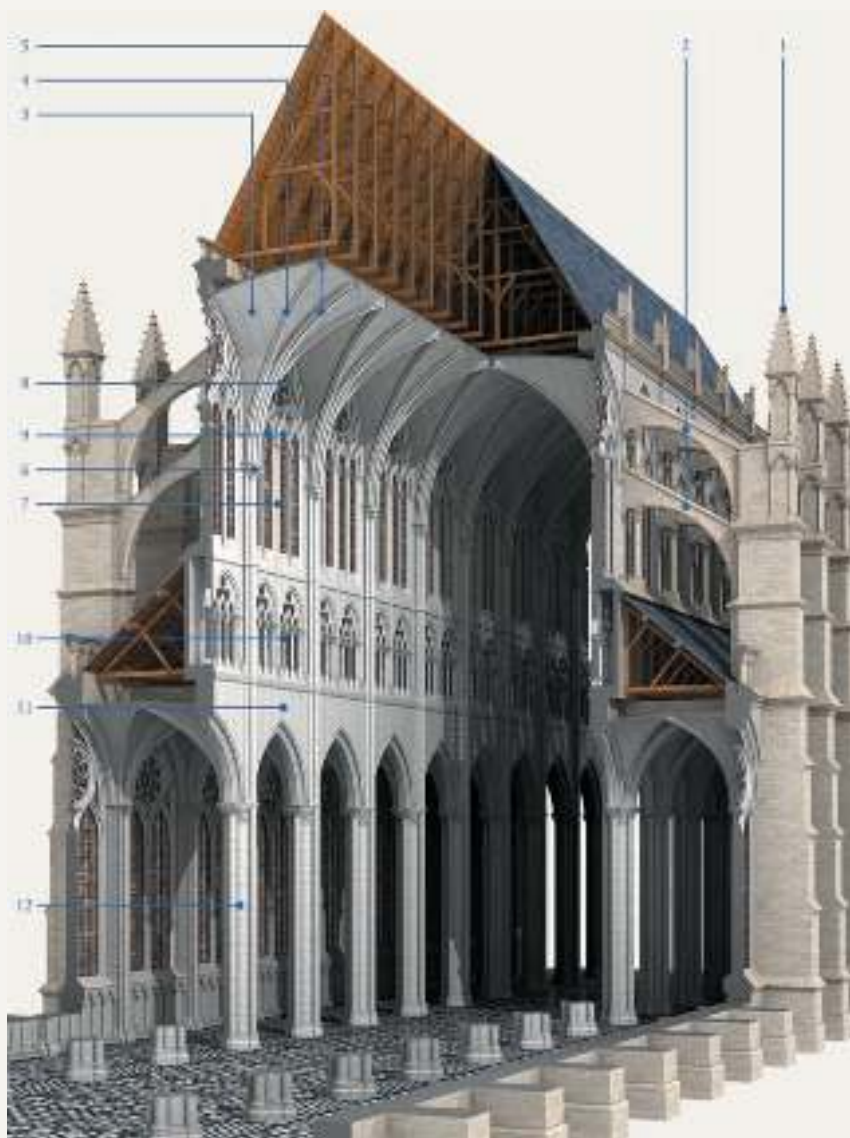
Medieval Church Design

Church design during the Middle Ages set the stage for ecclesiastical architecture from the Renaissance to the present. Both the longitudinal- and central-plan building types of antiquity had a long postclassical history.

■ **Basilican churches** In Western Christendom, the typical medieval church had a *basilican* plan, which evolved from the Roman columnar hall, or basilica. The great European cathedrals of the Gothic age, which were the immediate predecessors of the churches of the Renaissance and Baroque eras, shared many elements with the earliest basilican churches constructed during the fourth century, including a wide central *nave* flanked by *aisles* and ending in an *apse*. Some basilican churches also have a *transept*, an area perpendicular to the nave. The nave and transept intersect at the *crossing*. Gothic

churches, however, have many additional features. The key components of Gothic design are labeled in the drawing of a typical French Gothic cathedral and the plan of Chartres Cathedral.

Gothic architects frequently extended the aisles around the apse to form an *ambulatory*, onto which opened *radiating chapels* housing sacred relics. Groin vaults formed the ceiling of the nave, aisles, ambulatory, and transept alike, replacing the timber roof of the typical Early Christian basilica. These vaults rested on *diagonal* and *transverse ribs* in the form of pointed arches. On the exterior, *flying buttresses* held the nave vaults in place. These masonry struts transferred the thrust of the nave vaults across the roofs of the aisles to tall piers frequently capped by pointed ornamental *pinnacles*. This structural system made it possible to open up the walls above the *nave arcade* with huge *stained-glass* windows in the nave *clerestory*.



Plan of Chartres Cathedral, Chartres, France, rebuilt after 1194

Left: Cutaway view of a typical French Gothic cathedral (1) pinnacle, (2) flying buttress, (3) vaulting web, (4) diagonal rib, (5) transverse rib, (6) springing, (7) clerestory, (8) oculus, (9) lancet, (10) triforium, (11) nave arcade, (12) compound pier with responds

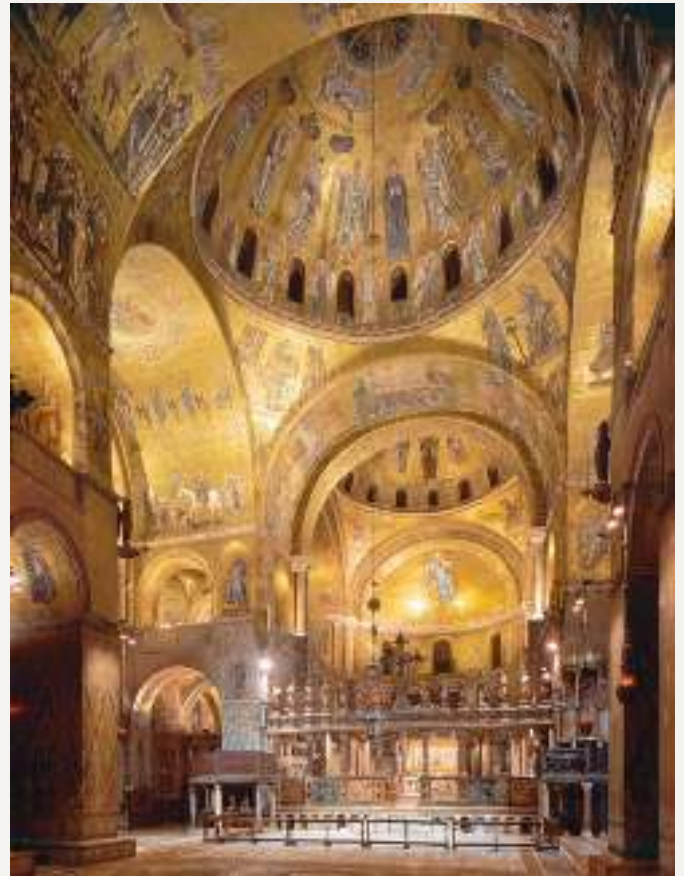
■ **Central-plan churches** The domed central plan of classical antiquity dominated the architecture of the Byzantine Empire but with important modifications. Because the dome covered the crossing of a Byzantine church, architects had to find a way to erect domes on square bases instead of on the circular bases (cylindrical drums) of Roman buildings. The solution was *pendentive* construction in which the dome rests on what is in effect a second, larger dome. The top portion and four segments around the rim of the larger dome are omitted, creating four curved triangles, or pendentives. The pendentives join to form a ring and four arches

whose planes bound a square. The first use of pendentives on a grand scale occurred in the sixth-century church of Hagia Sophia (Holy Wisdom) in Constantinople.

The interiors of Byzantine churches differed from those of basilican churches in the West not only in plan and the use of domes but also in the manner in which they were adorned. The original mosaic decoration of Hagia Sophia is lost, but at Saint Mark's in Venice, some 40,000 square feet of mosaics cover all the walls, arches, vaults, and domes.



Hagia Sophia, Constantinople (Istanbul), Turkey, 532–537



Saint Mark's, Venice, Italy, begun 1063



■ Pendentives

Dome on pendentives

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