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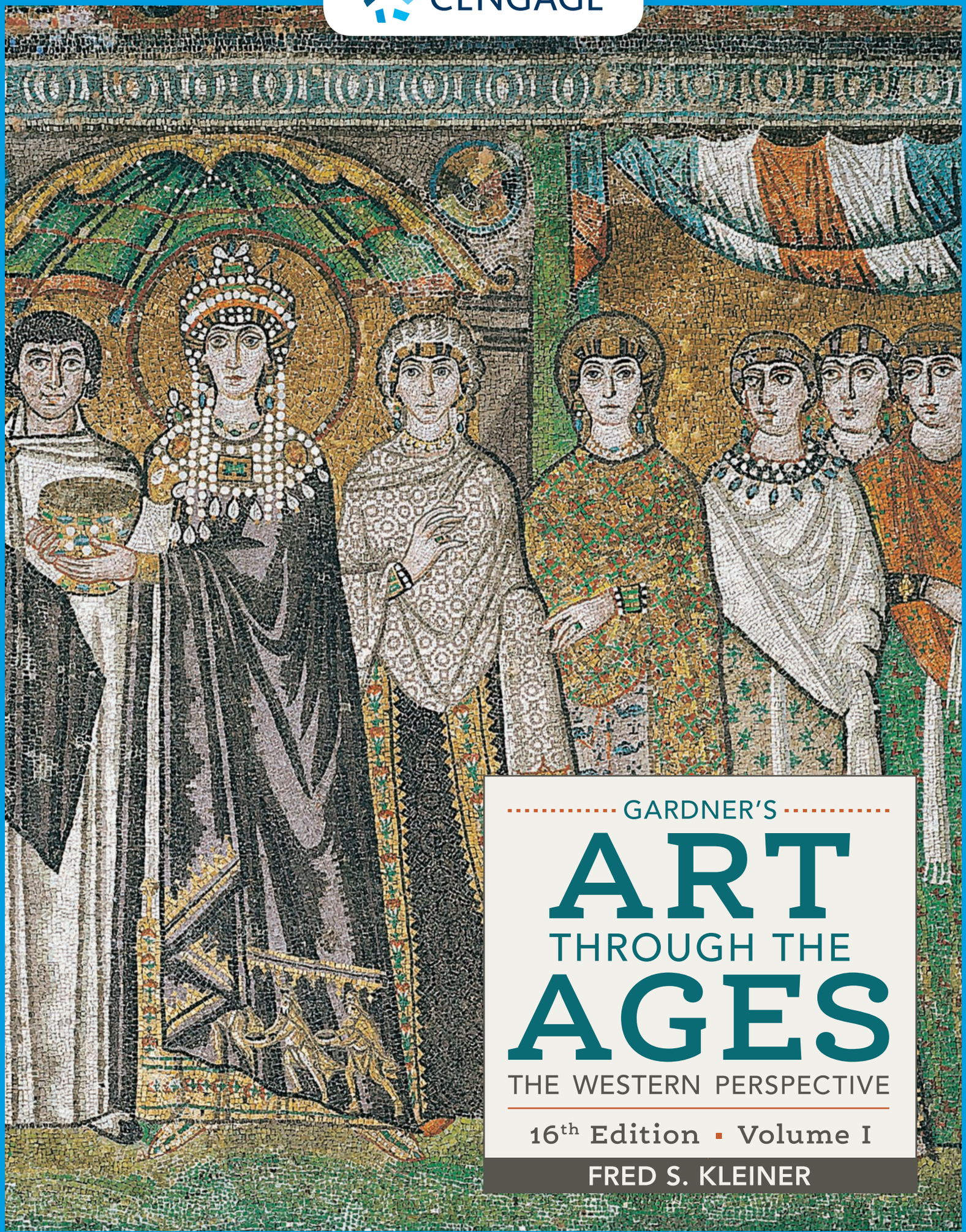

GARDNER'S

ART THROUGH THE AGES

THE WESTERN PERSPECTIVE

16th Edition • Volume I

FRED S. KLEINER

GARDNER'S

ART THROUGH THE AGES

THE WESTERN PERSPECTIVE

VOLUME I

SIXTEENTH EDITION

FRED S. KLEINER

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Fred S. Kleiner

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ABOUT THE COVER ART

Theodora and attendants, mosaic on the south wall of the apse, San Vitale, Ravenna, Italy, ca. 547.

San Vitale is the most spectacular building in Ravenna, the Byzantine Empire's outpost in northern Italy. Dedicated by Bishop Maximianus in 547 in honor of Saint Vitalis, the second-century Christian martyr who died at the hands of the Romans at Ravenna, the church makes an unforgettable impression on all who have entered it and marveled at its intricate design and magnificent mosaics.

The most unexpected of those mosaics is the one in the apse depicting Empress Theodora, which faces the mosaic depicting Emperor Justinian, Maximianus, and their attendants. The two panels together show the emperor and empress taking part in the Eucharist. Justinian carries the bowl containing the bread, and Theodora the golden cup with the wine. Neither one ever visited Ravenna, however. Their participation in the liturgy at San Vitale is pictorial fiction. Justinian's presence underscores that his authority extended over his territories in Italy. The inclusion of Theodora is more surprising and testifies to her enormous stature at the Byzantine court.

Of humble origin, Theodora, who was 15 years younger than Justinian, initially attracted his attention because of her beauty, but she soon became his most trusted adviser. A contemporary described Theodora as "the most intelligent of all and of all times." During the Nika revolt in Constantinople in 532, when all of her husband's ministers counseled flight from the city, Theodora, by the sheer force of her personality, persuaded Justinian and his generals to hold their ground—and they succeeded in suppressing the uprising. In the mosaic, the artist underscored Theodora's elevated rank by decorating the border of her garment with a representation of the three magi, suggesting that the empress belongs in the company of the three monarchs bearing gifts who approached the newborn Jesus.

Artworks honoring women are far less common in the history of art than works celebrating men and their achievements, and until recently male artists outnumbered their female counterparts by a wide margin, but women artists as well as paintings, sculptures, and even buildings commemorating women figure prominently in this 16th edition of the groundbreaking introduction to art and architecture first published in 1927 by Helen Gardner of the Art Institute of Chicago.

BRIEF CONTENTS

CONTENTS

PREFACE

I take great pleasure in introducing the extensively revised and expanded 16th edition of *Gardner's Art through the Ages: The Western Perspective,* which, like the 15th edition, is a hybrid art history textbook—the first, and still the only, introductory survey of the history of art of its kind. This innovative new kind of "Gardner" retains all of the best features of traditional books on paper while harnessing 21st-century technology to increase by 25% the number of works examined—without increasing the size or weight of the book itself and at only nominal additional cost to students.

When Helen Gardner published the first edition of *Art through the Ages* in 1926, she could not have imagined that nearly a century later, instructors all over the world would still be using her textbook (available even in a new Chinese edition, the third time this classic textbook has been translated into Chinese) in their classrooms. Indeed, if she were alive today, she would not recognize the book that, even in its traditional form, long ago became—and remains—the world's most widely read introduction to the history of art and architecture. I hope that instructors and students alike will agree that this new edition lives up to the venerable Gardner tradition and even exceeds their high expectations.

The 16th edition follows the 15th in incorporating an innovative new online component called MindTap™, which includes, in addition to a host of other features (enumerated below), MindTap Bonus Images (with zoom capability) and descriptions of more than 200 additional important works of all eras, from prehistory to the present. The printed and online components of the hybrid 16th edition are very closely integrated. For example, each MindTap Bonus Image appears as a thumbnail in the traditional textbook, with abbreviated caption, to direct readers to MindTap for additional content, including an in-depth discussion of each image. The integration extends also to the maps, index, glossary, and chapter summaries, which seamlessly merge the printed and online information.

KEY FEATURES OF THE 16TH EDITION

In this new edition, in addition to revising the text of every chapter to incorporate the latest research and methodological developments and dividing the former chapter on European and American art from 1900 to 1945 into two chapters, I have added several important features while retaining the basic format and scope of the previous edition. Once again, the hybrid Gardner boasts roughly 1,600 photographs, plans, and drawings, nearly all in color and reproduced according to the highest standards of clarity and color fidelity, including hundreds of new images, among them a new series of superb photos taken by Jonathan Poore exclusively for *Art through the Ages* during a photographic campaign in England in 2016 (following similar forays into France, Tuscany, Rome, and Germany for the 14th and 15th editions). MindTap also includes custom videos made on these occasions at each site by Sharon Adams Poore. This extraordinary proprietary Cengage archive of visual material ranges from ancient temples and aqueducts in Rome and France; to medieval, Renaissance, and Baroque churches in England, France, Germany, and Italy and 18th-century landscape architecture in England; to such postmodern masterpieces as the Pompidou Center and the Louvre Pyramide in Paris, the Neue Staatsgalerie in Stuttgart, and the Gherkin in London. The 16th edition also features the highly acclaimed architectural drawings of John Burge prepared exclusively for Cengage, as well as Google Earth coordinates for all buildings and sites and all known provenances of portal objects. Together, these exclusive photographs, videos, and drawings provide readers with a visual feast unavailable anywhere else.

Once again, scales accompany the photograph of every painting, statue, or other artwork discussed—another innovative feature of the Gardner text. The scales provide students with a quick and effective way to visualize how big or small a given artwork is and its relative size compared with other objects in the same chapter and throughout the book—especially important given that the illustrated works vary in size from tiny to colossal.

Also retained in this edition are the Quick-Review Captions (brief synopses of the most significant aspects of each artwork or building illustrated) that students have found invaluable when preparing for examinations. These extended captions accompany not only every image in the printed book but also all the digital images in MindTap, where they are also included in a set of interactive electronic flashcards. Each chapter also again ends with the highly popular 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. Also retained from the 15th edition are the timelines summarizing the major artistic and architectural developments during the era treated (again in bullet-point format for easy review) and a chapter-opening essay called *Framing the Era,* which discusses a characteristic painting, sculpture, or building and is illustrated by four photographs.

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 book. Because many students taking the second half of a survey course will not have access to Volume I, I have provided a special (expanded) set of concise primers on architectural terminology and construction methods in the ancient and medieval worlds, and on mythology and religion—information that is essential for understanding the history of Western art after 1300. The subjects of these special essays are Greco-Roman Temple Design and the Classical Orders; Arches and Vaults; Basilican Churches; Central-Plan Churches; the Gods and Goddesses of Mount Olympus; the Life of

Jesus in Art; and Early Christian Saints and Their Attributes. *Before 1300* also is included in MindTap for all courses.

Feature boxes once again appear throughout the book as well. These features fall under nine broad categories, one of which is new to the 16th 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.

Materials and Techniques essays explain the various media that artists have employed from prehistoric to modern times. Because materials and techniques often influence the character of artworks, these discussions contain essential information on why many monuments appear as they do.

Religion and Mythology boxes introduce students to the principal elements of the world's 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.

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.

Written Sources boxes present and discuss key historical documents illuminating important monuments of art and architecture throughout the 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.

In the *Artists on Art* boxes, artists and architects throughout history discuss both their theories and individual works.

The Patron's Voice essays underscore the important roles played by the individuals and groups who paid for the artworks and buildings in determining the character of those monuments.

Problems and Solutions essays are designed to make students think critically about the decisions that went into the making of every painting, sculpture, and building from the Old Stone Age to the present. These discussions address questions of how and why various forms developed; the problems that painters, sculptors, and architects confronted; and the solutions they devised to resolve them.

New to the 16th edition are boxes titled *A Second Opinion,* in which an individual work of art that is the subject of current debate or has recently been reinterpreted is discussed. These essays underscore for students that the history of art and architecture is not a static discipline and that scholars are constantly questioning and rethinking traditional interpretations of paintings, sculptures, and buildings.

Other noteworthy features retained from the 15th edition are the extensive (updated) bibliography of books in English; a glossary containing definitions of all italicized terms introduced in both the printed and online texts. The host of state-of-the-art resources in the 16th edition version of MindTap for *Art through the Ages* are enumerated on page xv.

ACKNOWLEDGMENTS

A work as extensive as a comprehensive history of Western art could not be undertaken or completed without the counsel of experts in all areas of world art. As with previous editions, Cengage has enlisted dozens of art historians to review every chapter of *Art through the Ages* in order to ensure that the text lives up to the Gardner reputation for accuracy as well as readability. I take great pleasure in acknowledging here the important contributions to the 16th edition made by the following: Bradley Bailey, Saint Louis University; Amy Bloch, University at Albany; Anne-Marie Bouché, Florida Gulf Coast University; Betty Brownlee, Macomb Community College; Caroline Bruzelius, Duke University; Petra Chu, Seton Hall University; Kathy Curnow, Cleveland State University; Paola Demattè, Rhode Island School of Design; Sarah Dillon, Kingsborough City College, City University of New York; Eduardo de Jesús Douglas, University of North Carolina-Chapel Hill; Sonja Drimmer, University of Massachusetts Amherst; Ingrid Furniss, Lafayette College; Karen Hope Goodchild, Wofford College; Christopher Gregg, George Mason University; Melinda Hartwig, Emory University; Joe Hawkins, Hagley Park; Peter Holliday, California State University, Long Beach; Craig Houser, City College of New York/City University of New York; Margaret Jackson, University of New Mexico; Mark J. Johnson, Brigham Young University; Lynn Jones, Florida State University; Tanja L. Jones, University of Alabama Tuscaloosa; Nancy Klein, Texas A&M; Peri Klemm, California State University, Northridge; Yu Bong Ko, Dominican College; Paul Lavy, University of Hawai'i at Manoa; John Listopad, California State University, Sacramento; Gary Liu Jr., University of Hawaii at Manoa; Nancy Bea Miller, Montgomery County Community College; Michelle Moseley-Christian, Virginia Tech University; Evan Neely, Pratt Institute; Huiping Pang, University of Iowa; Benjamin Paul, Rutgers University; Julie-Anne Plax, University of Arizona; Stephanie Porras, Tulane University; Sharon Pruitts, East Carolina University; Kurt Rahmlow, University of North Texas; Julie Risser, Minneapolis College of Art and Design; Robyn Roslak, University of Minnesota-Duluth; Susan Elizabeth Ryan, Louisiana State University; Nicholas Sawicki, Lehigh University; Nancy Serwint, Arizona State University; Kerri Cox Sullivan, University of Texas, Austin; James R. Swensen, Brigham Young University; David S. Whitley, University of California, Los Angeles/ASM Affiliates; Margaret L. Woodhull, University of Colorado Denver.

I am especially indebted to the following for creating the instructor and student materials for the 16th edition: Anne McClanan, Portland State University; Kerri Cox Sullivan, University of Texas, Austin.

I am also happy to have this opportunity to express my gratitude to the extraordinary group of people at Cengage involved with the editing, production, and distribution of *Art through the Ages*. Some of them I have now worked with on various projects for two decades and feel privileged to count among my friends. The success of the Gardner series in all of its various permutations depends in no small part on the expertise and unflagging commitment of these dedicated professionals, especially Vanessa Manter, senior product manager; Laura Hildebrand, senior content manager; Lianne Ames, senior content manager; Paula Dohnal, learning designer; Ann Hoffman, intellectual property analyst; Betsy Hathaway, senior intellectual property project manager; Laura Kuhlman, marketing manager; Sarah Cole, senior designer; as well as Sharon Adams Poore, former product manager for art; Cate Barr, former senior art director; Jillian Borden, former senior marketing manager; and Sayaka Kawano, former product assistant. I also express my deep gratitude to the incomparable group of learning consultants who have passed on to me the welcome advice offered by the hundreds of instructors they speak to daily.

It is a special pleasure also to acknowledge my debt to the following out-of-house contributors to the 16th edition: the peerless

quarterback of the entire production process, Joan Keyes, Dovetail Publishing Services; Michele Jones, copy editor extraordinaire; Susan Gall, eagle-eyed proofreader; Alisha Webber, text and cover designer; Lumina Datamatics, photo researchers; Jay and John Crowley, Jay's Publisher Services; Cenveo Publisher Services; and Jonathan Poore and John Burge, for their superb photos and architectural drawings.

I conclude this long (but no doubt incomplete) list of acknowledgments with an expression of gratitude to my colleagues at Boston University and to the thousands of students and hundreds of teaching fellows in my art history courses since I began teaching in 1975. From them I have learned much that has helped determine the form and content of *Art through the Ages* and made it a much better book than it otherwise might have been.

Fred S. Kleiner

CHAPTER-BY-CHAPTER CHANGES IN THE 16TH EDITION

The 16th edition is extensively revised and expanded, as detailed below. Instructors will find a very helpful figure number transition guide on the online instructor companion site.

Introduction: What Is Art History? Added the head of the portrait of Augustus as pontifex maximus from the Via Labicana, Rome.

1: Art in the Stone Age. Revised and expanded discussion of chronology and current theories about Paleolithic art, including a new A Second Opinion essay "The Meaning of Paleolithic Art." New Art and Society essay "The Neolithic Temple at Göbekli Tepe." New photographs of the passage grave at Newgrange and the circles of trilithons at Stonehenge.

2: Ancient Mesopotamia and Persia. Added the Babylonian *Queen of the Night,* the Kalhu panel of Assyrians besieging a citadel, and a bull protome capital from Achaemenid Susa. Revised chronology of Sumerian art and expanded discussion of the Royal Cemetery at Ur with a new A Second Opinion essay "The *Standard of Ur.*" Revised discussion and dating of the Sasanian palace at Ctesiphon. New photographs of the cylinder seal of Puabi, the portrait head of an Akkadian ruler, the lamassu from the palace of Sargon II, and the Nineveh panel of Ashurbanipal hunting lions.

3: Egypt from Narmer to Cleopatra. Added the colossal head of Senusret III in Kansas City. New A Second Opinion essay "Akhenaton." New photographs of the columnar entrance corridor of the funerary precinct of Djoser at Saqqara, the exterior and interior of the Temple of Ramses II at Abu Simbel, the Temple of Amen-Re and the hypostyle hall at Karnak, Thutmose's portrait of Nefertiti, the sunken relief in Berlin of the family of Akhenaton, and the sphinx of Taharqo in the British Museum.

4: The Prehistoric Aegean. New A Second Opinion essay "Cycladic Statuettes." New photographs of the Hagia Triada sarcophagus, the Akrotiri *Spring Fresco,* the corbel-vaulted gallery in the fortification walls of Tiryns, the Lion Gate and the interior of the Treasury of Atreus at Mycenae, and the Mycenaean painted female head in the Athens National Archaeological Museum.

5: Ancient Greece. Added a second centauromachy metope, the horse of Selene from the east pediment, the river god Ilissos and Iris from the west pediment, and the peplos ceremony of the east frieze of the Parthenon; and the lion hunt pebble mosaic from Pella. New A Second Opinion essay "The *Alexander Mosaic.*" New photographs of the west pediment of the Temple of Artemis, Corfu; the *Charioteer of Delphi*; the herm of Pericles in the Vatican; metope 28, Helios and Dionysos and the three goddesses of the east pediment, and the horsemen and maidens of the Panathenaic procession frieze of the Parthenon; the Temple of Athena Nike and the caryatids of the Erechtheion on the Athenian Acropolis; the Tomb of the Diver, Paestum; the *Farnese Hercules*; and the Stoa of Attalos in the Athenian agora.

6: The Etruscans. New Framing the Era essay "The Portal to the Etruscan Afterlife." New A Second Opinion essay "The *Capitoline Wolf.*" New photographs of the Tomb of the Augurs and the *Capitoline Wolf.*

7: The Roman Empire. Added the portraits of a Republican priest in the Vatican Museums and of Pompey the Great in Venice. New Framing the Era essay "The Roman Emperor as World Conqueror." New A Second Opinion essay "The Arch of Constantine." New photographs of the Temple of Portunus, Rome; the Temple of Vesta, Tivoli; the funerary relief of the Gessii in Boston; the funerary procession relief from Amiternum; the gardenscape from the Villa of Livia at Primaporta; the Ara Pacis Augustae, Rome (general view and Tellus panel); the Pont-du-Gard, Nîmes; the Porta Maggiore, Rome; the facade of the Colosseum, Rome; the portrait of a Flavian woman in the Museo Capitolino; the spoils relief of the Arch of Titus, Rome; four details of the spiral frieze of the Column of Trajan, Rome; the portrait of Hadrian in the Palazzo Massimo; the exterior of the Pantheon, Rome; the apotheosis and decursio reliefs of the Column of Antoninus Pius, Rome; the portrait of Caracalla in Berlin; the portrait of Trajan Decius in the Museo Capitolino; the portrait of Philip the Arabian in the Vatican Museums; the *Ludovisi Battle Sarcophagus*; the Temple of Venus, Baalbek; and the Arch of Constantine, Rome.

8: Late Antiquity. Added the baptistery of the Christian community house at Dura-Europos, the Anastasis Rotunda of the Church of the Holy Sepulchre in Jerusalem, and the mosaics of the chancel arch of Santa Maria Maggiore in Rome. New Framing the Era essay "Polytheism and Monotheism at Dura-Europos." New A Second Opinion essay "The Via Latina Catacomb." New photographs of the Dura-Europos baptistery, the Santa Maria Antiqua sarcophagus, two details of the Catacomb of Commodilla in Rome, and the ivory diptych of the Symmachi.

9: Byzantium. Added the pedestal of the Theodosian obelisk in the Constantinople hippodrome. New A Second Opinion essay "The *Vienna Genesis.*" New photographs of the apse of San Vitale at Ravenna, the interior of the Cappella Palatina at Palermo, and the exterior of the church of Saint Catherine at Thessaloniki.

10: The Islamic World. New A Second Opinion essay "The Rock of the Dome of the Rock." New photographs of the exterior and interior of the Dome of the Rock, the Umayyad palace at Mshatta, and the pyxis of al-Mughira.

11: Early Medieval Europe. New Framing the Era essay "Missionaries and the Beauty of God's Words." New A Second Opinion essay "The Lindisfarne Saint Matthew." New Problems and Solutions essay "How to Illustrate a Psalm." New photographs of the Oseberg ship, San Juan Bautista at Baños de Cerrato, and the bronze doors of St. Michael's at Hildesheim.

12: Romanesque Europe. New Framing the Era essay "The Blessed and the Damned on Judgment Day." New Written Sources essay "The Burning of Canterbury Cathedral." Two new Problems and Solutions essays "Stone Vaulting in Romanesque Churches" and "How to Illuminate a Nave." New A Second Opinion essay "The Rebirth of Large-Scale Sculpture in Romanesque Europe." New photographs of the west tympanum *Last Judgment* at Autun (three

new details), the *Tower of Babel* on the nave vault of Saint-Savin-sur-Gartempe, the interior and atrium of Sant'Ambrogio at Milan, and the nave of Durham Cathedral.

13: Gothic Europe North of the Alps. Added the head of Moses from the west facade of Saint-Denis; Wells and Exeter Cathedrals; and a discussion of the Decorated style of English Gothic architecture. New Framing the Era essay "The Birth of Gothic." New Art and Society essay "Louis IX, the Saintly King." New A Second Opinion essay "Gothic Cathedrals and Gothic Cities." New photographs of Chartres Cathedral (aerial view and nave), Reims Cathedral (west facade), Sainte-Chapelle in Paris (interior), Salisbury Cathedral (west facade, statue of Bishop Poore, and nave), Gloucester Cathedral (choir and tomb of Edward II), the exterior of the Chapel of Henry VII in Westminster Abbey, Nicholas of Verdun's *Shrine of the Three Kings,* and the choir of Cologne Cathedral.

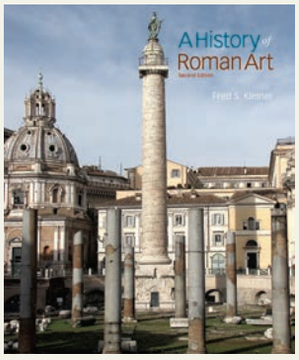
14: Late Medieval Italy. New Framing the Era essay "Duccio di Buoninsegna." New A Second Opinion essay "Pietro Cavallini." New Problems and Solutions essay "Cityscapes and Landscapes as Allegories." Two new photographs of Pietro Cavallini's *Last Judgment* in Santa Cecilia in Trastevere.

ABOUT THE AUTHOR

Fred S. Kleiner

Fred S. Kleiner (Ph.D., Columbia University) has been the author or coauthor of *Gardner's Art through the Ages* beginning with the 10th edition in 1995. He has also published more than a hundred books, articles, and reviews on Greek and Roman art and architecture, including *A History of Roman Art,* also published by Cengage Learning. Both *Art through the Ages* and the book on Roman art have been awarded Texty prizes as the outstanding college textbook of the year in the humanities and social sciences, in 2001 and 2007, respectively. Professor Kleiner has taught the art history survey course since 1975, first at the University of Virginia and, since 1978, at Boston University, where he is currently professor of the history of art and architecture and classical archaeology and has served as department chair for five terms, most recently from 2005 to 2014. From 1985 to 1998, he was editor-in-chief of the *American Journal of Archaeology*.

Long acclaimed 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 he is a two-time winner of the Distinguished Teaching Prize in the College of Arts & Sciences Honors Program. In 2007, he was elected a Fellow of the Society of Antiquaries of London, and, in 2009, in recognition of lifetime achievement in publication and teaching, a Fellow of the Text and Academic Authors Association.



Also by Fred Kleiner: *A History of Roman Art, Second Edition* (Cengage Learning 2018; ISBN 9781337279505), winner of the 2007 Texty Prize for a 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's 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, with an introductory chapter on the art and architecture of the Etruscans and of the Greeks of South Italy and Sicily.

RESOURCES FOR STUDENTS AND INSTRUCTORS

MINDTAP FOR *ART THROUGH THE AGES*

MindTap for *Gardner's Art through the Ages: The Western Perspective,* 16th edition, helps students engage with course content and achieve greater comprehension. Highly personalized, fully online, and completely mobile-optimized, the MindTap learning platform presents authoritative Cengage content, assignments, and services.

Students

MindTap guides you through your course via a learning path where you can annotate readings and take quizzes. Concepts are brought to life with zoomable versions of close to 1,600 images; videos to reinforce concepts and expand knowledge of particular works or art trends; numerous study tools, including mobile-optimized image flashcards; a glossary complete with an audio pronunciation guide; and more!

Instructors

You can easily tailor the presentation of each MindTap course and integrate activities into a learning management system. The Resources for Teaching folder in MindTap and the Instructor Companion Site hold resources such as instructions on how to use the online test bank; Microsoft PowerPoint slides with high-resolution images, which can be used as is or customized by importing personal lecture slides or other material; YouTube playlists organized by chapter; course learning objectives; and more.

MINDTAP MOBILE

Gardner's Art through the Ages: The Western Perspective, 16th edition, is now more accessible than ever with the MindTap Mobile App, empowering students to learn on their terms—anytime, anywhere, online or off.

- The MindTap eReader provides convenience as students can read or listen to their eBook on their smartphone, take notes, and highlight important passages.
- Students have instant access to ready-made flashcards to engage with key concepts and images and confidently prepare for exams.
- Notifications keep students connected. Due dates are never forgotten with MindTap Mobile course notifications, which push assignment reminders, score updates, and instructor messages directly to students' smartphones.

LECTURE NOTES & STUDY GUIDES

The Lecture Notes & Study Guide for each chapter is a lecture companion that allows students to take notes alongside the images shown in class. This resource includes reproductions of the images from the reading, with full captions and space for note-taking either on a computer or on a printout. It also includes a chapter summary, key terms list, and learning objectives checklist.

GOOGLE EARTH

Take a virtual tour of art through the ages! Resources for the 16th edition include Google Earth coordinates for all works, monuments, and sites discussed in the reading, encouraging students to make geographical connections between places and sites. Instructors can use these coordinates to start lectures with a virtual journey to locations all over the globe or take aerial screenshots of important sites to incorporate into lecture materials.

▲**I-1a** Art historians seek to understand not only why artworks appear as they do but also why those works exist at all. Who paid this African artist to make this altar? Can the figures represented provide the answer?

1 in.

I-1 **Altar to the Hand (ikegobo), from Benin, Nigeria, ca. 1735–1750. Bronze, 1′ 5½″ high. British Museum, London (gift of Sir William Ingram).**

◀**I-1b** What tools and techniques did this sculptor employ to transform molten bronze into this altar representing a Benin king and his attendants projecting in high relief from the background plane?

▶**I-1c** At the bottom of the altar is a band with hands and other symbols, but no artist's signature or date. How can art historians determine when an unlabeled work such as this one was made and by and for whom?

INTRODUCTION

WHAT IS ART HISTORY?

What is art history? Except when referring to the modern academic discipline, people do not often juxtapose the words *art* and *history.* They tend to think of history as the record and interpretation of past human events, particularly social and political events. By contrast, most think of art, quite correctly, as part of the present—as something people can see and touch. Of course, people cannot see or touch history's vanished human events, but a visible, tangible artwork is a kind of persisting event. One or more artists made it at a certain time and in a specific place, even if no one now knows who, when, where, or why. Although created in the past, an artwork continues to exist in the present, long surviving its times. The earliest known paintings and sculptures were created almost 40,000 years ago, but they can be viewed today, often in glass cases in museums built only during the past few years.

Modern museum visitors can admire these objects from the remote past and countless others produced over the millennia—whether a large painting on canvas by a 17th-century French artist (FIG. I-12), a wood portrait from an ancient Egyptian tomb (FIG. I-15), an illustrated book by a medieval German monk (FIG. I-8), or an 18th-century bronze altar glorifying an African king (FIG. I-1)—without any knowledge of the circumstances leading to the creation of those works. The beauty or sheer size of an object can impress people, the artist's virtuosity in the handling of ordinary or costly materials can dazzle them, or the subject depicted can move them emotionally. Viewers can react to what they see, interpret the work in the light of their own experience, and judge it a success or a failure. These are all valid aesthetic responses. (*Aesthetics* is the branch of philosophy that addresses the nature of beauty, especially in art.) But the enjoyment and appreciation of artworks in museum settings are relatively recent phenomena, as is the creation of artworks solely for museum-going audiences to view.

Today, it is common for artists to work in private studios and to create paintings, sculptures, and other objects to be offered for sale by commercial art galleries. This is what American artist CLYFFORD STILL (1904–1980) did when he created his series of paintings (FIG. I-2) of pure color titled simply with the year of their creation. Usually, someone whom the artist has never met will purchase the artwork and display it in a setting that the artist has never seen. This practice is not a new phenomenon in the history of art—an ancient potter decorating a vase for sale at a village market stall probably did not know who would buy the pot or where it would be housed—but it is not at all typical. In fact, it is exceptional. Throughout history, most artists created paintings, sculptures, and other objects for specific patrons and settings and to fulfill a specific purpose, even if today no one knows the original contexts of those artworks. A museum visitor can appreciate the visual and tactile qualities of these objects, but without knowing the circumstances of their creation, that modern viewer cannot understand why they were made or why they appear as they do. Art *appreciation* and aesthetic judgments in general do not require knowledge of the historical context of an artwork (or a building). Art *history* does.

I-2 Clyfford Still, *1948-C,* 1948. Oil on canvas, 6′ $8\frac{7}{8}$″ × 5′ $8\frac{3}{4}$″. Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C. (purchased with funds of Joseph H. Hirshhorn, 1992).

Clyfford Still painted this abstract composition without knowing who would purchase it or where it would be displayed, but throughout history, most artists created works for specific patrons and settings.

Thus a central aim of art history is to determine the original context of artworks. Art historians seek to achieve a full understanding not only of why these "persisting events" of human history look the way they do but also of why the artistic events happened at all. What unique set of circumstances gave rise to the construction of a particular building or led an individual patron to commission a certain artist to fashion a singular artwork for a specific place? The study of history is therefore vital to art history. And art history is often indispensable for a thorough understanding of history. In ways that other historical documents may not, art objects and buildings can shed light on the peoples who made them and on the times of their creation. Furthermore, artists and architects can affect history by reinforcing or challenging cultural values and practices through the objects they create and the structures they build. Although the two disciplines are not the same, the analysis of art and architecture is inseparable from the study of history.

The following pages introduce some of the distinctive subjects that art historians address and the kinds of questions they ask, and explain some of the basic terminology they use when answering these questions. Readers armed with this arsenal of questions and terms will be ready to explore the multifaceted world of art through the ages—and to form their own opinions and write knowledgably about artworks and buildings in all places and at all times. This is the central aim of this book.

ART HISTORY IN THE 21ST CENTURY

Art historians study the visual and tangible objects that humans make and the structures they build. Scholars traditionally have classified these works as architecture, sculpture, the pictorial arts (painting, drawing, printmaking, and photography), and the craft arts, or arts of design. The craft arts comprise utilitarian objects, such as ceramics, metalwork, textiles, jewelry, and similar accessories of ordinary living—but the fact that these objects were used does not mean that they are not works of art. In fact, in some times and places, these so-called minor arts were the most prestigious artworks of all. Artists of every age have blurred the boundaries among these categories, but this is especially true today, when multimedia works abound.

Beginning with the earliest Greco-Roman art critics, scholars have studied objects that their makers consciously manufactured as "art" and to which the artists assigned formal titles. But today's art historians also study a multitude of objects that their creators and owners almost certainly did not consider to be "works of art"—for example, the African altar illustrated on the opening page of this introductory chapter (FIG. I-1). Likewise, few ancient Romans would have regarded a coin bearing their emperor's portrait as anything but money. Today, an art museum may exhibit that coin in a locked case in a climate-controlled room, and scholars may subject it to the same kind of art historical analysis as a portrait by an acclaimed Renaissance or modern sculptor or painter.

The range of objects that art historians study is constantly expanding and now includes, for example, computer-generated images, whereas in the past almost anything produced using a machine would not have been regarded as art. Most people still consider the performing arts—music, drama, and dance—as outside art history's realm because these arts are fleeting, impermanent media. But during the past few decades, even this distinction between "fine art" and "performance art" has become blurred. Art historians, however, generally ask the same kinds of questions about what they study, whether they employ a restrictive or expansive definition of art.

The Questions Art Historians Ask

How Old Is It? Before art historians can write a history of art, they must be sure that they know the date of each work they study. Thus an indispensable subject of art historical inquiry is *chronology,* the dating of art objects and buildings. If researchers cannot determine a monument's age, they cannot place the work in its historical context. Art historians have developed many ways to establish, or at least approximate, the date of an artwork.

Physical evidence often reliably indicates an object's age. The material used for a statue or painting—bronze, plastic, or oil-based pigment, to name only a few—may not have been invented before a certain time, indicating the earliest possible date (the *terminus post quem*: Latin, "point after which") that someone could have fashioned the work. Or artists may have ceased using certain materials—such as specific kinds of inks and papers for drawings—at a known time, providing the latest possible date (the *terminus ante quem*: Latin, "point before which") for objects made of those materials. Sometimes the material (or the manufacturing technique) of an object or a building can establish a very precise date of production or construction. The study of tree rings, for instance, usually can determine within a narrow range the date of a wood statue or a timber roof beam.

I-3 Choir of Beauvais Cathedral (looking east), Beauvais, France, rebuilt after 1284.

The style of an object or building often varies from region to region. This cathedral has towering stone vaults and large colored-glass windows typical of 13th-century French architecture.

I-4 Interior of Santa Croce (looking east), Florence, Italy, begun 1294.

In contrast to Beauvais Cathedral (FIG. I-3), this contemporaneous Florentine church conforms to the quite different regional style of Italy. The building has a low timber roof and small windows.

Documentary evidence can help pinpoint the date of an object or building when a dated written document mentions the work. For example, official records may note when church officials commissioned a new altarpiece—and how much they paid to which artist.

Internal evidence can play a significant role in dating an artwork. A painter or sculptor might have depicted an identifiable person or a kind of hairstyle or garment fashionable only at a certain time. If so, the art historian can assign a more accurate date to that painting or sculpture.

Stylistic evidence is also very important. The analysis of *style*—an artist's distinctive manner of producing an object—is the art historian's special sphere. Unfortunately, because it is a subjective assessment, an artwork's style is by far the most unreliable chronological criterion. Still, art historians find stylistic evidence a very useful tool for establishing chronology.

What Is Its Style? Defining artistic style is one of the key elements of art historical inquiry, although the analysis of artworks solely in terms of style no longer dominates the field the way it once did. Art historians speak of several different kinds of artistic styles.

Period style refers to the characteristic artistic manner of a specific era or span of years, usually within a distinct culture, such as "Archaic Greek" or "High Renaissance." But many periods do not display any stylistic unity at all. How would someone define the artistic style of the second or third decade of the new millennium in North America? Far too many crosscurrents exist in contemporary art for anyone to describe a period style of the early 21st century—even in a single city such as New York.

Regional style is the term that art historians use to describe variations in style tied to geography. Like an object's date, its *provenance,* or place of origin, can significantly determine its character. Very often two artworks from the same place made centuries apart are more similar than contemporaneous works from two different regions. To cite one example, usually only an expert can distinguish between an Egyptian statue carved in 2500 BCE (FIG. 3-13) and one created 2,000 years later (FIG. 3-37). But no one would mistake an Egyptian statue of 500 BCE for one of the same date made in Greece (FIG. 5-35) or Africa (FIG. 19-4).

Considerable variations in a given area's style are possible, however, even during a single historical period. In late medieval Europe, French architecture differed significantly from Italian architecture. The interiors of Beauvais Cathedral (FIG. I-3) and the church of Santa Croce (Holy Cross, FIG. I-4) in Florence typify the architectural styles of France and Italy, respectively, at the end of the 13th century. The rebuilding of the east end of Beauvais Cathedral began in 1284. Construction commenced on Santa Croce only 10 years later. Both structures employ the *pointed arch* characteristic of this era, yet the two churches differ strikingly. The French church has towering stone ceilings and large expanses of colored-glass windows, whereas the Italian building has a low timber roof and small,

I-5 Georgia O'Keeffe, *Jack-in-the-Pulpit No. 4,* 1930. Oil on canvas, 3′ 4″ × 2′ 6″. National Gallery of Art, Washington, D.C. (Alfred Stieglitz Collection, bequest of Georgia O'Keeffe).

O'Keeffe's paintings feature close-up views of petals and leaves in which the organic forms become powerful abstract compositions. This approach to painting typifies the artist's distinctive personal style.

I-6 Ben Shahn, *The Passion of Sacco and Vanzetti,* 1931–1932. Tempera on canvas, 7′ $\frac{1}{2}$″ × 4′. Whitney Museum of American Art, New York (gift of Edith and Milton Lowenthal in memory of Juliana Force).

O'Keeffe's contemporary, Shahn developed a style markedly different from hers. His paintings are often social commentaries on recent events and incorporate readily identifiable people.

widely separated clear windows. Because the two contemporaneous churches served similar purposes, regional style mainly explains their differing appearance.

Personal style, the distinctive manner of individual artists or architects, often decisively explains stylistic discrepancies among paintings, sculptures, and buildings of the same time and place. For example, in 1930, American painter Georgia O'Keeffe (1887–1986) produced a series of paintings of flowering plants. One of them—*Jack-in-the-Pulpit No. 4* (fig. I-5)—is a sharply focused close-up view of petals and leaves. O'Keeffe captured the growing plant's slow, controlled motion while converting the plant into a powerful *abstract* composition of lines, forms, and colors (see the discussion of art historical vocabulary in the next section). Only a year later, another American artist, Ben Shahn (1898–1969), painted *The Passion of Sacco and Vanzetti* (fig. I-6), a stinging commentary on social injustice inspired by the trial and execution of two Italian anarchists, Nicola Sacco and Bartolomeo Vanzetti. Many people believed that Sacco and Vanzetti had been unjustly convicted of killing two men in a robbery in 1920. Shahn's painting compresses time in a symbolic representation of the trial and its aftermath. The two executed men lie in their coffins. Presiding over them are the three members of the commission (headed by a college president wearing academic cap and gown) who declared that the original trial was fair and cleared the way for the executions. Behind, on the wall of a stately government building, hangs the framed portrait of the judge who pronounced the initial sentence. Personal style, not period or regional style, sets Shahn's canvas apart from O'Keeffe's. The contrast is extreme here because of the very different subjects that the artists chose. But even when two artists depict the same subject, the results can vary widely. The *way* that O'Keeffe painted flowers and the *way* that Shahn painted faces are distinctive and unlike the styles of their contemporaries. (See the "Who Made It?" discussion on page 6.)

The different kinds of artistic styles are not mutually exclusive. For example, an artist's personal style may change dramatically

I-7 Gislebertus, weighing of souls, detail of *Last Judgment* (fig. 12-1), west tympanum of Saint-Lazare, Autun, France, ca. 1120–1135.

In this high relief portraying the weighing of souls on Judgment Day, Gislebertus used disproportion and distortion to dehumanize the devilish figure yanking on the scales of justice.

during a long career. Art historians then must distinguish among the different period styles of a particular artist, such as the "Rose Period" (fig. 29-10A) and the "Cubist Period" (fig. 29-14) of the prolific 20th-century artist Pablo Picasso.

What Is Its Subject? Another major concern of art historians is, of course, subject matter, encompassing the story or narrative; the scene presented; the action's time and place; the persons involved; and the environment and its details. Some artworks, such as modern abstract paintings (fig. I-2), have neither traditional subjects nor even settings. The "subject" is the artwork itself—its colors, textures, composition, and size. But when artists represent people, places, or actions, viewers must identify these features to achieve a complete understanding of the work. Art historians traditionally separate pictorial subjects into various categories, such as religious, historical, mythological, *genre* (daily life), portraiture, *landscape* (a depiction of a place), *still life* (an arrangement of inanimate objects), and their numerous subdivisions and combinations.

Iconography—literally, the "writing of images"—refers both to the content, or subject, of an artwork, and to the study of content in art. By extension, it also includes the study of *symbols,* images that stand for other images or encapsulate ideas. In Christian art, two intersecting lines of unequal length or a simple geometric cross can serve as an emblem of the religion as a whole, symbolizing the cross of Jesus Christ's crucifixion. A symbol also can be a familiar object that an artist has imbued with greater meaning. A balance or scale, for example, may symbolize justice or the weighing of souls on Judgment Day (fig. I-7).

Artists may depict figures with unique *attributes* identifying them. In Christian art, for example, each of the authors of the biblical Gospel books, the four evangelists (fig. I-8), has a distinctive attribute. People can recognize Saint Matthew by the winged man associated with him, John by his eagle, Mark by his lion, and Luke by his ox.

Throughout the history of art, artists have used *personifications*—abstract ideas codified in human form. Because of the fame of the colossal statue set up in New York City's harbor in 1886, people everywhere visualize Liberty as a robed woman wearing a rayed crown and holding a torch. Four different personifications appear

1 in.

I-8 The four evangelists, folio 14 verso of the *Aachen Gospels,* ca. 810. Ink and tempera on vellum, $1' \times 9\frac{1}{2}''$. Domschatzkammer, Aachen.

Artists depict figures with attributes in order to identify them for viewers. The authors of the four Gospels have distinctive attributes—winged man (Matthew), eagle (John), lion (Mark), and ox (Luke).

1 in.

I-9 Albrecht Dürer, *The Four Horsemen of the Apocalypse,* ca. 1498. Woodcut, 1′ 3 1/4″ × 11″. Metropolitan Museum of Art, New York (gift of Junius S. Morgan, 1919).

Personifications are abstract ideas codified in human form. Here, Albrecht Dürer represented Death, Famine, War, and Pestilence as four men on charging horses, each one carrying an identifying attribute.

in *The Four Horsemen of the Apocalypse* (fig. I-9) by German artist Albrecht Dürer (1471–1528). The late-15th-century print is a terrifying depiction of the fateful day at the end of time when, according to the Bible's last book, Death, Famine, War, and Pestilence will annihilate the human race. Dürer personified Death as an emaciated old man with a pitchfork. Famine swings the scales for weighing human souls (compare fig. I-7). War wields a sword, and Pestilence draws a bow.

Even without considering style and without knowing a work's maker, informed viewers can determine much about the work's period and provenance by iconographical and subject analysis alone. In *The Passion of Sacco and Vanzetti* (fig. I-6), for example, the two coffins, the trio headed by an academic, and the robed judge in the background are all pictorial clues revealing the painting's subject. The work's date must be after the trial and execution (the terminus post quem), probably while the event was still newsworthy. And because the two men's deaths caused the greatest outrage in the United States, the painter–social critic was probably an American.

Who Made It? If Ben Shahn had not signed his painting of Sacco and Vanzetti, an art historian could still assign, or *attribute* (make an *attribution* of), the work to him based on knowledge of the artist's personal style. Although signing (and dating) works is quite common (but by no means universal) today, in the history of art, countless works exist whose artists remain unknown. Because personal style can play a major role in determining the character of an artwork, art historians often try to attribute anonymous works to known artists. Sometimes they assemble a group of works all thought to be by the same person, even though none of the objects in the group is the known work of an artist with a recorded name. Art historians thus reconstruct the careers of artists such as the "Achilles Painter" (fig. 5-58), the anonymous ancient Greek artist whose masterwork is a depiction of the hero Achilles. Scholars base their attributions on internal evidence, such as the distinctive way that an artist draws or carves drapery folds, earlobes, or flowers. It requires a keen, highly trained eye and long experience to become a *connoisseur,* an expert in assigning artworks to "the hand" of one artist rather than another. Attribution is subjective, of course, and ever open to doubt. For example, for a half-century through 2014, scholars involved with the Rembrandt Research Project debated attributions to the famous 17th-century Dutch painter Rembrandt van Rijn (fig. 25-15)—and the debate continues today.

Sometimes a group of artists works in the same style at the same time and place. Art historians designate such a group as a *school.* "School" in this sense does not mean an educational institution or art academy. The term connotes only shared chronology, style, and geography. Art historians speak, for example, of the Dutch school of the 17th century and, within it, of subschools such as those of the cities of Haarlem, Utrecht, and Leyden.

Who Paid for It? The interest that many art historians show in attribution reflects their conviction that the identity of an artwork's maker is the major reason why the object looks the way it does. For them, personal style is of paramount importance. But in many times and places, artists had little to say about what form their work would take. They toiled in obscurity, doing the bidding of their *patrons,* those who paid them to make individual works or employed them on a continuing basis. The role of patrons in dictating the content and shaping the form of artworks is also an important subject of art historical inquiry.

In the art of portraiture, to name only one category of painting and sculpture, the patron has often played a dominant role in deciding how the artist represented the subject, whether that person was the patron or another individual, such as a spouse, son, or mother. Many Egyptian pharaohs (for example, fig. 3-13) and some Roman emperors insisted that artists depict them with unlined faces and perfect youthful bodies no matter how old they were when portrayed. In these cases, the state employed the sculptors and painters, and the artists had no choice but to portray their patrons in the officially approved manner. This is why Augustus, who lived to age 76, looks so young in his portraits (fig. I-10; compare fig. 7-27). Although Roman emperor for more than 40 years, Augustus demanded that artists always represent him as a young, godlike head of state.

All modes of artistic production reveal the impact of patronage. Learned monks provided the themes for the sculptural decoration of medieval church portals (fig. I-7). Renaissance princes and popes dictated the subject, size, and materials of artworks destined for display in buildings also constructed according to their specifications. An art historian could make a very long list of commissioned works, and it would indicate that patrons have had diverse tastes and needs throughout history and consequently have demanded different kinds of art. Whenever a patron contracts with an artist or architect to paint, sculpt, or build in a prescribed manner, personal style often becomes a very minor factor in the ultimate appearance

I-10 Head of the statue of Augustus as pontifex maximus, from Via Labicana, Rome, Italy, late first century BCE. Marble, statue 6′ 10″ high; detail 1′ 4½″. Palazzo Massimo alle Terme, Museo Nazionale Romano, Rome.

Patrons frequently dictate the form that their portraits will take. Emperor Augustus demanded that he always be portrayed as a young, godlike head of state even though he lived to age 76.

of the painting, statue, or building. In these cases, the identity of the patron reveals more to art historians than does the identity of the artist or school. The portrait of Augustus illustrated here (FIG. I-10)—showing the emperor wearing a hooded *toga* in his official capacity as *pontifex maximus* (chief priest of the Roman state religion)—was the work of a virtuoso sculptor, a master wielder of hammer and chisel. But scores of similar portraits of this Roman emperor also exist today. They differ in quality but not in kind from this one. The patron, not the artist, determined the character of these artworks. Augustus's public image never varied. *Art through the Ages* highlights the involvement of patrons in the design and production of sculptures, paintings, and buildings throughout the text and in a series of boxed essays called *The Patron's Voice.*

The Words Art Historians Use

As in all fields of study, art history has its own specialized vocabulary consisting of hundreds of words, but certain basic terms are indispensable for describing artworks and buildings of any time and place. They make up the essential vocabulary of *formal analysis,* the visual analysis of artistic form, and are used whenever one talks or writes about art and architecture. Definitions and discussions of the most important art historical terms follow.

Form and Composition. *Form* refers to an object's shape and structure, either in two dimensions (for example, a portrait painted on canvas) or in three dimensions (such as a statue carved from a marble block). Two forms may take the same shape but differ in their color, texture, and other qualities. *Composition* refers to how an artist *composes* (organizes) forms in an artwork, either by placing shapes on a flat surface or by arranging forms in space.

Material and Technique. To create art forms, artists shape materials (pigment, clay, marble, gold, and many more) with tools (pens, brushes, chisels, and so forth). Each of the materials and tools available has its own potentialities and limitations. Part of all artists' creative activity is to select the *medium* and instrument most suitable to the purpose—or to develop new media and tools, such as bronze and concrete in antiquity and cameras and computers in modern times. The processes that artists employ, such as applying paint to canvas with a brush, and the distinctive, personal ways that they handle materials constitute their *technique.* Form, material, and technique interrelate and are central to analyzing any work of art.

Line. Among the most important elements defining an artwork's shape or form is *line.* A line can be understood as the path of a point moving in space, an invisible line of sight. More commonly, however, artists and architects make a line visible by drawing (or chiseling) it on a *plane,* a flat surface. A line may be very thin, wirelike, and delicate. It may be thick and heavy. Or it may alternate quickly from broad to narrow, the strokes jagged or the outline broken. When a continuous line defines an object's outer shape, art historians call it a *contour line.* All of these line qualities are present in Dürer's *Four Horsemen of the Apocalypse* (FIG. I-9). Contour lines define the basic shapes of clouds, human and animal limbs, and weapons. Within the forms, series of short broken lines create shadows and textures. An overall pattern of long parallel strokes suggests the dark sky on the frightening day when the world is about to end.

Color. Light reveals all colors. Light in the world of the painter and other artists differs from natural light. Natural light, or sunlight, is whole or *additive light.* As the sum of all the wavelengths composing the visible *spectrum,* it may be disassembled or fragmented into the individual colors of the spectral band. The painter's light in art—the light reflected from pigments and objects—is *subtractive light.* Paint pigments produce their individual colors by reflecting a segment of the spectrum while absorbing all the rest. Green pigment, for example, subtracts or absorbs all the light in the spectrum except that seen as green.

Hue is the property giving a color its name. Although the spectrum colors merge into each other, artists usually conceive of their hues as distinct from one another. Color has two basic variables—the apparent amount of light reflected and the apparent purity. A change in one must produce a change in the other. Some terms for these variables are *value* or *tonality* (the degree of lightness or darkness) and *intensity* or *saturation* (the purity of a color, its brightness or dullness).

Artists call the three basic colors—red, yellow, and blue—the *primary colors.* The *secondary colors* result from mixing pairs of primaries: orange (red and yellow), purple (red and blue), and green (yellow and blue). *Complementary colors* represent the pairing of a primary color and the secondary color created from mixing the two other primary colors—red and green, yellow and purple, and blue and orange. They "complement," or complete, each other, one absorbing the colors that the other reflects.

I-11 Josef Albers, *Homage to the Square: "Ascending,"* 1953. Oil on composition board, 3′ 7½″ × 3′ 7½″. Whitney Museum of American Art, New York.

Albers created hundreds of paintings using the same composition but employing variations in hue, saturation, and value in order to reveal the relativity and instability of color perception.

Artists can manipulate the appearance of colors, however. One artist who made a systematic investigation of the formal aspects of art, especially color, was Josef Albers (1888–1976), a German-born artist who emigrated to the United States in 1933. In connection with his studies, Albers created the series *Homage to the Square*—hundreds of paintings, most of which are color variations on the same composition of concentric squares, as in the illustrated example (fig. I-11). The series reflected Albers's belief that art originates in "the discrepancy between physical fact and psychic effect."[1] Because the composition in most of these paintings remains constant, the works succeed in revealing the relativity and instability of color perception. Albers varied the hue, saturation, and value of each square in the paintings in this series. As a result, the sizes of the squares from painting to painting appear to vary (although they remain the same), and the sensations emanating from the paintings range from clashing dissonance to delicate serenity. Albers explained his motivation for focusing on color juxtapositions:

> They [the colors] are juxtaposed for various and changing visual effects. . . . Such action, reaction, interaction . . . is sought in order to make obvious how colors influence and change each other; that the same color, for instance—with different grounds or neighbors—looks different. . . . Such color deceptions prove that we see colors almost never unrelated to each other.[2]

Texture. The term *texture* refers to the quality of a surface, such as rough or shiny. Art historians distinguish between true texture—that is, the tactile quality of the surface—and represented texture, as when painters depict an object as having a certain texture even though the pigment is the true texture. Sometimes artists combine different materials of different textures on a single surface, juxtaposing paint with pieces of wood, newspaper, fabric, and so forth. Art historians refer to this mixed-media technique as *collage.* Texture is, of course, a key determinant of any sculpture's character. People's first impulse is usually to handle a work of sculpture—even though museum signs often warn "Do not touch!" Sculptors plan for this natural human response, using surfaces varying in texture from rugged coarseness to polished smoothness. Textures are often intrinsic to a material, influencing the type of stone, wood, plastic, clay, or metal that a sculptor selects.

Space, Mass, and Volume. *Space* is the bounded or boundless "container" of objects. For art historians, space can be the real three-dimensional space occupied by a statue or a vase or contained within a room or courtyard. Or space can be *illusionistic,* as when painters depict an image (or illusion) of the three-dimensional spatial world on a two-dimensional surface.

Mass and *volume* describe three-dimensional objects and space. In both architecture and sculpture, mass is the bulk, density, and weight of matter in space. Yet the mass need not be solid. It can be the exterior form of enclosed space. Mass can apply to a solid Egyptian pyramid or stone statue; to a church, synagogue, or mosque (architectural shells enclosing sometimes vast spaces); and to a hollow metal statue or baked clay pot. Volume is the space that mass organizes, divides, or encloses. It may be a building's interior spaces, the intervals between a structure's masses, or the amount of space occupied by a three-dimensional object such as a statue, pot, or chair. Volume and mass describe both the exterior and interior forms of a work of art—the forms of the matter of which it is composed and the spaces immediately around the work and interacting with it.

Perspective and Foreshortening. *Perspective* is one of the most important pictorial devices for organizing forms in space. Throughout history, artists have used various types of perspective to create an illusion of depth or space on a two-dimensional surface. The French painter Claude Lorrain (1600–1682) employed several perspective devices in *Embarkation of the Queen of Sheba* (fig. I-12), a painting of a biblical episode set in a 17th-century European harbor with an ancient Roman ruin in the left foreground—an irrationally anachronistic combination that the art historian can explain only in the context of the cultural values of the artist's time and place. In Claude's painting, the figures and boats on the shoreline are much larger than those in the distance, because decreasing the size of an object makes it appear farther away. The top and bottom of the port building at the painting's right side are not parallel horizontal lines, as they are in a real building. Instead, the lines converge beyond the structure, leading the viewer's eye toward the hazy, indistinct sun on the horizon. These three perspective devices—the reduction of figure size, the convergence of diagonal lines, and the blurring of distant forms—have been familiar features of Western art since they were first employed by the ancient Greeks. It is important to state, however, that all kinds of perspective are only pictorial conventions, even when one or more types of perspective may be so common in a given culture that people accept them as "natural" or as "true" means of representing the natural world.

These perspective conventions are by no means universal. In *Waves at Matsushima* (fig. I-13), a Japanese seascape painting on

1 ft.

I-12 Claude Lorrain, *Embarkation of the Queen of Sheba,* 1648. Oil on canvas, 4′ 10″ × 6′ 4″. National Gallery, London.

To create the illusion of a deep landscape, Claude Lorrain employed perspective, reducing the size of and blurring the most distant forms. All diagonal lines converge on a single point.

a six-part folding screen, Ogata Korin (1658–1716) ignored these Western "tricks" for representing deep space on a flat surface. A Western viewer might interpret the left half of Korin's composition as depicting the distant horizon, as in the French painting, but the sky is an unnatural gold, and the clouds filling that unnaturally colored sky are almost indistinguishable from the waves below. The rocky outcroppings decrease in size with distance, but all are in sharp focus, and there are no shadows. The Japanese artist was less concerned with locating the boulders and waves and clouds in space than with composing shapes on a surface, playing the swelling curves of waves and clouds against the jagged contours of the rocks. Neither the French nor the Japanese painting can be said to project "correctly" what viewers "in fact" see. One painting is not a "better" picture of the world than the other. The European and Asian artists simply approached the problem of picture making differently.

1 ft.

I-13 Ogata Korin, *Waves at Matsushima,* Edo period, Japan, ca. 1700–1716. Six-panel folding screen, ink, colors, and gold leaf on paper, 4′ $11\frac{1}{8}$″ × 12′ $\frac{7}{8}$″. Museum of Fine Arts, Boston (Fenollosa-Weld Collection).

Asian artists rarely employed Western perspective (FIG. I-12). Korin was more concerned with creating an intriguing composition of shapes on a surface than with locating boulders, waves, and clouds in space.

I-14 Peter Paul Rubens, *Lion Hunt,* 1617–1618. Oil on canvas, 8′ 2″ × 12′ 5″. Alte Pinakothek, Munich.

Foreshortening—the representation of a figure or object at an angle to the picture plane—is a common device in Western art for creating the illusion of depth. Foreshortening is a type of perspective.

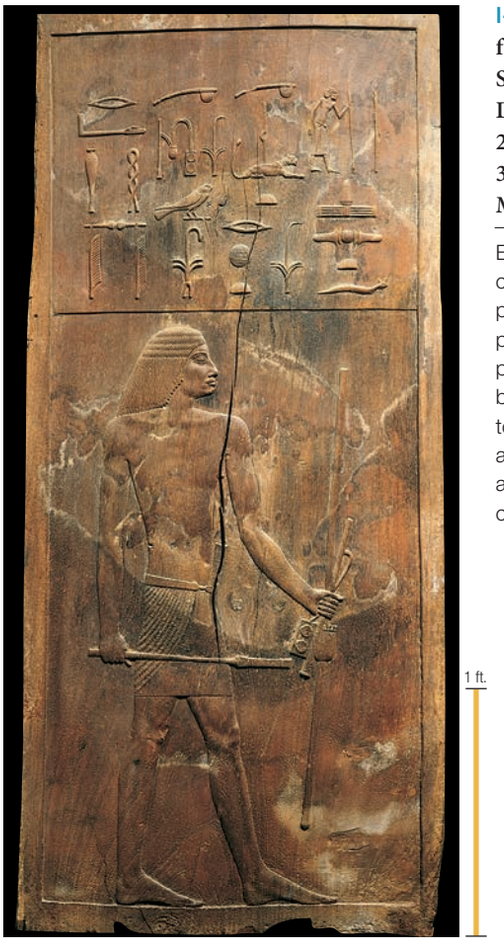
Artists also represent single figures in space in varying ways. When Flemish artist Peter Paul Rubens (1577–1640) painted *Lion Hunt* (fig. I-14), he used *foreshortening* for all the hunters and animals—that is, he represented their bodies at angles to the picture plane. When in life one views a figure at an angle, the body appears to contract as it extends back in space. Foreshortening is a kind of perspective. It produces the illusion that one part of the body is farther away than another, even though all the painted forms are on the same plane. Especially noteworthy in *Lion Hunt* are the gray horse at the left, seen from behind with the bottom of its left rear hoof facing viewers and most of its head hidden by its rider's shield, and the fallen hunter at the painting's lower right corner, whose barely visible legs and feet recede into the distance.

The artist who carved the portrait of the ancient Egyptian official Hesire (fig. I-15) for display in Hesire's tomb did not employ foreshortening. That artist's purpose was to present the various human body parts as clearly as possible, without overlapping. The lower part of Hesire's body is in profile to give the most complete view of the legs, with both the heel and toes of each foot visible. The frontal torso, however, enables viewers to see its full shape, including both shoulders, equal in size, as in nature. (Compare the shoulders of the hunter on the gray horse or those of the fallen hunter in *Lion Hunt*'s left foreground.) The result—an "unnatural" 90-degree twist at the waist—provides a precise picture of human body parts, if not an accurate picture of how a standing human figure really looks. Rubens and the Egyptian sculptor used very different means of depicting forms in space. Once again, neither is the "correct" manner.

Proportion and Scale. *Proportion* concerns the relationships (in terms of size) of the parts of persons, buildings, or objects. People can judge "correct proportions" intuitively ("that statue's head seems the right size for the body"). Or proportion can be a mathematical relationship between the size of one part of an artwork or building and the other parts within the work. Proportion in art implies using a *module,* or basic unit of measure. When an artist or architect uses a formal system of proportions, all parts of a building, body, or other entity will be fractions or multiples of the module. A module might be the diameter of a *column,* the height of a human head, or any other component whose dimensions can be multiplied or divided to determine the size of the artwork's or building's other parts.

In certain times and places, artists have devised *canons,* or systems, of "correct" or "ideal" proportions for representing human figures, constituent parts of buildings, and so forth. In ancient Greece, many sculptors formulated canons of proportions so strict and all-encompassing that they calculated the size of every body part in advance, even the fingers and toes, according to mathematical ratios.

Proportional systems can differ sharply from period to period, culture to culture, and artist to artist. Part of the task that art history



I-15 Hesire, relief from his tomb at Saqqara, Egypt, Dynasty III, ca. 2650 bce. Wood, 3′ 9″ high. Egyptian Museum, Cairo.

Egyptian artists combined frontal and profile views to give a precise picture of the parts of the human body, as opposed to depicting how an individual body appears from a specific viewpoint.

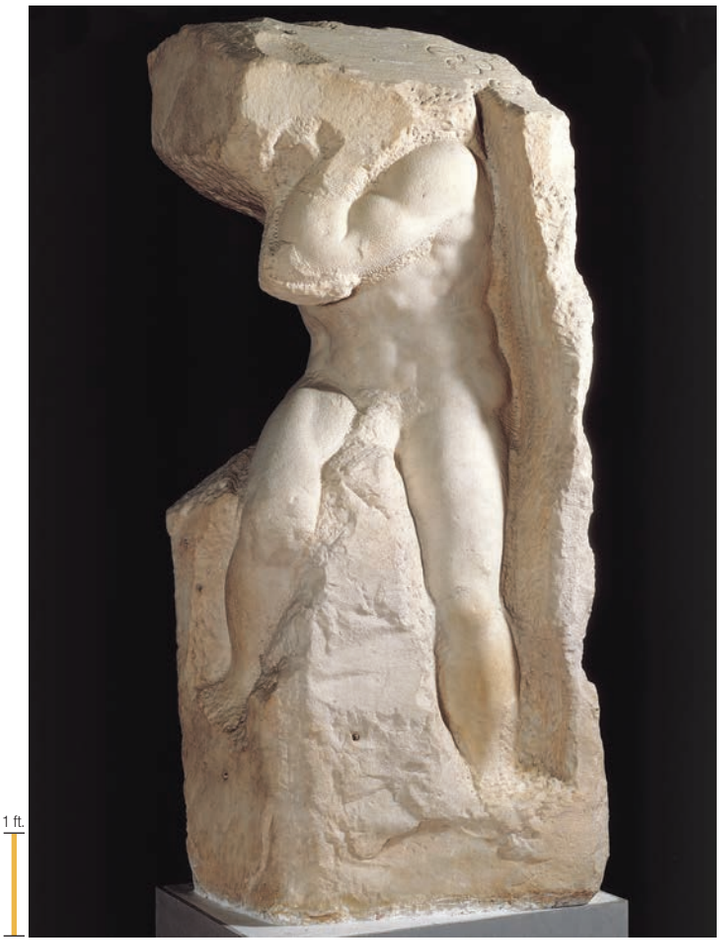
students face is to perceive and adjust to these differences. In fact, many artists have used disproportion and distortion deliberately for expressive effect. In the medieval French depiction of the weighing of souls on Judgment Day (FIG. I-7), the devilish figure yanking down on the scale has distorted facial features and stretched, lined limbs with animal-like paws for feet. Disproportion and distortion make him appear "inhuman," precisely as the sculptor intended.

In other cases, artists have used disproportion to focus attention on one body part (often the head) or to single out a group member (usually the leader). These intentional "unnatural" discrepancies in proportion constitute what art historians call *hierarchy of scale,* the enlarging of elements considered the most important. On the bronze altar from Nigeria illustrated here (FIG. I-1), the sculptor varied the size of each figure according to the person's social status. Largest, and therefore most important, is the Benin king, depicted twice, each time flanked by two smaller attendant figures and shown wearing a multistrand coral necklace emblematic of his high office. The king's head is also disproportionately large compared to his body, consistent with one of the Benin ruler's praise names: Great Head.

One problem that students of art history—and professional art historians too—confront when studying illustrations in art history books is that although the relative sizes of figures and objects in a painting or sculpture are easy to discern, it is impossible to determine the absolute size of the work reproduced because they all are printed at approximately the same size on the page. Readers of *Art through the Ages* can learn the exact size of all artworks from the dimensions given in the captions and, more intuitively, from the scales positioned at the lower left or right corner of each illustration.

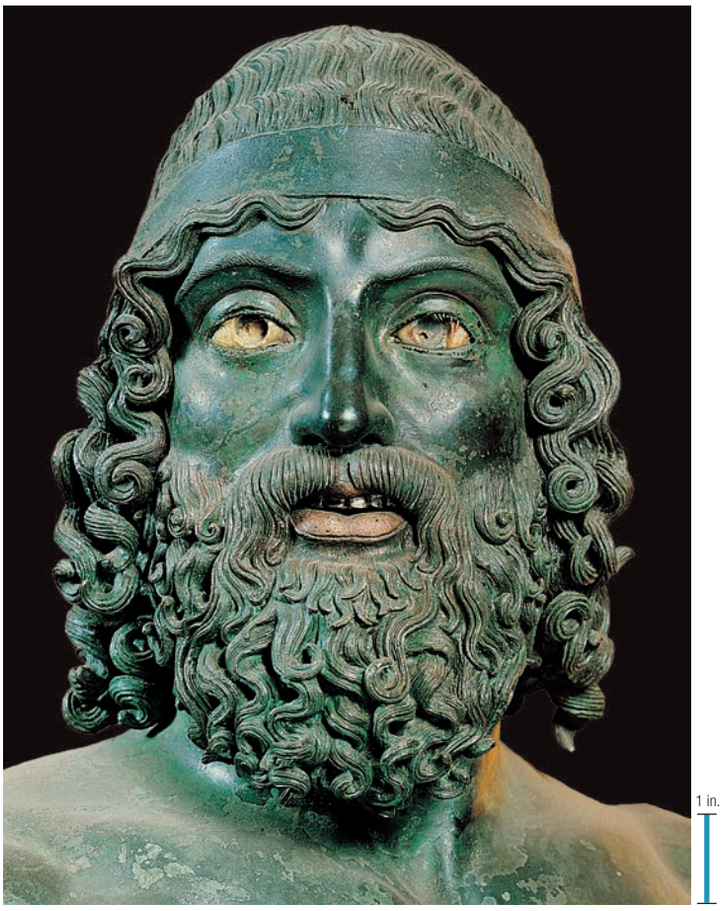
Carving and Casting. Sculptural technique falls into two basic categories, *subtractive* and *additive. Carving* is a subtractive technique. The final form is a reduction of the original mass of a block of stone, a piece of wood, or another material. Wood statues were once tree trunks, and stone statues began as blocks pried from mountains. The unfinished marble statue illustrated here (FIG. I-16) by renowned Italian artist MICHELANGELO BUONARROTI (1475–1564) clearly reveals the original shape of the stone block. Michelangelo thought of sculpture as a process of "liberating" the statue within the block. All sculptors of stone or wood cut away (subtract) "excess material." When they finish, they "leave behind" the statue—in this example, a twisting nude male form whose head Michelangelo never freed from the stone block.

In additive sculpture, the artist builds up the forms, usually in clay around a framework, or *armature.* Or a sculptor may fashion a *mold,* a hollow form for shaping, or *casting,* a fluid substance such as bronze or plaster. The ancient Greek sculptor who made the bronze statue of a warrior found in the sea near Riace, Italy, cast the head (FIG. I-17) as well as the limbs, torso, hands, and feet (FIG. 5-36)



I-16 MICHELANGELO BUONARROTI, unfinished statue, 1527–1528. Marble, 8′ 7½″ high. Galleria dell'Accademia, Florence.

Carving a freestanding figure from stone or wood is a subtractive process. Michelangelo thought of sculpture as a process of "liberating" the statue contained within the block of marble.



I-17 Head of a warrior, detail of a statue (FIG. 5-36) from the sea off Riace, Italy, ca. 460–450 BCE. Bronze, full statue 6′ 6″ high. Museo Archeologico Nazionale, Reggio Calabria.

The sculptor of this life-size statue of a bearded Greek warrior cast the head, limbs, torso, hands, and feet in separate molds, then welded the pieces together and added the eyes in a different material.

in separate molds and then *welded* them together (joined them by heating). Finally, the artist added features, such as the pupils of the eyes (now missing), in other materials. The warrior's teeth are silver, and his lower lip is copper.

Relief Sculpture. *Statues* and *busts* (head, shoulders, and chest) that exist independent of any architectural frame or setting and that viewers can walk around are *freestanding sculptures,* or *sculptures in the round,* whether the artist produced the piece by carving (FIG. I-10) or casting (FIG. I-17). In *relief sculpture,* the subjects project from the background but remain part of it. In *high-relief* sculpture, the images project boldly. In some cases, such as the medieval weighing-of-souls scene (FIG. I-7), the *relief* is so high that not only do the forms cast shadows on the background, but some parts are even in the round, which explains why some pieces—for example, the arms of the scales—broke off centuries ago. In *low-relief,* or *bas-relief,* sculpture, such as the portrait of Hesire (FIG. I-15), the projection is slight. Artists can produce relief sculptures, as they do sculptures in the round, either by carving or casting. The altar from Benin (FIG. I-1) is an example of bronze-casting in high relief (for the figures on the cylindrical altar) as well as in the round (for the king and his two attendants on the top).

Architectural Drawings. Buildings are groupings of enclosed spaces and enclosing masses. People experience architecture both visually and by moving through and around it, so they perceive architectural space and mass together. These spaces and masses can be represented graphically in several ways, including as plans, sections, elevations, and cutaway drawings.

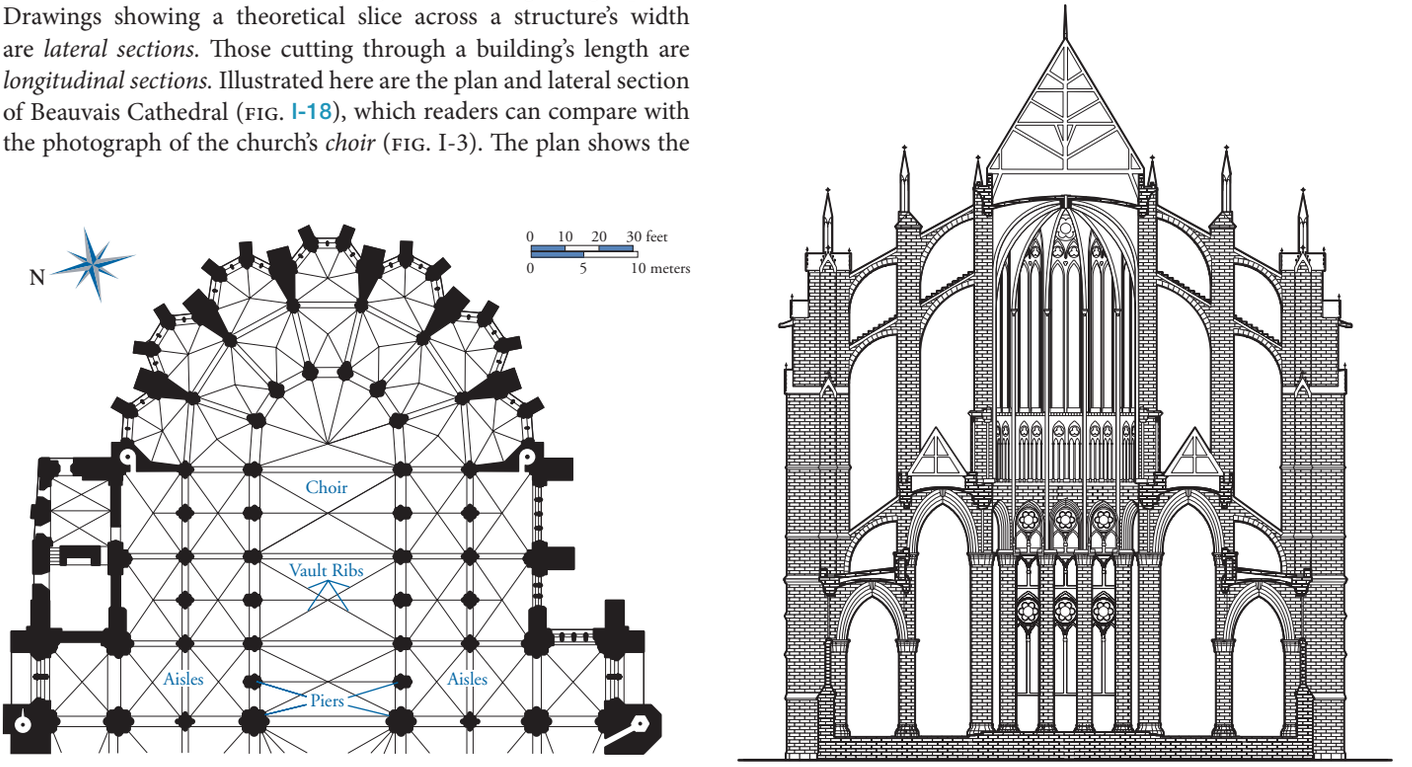
A *plan,* essentially a map of a floor, shows the placement of a structure's masses and, therefore, the spaces they circumscribe and enclose. A *section,* a kind of vertical plan, depicts the placement of the masses as if someone cut through the building along a plane. Drawings showing a theoretical slice across a structure's width are *lateral sections.* Those cutting through a building's length are *longitudinal sections.* Illustrated here are the plan and lateral section of Beauvais Cathedral (FIG. I-18), which readers can compare with the photograph of the church's *choir* (FIG. I-3). The plan shows the choir's shape and the location of the *piers* dividing the *aisles* and supporting the *vaults* above, as well as the pattern of the crisscrossing vault *ribs.* The lateral section shows not only the interior of the choir with its vaults and tall *stained-glass* windows but also the structure of the roof and the form of the exterior *flying buttresses* holding the vaults in place.

Other types of architectural drawings appear throughout this book. An *elevation* drawing is a head-on view of an external or internal wall. A *cutaway* combines in a single drawing an exterior view with an interior view of part of a building.

This overview of the art historian's vocabulary is not exhaustive, nor have artists used only painting, drawing, sculpture, and architecture as media over the millennia. Ceramics, jewelry, textiles, photography, and computer graphics are just some of the numerous other arts. All of them involve highly specialized techniques described in distinct vocabularies. As in this introductory chapter, new terms are in *italics* when they first appear. Many are defined and discussed again in greater detail in the boxed essays called *Architectural Basics* and *Materials and Techniques.* In addition, the comprehensive glossary at the end of the book contains definitions of all italicized terms.

Art History and Other Disciplines

By its very nature, the work of art historians intersects with the work of others in many fields of knowledge, not only in the humanities but also in the social and natural sciences. Today, art historians must go beyond the boundaries of what the public and even professional art historians of previous generations traditionally considered the specialized discipline of art history. In short, art historical research has always been interdisciplinary in nature, but never more than in the 21st century. To cite one example, in an effort to



I-18 Plan (*left*) and lateral section (*right*) of Beauvais Cathedral, Beauvais, France, rebuilt after 1284.

Architectural drawings are indispensable aids for the analysis of buildings. Plans are maps of floors, recording the structure's masses. Sections are vertical "slices" across a building's width or length.

unlock the secrets of a particular statue, an art historian might conduct archival research hoping to uncover new documents shedding light on who paid for the work and why, who made it and when, where it originally stood, how people of the time viewed it, and a host of other questions. Realizing, however, that the authors of the written documents often were not objective recorders of fact but observers with their own biases and agendas, the art historian may also use methodologies developed in such fields as literary criticism, philosophy, sociology, and gender studies to weigh the evidence that the documents provide.

At other times, rather than attempting to master many disciplines at once, art historians band together with other specialists in multidisciplinary inquiries. Art historians might call in chemists to date an artwork based on the composition of the materials used, or might ask geologists to determine which quarry furnished the stone for a particular statue. X-ray technicians might be enlisted in an attempt to establish whether a painting is a forgery. Of course, art historians often reciprocate by contributing their expertise to the solution of problems in other disciplines. A historian, for example, might ask an art historian to determine—based on style, material, iconography, and other criteria—if any of the portraits of a certain king date after his death. Such information would help establish the ruler's continuing prestige during the reigns of his successors. Some portraits of Augustus (FIG. I-10), the founder of the Roman Empire, postdate his death by decades, even centuries, as do the portraits of several deceased U.S. presidents on coins and paper currency produced today. The study of art history, then, demands collaboration among scholars, and never more than in today's "global village."

DIFFERENT WAYS OF SEEING

The history of art can be a history of artists and their works, of styles and stylistic change, of materials and techniques, of images and themes and their meanings, and of contexts and cultures and patrons. The best art historians analyze artworks from many viewpoints. But no art historian (or scholar in any other field), no matter how broad-minded in approach and no matter how experienced, can be truly objective. Like the artists who made the works illustrated and discussed in this book, art historians are members of a society, participants in its culture. How can scholars (and museum visitors and travelers to foreign locales) comprehend cultures unlike their own? They can try to reconstruct the original cultural contexts of artworks, but they are limited by their distance from the thought patterns of the cultures they study and by the obstructions to understanding—the assumptions, presuppositions, and prejudices peculiar to their own culture—that their own thought patterns raise. Art historians may reconstruct a distorted picture of the past because of culture-bound blindness.

A single instance underscores how differently people of diverse cultures view the world and how various ways of seeing can result in sharp differences in how artists depict the world. Illustrated here are two contemporaneous portraits of a 19th-century Maori chieftain (FIG. I-19)—one by an Englishman, JOHN HENRY SYLVESTER (active early 19th century), and the other by the New Zealand chieftain himself, TE PEHI KUPE (d. 1829). Both reproduce the chieftain's facial *tattoo.* The European artist (FIG. I-19, *left*) included the head and shoulders and downplayed the tattooing. The tattoo pattern is one aspect of the likeness among many, no more or less important than the chieftain's European attire. Sylvester also recorded his subject's momentary glance toward the right and the play of light on his hair, fleeting aspects having nothing to do with the figure's identity.

By contrast, Te Pehi Kupe's self-portrait (FIG. I-19, *right*)—made during a trip to Liverpool, England, to obtain European arms to take back to New Zealand—is not a picture of a man situated in space and bathed in light. Rather, it is the chieftain's statement of the supreme importance of the tattoo design announcing his rank among his people. Remarkably, Te Pehi Kupe created the tattoo patterns from memory, without the aid of a mirror. The splendidly composed insignia, presented as a flat design separated from the body and even from the head, is Te Pehi Kupe's image of himself. Only by understanding the cultural context of each portrait can art historians hope to understand why either representation appears as it does.

As noted at the outset, the study of the context of artworks and buildings is one of the central concerns of art historians. *Art through the Ages* seeks to present a history of art and architecture that will help readers understand not only the subjects, styles, and techniques of paintings, sculptures, buildings, and other art forms created in all parts of the world during 40 millennia but also their cultural and historical contexts. That story now begins.

I-19 ***Left:*** **JOHN HENRY SYLVESTER, *Portrait of Te Pehi Kupe,* 1826. Watercolor, $8\frac{1}{4}'' \times 6\frac{1}{4}''$. National Library of Australia, Canberra (Rex Nan Kivell Collection).** ***Right:*** **TE PEHI KUPE, *Self-Portrait,* 1826. From Leo Frobenius, *The Childhood of Man: A Popular Account of the Lives, Customs and Thoughts of the Primitive Races* (Philadelphia: J. B. Lippincott, 1909), 35, fig. 28.**

These strikingly different portraits of the same Maori chief reveal the different ways of seeing by a European artist and an Oceanic one. Understanding the cultural context of artworks is vital to art history.

▼**1-1a** The species of animals depicted in the cave paintings of France and Spain are not among those that Paleolithic humans typically consumed as food. The meaning of these paintings is the subject of debate.

▲**1-1b** The Lascaux animals are inconsistent in size and move in different directions. Some are colored silhouettes; others are outline drawings. They were probably painted at different times by different painters.

1 ft.

1-1 Left wall of the Hall of the Bulls in the cave at Lascaux, France, ca. 16,000–14,000 BCE. Largest bull 11′ 6″ long.

▲**1-1c** Prehistoric painters consistently represented animals in strict profile, the only view showing the head, body, tail, and all four legs. But at Lascaux, both horns are included to give a complete picture of the bull.

ART IN THE STONE AGE 1

FRAMING THE ERA

The Dawn of Art

The Old Stone Age, or *Paleolithic* period (from the Greek *paleo,* "old," and *lithos,* "stone"), which began around 40,000 BCE at the latest, was arguably the most important era in the entire history of art. It was then that humans invented the concept of recording the world around them in pictures, often painted on or carved into the walls of caves.

The oldest and best-known painted caves are in southern France and northern Spain (MAP 1-1). The most famous is the cave at Lascaux. More than 17,000 years ago, prehistoric painters covered many of the walls of the cave with images of animals. The main chamber (FIG. 1-1), nicknamed the Hall of the Bulls, is an unusually large space and easily accessible, but many of the paintings at Lascaux and in other caves are almost impossible to reach. Even in the Hall of the Bulls, the people who congregated there could only have viewed the paintings in the flickering light of primitive lamps. The representations of animals cannot have been merely decorative, but what meaning they carried for those who made and viewed them is fiercely debated. Bulls and horses, the most commonly depicted species, were not diet staples in the Old Stone Age. Why, then, did the painters choose to represent these particular animals? Many explanations have been put forward, but there is no generally accepted answer to the question.

By contrast, art historians have reached secure conclusions about the working methods and conceptual principles of the world's first artists by closely studying the Lascaux paintings and others like them. The immediate impression that a modern viewer gets of a rapidly moving herd is almost certainly false. The "herd" consists of several different species of animals of various sizes moving in different directions. Also, two fundamentally different approaches to picture making are on display. Many of the animals are colored silhouettes, whereas others are outline drawings. These differences in style and technique suggest that different painters created the images at different times, perhaps over the course of generations. The Hall of the Bulls is not one painting but many, created by many different painters.

Nonetheless, at Lascaux and elsewhere for thousands of years, all painters depicted animals in the same way: in strict profile, the only view of these beasts wherein the head, body, tail, and all four legs are visible. Often, as at Lascaux, the bulls' horns are shown from the front, not in profile, because two horns are part of the concept "bull." Only much later in the history of art did painters become concerned with how to depict animals and people from a fixed viewpoint or develop an interest in recording the environment around the figures. The paintings created at the dawn of art are in many ways markedly different in kind from all that followed.

PALEOLITHIC ART

Humankind originated in Africa in the very remote past. From that great continent also has come the earliest evidence of human recognition of pictorial images in the natural environment—a three-million-year-old pebble (FIG. 1-1A) found at Makapansgat in South Africa. The first examples of what people generally call "art" are much more recent, however. They date to around 40,000 to 30,000 BCE during the Paleolithic period. This era was of unparalleled importance in human history and in the history of art. It was during the Old Stone Age that humans first consciously manufactured pictorial images. The works that the earliest artists produced are remarkable not simply for their existence but also for their astonishing variety. They range from simple shell necklaces to human and animal forms in ivory, clay, and stone to life-size *mural* (wall) paintings and sculptures in caves. During the Paleolithic period, humankind went beyond the *recognition* of human and animal forms in the natural environment to the *representation* (literally, the presenting again—in different and substitute form—of something observed) of humans and animals. The immensity of this achievement cannot be overstated.

1-1A Pebble resembling a face, Makapansgat, ca. 3,000,000 BCE.

MAP 1-1 Stone Age sites in Europe.

Africa

Some of the earliest paintings yet discovered come from Africa, where, as noted, the first humans evolved. The most important Paleolithic African artworks were discovered in a cave in Namibia near the southern tip of the continent (MAP 19-1).

Apollo 11 Cave. Between 1969 and 1972, scientists working in the Apollo 11 Cave in Namibia found seven fragments of what are usually referred to as painted stone plaques, but are really fragments that fell from the cave's ceiling. The approximate date of the charcoal from the archaeological layer containing the Namibian fragments is 28,000 BCE. The paintings depict several recognizable images of animals, including a striped beast, possibly a zebra, and a rhinoceros. Of special interest is the example illustrated here (FIG. 1-2), which seems to be a feline with human feet, one of many examples in Paleolithic art of composite human-animals. In all of the Apollo 11 paintings, the forms are carefully rendered, and all of the animals are represented in the identical way (see "How to Represent an Animal," page 17).

Europe

Even older than the Namibian cave paintings—and far better known—are some of the first sculptures and paintings of western Europe (MAP 1-1), although examples of great antiquity have also been found in Southeast Asia.

Hohlenstein-Stadel. One of the oldest sculptures ever discovered is an extraordinary ivory statuette (FIG. 1-3), which may date back as far as 40,000 BCE. Found in 1939 in fragments inside a cave at Hohlenstein-Stadel in Germany, the statuette, carved from the tusk of a woolly mammoth, is nearly a foot tall—a truly huge image for its era. Long thought to have been created about 30,000 years ago, the recent discovery of hundreds of additional tiny fragments has pushed the date back about 10,000 years based on *radiocarbon dating* of the bones found in the same excavation level. (Radiocarbon dating, an important technology used in archaeological research, is a measure of the rate of degeneration of carbon 14 in organic materials.) The statuette thus testifies to a very early date for the development of the human brain, because the subject of

ART IN THE STONE AGE

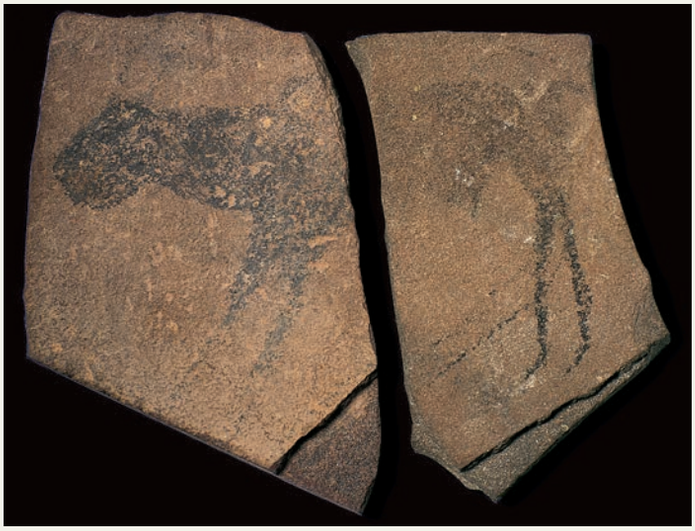
40,000–20,000 BCE	20,000–9000 BCE	9000–5000 BCE	5000–2300 BCE
Early Paleolithic	**Later Paleolithic and Mesolithic**	**Early Neolithic**	**Later Neolithic**
■ Hunter-gatherers create the first sculptures and paintings, long before the invention of writing ■ The works range in scale from tiny figurines, such as the *Venus of Willendorf,* to almost life-size paintings and relief sculptures, such as the murals in the Chauvet Cave	■ Painters cover the walls and ceilings of caves at Altamira and Lascaux with profile representations of animals ■ Sculptors carve images of nude women on the walls of the cave at La Magdeleine	■ In Anatolia and Mesopotamia, the earliest villages take shape and agriculture begins ■ Neolithic builders erect a pillared shrine at Göbekli Tepe and stone towers and fortification walls at Jericho ■ Sculptors fashion large-scale painted plaster human figures at Ain Ghazal ■ Painters depict coherent narratives at Çatal Höyük	■ Neolithic builders in Ireland and Britain erect megalithic passage graves and henges at Newgrange, Stonehenge, and elsewhere ■ The stone temples of Malta incorporate sophisticated curved and rectilinear forms

How to Represent an Animal

Like every artist in every age in every medium, the Paleolithic painter of the feline-animal (FIG. 1-2) found in the Apollo 11 Cave in Namibia had to answer two questions before beginning work: *What* shall be my subject? and *How* shall I represent it? In Paleolithic art, the almost universal answer to the first question was an animal. Bison, horse, woolly mammoth, and ibex are the most common. In fact, Paleolithic painters and sculptors depicted humans infrequently, and men almost never. In equally stark contrast to today's world, there was also agreement on the best answer to the second question. During at least the first 35,000 years of the history of art, artists represented virtually every animal in every painting in the same manner: in strict profile. Why?

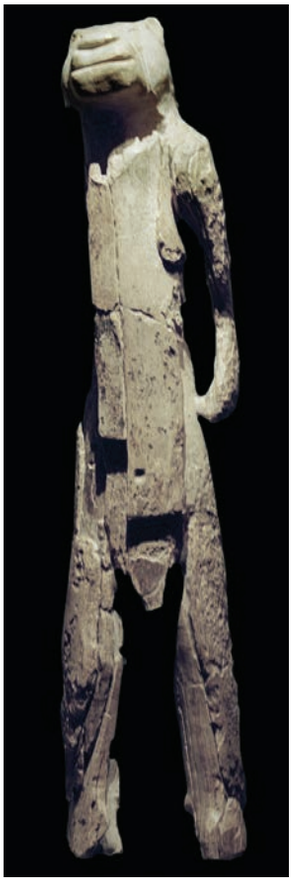
The profile is the only view of an animal in which the head, body, tail, and all four legs are visible. The frontal view conceals most of the body, and a three-quarter view shows neither the front nor side fully. Only the profile view is completely informative about the animal's shape, and that is why Stone Age painters universally chose it.

A very long time passed before artists placed any premium on "variety" or "originality" either in subject choice or in representational manner. These are quite modern notions in the history of art. The aim of the earliest painters was to create a convincing image of their subject, a kind of pictorial definition of the animal capturing its very essence, and only the profile view met their needs.



1-2 Feline with human feet, from the Apollo 11 Cave, Namibia, ca. 28,000 BCE. Charcoal on stone, 5″ × 4 1/4″. State Museum of Namibia, Windhoek.

As in almost all paintings for thousands of years, in this very early example from Africa the painter represented the animal in strict profile so that the head, body, tail, and all four legs are clearly visible.



1-3 Human with feline (lion?) head, from Hohlenstein-Stadel, Germany, ca. 40,000–35,000 BCE. Woolly mammoth ivory, 11 5/8″ high. Ulmer Museum, Ulm.

One of the world's oldest preserved sculptures is this large ivory figure of a human with a feline head. It is uncertain whether the work depicts a composite creature or a human wearing an animal mask.

the work is not something that the Paleolithic sculptor could see and copy but something that existed only in the artist's vivid imagination. The ivory figurine represents a human (whether male or female cannot be determined) with a feline (lion?) head. Composite creatures with animal heads and human bodies (and vice versa) are familiar in the art of ancient Mesopotamia and Egypt (compare, for example, FIGS. 2-7 and 3-1). In those civilizations, surviving texts usually enable historians to name the figures and describe their role in religion and mythology. But for Stone Age representations, no one knows what their makers had in mind. Some scholars identify the animal-headed humans as sorcerers, whereas others describe them as magicians wearing masks. Similarly, some researchers have interpreted Paleolithic representations of human-headed animals as humans wearing animal skins. Others think that the images of composite animal-humans reproduce the visions seen by *shamans* during trances (see "The Meaning of Paleolithic Art," page 21). In the absence of any contemporaneous written explanations—this was a time before writing, before (or pre-) history—experts and amateurs alike can only speculate on the purpose and function of statuettes such as the one from Hohlenstein-Stadel.

Art historians are certain, however, that these sculptures were important to those who created them, because manufacturing an ivory figure, especially one a foot tall, was a complicated process. First, the hunter or the sculptor had to remove the tusk from the dead animal by cutting into the tusk where it joined the head. Then the sculptor cut the ivory to the desired size and rubbed it into its approximate final shape with sandstone. Finally, the carver used a sharp stone blade to shape the body, limbs, and head, and a stone *burin* (a pointed *engraving* tool) to *incise* (scratch or engrave) lines into the surfaces, as on the Hohlenstein-Stadel creature's arms. Experts estimate that this large figurine required about 400 hours (about two months of uninterrupted working days) of skilled work.

Willendorf. The composite feline-human from Germany is exceptional both for its very early date and its subject. The vast majority of Stone Age sculptures depict either animals or humans. In the earliest

1-4 Nude woman (*Venus of Willendorf*), from Willendorf, Austria, ca. 28,000–25,000 BCE. Limestone, $4\frac{1}{4}''$ high. Naturhistorisches Museum, Vienna.

The anatomical exaggerations in this tiny figurine from Willendorf are typical of Paleolithic representations of women, whose child-bearing capabilities ensured the survival of the species.

art, humankind consists almost exclusively of women as opposed to men. Paleolithic painters and sculptors almost invariably showed them nude, although historians generally assume that during the Ice Age, both women and men wore garments covering parts of their bodies. When archaeologists first encountered these statuettes of women, they dubbed them "Venuses" after the Greco-Roman goddess of beauty and love, whom later artists usually depicted nude. The nickname is inappropriate and misleading. Indeed, it is doubtful that the Paleolithic figurines represent deities of any kind.

One of the oldest and most famous Paleolithic female images is the tiny limestone figurine of a woman that long ago became known as the *Venus of Willendorf* (FIG. 1-4) after its *findspot* (place of discovery) in Austria. Its cluster of almost ball-like shapes is unusual, the result in part of the sculptor's response to the natural shape of the stone selected for carving. The anatomical exaggeration has suggested to many observers that this and similar statuettes served as fertility images. But other Paleolithic figurines depicting women with far more slender proportions exist, and the meaning of these images is as elusive as everything else about the world's earliest art. Yet the preponderance of female over male figures seems to indicate a preoccupation with women, whose child-bearing capabilities ensured the survival of the species.

One thing at least is clear: the sculptor of the Willendorf woman did not aim for *naturalism* (fidelity to nature) in shape and proportion. As is true of most Paleolithic figures, this statuette has no facial features. A similar but even smaller ivory figurine found in 2008 in a cave at Hohle Fels, near Ulm, Germany, contemporaneous with or perhaps even several thousand years older than the Hohlenstein-Stadel statuette, lacks any head at all. The ivory head (FIG. 1-4A) of a woman from Brassempouy, France, is a notable exception. The carver of the Willendorf figurine suggested only a mass of curly hair or, as some researchers have argued, a hat woven from plant fibers—evidence for the art of textile manufacture at a very early date. In either case, the emphasis is on female anatomy. The breasts of the Willendorf woman are enormous, far larger in proportion than the tiny forearms and hands resting on them. The carver also took pains to scratch into the stone the outline of the pubic triangle. Sculptors often omitted this detail in other early figurines, leading some scholars to question the function of these figures as fertility images. Whatever the purpose of these statuettes, the makers' intent seems to have been to represent not a specific woman but the female form.

1-4A Head of a woman(?), Brassempouy, ca. 25,000–20,000 BCE.

Laussel. Probably later in date than the Willendorf statuette is a female figure (FIG. 1-5) from Laussel in France. The Willendorf and Hohlenstein-Stadel figures are *sculptures in the round* (*freestanding sculptures*). The Laussel woman is one of the earliest *relief sculptures* known. The sculptor employed a stone *chisel* to cut into the relatively flat surface of a large rock in order to create an image projecting from the background. Today, the Laussel relief is on display in a museum, divorced from its original context, a detached piece of what once was a much more imposing work. When discovered, the Laussel woman (who is about

1-5 Woman holding a bison horn, from Laussel, France, ca. 25,000–20,000 BCE. Painted limestone, 1′ 6″ high. Musée d'Aquitaine, Bordeaux.

One of the oldest known relief sculptures depicts a woman who holds a bison horn and whose left arm draws attention to her belly. Scholars continue to debate the meaning of the gesture and the horn.

$1\frac{1}{2}$ feet tall, more than four times larger than the Willendorf statuette) was part of a great stone block measuring about 140 cubic feet. The carved block stood in the open air in front of a Paleolithic rock shelter. Rock shelters were a common type of dwelling for early humans, along with huts and the mouths of caves. The Laussel relief is one of many examples of open-air art in the Old Stone Age. The popular notions that early humans dwelled exclusively in caves and that all Paleolithic art comes from mysterious dark caverns are false. Reliefs depicting nude women do, however, occur inside Old Stone Age caves. Perhaps the most interesting is the pair of reclining nude women (FIG. 1-5A) on the wall of a corridor in a cave at La Magdeleine, France.

1-5A Reclining woman, La Magdeleine, ca. 12,000 BCE.

After chiseling out the female body and incising the details with a sharp burin, the Laussel sculptor applied red ocher, a naturally colored mineral, to the body. (Traces of red ocher coloration also remain on parts of the Willendorf woman's body.) Contrary to modern misconceptions, ancient artists usually painted stone sculptures (compare FIG. 5-63A). The Laussel woman has the same bulbous forms as the earlier Willendorf figurine, with a similar exaggeration of the breasts, abdomen, and hips. The head is once again featureless, but the arms have taken on greater importance. The left arm draws attention to the midsection and pubic area, and the raised right hand holds what most scholars identify as a bison horn with 13 incised lines. Debate continues, however, about the meaning of the horn and its incisions as well as the gesture of the left hand.

Le Tuc d'Audoubert. Paleolithic sculptors sometimes created reliefs by building up forms out of clay instead of cutting into stone blocks or cave walls. Sometime 12,000 to 17,000 years ago in the low-ceilinged circular space at the end of a succession of cave chambers at Le Tuc d'Audoubert, a master sculptor modeled a pair of bison (FIG. 1-6) in clay against a large, irregular freestanding rock. The two bison, like the much older painted feline (FIG. 1-2) from the Apollo 11 Cave, are in strict profile. Each is about 2 feet long. They are among the largest Paleolithic sculptures known. The sculptor brought the clay from elsewhere in the cave complex and used both hands to form the overall shape of the animals. The next step was to smooth the surfaces with a spatula-like tool. Finally, the sculptor used fingers to shape the eyes, nostrils, mouths, and manes. The cracks in the two reliefs resulted from the drying process and probably appeared within days of the clay sculptures' completion.

La Madeleine. As already noted, sculptors fashioned the ivory tusks of woolly mammoths into human (FIG. 1-4A), animal, and composite human-animal (FIG. 1-3) forms from very early times. Stone Age carvers also used antlers as a sculptural medium. The bison (FIG. 1-7) found at La Madeleine in France is what remains of an *atlatl* (a device that enables hunters to throw a spear farther and with greater velocity) carved from a reindeer antler. Although only 4 inches long, the engraved antler is more detailed than the two much larger bison at Le Tuc d'Audoubert. The sculptor used a sharp burin to incise lines for the Madeleine bison's mane, horns, eye, ear, nostrils, mouth, tongue, and facial hair. Especially interesting is the engraver's decision to represent the bison with its head turned and licking its flank. The small size and irregular shape of the antler, rather than a desire to record a characteristic anecdotal activity, may have been the primary motivation for this space-saving device.

1-6 Two bison, reliefs in the cave at Le Tuc d'Audoubert, France, ca. 15,000–10,000 BCE. Clay, right bison 2′ $\frac{7}{8}$″ long.

Representations of animals are far more common than those of humans in Paleolithic art. The sculptor built up these clay bison using a stone spatula-like smoothing tool and fingers to shape the details.

1-7 Bison licking its flank, fragmentary atlatl, from La Madeleine, France, ca. 12,000 BCE. Reindeer antler, 4$\frac{1}{8}$″ long. Musée d'Archéologie nationale, Saint-Germain-en-Laye.

This fragment of an atlatl was carved from a reindeer antler. The sculptor turned the bison's head a full 180 degrees to maintain the profile view and incised the details with a stone burin.

PROBLEMS AND SOLUTIONS

Painting in the Dark

The caves of Altamira (FIG. 1-8), Lascaux (FIGS. 1-1, 1-9A, and 1-10), and other sites in prehistoric Europe are a few hundred to several thousand feet long. They are often choked, sometimes almost impassably, by mineral deposits, such as stalactites and stalagmites. Far inside these caverns, well removed from the cave mouths that early humans often chose for habitation, painters sometimes made pictures on the walls and ceilings. How did the world's first *muralists* paint bison and other animals on surfaces far from any source of natural light? What tools and materials did the Paleolithic painters of France and Spain use, and how did they make them?

To illuminate the cave walls and ceilings while working, Paleolithic painters lit fires on cave floors and used torches as well as stone lamps filled with marrow or fat, with a wick, perhaps of moss. For drawing, they used chunks of charcoal and red and yellow ocher. For painting, they ground these same natural materials into powders that they mixed with water before applying. Recent analyses of the pigments used show that Paleolithic painters employed many different minerals, attesting to a technical sophistication surprising at so early a date.

Large, flat stones served as *palettes.* The painters made brushes from reeds, bristles, or twigs and may have used a blowpipe of reed or hollow bone to spray pigments on out-of-reach surfaces. Some caves have natural ledges on the rock walls on which the painters could have stood in order to reach the upper surfaces of the naturally formed chambers and corridors. One gallery wall in the Lascaux cave complex has holes that once probably anchored a scaffold made of saplings lashed together.

Despite the difficulty of making the tools and pigments, modern attempts at replicating the techniques of Paleolithic painting have demonstrated that skilled workers could cover large surfaces with images in less than a day.

1-8 Bison, detail of a painted ceiling in the cave at Altamira, Spain, ca. 13,000–11,000 BCE. Standing bison 5′ $2\frac{1}{2}$″ long.

Paleolithic painters used stone lamps to provide light in the dark caves. They made brushes from reeds and twigs or used reed or bone blowpipes to spray ground ocher pigments onto out-of-reach surfaces.

Whatever the reason, it is noteworthy that the sculptor turned the neck a full 180 degrees to maintain the strict profile that Stone Age sculptors and painters insisted on for the sake of clarity and completeness (see "How to Represent an Animal," page 17).

Altamira. The works examined here thus far, whether portable or fixed to rocky outcroppings or cave walls, are all small, with the exception of the paintings in the Lascaux Hall of the Bulls (FIG. 1-1). The Lascaux animals dwarf all the other illustrated examples, as do the other "herds" of painted animals roaming the walls and ceilings of other caves in southern France and northern Spain, where some of the most spectacular examples of Paleolithic art have been discovered. An amateur archaeologist accidentally found the first known examples of cave paintings at Altamira, Spain, in 1879. Don Marcelino Sanz de Sautuola (1831–1888) was exploring a cavern on his estate where he had previously collected specimens of flint and carved bone. Maria, his young daughter, was with him when they reached a chamber some 85 feet from the cave's entrance. Because it was dark (see "Painting in the Dark," above) and the ceiling of the debris-filled chamber was only a few inches above the father's head, the child was the first to notice, due to her lower vantage point, the shadowy forms of bison (FIG. 1-8, a detail of a much larger painting approximately 60 feet long).

Sanz de Sautuola was certain that the paintings in his cave dated to prehistoric times. Professional archaeologists, however, doubted the authenticity of these works, and at the 1880 Congress on Prehistoric Archaeology in Lisbon, they officially dismissed the Altamira paintings as forgeries. But by the close of the century, explorers had discovered other caves with painted walls partially covered by mineral deposits that would have taken thousands of years to accumulate. This finally persuaded skeptics that the world's oldest paintings were of an age far more remote than anyone had imagined. Examples of Paleolithic painting now have been found at more than 200 Spanish and French sites. Nonetheless, art historians still regard painted caves as rare because the images in them, even if they number in the hundreds, span a period of some 20,000 to 30,000 years.

The bison at Altamira are 13,000 to 14,000 years old, but the painters of Paleolithic Spain approached the problem of representing an animal in essentially the same way as the painter of the Namibian murals (FIG. 1-2), who worked in Africa some 15,000 years before. Every one of the Altamira bison is in profile, whether alive and standing or curled up on the ground—probably dead, although some scholars dispute this. (One suggestion is that these bison are giving birth.) To maintain the profile in the latter case, the painter had to adopt a viewpoint above the animal, looking down, rather than the view of a person standing on the ground.

A SECOND OPINION

The Meaning of Paleolithic Art

Ever since the discovery in 1879 of the first cave paintings, scholars have wondered why the hunters of the Old Stone Age decided to cover the surfaces of dark caverns with animal images such as those found at Lascaux (FIG. 1-1), Altamira (FIG. 1-8), and Pech-Merle (FIG. 1-9). Researchers have proposed various theories, including that the painted and engraved animals were mere decoration, but this explanation cannot account for the inaccessibility of many of the representations. In fact, the remote locations of many images, and indications that the caves were used for centuries, are precisely why many experts have suggested that prehistoric peoples attributed magical properties to the images they painted and sculpted. According to this argument, by confining animals to the surfaces of their cave walls, Paleolithic communities believed they were bringing the beasts under their control. Some scholars have even hypothesized that rituals or dances were performed in front of the images and that these rites served to improve the luck of the community's hunters. Others have suggested that the animal representations may have served as teaching tools to instruct new hunters about the character of the various species that they would encounter, or even were targets for spears.

By contrast, other experts have argued that the magical purpose of the paintings and reliefs was not to facilitate the *destruction* of bison and other species. Instead, they believe that the world's first painters and sculptors created animal images to assure the *survival* of the herds on which Paleolithic peoples depended for their food supply and for their clothing. A central problem for both the hunting-magic and food-creation theories is that the staple foods of Old Stone Age diets did not include the animals most frequently portrayed. For example, faunal remains show that the Altamirans ate red deer, not bison.

Other scholars have sought to reconstruct an elaborate belief system based on the cave paintings and sculptures, suggesting, for example, that the animals are deities or ancestors that Paleolithic humans revered. Some researchers have equated certain species with men and others with women and postulated various meanings for the dots, squares, and other signs accompanying some images.

Almost all of these theories have been discredited over time, but the idea persists that the images in the Paleolithic caves are tied to magic. This would explain, for example, the numerous cases of images painted over older images: when the magic no longer worked, a new image was created.

Most researchers now believe that the images of animals—and, more rarely, of composite human-animals—in the Paleolithic caves of France and Spain are records of the visions seen by shamans during ritual trances. The many instances of painted and sculpted images that were inspired by natural surface configurations, as at Pech-Merle (FIG. 1-9) and La Magdeleine (FIG. 1-5A), are consistent with the idea that at least some of the shamanic visions were prompted by unique rock formations in the caves themselves and that the murals and reliefs are pictures of those visions.

1-9 Spotted horses and negative hand imprints, wall painting in the cave at Pech-Merle, France, ca. 23,000–22,000 BCE. 11′ 2″ long.

The purpose and meaning of Paleolithic art are uncertain, but the fact that one of the horse heads at Pech-Merle was inspired by the natural rock formation suggests a connection to shamanic visions.

Modern critics often refer to the Altamira animals as a "group" of bison, but that is very likely a misnomer. The several bison in FIG. 1-8 do not stand on a common *ground line* (a painted or carved baseline on which figures appear to stand in paintings and reliefs), unlike many of the animals at Lascaux (FIG. 1-1), nor do they share a common orientation. They seem almost to float above viewers' heads, like clouds in the sky. And the painter provided an "aerial view" of the dead(?) bison, whereas the observer views the others from a position on the ground. The painting has no setting, no background, no indication of place. *Where* the animals are or how they relate to one another, if at all, was of no concern to the Paleolithic painters of Altamira. Instead, several *separate* images of bison adorn the ceiling, perhaps painted at different times spanning generations, and each is as complete and informative as possible.

Pech-Merle. No one knows why animals play a central, indeed a nearly exclusive, role in the caves at Altamira, Lascaux (FIG. 1-1), and elsewhere in Paleolithic Europe. That these paintings of different animal species did have meaning to Stone Age peoples cannot, however, be doubted. In fact, signs consisting of checks, dots, squares, or other arrangements of lines often accompany the pictures of animals, and these must have communicated messages understood by the Stone Age men and women who viewed them. In short, the cave paintings may document the earliest forms of what we call writing—an invention usually attributed to the Sumerians (see "Writing," page 32).

Painted human hands also are common. At Pech-Merle (FIG. 1-9), the hands accompany representations of spotted horses. (The "spots" also surround the horses and may not be spots at all

but stones or signs.) Most of the painted hands in Paleolithic caves are "negative." That is, the painter placed one hand against the wall and then brushed or blew or spat pigment around it. Occasionally, the painter dipped a hand in the pigment and then pressed it against the wall, leaving a "positive" imprint. Like the abstract motifs, these handprints must have served a purpose. Some researchers consider them "signatures" of cult or community members or, less likely, of individual painters. One clue is that some of the painted hands have incomplete fingers, leading some scholars to postulate that the fingers were folded back and that these are hand signals (often used by hunters) to convey specific meanings, unfortunately indecipherable today but underscoring that Paleolithic painting is not simple "art for art's sake" (see "The Meaning of Paleolithic Art," page 21).

The mural paintings at Pech-Merle also furnish some insight into the reasons that Paleolithic peoples chose subjects for specific places in a cave. One of the horses (at the right in FIG. 1-9) may have been inspired by the rock formation in the wall surface resembling a horse's head and neck. Old Stone Age painters and sculptors frequently and skillfully used the naturally irregular surfaces of caves to help give the illusion of real presence to their forms, as they did at La Magdeleine (FIG. 1-5A) and at Altamira (FIG. 1-8), where many of the bison paintings cover bulging rock surfaces.

Lascaux. Perhaps the most impressive collection of Paleolithic animal paintings is in the Hall of the Bulls (FIG. 1-1) at Lascaux. The large chamber, away from the cave entrance and mysteriously dark, has good acoustics, and would have provided an excellent setting for the kinds of rituals that many archaeologists assume took place in front of the paintings. One noteworthy aspect of the Lascaux murals is that they exhibit, side by side, the two basic approaches to drawing and painting found repeatedly in the history of art—silhouettes and outlines—indicating that different painters created these pictures, probably at different times. The Lascaux bulls also show a convention of representing horns in what art historians call *twisted perspective,* or a *composite view,* because viewers see the heads in profile but the horns from the front. Thus the painter's approach is not strictly or consistently optical (seen from a fixed viewpoint). Rather, the approach is descriptive of the fact that cattle have two horns. Two horns are part of the concept "bull." In strict optical-perspective profile, only one horn would be visible, but to paint the animal in that way would amount to an incomplete definition of it.

1-9A Running horse, Lascaux, ca. 16,000–14,000 BCE.

Paintings of animals appear throughout the cave complex at Lascaux, including in the so-called Axial Gallery, which features a representation of a running, possibly pregnant horse (FIG. **1-9A**) surrounded by what may be arrows or traps. But the most perplexing painting at Lascaux and perhaps in all Paleolithic art is deep in a well shaft. In this mural (FIG. **1-10**), man (as opposed to woman) makes one of his earliest appearances in the history of art. At the left, and moving to the left, is a now-extinct woolly rhinoceros. Beneath its tail are two rows of three dots of uncertain significance. At the right is a bison, also facing left but with less realistic proportions, probably the work of someone else. The second painter nonetheless successfully suggested the bristling rage of the animal, whose bowels are hanging from it in a heavy coil. Between the two beasts is a bird-faced (masked?) man (compare FIG. 1-3) with outstretched arms and hands having only four fingers. The painter depicted the man with far less care and detail than either animal, but made the hunter's gender explicit by the prominent penis. The position of the man is ambiguous. Is he wounded or dead or merely tilted back and unharmed? Do the bird-topped atlatl and spear belong to him? Is it he or the rhinoceros that gravely wounded the bison—or neither? Which animal, if either, has knocked the man down, if indeed he is on the ground? Are these three images related at all? Modern viewers can be sure of nothing, but if the painters placed the figures beside each other to tell a story, this is evidence for the creation of a complex narrative *composition* (how the motifs are arranged on the surface) involving humans and animals at a much earlier date than

1-10 Woolly rhinoceros, wounded man, and disemboweled bison, painting in the well of the cave at Lascaux, France, ca. 16,000–14,000 BCE. Bison 3′ 4½″ long.

If these paintings of two animals and a bird-faced (masked?) man deep in a Lascaux well shaft depict a hunting scene, they constitute the earliest example of narrative art ever discovered.

1-11 Aurochs, horses, and woolly rhinoceroses, wall painting in the Chauvet Cave, Vallon-Pont-d'Arc, France, ca. 34,000–32,000 BCE. Right rhinoceros 3′ 4″ long.

Radiocarbon dating of the Chauvet Cave indicates that its paintings are the oldest known, even though they exhibit advanced features, such as overlapping animal horns and, possibly, narrative content.

anyone had imagined only a few generations ago. Yet it is important to remember that even if the painter(s) intended to tell a story, very few people would have been able to "read" it. The mural, in a deep shaft, is very difficult to reach and could have been viewed only in flickering lamplight.

Chauvet Cave. One of the most spectacular archaeological finds of the past century poses a problem of a different kind. In December 1994, a French team led by Jean-Marie Chauvet discovered Paleolithic mural paintings (FIG. 1-11) in a cave at Vallon-Pont-d'Arc. To determine the date of the Chauvet Cave paintings, French scientists used radiocarbon dating of the charcoal in the black pigments. The tests revealed that the mural paintings dated around 34,000 to 32,000 BCE and were much older than any previously discovered.

This unexpectedly early date immediately forced scholars to reevaluate the scheme of "stylistic development" from simple to more complex forms that historians of Stone Age art had accepted for decades. In the Chauvet Cave, in contrast to Lascaux (FIG. 1-1), the painters depicted the horns of the aurochs (extinct long-horned wild oxen) naturalistically, one behind the other, not in the twisted perspective normally used in Paleolithic art. Moreover, although the two woolly rhinoceroses at the lower right of FIG. 1-11 may be independent paintings, they appear to attack each other, suggesting that the painter intended a narrative. This would be another "first" in either painting or sculpture. If the paintings are more than twice as old as those of Lascaux and Altamira (FIG. 1-8), the assumption that Paleolithic art "evolved" from simple to more sophisticated representations is wrong. The issues raised by the Chauvet Cave exemplify the frustration—and the excitement—of studying the art of an age so remote that almost nothing remains and almost every new find causes art historians to reevaluate what they had previously taken for granted.

NEOLITHIC ART

Around 9000 BCE, the ice that covered much of northern Europe during the Paleolithic period melted as the climate warmed. The sea level rose more than 300 feet, separating England from continental Europe, and Spain from Africa. The reindeer migrated north, and the woolly mammoth disappeared. The Paleolithic gave way to a transitional period, usually called the *Mesolithic* (Middle Stone Age).

Then, for several thousand years at different times in different parts of the globe, a great new age, the *Neolithic* (New Stone Age), dawned.* Human beings began to domesticate plants and animals and to settle in fixed abodes. Their food supply assured, many groups changed from hunters to herders to farmers and finally to townspeople. Wandering hunters settled down to organized community living in villages surrounded by cultivated fields.

The basis for the conventional division of the Stone Age into three periods is the development of stone implements. However, a different kind of distinction may be made between an age of food gathering and an age of food production.

In this scheme, the Paleolithic period corresponds roughly to the age of food gathering. Intensified food gathering and the taming of the dog are the hallmarks of the Mesolithic period. In the Neolithic period, agriculture and livestock became humankind's major food sources. The transition to the Neolithic was nothing less than a revolution. It occurred first in Anatolia and Mesopotamia.

*This chapter treats the Neolithic art of Europe, Anatolia, and Mesopotamia only. For the Neolithic art of Africa, see Chapter 19; for Asia, see Chapters 15, 16, and 17.

Anatolia and Mesopotamia

The remains of the oldest known settled communities lie in the grassy foothills of the Antilebanon, Taurus, and Zagros mountains in present-day Turkey, Syria, Iraq, and Iran (MAP 1-2). These regions provided the necessary preconditions for the development of agriculture. Species of native plants, such as wild wheat and barley, were plentiful, as were herds of animals (goats, sheep, and pigs) that could be domesticated. Sufficient rain occurred for the raising of crops. When village farming life was well developed, some settlers, attracted by the greater fertility of the soil and perhaps also by the need to find more land for their rapidly growing populations, moved into the valleys and deltas of the Tigris and Euphrates Rivers.

In addition to systematic agriculture, the new village societies of the Neolithic Age originated weaving, metalworking, pottery, and counting and recording with clay tokens. These innovations spread with remarkable speed throughout Anatolia (roughly equivalent to present-day Turkey) and Mesopotamia (primarily present-day Syria and Iraq). Settled farming communities, such as Jarmo in Iraq and Çatal Höyük in southern Anatolia, date to the mid-seventh millennium BCE. The remarkable fortified town of Jericho, before whose walls the biblical Joshua appeared thousands of years later, is even

MAP 1-2 Neolithic sites in Anatolia and Mesopotamia.

ART AND SOCIETY

The Neolithic Temple at Göbekli Tepe

One of the most important archaeological discoveries of the past few decades is the Anatolian Neolithic site of Göbekli Tepe in southeastern Turkey near Sanliurfa. Excavated since 1995 by the German Archaeological Institute in cooperation with the Sanliurfa Museum, the hilltop site appears to have been a religious, or at least a ceremonial, center rather than a habitation site.

The excavated area consists of about 20 circular structures with monolithic T-shaped stone pillars (FIG. 1-12) set at right angles into the walls. At the center of the rooms are two additional similarly shaped pillars. The pillars served as roof supports. There are no doorways, and visitors to the site probably entered the circular rooms through the roof.

Many of the pillars are covered with shallow reliefs depicting a wide array of animals, birds, and insects. Some of the reliefs include human arms and hands. The interpretation of the representations is uncertain, but the animals and other forms must be connected to the rituals that took place at the site.

If the German archaeologists' dating and interpretation are correct, Göbekli Tepe overturns one of the most basic assumptions about prehistoric societies. It now appears possible, even likely, that hunter-gatherers erected stone temples long before farmers established permanent village communities. The history of art and architecture—and of civilization—must now be rewritten.

1-12 T-shaped stone pillar with animal reliefs, from Göbekli Tepe, Turkey, ca. 9000 BCE. Sanliurfa Museum, Sanliurfa.

Göbekli Tepe appears to be the world's oldest religious complex, comprising about 20 circular structures whose roofs were supported by T-shaped pillars decorated with a wide variety of animals, birds, and insects.

1-13 Aerial view of Neolithic Jericho (looking east), ca. 8000–7000 BCE.

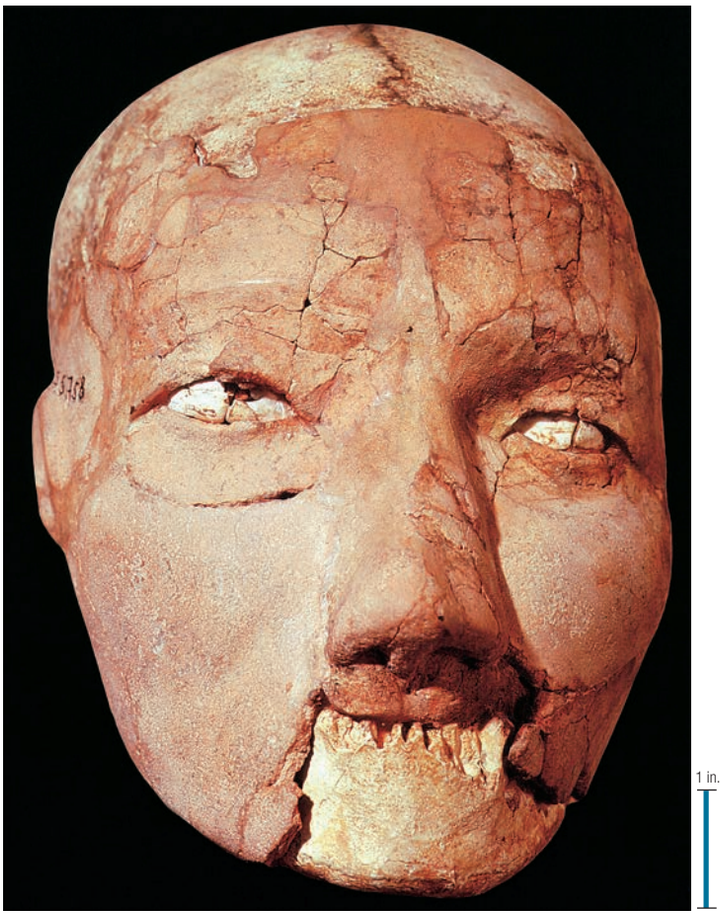
Protecting Neolithic Jericho were 5-foot-thick walls and at least one tower 30 feet high and 33 feet in diameter constructed of stone laid without mortar—an outstanding technological achievement.

older. Archaeologists are constantly uncovering surprises, and the exploration of new sites each year is compelling them to revise their views about the emergence of Neolithic society. Especially noteworthy are the ongoing excavations at Göbekli Tepe in southeastern Turkey (see "The Neolithic Temple at Göbekli Tepe," page 24). Of those sites known for some time, Jericho, Ain Ghazal, and Çatal Höyük together probably offer the most representative picture of the rapid and exciting transformation of human society and of art during the Neolithic period.

Jericho. By 7000 BCE, agriculture was well established from Anatolia to ancient Palestine and Iran. Its advanced state by this date presupposes a long development. Indeed, the very existence of a major settlement such as Jericho gives strong support to this assumption. Jericho, situated on a plateau in the Jordan River Valley with an unfailing spring, was the site of a small village as early as the ninth millennium BCE. This village underwent spectacular development around 8000 BCE, when the inhabitants established a new Neolithic settlement (FIG. 1-13) covering about 10 acres. Its mud-brick houses sat on round or oval stone foundations and had roofs of branches covered with earth.

As Jericho's wealth grew, the need for protection against marauding nomads resulted in the first known permanent stone fortifications. By 7500 BCE, a wide rock-cut ditch and a 5-foot-thick wall surrounded the town, which probably had a population exceeding 2,000. Set into the circuit wall, which has been preserved to a height of almost 13 feet, was a 30-foot-tall circular tower (FIG. 1-13, *bottom center*) constructed of roughly shaped stones laid without mortar (*dry masonry*). Almost 33 feet in diameter at the base, the tower has an inner stairway leading to its summit. Not enough of the site has been excavated to determine whether this tower was solitary or one of several similar towers forming a complete defense system. In either case, a stone structure as large as the Jericho tower was a tremendous technological achievement and a testimony to the Neolithic builders' ability to organize a significant workforce.

Sometime around 7000 BCE, Jericho's inhabitants abandoned their fortified site, but new settlers arrived in the early seventh millennium and established a farming community of rectangular mud-brick houses on stone foundations with plastered and painted floors and walls. Several of the excavated buildings contained statuettes of animals and women and seem to have served as shrines. The new villagers buried their dead beneath the floors of their houses with the craniums detached from their skeletons and their features reconstructed in plaster. Subtly modeled with inlaid seashells for eyes and painted hair, these reconstructed heads appear strikingly lifelike. One head (FIG. 1-14) features a painted mustache, distinguishing it from the others. The Jericho skulls constitute the world's earliest known "portrait gallery," but the artists' intention was certainly not portraiture in the modern sense. The plastered skulls must have served a ritualistic purpose. The community of several hundred Neolithic farmers who occupied Jericho at this time honored and



1-14 Human skull with restored features, from Jericho, ca. 7200–6700 BCE. Features modeled in plaster, painted, and inlaid with seashells. Life-size. Archaeological Museum, Amman.

Neolithic Jericho farmers removed the skulls of their dead before burial, modeled them with plaster, and inlaid the eyes to create lifelike "portraits" of their ancestors, whom they may have worshiped.

1-15 Human figure, from Ain Ghazal, Jordan, ca. 6750–6250 BCE. Plaster, painted and inlaid with bitumen, 3′ 5⅜″ high. Musée du Louvre, Paris.

The dozens of large painted plaster statuettes (some with two heads and with details added in paint or inlaid with bitumen) found at Ain Ghazal are the earliest large-scale sculptures known.

perhaps worshiped their ancestors as intercessors between the living and the world beyond. They may have believed that the dead could exert power over the living and that they had to offer sacrifices to their ancestors to receive favorable treatment. These skulls were probably the focus of rites in honor of those ancestors.

Ain Ghazal. A second important Neolithic settlement in ancient Palestine was Ain Ghazal, near the modern Jordanian capital of Amman. Occupied from around 7200 to 5000 BCE, the site featured houses of irregularly shaped stones with plastered floors and walls painted red. The most striking finds, however, are two caches containing three dozen plaster statuettes (FIG. 1-15) and busts, some with two heads, datable to ca. 6500 BCE. The sculptures, which appear to have been ritually buried, are white plaster built up over a core of reeds and twine, with black bitumen, a tarlike substance, for the pupils of the eyes. Some of the figures have painted clothing. Only rarely did the sculptors indicate the gender of the figures. Whatever their purpose, the size (as much as 3 feet tall) and sophisticated technique of the Ain Ghazal statuettes and busts sharply differentiate the Neolithic figurines from tiny and often faceless Paleolithic sculptures such as the Willendorf woman (FIG. 1-4) and even the foot-tall Hohlenstein-Stadel ivory feline-headed human (FIG. 1-3).

The Ain Ghazal statues mark the beginning of the long history of large-scale sculpture in Mesopotamia.

Çatal Höyük. During the past half century, archaeologists also have made remarkable discoveries in Turkey, not only at Göbekli Tepe (FIG. 1-12) but also at Hacilar and especially Çatal Höyük (FIG. 1-15A), the site of a flourishing Neolithic culture on the central Anatolian plain between ca. 7500 and 6000 BCE. Although animal husbandry was well established, hunting continued to play an important part in the early Neolithic economy of Çatal Höyük. The importance of hunting as a food source is reflected in the wall paintings of the site's older decorated rooms, where hunting scenes predominate. In style and concept, however, the deer hunt mural (FIG. 1-16) at Çatal Höyük is worlds apart from the wall paintings that the hunters of the Paleolithic period produced. Perhaps what is most strikingly new about the Çatal Höyük painting and similar Neolithic examples is the regular appearance of the human figure—not only singly but also in large, coherent groups with a wide variety of poses, subjects, and settings. As noted earlier, humans rarely figured in Paleolithic cave paintings, and pictorial narratives are almost unknown. Even the "hunting scene" (FIG. 1-10) in the well at Lascaux is questionable as a narrative. By contrast, human themes and concerns and action scenes with humans dominating animals are central subjects of Neolithic paintings.

1-15A Restored view of Çatal Höyük, ca. 6000 BCE.

In the Çatal Höyük mural, the painter depicted an organized hunting party, not a series of individual figures. The representation of the hunters is a rhythmic repetition of basic shapes, but the painter took care to distinguish important descriptive details (bows, arrows, and garments), and the heads have clearly defined noses, mouths, chins, and hair. The Neolithic painter placed all the heads in profile for the same reason that Paleolithic painters universally chose the profile view for representations of animals (see "How to Represent an Animal," page 17). Only the side view of the human head shows

1-16 Deer hunt, detail of a wall painting from level III, Çatal Höyük, Turkey, ca. 6000 BCE. Museum of Anatolian Civilization, Ankara.

This Neolithic painter depicted human figures as a composite of frontal and profile views, the most descriptive picture of the shape of the human body. This format would become the rule for millennia.

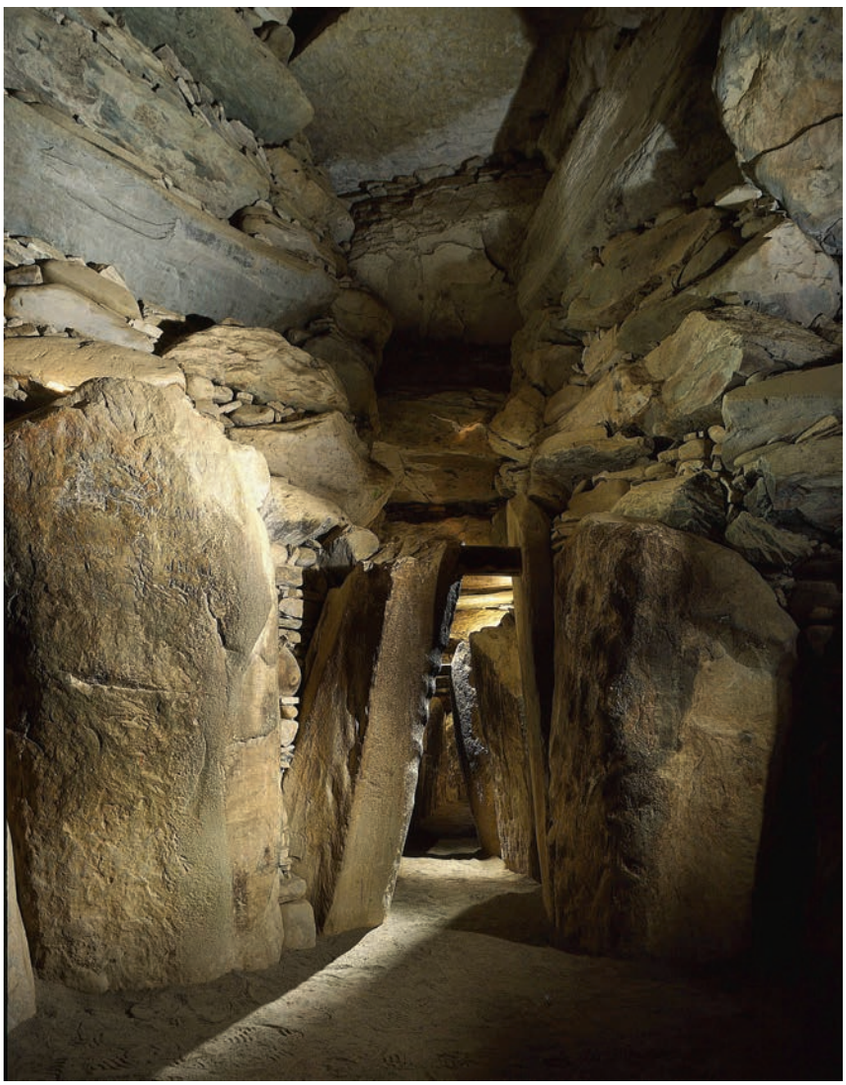
all its shapes clearly. However, at Çatal Höyük the painter presented the torsos from the front—again, the most informative viewpoint—whereas the profile view was the choice for the legs and arms. This composite view of the human body is highly artificial—the human body cannot make an abrupt 90-degree shift at the hips—but it well describes the parts of a human body, as opposed to how a body appears from a particular viewpoint. In fact, the head of each hunter is also shown in a composite view, because the eyes are frontal, not profile. If the painter had placed a profile eye in the profile head, the eye would not "read" as an eye at all, because it would not have its distinctive oval shape. Art historians call this characteristic early approach to representation *conceptual representation* (as opposed to *optical representation*—the portrayal of people, animals, and objects seen from a fixed point) because the artists who painted and carved figures in this manner did not seek to record the immediate, fleeting aspects of the human body. Instead, they rendered the human form's distinguishing and fixed properties. The fundamental shapes of the head, arms, torso, and legs, not their accidental appearance, dictated the artists' selection of the composite view as the best way to represent the human body, just as Paleolithic painters represented bulls' bodies from the side but their horns from the front (FIG. 1-1). This conceptual approach to depicting the human form would become the rule for the next 6,000 years.

The technique of painting also changed dramatically from the Paleolithic to the Neolithic Age. The Çatal Höyük painters used brushes to apply their pigments to a background of dry white plaster. The careful preparation of the wall surface contrasts sharply with the typical direct application of pigment to the irregularly shaped walls and ceilings of Old Stone Age caves.

Europe

In Europe, where Paleolithic paintings and sculptures abound, no evidence exists for comparably developed early Neolithic towns. However, in succeeding millennia, perhaps as early as 4000 BCE, the local populations of several European regions constructed imposing monuments employing massive rough-cut stones. The very dimensions of the stones, some as high as 17 feet and weighing as much as 50 tons, have prompted historians to call them *megaliths* (great stones) and to designate Neolithic architecture employing them as *megalithic*.

Newgrange. One of the most impressive megalithic monuments in Europe is also one of the oldest. The megalithic tomb at Newgrange in Ireland, north of Dublin, may date to as early as 3200 BCE and is one of the oldest funerary monuments in Europe. It takes the form of a *passage grave*—that is, a tomb with a long stone corridor leading to a burial chamber beneath a great *tumulus* (earthen burial mound). Some mounds contain more than one passage grave. Similar graves have been found also in England, France, Spain, and Scandinavia. All attest to the importance of honoring the dead in Neolithic society. The Newgrange tumulus is 280 feet in diameter and 44 feet tall. Its passageway is 62 feet long, and it and the primitive *dome* over the main chamber (FIG. 1-17) are early examples of *corbeled vaulting* (see "Corbeled Arches, Vaults, and Domes," page 97, and FIG. 4-18). At Newgrange, the huge megaliths forming the vaulted passage and the dome are held in place by their own weight without mortar, each stone countering the thrust of neighboring stones. Decorating some of the megaliths are incised spirals and other motifs (not visible in FIG. 1-17). A special feature of the Newgrange tomb is that at the winter solstice, the sun illuminates the passageway and the burial chamber.



Hagar Qim. By the end of the fourth millennium BCE, Neolithic civilization had spread to the most remote parts of Europe, including, in the far north, Skara Brae (FIG. 1-17A) in the Orkney Islands, and,

1-17A House 1, Skara Brae, ca. 3100–2500 BCE.

1-17 Main chamber with corbeled dome of the passage grave, Newgrange, Ireland, ca. 3200–2500 BCE.

The Newgrange passage grave is an early example of corbeled vaulting. The huge stones (megaliths) of the dome of the main burial chamber beneath the tumulus are held in place by their own weight.

1-18 Aerial view of the ruins of Hagar Qim (looking east), Malta, ca. 3200–2500 BCE.

The 5,000-year-old stone temple at Hagar Qim on the remote island of Malta is very sophisticated for its date, especially in the way that the Neolithic builders incorporated both rectilinear and curved forms.

in the far south, Malta. The megalithic temple (FIG. 1-18) of Hagar Qim is one of many constructed on Malta between 3200 and 2500 BCE. The Maltese builders erected their temples by piling carefully cut stone blocks in *courses* (stacked horizontal rows). To construct the doorways at Hagar Qim, the builders employed the *post-and-lintel system* (FIG. 1-19) in which two upright stones (posts) support a horizontal block (*lintel* or *beam*). The layout of this and other Neolithic Maltese temples is especially noteworthy for the combination

1-19 Post-and-lintel construction (John Burge).

The simplest and oldest method of spanning a passageway is to set up two upright blocks (posts), which support a horizontal beam (lintel), a technique used in both prehistoric Europe and Egypt.

of rectilinear and curved forms, including multiple *apses* (semicircular recesses). Inside the Hagar Qim temple, archaeologists found altars (hence the identification of the structure as a religious shrine) and several stone statues of headless nude women—one standing, the others seated. The level of architectural and sculptural sophistication seen on this isolated island at so early a date is extraordinary.

Stonehenge. The most famous megalithic monument in Europe is Stonehenge (FIG. 1-20) on the Salisbury Plain in southern England. A *henge* is an arrangement of megalithic stones in a circle, often surrounded by a ditch. The type is almost exclusively limited to Britain. Stonehenge is a complex of rough-cut sarsen (a form of sandstone) stones and smaller "bluestones" (various volcanic rocks) built in several stages over at least several hundred years. The final henge consists of concentric post-and-lintel circles. Huge sarsen megaliths form the outer ring, which is almost 100 feet in diameter. Inside is a ring of bluestones encircling a horseshoe (open end facing east) of *trilithons* (three-stone constructions)—five lintel-topped pairs of the largest sarsens, each weighing 45 to 50 tons. Standing apart and to the east (outside the view in FIG. 1-20) is the "heel stone," which, for a person looking outward from the center of the complex, would have marked the point where the sun rose at the summer solstice. Stonehenge, perhaps originally a funerary site where Neolithic peoples cremated their dead, seems in its latest phase to have been a kind of astronomical observatory. According to a recent theory, it also served as a center of healing that attracted the sick and dying from throughout the region. In any case, the henge itself is now known to be just one part of a much larger ritual complex.

Whatever role they played in society, the megalithic tombs, temples, houses, and henges of Europe are enduring testaments to the rapidly developing intellectual powers of Neolithic humans as well as to their capacity for heroic physical effort.

1-20 Circle of trilithons (looking southwest), Stonehenge, Salisbury Plain, Wiltshire, England, ca. 2550–1600 BCE. Circle 97′ in diameter; trilithons 24′ high.

Stonehenge's circles of trilithons functioned as an astronomical observatory within a larger ritual complex. The sun rises over its "heel stone" at the summer solstice. Some of the megaliths weigh 50 tons.

THE BIG PICTURE

Art in the Stone Age

Paleolithic (Old Stone Age) Art ca. 40,000–9000 BCE

- The first sculptures and paintings antedate the invention of writing by tens of thousands of years. Paleolithic humans' decision to represent the world around them initiated an intellectual revolution of enormous consequences.
- Scholars debate why humans began to paint and carve images and what role those images played in the lives of Paleolithic peoples. All that is certain is that animals, not humans, dominate Paleolithic art, and that women were far more common subjects than men.
- Some archaeologists believe that Stone Age hunters performed rituals in front of the animal images, which aided them in killing their prey. By contrast, other scholars think that the purpose of the images was to ensure the fertility of the species on which humans depended for food and clothing. Many researchers now believe that the Paleolithic cave paintings record the visions seen by shamans during trances.
- The works created by Paleolithic sculptors and painters range in size from tiny portable figurines, such as the stone image of a woman from Willendorf, to large, sometimes over-life-size, carved and painted representations of animals on the walls of the caves of Lascaux, Pech-Merle, Altamira, and elsewhere in southern France and northern Spain. Sometimes, the choice of subject was inspired by irregularities in natural rock formations that seemed to resemble animals or humans.
- The earliest known sculptures, such as the feline-human from Hohlenstein-Stadel, date to 40,000 to 35,000 BCE. The oldest paintings known, established by radiocarbon dating, are in the Chauvet Cave at Vallon-Pont-d'Arc.
- Paleolithic artists regularly depicted animals in profile in order to present a complete picture of each beast, including its head, body, tail, and all four legs. This format persisted for millennia.

Chauvet Cave, ca. 35,000 BCE

Nude woman, Willendorf, ca. 28,000–25,000 BCE

Lascaux Cave, ca. 16,000–14,000 BCE

Neolithic (New Stone Age) Art ca. 9000–2300 BCE

- Around 9000 BCE, the ice that had covered much of northern Europe for millennia receded. The Neolithic Age emerged first in Anatolia and Mesopotamia, roughly corresponding to present-day Turkey, Syria, and Iraq.
- The Neolithic Age revolutionized human life with the beginning of agriculture and the formation of the first settled communities, such as that at Çatal Höyük in Anatolia, where archaeologists have uncovered an extensive town with numerous shrines.
- Some Neolithic towns—for example, Jericho in the Jordan River Valley—also had fortified stone circuit walls.
- The excavation of a religious complex with decorated stone pillars at Göbekli Tepe in Anatolia indicates that Neolithic people constructed stone temples long before they established permanent village communities.
- In art, the Neolithic period brought the birth of large-scale sculpture, notably the painted plaster figurines from Ain Ghazal and the restored life-size skulls from Jericho.
- In painting, coherent narratives became common, and artists began to represent human figures as composites of frontal and profile views—a formula that would remain universal for millennia.
- Neolithic technology spread gradually from Anatolia and Mesopotamia to Europe, where it continued longer in remote places—for example, Stonehenge in England.

Stone pillar, Göbekli Tepe, ca. 9000 BCE

Painted and inlaid skull, Jericho, ca. 7200–6700 BCE

▼**2-1a** The *Warka Vase* is the first great work of narrative relief sculpture known. It represents a religious ceremony in honor of Inanna in which a priest-king brings votive offerings to deposit in the goddess's shrine.

▲**2-1b** The Sumerians were probably the first to use pictures to tell coherent stories. This sculptor placed the figures in three registers. Humans are shown in composite views standing on a common ground line.

▲**2-1c** As in prehistoric art, representations of animals in Mesopotamian art are always strict profile views, save for the animals' eyes, which are seen from the front, as are also sometimes an animal's two horns.

2-1 Presentation of offerings to Inanna (*Warka Vase*), from the Inanna temple complex, Uruk (modern Warka), Iraq, ca. 3300 BCE. Alabaster, 3′ $\frac{1}{4}$″ high. National Museum of Iraq, Baghdad.

ANCIENT MESOPOTAMIA AND PERSIA 2

FRAMING THE ERA

Pictorial Narration in Ancient Sumer

In ancient Sumer, "the cradle of civilization" in Mesopotamia, humans first learned how to use the wheel and plow and how to control floods and construct irrigation canals. In the fourth millennium BCE, the Sumerians also invented writing and were the first to establish complex urban societies, called *city-states,* and to use pictures to tell coherent stories, far surpassing Stone Age artists' tentative efforts at pictorial narration.

The *Warka Vase* (FIG. 2-1), found within the Inanna temple complex at Uruk (modern Warka, Iraq), is the first great work of narrative relief sculpture known. Its depiction of a religious ceremony honoring Inanna incorporates all of the pictorial conventions that would dominate narrative art for the next 2,800 years. The artist divided the pictorial field into three bands (called *registers,* or *friezes*) and placed all the figures on a common *ground line,* a strict compositional format that marks a significant break with the more haphazard figure placement of Stone Age art. The lowest band shows crops above a wavy line representing water. Then comes a register with alternating ewes and rams. Agriculture and animal husbandry were the staples of the Sumerian economy, but the produce and the female and male animals are also fertility symbols. They underscore that Inanna blessed Uruk's inhabitants with good crops and increased herds.

A procession of naked men moving in the opposite direction of the animals fills the band at the center of the vase. The men carry baskets and jars overflowing with the earth's abundance. They will present their bounty to the goddess as a *votive offering* (gift of gratitude to a deity usually made in fulfillment of a vow). In the uppermost (and tallest) band of the *Warka Vase* is a female figure with a tall horned headdress next to two reed posts with streamers, the sign of the goddess Inanna. (Some scholars think that the woman is a priestess and not the goddess herself.) Facing her is a nude male figure bringing a large vessel brimming with offerings to be deposited in the goddess's shrine, and behind him (not visible in FIG. 2-1a), a man wearing a tasseled skirt and an attendant carrying his long train. Near the man is the *pictograph* (a simplified picture standing for a word) for the Sumerian official whom scholars ambiguously call a "priest-king"—that is, both a religious and secular leader. Some art historians interpret the scene as a symbolic marriage between the priest-king and the goddess, ensuring her continued goodwill—and reaffirming the leader's exalted position in society. The greater height of the priest-king and Inanna (or her priestess) compared with the offering bearers indicates their greater importance, a convention called *hierarchy of scale,* which the Sumerians also pioneered.

MESOPOTAMIA

When humans first gave up the dangerous and uncertain life of the hunter and gatherer for the more predictable and stable life of the farmer and herder, the change in human society was so significant that historians justly have dubbed it the Neolithic Revolution. This fundamental change in the nature of daily life first occurred in Mesopotamia—the Greek name for "the land between the [Tigris and Euphrates] rivers." The foothills surrounding the Mesopotamian valley form a huge arc from the mountainous border between Turkey and Syria through Iraq to Iran's Zagros Mountains (MAP 2-1). Often called the Fertile Crescent, Mesopotamia is the presumed locale of the biblical Garden of Eden (Gen. 2.10–15) and the region that gave birth to three of the world's great modern faiths—Judaism, Christianity, and Islam. This land "between the rivers" has, consequently, long been of interest to historians. Not until the 19th century, however, did systematic excavation open the public's eyes to the extraordinary art and architecture of ancient Mesopotamia.

After the first discoveries in Syria and Iraq, the major museums of Europe and North America began to avidly collect Mesopotamian art. The most popular 19th-century acquisitions were the stone reliefs depicting warfare and hunting (FIGS. 2-22, 2-22A, and 2-23) and the colossal statues of monstrous man-headed winged bulls (FIG. 2-20) from the palaces of the Assyrians, rulers of a northern Mesopotamian empire during the ninth to the seventh centuries BCE. But nothing extracted from the earth during the 19th century garnered as much attention as the treasure of gold objects, jewelry, musical instruments (FIGS. 2-6 and 2-7), and other artworks (FIGS. 2-8, 2-9, and 2-10) that British archaeologist Sir Leonard Woolley (1880–1960) discovered in the 1920s at the Royal Cemetery at Ur in southern Iraq. The interest in the lavish third-millennium Sumerian cemetery that he excavated rivaled the fascination with the 1922 discovery of the tomb of the Egyptian boy-king Tutankhamen (FIGS. 3-33, 3-34, and 3-35).

MAP 2-1 **Ancient Mesopotamia and Persia.**

Sumer

The discovery of the treasures of ancient Ur put the Sumerians once again in a prominent position on the world stage, from which they had been absent for more than 4,000 years. Ancient Sumer, which roughly corresponds to southern Iraq today, comprised a dozen or so independent city-states under the protection of different Mesopotamian deities (see "The Gods and Goddesses of Mesopotamia," page 34). The Sumerian rulers were the gods' representatives on earth and the stewards of their earthly treasure.

The rulers and priests directed all communal activities, including canal construction, crop collection, and food distribution. Because the Sumerians developed agriculture to such an extent that only a portion of the population had to produce food, some members of the community were free to specialize in other activities, including manufacturing, trade, and administration. Specialization of labor is the hallmark of the first complex urban societies. In the city-states of ancient Sumer, activities that once had been individually initiated became institutionalized for the first time. The city-state, whether ruled by a single person or a council chosen from among the leading families, assumed such functions as defense against enemies and the whims of nature, roles previously the responsibility of individuals and their extended families. The city-state was one of the many Sumerian innovations that transformed the ancient world.

Writing. Another Sumerian invention of enormous importance was writing. The oldest written documents known are Sumerian records of administrative acts and commercial transactions. At first, around 3400 to 3200 BCE, the Sumerians made inventories of cattle, food, and other items by drawing pictographs, often in boxes, in soft clay with a sharp tool, or *stylus*. The clay hardened into

ANCIENT MESOPOTAMIA AND PERSIA

Sumerian	Akkadian	Neo-Sumerian and Babylonian	Hittite and Assyrian	Neo-Babylonian and Achaeminid	Greco-Roman and Sasanian
■ The Sumerians found the first city-states and invent writing ■ Sumerian builders construct the oldest Mesopotamian temples on lofty platforms ■ Sumerian artists present narratives in register format	■ The Akkadians are the first Mesopotamian rulers to call themselves kings and have themselves depicted in art with divine attributes ■ Akkadian sculptors create the earliest preserved hollow-cast metal statues	■ Neo-Sumerian builders erect the largest extant ziggurat at Ur ■ Gudea of Lagash rebuilds temples and commissions portraits ■ Babylonian king Hammurabi sets up a stele recording his laws	■ The Hittites sack Babylon and fortify their capital at Hattusa ■ Assyrian kings rule a vast empire from citadels guarded by lamassu ■ Extensive relief cycles celebrate Assyrian military campaigns and lion hunts	■ Nebuchadnezzar II rebuilds Babylon, home of the ziggurat called the Tower of Babel in the Bible ■ The Achaemenids build a huge palace complex at Persepolis	■ After conquest by Alexander the Great, Mesopotamia and Persia are absorbed into the Greco-Roman world ■ Sasanian kings challenge Rome from their capital at Ctesiphon

breakable, yet nearly indestructible, tablets. Thousands of these tablets, dating back nearly five millennia, exist today. By 3000 to 2900 BCE, the Sumerians had further simplified the pictographic signs by reducing them to a group of wedge-shaped (*cuneiform*) signs read from top to bottom and right to left (FIGS. 2-8 and 2-11 are early examples; see also FIGS. 2-13, 2-16, 2-17, and 2-18). The development of cuneiform marked the beginning of writing, as historians strictly define it. The surviving cuneiform tablets testify to the far-flung network of Sumerian contacts reaching from southern Mesopotamia eastward to the Iranian plateau, northward to Assyria, and westward to Syria. Trade was essential to the Sumerians, because despite Sumer's fertile soil, the land was poor in such vital natural resources as metal, stone, and wood.

The Sumerians also produced great literature. Their most famous work, known from fragmentary cuneiform texts, is the late-third-millennium BCE *Epic of Gilgamesh,* which antedates the Greek poet Homer's *Iliad* and *Odyssey* by some 1,500 years. It recounts the heroic story of Gilgamesh, legendary king of Uruk and slayer of the monster Huwawa. Translations of the Sumerian epic into several other ancient languages attest to the fame of the original version.

White Temple, Uruk. The layout of Sumerian cities reflected the central role of the gods in daily life. The main temple to each state's chief god was its most important structure and the city's nucleus. In fact, the temple complex was a kind of city within a city, where a staff of priests and scribes carried on official administrative and commercial business as well as oversaw all religious functions.

The outstanding preserved example of early Sumerian temple architecture is the 5,000-year-old White Temple (FIGS. 2-2 and 2-3) at Uruk, a city that in the late fourth millennium BCE was about 500 acres in size and had a population of about 40,000. Usually only the foundations of early Mesopotamian temples remain. The White Temple is a rare exception. Sumerian builders did not have easy access to stone quarries and instead formed mud bricks for the superstructures of their temples and other buildings. Mud brick is a durable building material, but unlike stone, it deteriorates with exposure to water. Almost all the Sumerian mud-brick structures have eroded over the course of time. The Sumerians nonetheless erected towering works, such as the Uruk temple, several centuries before the Egyptians built their famous stone pyramids. The construction of grandiose shrines when stone was unavailable says a great deal about the Sumerians' desire to provide inspiring settings for the worship of their deities.

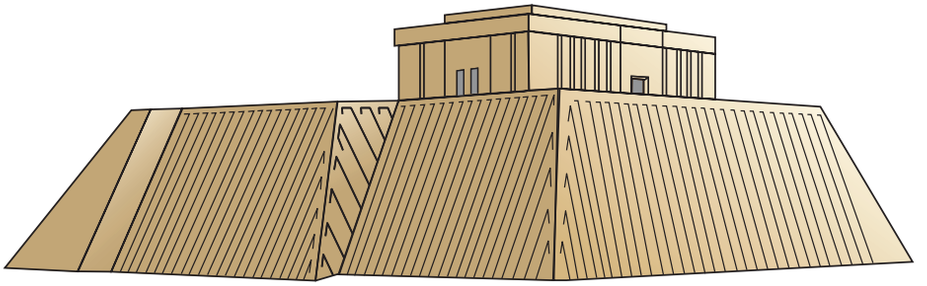
Enough of the White Temple at Uruk remains to permit a fairly reliable reconstruction (FIG. 2-3). The temple (whose white gypsum-coated walls suggested its modern nickname) stands atop a lofty platform 43 feet above street level at the city's highest point, called Kullaba. A stairway on one side leads to the top, but does not end in front of any of the temple doorways, necessitating two or three angular changes in direction. This *bent-axis plan* is the standard arrangement for Sumerian temples, a striking contrast to the linear approach that the Egyptians preferred for their temples and tombs (compare FIGS. 3-10 and 3-20).

As in other Sumerian temples, the corners of the White Temple are oriented to the cardinal points of the compass. The building, probably dedicated to Anu, the sky god, is of modest proportions (61 by 16 feet). By design, Sumerian temples did not accommodate large throngs of worshipers but only a select few, the priests and perhaps the leading community members. The White Temple had several chambers. The central hall, or *cella,* was the divinity's room and housed a stepped altar. The Sumerians referred to their temples as "waiting rooms," a reflection of their belief that the deity would descend from the heavens to appear before the priests in the cella. It is unclear whether the Uruk temple had a roof, and if it did, what kind.

The Sumerian notion of the gods residing above the world of humans is central to most of the world's religions. Moses ascended Mount Sinai to receive the Ten Commandments from the Hebrew

2-2 White Temple, Uruk (modern Warka), Iraq, ca. 3300 BCE.

Using only mud bricks, the Sumerians erected towering temple platforms several centuries before the Egyptians built stone pyramids. This temple was probably dedicated to Anu, the sky god.



2-3 Restored view of the White Temple, Uruk (modern Warka), Iraq, ca. 3300 BCE.

The 5,300-year-old White Temple at Uruk is the outstanding example of early Sumerian religious architecture. In its central hall (cella), the Sumerian priests would await the apparition of the deity.

The Gods and Goddesses of Mesopotamia

The Sumerians and their successors in Mesopotamia worshiped numerous deities, mostly nature gods. Listed here are the Mesopotamian gods and goddesses discussed in this chapter.

- ***Anu,*** the god of the sky and of the city of Uruk, was the chief deity of the Sumerians. One of the earliest Mesopotamian shrines, the White Temple at Uruk (FIGS. 2-2 and 2-3), may have been dedicated to his worship.
- ***Enlil*** was Anu's son and lord of the winds and the earth. He eventually replaced his father as king of the gods.
- ***Inanna*** was the Sumerian goddess of love and war. Later known as ***Ishtar,*** she was the most important female deity in all periods of Mesopotamian history. As early as the fourth millennium BCE, the Sumerians constructed a sanctuary to Inanna at Uruk. Amid the ruins, excavators uncovered sculptures (FIGS. 2-1 and 2-4) connected with her worship.
- ***Nanna,*** also known as ***Sin,*** was the moon god and chief deity of Ur, where the Sumerians erected his most important shrine (FIG. 2-14).
- ***Utu,*** the sun god, later known as ***Shamash,*** was especially revered at Sippar. On a Babylonian relief (FIG. 2-18) of ca. 1780 BCE, King Hammurabi presents his laws to Shamash, whom the sculptor depicted as a bearded god wearing a horned headdress. Flames radiate from the sun god's shoulders.
- ***Ningirsu*** was the local god of Lagash and Girsu. He helped Eannatum, one of the early rulers of Lagash, defeat an enemy army. The *Stele of the Vultures* (FIG. 2-11) of ca. 2600–2500 BCE records Ningirsu's role in the victory. Gudea (FIGS. 2-16 and 2-17), one of Eannatum's Neo-Sumerian successors, built a great temple around 2100 BCE in honor of Ningirsu after the god instructed him to do so in a dream.
- ***Marduk*** was the chief god of the Babylonians.
- ***Nabu,*** Marduk's son, was the Babylonian god of writing and wisdom.
- ***Adad*** was the Babylonian god of storms. Adad's sacred bull and Marduk and Nabu's dragon adorn the sixth-century BCE Ishtar Gate (FIG. 2-24) at Babylon.

2-4 Female head (Inanna?), from the Inanna temple complex, Uruk (modern Warka), Iraq, ca. 3300 BCE. Marble, 8″ high. National Museum of Iraq, Baghdad.

The Sumerians imported the marble for this head at great cost. It may represent the goddess Inanna and originally had inlaid colored shell or stone eyes and brows, and a wig, probably of gold leaf.

- ***Ashur*** was the local deity of Assur, the city that took his name. Sometimes identified with Enlil, Ashur became the king of the Assyrian gods.

God, and the Greeks placed the home of their gods and goddesses on Mount Olympus. The elevated placement of Mesopotamian temples on giant platforms reaching to the sky is consistent with this widespread religious concept. The loftiness of the Sumerian temple platforms made a profound impression on the peoples of ancient Mesopotamia. The tallest, at Babylon, was about 270 feet high. Known to the Hebrews as the Tower of Babel, it became the centerpiece of a biblical story about the arrogant and disrespectful pride of humans (see "Babylon, City of Wonders," page 50).

Inanna. A fragmentary white marble female head (FIG. 2-4) from Uruk is also an extraordinary achievement at so early a date. The head, one of the treasures of the National Museum of Iraq in Baghdad, disappeared during the Iraq War of 2003, but was later recovered, along with other priceless items (FIGS. 2-1 and 2-12). The Sumerians lacked a ready source of fine stones suitable for carving sculptures, and consequently used stone sparingly. The glossy hard stone selected for this head had to be brought to Uruk at great cost. In fact, the "head" is really only a face with a flat back. It has drilled holes for attachment to the rest of the head and the body, which may have been of wood, and would have been much less costly. Although found in the sacred precinct of the goddess Inanna, the subject is unknown. Many have suggested that the face is an image of Inanna, although others think that it portrays a mortal woman, perhaps a priestess.

Often the present condition of an artwork can be very misleading, and this female head from Uruk is a dramatic example. Its original appearance would have been much more vibrant than the pure white fragment preserved today. Colored shell or stone filled the deep recesses for the eyebrows and the large eyes. The groove

Sumerian Votive Statuary

The Sumerians, innovators in so many areas, were also the first to adopt the practice of placing in their shrines votive offerings representing the donors of the gods' gifts. Because there was no established tradition for depicting donors, the Sumerians had to invent a new pictorial formula. The votive statuettes from Eshnunna are among the earliest examples. Carved of soft gypsum and inlaid with shell and black limestone, the statuettes range in size from well under a foot to about 30 inches tall. The two largest figures from the group are shown here (FIG. 2-5). All of the statuettes represent mortals rather than deities. They hold the small beakers the Sumerians used to make a *libation* (ritual pouring of liquid) in honor of the gods. (Archaeologists found hundreds of these goblets in the temple complex at Eshnunna.) The men wear belts and fringed skirts. Most have beards and shoulder-length hair. The women wear long robes, with the right shoulder bare.

Similar figurines have been unearthed at other sites. Some stand, as do the Eshnunna statuettes. Others are seated—for example, the figurine portraying Urnanshe (FIG. 2-5A) from the Ishtar temple at Mari in Syria. Many bear inscriptions giving valuable information, such as the name of the donor or the god. The texts inscribed on some statuettes are specific prayers to the deity on the owner's behalf. With their heads tilted upward, the figures represented in these statuettes wait in the Sumerian "waiting room" for the divinity to appear.

2-5A Urnanshe seated, from Mari, ca. 2450 BCE.

The Sumerian sculptors employed simple forms, primarily cones and cylinders, for the figures. The statuettes, even those bearing the names of individuals (for example, Urnanshe), are not portraits in the strict sense of the word, but the sculptors did distinguish physical types. At Eshnunna, the sculptors portrayed at least one child, because next to the woman in FIG. 2-5 are the remains of two small legs. Most striking is the disproportionate relationship between the inlaid oversized eyes and the tiny hands, which represents a conscious decision on the part of the sculptors to vary the size of the parts of the body—a kind of hierarchy of scale within a single figure complementing the hierarchy of scale among figures in a group. Scholars have explained the exaggeration of the eye size in various ways. Because the purpose of these votive figures was to offer constant prayers to the gods on their donors' behalf, the open-eyed stares most likely symbolize the eternal wakefulness necessary to fulfill their duty.

2-5 Statuettes of two worshipers, from the Square Temple at Eshnunna (modern Tell Asmar), Iraq, ca. 2900–2750 BCE. Gypsum, shell, and black limestone. Man 2′ $4\frac{1}{4}$″ high, woman 1′ $11\frac{1}{4}$″ high. National Museum of Iraq, Baghdad.

The oversized eyes probably symbolize the perpetual wakefulness of these substitute worshipers offering prayers to the deity. The beakers that the figures hold were used to pour libations for the gods.

at the top of the head anchored a wig, probably made of gold leaf. The hair strands engraved in the metal would have fallen in waves over the forehead and sides of the face. The bright coloration of the eyes, brows, and hair likely overshadowed the soft modeling of the cheeks and mouth. The missing body was probably clothed in expensive fabrics and bedecked with jewels.

Eshnunna Statuettes. The *Warka Vase* (FIG. 2-1), also from the Inanna sanctuary of Uruk, provides some insight into the rituals in honor of the goddess. Further clues about Sumerian religious beliefs and votive practices come from sculptures deposited in Sumerian sanctuaries, especially the extensive group of statuettes (FIG. 2-5) reverently buried beneath the floor of a temple at Eshnunna (modern Tell Asmar) during remodeling of the structure (see "Sumerian Votive Statuary," above).

Royal Cemetery, Ur. Agriculture and trade brought considerable wealth to some of the city-states of ancient Sumer. Nowhere is this more evident than in the burial ground that the excavators of Ur dubbed the Royal Cemetery. Ur was one of the major Sumerian city-states and the home of the biblical Abraham. In the third millennium BCE, the leading families of Ur placed their dead in vaulted

chambers beneath the earth. Scholars still debate whether the deceased individuals were true kings and queens or merely aristocrats, priests, and priestesses, but they were laid to rest in regal fashion. The archaeologists who explored the Ur cemetery uncovered gold helmets and daggers with handles of lapis lazuli (a rich azure-blue stone), gold beakers and bowls, jewelry of gold and lapis lazuli, musical instruments, chariots, and other luxurious items inlaid with lapis lazuli, red limestone, and shells. Some of these materials had to be obtained at great cost from far away. Lapis lazuli, for example, was imported from Afghanistan. The luxury goods in the Royal Cemetery tombs testify not only to the wealth of those buried there but also to the wide trade network of the Sumerians. The excavators also found dozens of bodies in the richest tombs—a retinue of musicians, servants, charioteers, and soldiers who died, probably by voluntarily drinking poison, in order to accompany the "kings and queens" into the afterlife.

Bull-Headed Harps. One of the most important tombs in the Royal Cemetery of Ur was the burial place of "Queen" Puabi, wife of "King" Meskalamdug. (Many historians prefer to designate her more conservatively and ambiguously as Lady Puabi, perhaps a high priestess of the moon god Nanna.) From Puabi's tomb comes a fragmentary harp that has been reconstructed (FIG. 2-6) on the basis of representations of similar instruments (for example, FIG. 2-10, *top right*). A magnificent bull's head fashioned of gold leaf over a wood core caps the sound box of Puabi's harp. The hair and beard of the bull are of lapis lazuli, as is the inlaid background of the sound box, which features figures of shell and red limestone.

2-6 Bull-headed harp with inlaid sound box, from the tomb of Puabi (tomb 800), Royal Cemetery, Ur (modern Tell Muqayyar), Iraq, ca. 2550 BCE. Wood, gold, lapis lazuli, red limestone, and shell, 3′ 8 1/8″ high. British Museum, London.

A bearded bull's head fashioned of gold leaf and lapis lazuli over a wood core adorns this harp from the tomb of Puabi, perhaps a queen of Ur. The inlaid sound box features four narrative scenes.

The excavators unearthed a similar harp in the adjacent burial of Meskalamdug, which they dubbed the King's Grave. That harp also has a costly inlaid sound box (FIG. 2-7). In the uppermost of the four panels is a heroic figure embracing two man-bulls in a *heraldic composition* (symmetrical on either side of a central figure). Below are a jackal wearing a dagger and carrying a laden table, a lion holding a vase and cup, an onager (wild ass) playing a harp steadied by a (dancing?) bear, a jackal playing a zither, a scorpion-man, and a goat bearing goblets. The artist represented all of the animals in profile, consistent with an approach to depicting four-legged creatures that was then some 30,000 years old (see "How to Represent an Animal," page 17). The hero in the uppermost zone and the scorpion-man at the bottom, like the Neolithic deer hunters (FIG. 1-16) at Çatal Höyük and the figures on the *Warka Vase* (FIG. 2-1), are equally characteristically a composite of frontal and profile views.

The meaning of the scenes on this sound box is unclear. Some scholars have suggested, for example, that the depicted creatures inhabit the land of the dead and that the narrative has a funerary

2-7 Sound box of a bull-headed harp, from the burial pit of Meskalamdug (grave 789), Royal Cemetery, Ur (modern Tell Muqayyar), Iraq, ca. 2550 BCE. Wood, lapis lazuli, and shell, 1′ 7″ high. University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia.

The four inlaid panels on the sound box of the harp found in Meskalamdug's burial pit at Ur represent a Gilgamesh-like hero between man-bulls, and animals acting out scenes of uncertain significance.

Mesopotamian Seals

Archaeologists (and farmers and treasure hunters) have unearthed seals in great numbers at sites throughout Mesopotamia. Generally made of stone, Mesopotamian seals of ivory, glass, and other materials also survive. The seals take two forms: flat *stamp seals* and *cylinder seals.* The latter have a hole drilled lengthwise through the center of the cylinder so that they could be strung and worn around the neck or suspended from the wrist. Cylinder seals were prized possessions, signifying high positions in society. When elite individuals died, their families frequently buried them with their seals to carry into the afterlife. The cylinder seal illustrated here (FIG. 2-8) was found in the tomb of Puabi in the Royal Cemetery at Ur and bears her name in cuneiform.

The primary function of cylinder seals, however, like the earlier stamp seals, was not to serve as items of adornment or signifiers of wealth and prestige. The Sumerians (and other ancient Mesopotamian peoples) used both stamp and cylinder seals to authenticate documents and protect storage jars and doors against tampering. The oldest seals predate the invention of writing and conveyed their messages with pictographs that certified ownership. Later seals often bore long cuneiform inscriptions and recorded the names and titles of rulers, bureaucrats, and deities. Although sealing is increasingly rare today, the tradition lives on whenever someone seals an envelope with a lump of wax and then stamps it with a monogram or other identifying mark. Customs officials often still seal packages and sacks with official stamps when goods cross national borders.

In Mesopotamia, artists incised designs in both stamp and cylinder seals, producing a raised pattern when the owner pressed the seal into soft clay. (Cylinder seals largely displaced stamp seals because they could be rolled over the clay and could thus cover a greater area more quickly.) FIG. 2-8 reproduces both Puabi's seal and a modern impression made from it. Note how cracks in the stone cylinder become raised lines in the impression and how the engraved figures, chairs, and cuneiform characters appear in relief. Continuous rolling of the seal over a clay strip results in a repeating design, as the impression of Puabi's seal demonstrates at the left and right ends.

The miniature reliefs that the seals produce are a priceless source of information about Mesopotamian religion and society. Without them, archaeologists would know much less about how Mesopotamians dressed and dined; what their shrines looked like; how they depicted their gods, rulers, and mythological figures; how they fought wars; and what role women played in society. Clay seal impressions excavated in architectural contexts shed a welcome light on the administration and organization of Mesopotamian city-states. Finally, Mesopotamian seals are an invaluable resource for art historians, providing them with thousands of miniature examples of relief sculpture spanning three millennia.

2-8 Banquet scene, cylinder seal (*left*) and its modern impression (*right*), from the tomb of Puabi (tomb 800), Royal Cemetery, Ur (modern Tell Muqayyar), Iraq, ca. 2550 BCE. Lapis lazuli, 1 $\frac{7}{8}$″ high, 1″ diameter. British Museum, London.

The Mesopotamians used seals to identify and secure goods. Artists incised designs into stone cylinders that could be rolled over clay to produce miniature artworks such as this banquet scene.

significance. In any event, the sound box is a very early instance of the recurring theme in both literature and art of animals acting as people. Later examples include Aesop's fables in ancient Greece, medieval bestiaries, and, in modern times, Walt Disney's cartoon animal actors.

Cylinder Seals. The excavators of the Ur cemetery found Puabi's remains on a bier in her tomb, wearing an elaborate headdress and jewelry of gold, silver, lapis lazuli, carnelian, and agate. Near her body were pins to fasten her garment and three *cylinder seals,* one of which (FIG. 2-8) gives her name in cuneiform script.