TENTH EDITION

A History of World Societies

VOLUME 1 | To 1600

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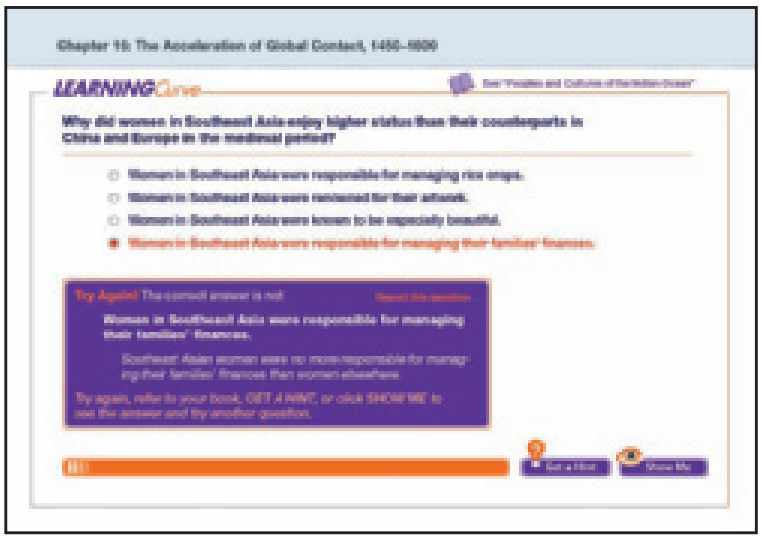

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A HISTORY OF

World Societies

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EDITION

Volume 1
To 1600

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World Societies

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Preface

Why This Book This Way

The tenth edition of *A History of World Societies* continues to provide the social and cultural focus, comprehensive regional organization, and global perspective that have long been hallmarks of the book. All three of these qualities have been greatly enhanced by the addition of a new member to the author team, Jerry Dávila from the University of Illinois, who brings expertise in Latin America and the twentieth century. A renowned scholar of Brazil whose work focuses on race and social policy, Jerry offers a fresh perspective to our coverage of Latin America and to the final chapters in the book, which he has completely reconceptualized.

Not only do we thus continue to benefit from a collaborative team of regional experts with deep experience in the world history classroom, but we are also pleased to introduce a suite of digital tools designed to save you time and to help students gain confidence and learn historical thinking skills.

New Tools for the Digital Age

Because we know that your classroom needs are changing rapidly, we are excited to announce that *A History of World Societies* is available with **LaunchPad**. Free when packaged with the book, LaunchPad's course space and interactive e-book are ready to use as is (or can be edited and customized with your own material) and can be assigned right away. Developed with extensive feedback from history instructors and students, LaunchPad includes the complete narrative e-book, as well as abundant primary documents, maps, images, assignments, and activities. The aims of key learning outcomes are addressed via formative and summative assessments, short-answer and essay questions, multiple-choice quizzing, and **LearningCurve**, an adaptive learning tool designed to get students to read before they come to class. Available with training and support, LaunchPad can help you take your teaching into a new era. To learn more about the benefits of LearningCurve and LaunchPad, see "Versions and Supplements" on page xv. In addition, the following sections will show you how specific skills-based features of *A History of World Societies* can be enhanced by the ability to assign and track student work in LaunchPad.

The Story of *A History of World Societies*

In this age of global connections, with their influence on the global economy, global migration patterns, popular culture, and global warming, among other aspects of life, the study of world history is more vital and urgent than ever before. An understanding of the broad sweep of the human past helps us comprehend today's dramatic changes and enduring continuities. People now migrate enormous distances and establish new lives far from their places of birth, yet migration has been a constant in history since the first humans walked out of Africa. Satellites and cell phones now link nearly every inch of the planet, yet the expansion of communication networks is a process that is thousands of years old. Children who speak different languages at home now sit side by side in schools and learn from one another, yet intercultural encounters have long been a source of innovation, transformation, and at times, unfortunately, conflict.

This book is designed for twenty-first-century students who will spend their lives on this small interconnected planet and for whom an understanding of only local or national history will no longer be sufficient. We believe that the study of world history in a broad and comparative context is an exciting, important, and highly practical pursuit. It is our conviction, based on considerable experience in introducing large numbers of students to world history, that a book reflecting current trends in scholarship can excite readers and inspire an enduring interest in the long human experience.

Our strategy has been twofold. First, we have made social and cultural history the core elements of our narrative. We seek to re-create the lives of ordinary people in appealing human terms and also to highlight the interplay between men's and women's lived experiences and the ways they reflect on these to create meaning. Thus, in addition to foundational works of philosophy and literature, we include popular songs and stories. We present objects along with texts as important sources for studying history, and this has allowed us to incorporate the growing emphasis on material culture in the work of many historians. At the same time, we have been mindful of the need to give great economic, political, and intellectual developments the attention they deserve. We want to give individual students and instructors an integrated perspective so that they can pursue—on their own or in the classroom—the themes and questions that they find particularly exciting and significant.

Second, we have made every effort to strike an effective global and regional balance. The whole world interacts today, and to understand the interactions and what they mean for today's citizens, we must study the whole world's history. Thus we have adopted a comprehensive regional organization with a global perspective that is clear and manageable for students. For example, Chapter 7 introduces students in depth to East Asia, and at the same time the chapter highlights the cultural connections that occurred via the Silk Road and the spread of Buddhism. We study all geographical areas, conscious of the separate histories of many parts of

the world, particularly in the earliest millennia of human development. We also stress the links among cultures, political units, and economic systems, for these connections have made the world what it is today. We make comparisons and connections across time as well as space, for understanding the unfolding of the human story in time is the central task of history.

Primary Sources for Teaching Critical Thinking and Analysis

A History of World Societies offers an extensive program of primary source assignments to help students master a number of key learning outcomes, among them **critical thinking**, **historical thinking**, **analytical thinking**, and **argumentation**, as well as learning about the **diversity of world cultures**. When assigned in LaunchPad, all primary source features are accompanied by multiple-choice quizzes that help you ensure students come to class prepared.

For the tenth edition, we have augmented our Viewpoints primary source feature to highlight the diversity of the world's people in response to reviewers' enthusiastic endorsement of this feature. The new edition offers in each chapter two sets of paired primary documents on a topic that illuminates the human experience, allowing us to provide more concrete examples of differences in the ways people thought. Anyone teaching world history has to emphasize larger trends and developments, but students sometimes get the wrong impression that everyone in a society thought alike. We hope that teachers can use these passages to get students thinking about diversity within and across societies. The **66 Viewpoints assignments**—two in each chapter—introduce students to working with sources, encourage critical analysis, and extend the narrative while giving voice to the people of the past. Each includes a brief introduction and questions for analysis, and in LaunchPad they are also accompanied by multiple-choice questions. Carefully chosen for accessibility, each pair of documents presents views on a diverse range of topics. **NEW** Viewpoints topics include "Addressing the Gods in Mesopotamia and Egypt"; "The Inglorious Side of War in the *Book of Songs* and the *Patirruppattu*"; "Hellenistic and Chinese Spells"; "Freeing Slaves in Justinian's *Code* and the Qur'an"; early Chinese and Portuguese accounts of Africa; Protestant and Neo-Confucian ideas on behavior; "Jahangir and Louis XIV on Priorities for Monarchs"; "Jean-Jacques Rousseau and Mary Wollstonecraft on Women's Nature and Education"; perspectives on Indian cotton manufacturing in India and Britain; "African Views of the Scramble for Africa"; the abolition of slavery in the Americas; and women activists in Mexico.

Each chapter also continues to include a longer primary source feature titled **Listening to the Past**, chosen to extend and illuminate a major historical issue considered in each chapter. The feature presents a single original source or several voices on the subject to help instructors teach the important skills of **critical thinking** and **analysis**. Each opens with an introduction and closes with questions for analysis that invite students to evaluate the evidence as historians would, and again, in LaunchPad, multiple-choice questions are provided. Selected for their interest and significance and carefully placed within their historical context, these sources, we hope, allow students to "hear the past" and to observe how history has been shaped by individuals. **NEW** topics include "The Teachings of Confucius"; "Gregory of Tours on the Veneration of Relics"; "Courtly Love Poetry"; "Stefan Zweig on Middle-Class Youth and Sexuality" (in early-twentieth-century Europe); "Reyita Castillo Bueno on Slavery and Freedom in Cuba"; "C. L. R. James on Pan-African Liberation"; and lyrics from a Brazilian band on globalization.

In addition to using documents as part of our special feature program, we have quoted extensively from a wide variety of **primary sources within the narrative**, demonstrating in our use of these quotations that they are the "stuff" of history. Thus primary sources appear as an integral part of the narrative as well as in extended form in the Listening to the Past and expanded Viewpoints chapter features.

New assignable **Online Document Projects** in LaunchPad offer students more practice in interpreting primary sources. Each project, based on the Individuals in Society feature described in the next section, prompts students to explore a key question through analysis of multiple sources. Chapter 22's project, for example, asks students to analyze documents on the complexities of the Haitian Revolution and the conditions that made Toussaint L'Ouverture's story possible. Auto-graded multiple-choice questions based on the documents help students analyze the sources.

Finally, we have revised our **primary source documents collection**, *Sources for World Societies*, to add more visual sources and to closely align the readings with the chapter topics and themes of the tenth edition. The documents are now available in a fully assignable and assessable electronic format within each LaunchPad unit, and the accompanying multiple-choice questions measure comprehension and hold students accountable for their reading.

Student Engagement with Biography

In our years of teaching world history, we have often noted that students come alive when they encounter stories about real people in the past. To give students a chance to see the past through ordinary people's lives, each chapter includes one of the popular **Individuals in Society** biographical essays, each of which offers a brief study of an individual or group, informing students about the societies in which the individuals lived. This feature grew out of our long-standing focus on people's lives and the varieties of historical experience, and we believe that readers will empathize with these human beings who themselves were seeking to define their own identities. The spotlighting of individuals, both famous and obscure, perpetuates the book's continued attention to

cultural and intellectual developments, highlights human agency, and reflects changing interests within the historical profession as well as the development of "micro-history." As described previously, in LaunchPad, this feature includes an associated Online Document Project. **NEW** features include essays on Sudatta, a lay follower of the Buddha; Cosimo and Lorenzo de' Medici; Malintzin; and Sieng, a Mnong refugee living in the United States.

Connecting History to Real-World Applications

Back again are the popular **Global Trade** features, essays that focus on a particular commodity, exploring the world trade, social and economic impact, and cultural influence of that commodity. Each essay is accompanied by a detailed map showing the trade routes of the commodity. We believe that careful attention to all these essays will enable students to appreciate the complex ways in which trade has connected and influenced various parts of the world. All the Global Trade features are fully assignable and assessable in LaunchPad.

Geographic and Visual Literacy

We recognize students' difficulties with geography and visual analysis, and the new edition retains our **Mapping the Past map activities** and **Picturing the Past visual activities**. Included in each chapter, these activities ask students to analyze a map or visual and make connections to the larger processes discussed in the narrative, giving them valuable practice in reading and interpreting maps and images. In LaunchPad, these activities are assignable and students can submit their work. Throughout the textbook and online in LaunchPad, more than **100 full-size maps** illustrate major developments in the chapters. In addition, **82 spot maps** are embedded in the narrative to show specific areas under discussion.

Chronological Reasoning

To help students make comparisons, understand changes over time, and see relationships among contemporaneous events, each chapter ends with a **chapter chronology** that reviews major developments discussed in the chapter. A **unified timeline** at the end of the text, and available from every page in LaunchPad, allows students to compare developments over the centuries.

Active Reading

With the goal of making this the most student-centered edition yet, we paid renewed attention to the book's reading and study aids:

- **Focus questions** at the start of each main heading help guide students in their reading. These questions are repeated in the chapter review section.
- In LaunchPad, instructors can assign the **NEW Guided Reading Exercise** for each chapter, which prompts students to read actively to collect information that answers a broad analytic question central to the chapter as a whole.
- The chapter-closing **Connections** feature synthesizes main developments and makes connections and comparisons between countries and regions to explain how events relate to larger global processes, such as the influence of the Silk Road, the effects of the transatlantic slave trade, and the ramifications of colonialism.
- A **NEW Chapter Summary** reinforces key chapter events and ideas for students.
- **Review and Explore** at the end of each chapter includes a list of key terms, chapter focus questions, and **NEW Make Connections questions** that prompt students to assess larger developments across chapters.
- **Key terms** are bolded in the text, defined in the margin, and listed in the chapter review to promote clarity and comprehension, and **phonetic spellings** are located directly after terms that readers are likely to find hard to pronounce.

All our changes to the book, large and small, are intended to give students and instructors an integrated perspective so that they can pursue—on their own or in the classroom—the historical questions that they find particularly exciting and significant.

Organizational and Textual Changes

To meet the demands of the evolving course, we have made several major changes in the organization of chapters to reflect the way the course is taught today. The most dramatic changes are the reordering of Chapter 17: The Islamic World Powers, 1300–1800 (formerly Chapter 20) and a complete overhaul of the final section of the book covering the postwar era. This new placement for our coverage of Islam reflects a growing interest among instructors and students in the Islamic world and highlights early Islamic cultural contributions.

To address the concerns of instructors who teach from the second volume of the text, we have added a new section on the Reformation to Chapter 18 so that students whose courses begin with Chapters 15 or 16 will now receive that coverage in Volume 2. The new section includes the Protestant and Catholic Reformations as well as religious violence and witch-hunts.

In its examination of the age of revolution in the Atlantic world, Chapter 22 now incorporates revolutions in Latin America. In order to provide a more global perspective on European politics, culture, and economics in the early modern period, Chapter 23 on the Industrial Revolution considers industrialization more broadly as a global phenomenon with a new section titled "The Global Picture." Together, the enhanced global perspectives of these chapters help connect the different regions of the globe and, in particular, help

explain the crucial period when Europe began to dominate the rest of the globe.

The final section of the text, covering the post-1945 period, has also been completely reworked. In addition to updating all the postwar chapters through 2014, Jerry Dávila substantially rewrote the last four chapters and streamlined them into three, creating a more tightly focused and accessible section that now divides the period chronologically as follows: Chapter 31: Decolonization, Revolution, and the Cold War, 1945–1968; Chapter 32: Liberalization, 1968–2000s; Chapter 33: The Contemporary World in Historical Perspective. The last three chapters are now organized around two dominant themes of the postwar world: liberation movements that challenged power structures such as colonialism and racial supremacism; and the spread of liberalization that characterized the end of the Cold War in particular, marking the rise of free markets and liberal political systems. The final chapter examines the significance of social movements in shaping a contemporary world that continues to struggle with historic conflicts and inequalities.

In terms of specific textual changes, we have worked hard to keep the book up-to-date and to strengthen our comprehensive, comparative, and connective approach. Moreover, we revised every chapter with the goal of readability and accessibility. Highlights of the new edition include:

- Chapter 1 includes new information on the recent archaeological find at Göbekli Tepe in present-day Turkey that suggests that cultural factors may have played a role in the development of agriculture.
- Chapter 2 has new coverage on Egyptian society and a discussion of gender distinctions in Sumerian society.
- In Chapter 6, the section on the founding of Rome has been completely rewritten.
- Chapter 8 contains a new section on Christian missionaries and conversion, and it explains the process of the Christianization of barbarian Europe.
- Chapter 11 now centers on the ways in which systems of religious belief shaped ancient societies of the Americas and provided tools people used to understand and adapt to their world. It also looks at the role of sources produced after the European encounter in shaping our understanding of the histories of indigenous American empires.
- An expanded discussion of witchcraft in Chapter 15 now includes practices of indigenous peoples in the New World.
- Chapter 18 has enhanced coverage of Russian imperial expansion as well as a new section called "People Beyond Borders" that includes piracy and gives students a feeling for the ways in which imperial borders were often more real on the map than in real life.
- In Chapter 19, a new section called "The Early Enlightenment" clarifies the mixture of religious, political, and scientific thought that characterized the early period of the Enlightenment.
- Chapter 22 emphasizes the indigenous origins of the Haitian revolution by highlighting the African backgrounds of slaves and the considerable military experience many of them had, which helps explain how they could defeat the French and British.
- Chapter 23 has been heavily revised to reflect new scholarship on industrialization and to provide a broader, more comparative perspective.
- A new section in Chapter 24 on social and economic conflict connects the industrialization of continental Europe with the political coverage of the revolutions of 1848.
- Chapter 27 now focuses on the Americas within the framework of liberalism and examines connections between the experiences of settlement, state formation, and economic integration in the United States and Latin America.
- Chapter 29 contains more detail on the reforms of Amanullah Khan in the section on the modernization of Afghanistan.
- As noted previously, the final three chapters of the book have been entirely rewritten by new author Jerry Dávila.

In sum, we have tried to bring new research and interpretation into our global history because our goal is to keep our book stimulating, accurate, and current for students and instructors.

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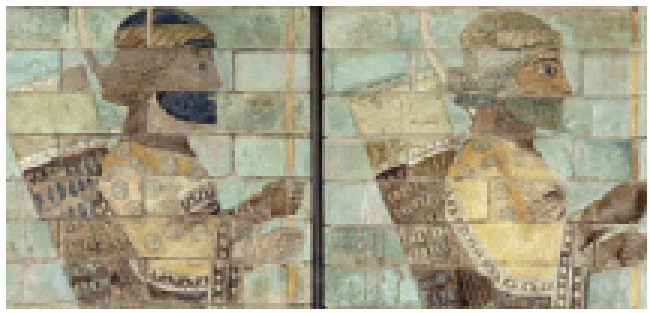

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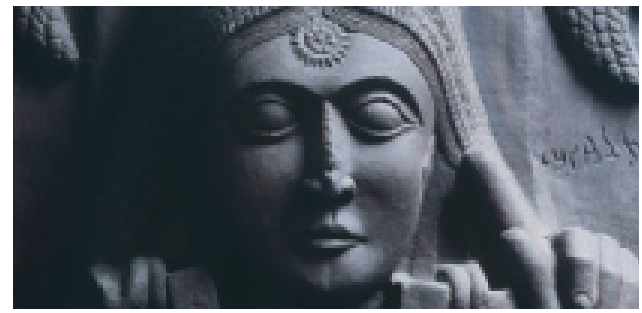

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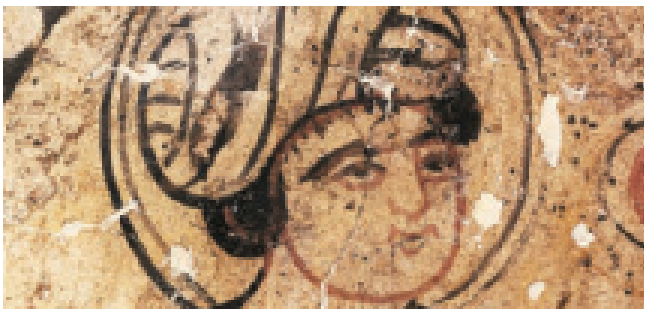

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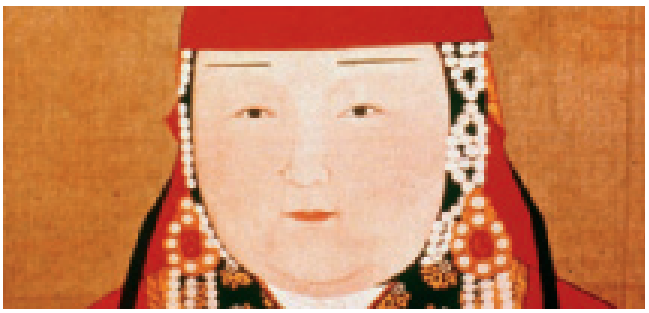

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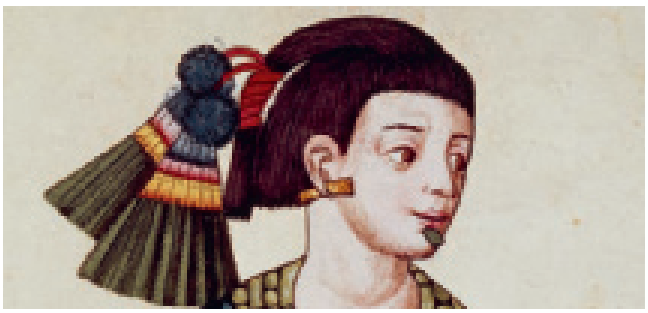

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The Earliest Human Societies

to 2500 B.C.E.

1

West African Man

Humans began to portray themselves on the surfaces of places where they lived and traveled as early as 50,000 B.C.E. Most of these paintings have vanished, but some have been redone, as in this rock painting from the region of Niger in Africa, which shows a person, perhaps a shaman, wearing a large headdress. (© David Coulson/Robert Estall photo agency/Alamy)

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Chapter Preview

Evolution and Migration
Paleolithic Society, 250,000–9000 B.C.E.
The Development of Agriculture in the Neolithic Era, ca. 9000 B.C.E.
Neolithic Society

When does history begin? Previous generations of historians generally answered that question with "when writing begins." Thus they started their histories with the earliest known invention of writing, which happened about 3200 B.C.E. in the Tigris and Euphrates River Valleys of Mesopotamia, in what is now Iraq. Anything before that was "prehistory." That focus on only the last five thousand years leaves out most of the human story, however, and today historians no longer see writing as such a sharp dividing line. They explore all eras of the human past through many different types of sources, and some push the beginning of history back to the formation of the universe, when time itself began. This very new conceptualization of "big history" is actually similar in scope to the world's oldest histories, because for thousands and perhaps tens of thousands of years many peoples have narrated histories of their origins that also begin with the creation of the universe.

Exploring the entire human past means beginning in Africa, where millions of years ago humans evolved from a primate ancestor. They migrated out of Africa in several waves, walking along coasts and over land, eventually spreading across much of the earth. Their tools were initially multipurpose sharpened stones and sticks, but gradually they invented more specialized tools that enabled them to obtain food more easily, make clothing, build shelters, and decorate their surroundings. Environmental changes, such as the advance and retreat of the glaciers, shaped life dramatically and may have led to the most significant change in all of human history, the domestication of plants and animals.

Evolution and Migration

- How did humans evolve, and where did they migrate?

Studying the earliest era of human history involves methods that seem simple—looking carefully at an object—as well as new high-tech procedures, such as DNA analysis. Through such research, scholars have examined early human evolution, traced the expansion of the human brain, and studied migration out of Africa and across the planet. Combined with spoken language, that larger brain enabled humans to adapt to many different environments and to be flexible in their responses to new challenges.

Understanding the Early Human Past

People throughout the world have developed systems of classification that help them understand things: earth and sky; seen and unseen; animal, vegetable, and mineral; past, present, and future. Among these systems of classification was one invented in eighteenth-century Europe that divided all living things on earth

into groups. Each of these divisions—such as that between plants and animals—is further subdivided into smaller and smaller groups, such as class, order, family, and genus. The final important division is the species, which is generally defined as a group of organisms that can interbreed with one another and produce fertile offspring of both sexes.

In their natural state, members of a species resemble one another, but over time they can become increasingly dissimilar. (Think of Chihuahuas and Great Danes, both members of the same species.) Ever since humans began shaping the world around them, this process has often been the result of human action. But in the long era before humans, the increasing dissimilarity resulted, in the opinion of most scientists, from the process of natural selection. Small variations within individuals in one species enabled them to acquire more food and better living conditions and made them more successful in breeding, thus allowing them to pass their genetic material on to the next generation. When a number of individuals within a species became distinct enough that they could no longer interbreed successfully with others, they became a new species. Species also become extinct, particularly during periods of mass extinctions such as the one that killed the dinosaurs about 65 million years ago. Natural processes of species formation and extinction continue, although today changes in the biosphere—the living matter in the world—result far more from human action than from natural selection.

The scientists who developed this system of organizing the world placed humans within it, using the same means of classification that they used for all other living things. Humans were in the animal kingdom, the order of Primates, the family Hominidae, and the genus *Homo*. Like all classifications, this was originally based on externally visible phenomena: humans were placed in the Primates order because, like other primates, they have hands that can grasp, eyes facing forward to allow better depth perception, and relatively large brains; they were placed in the **hominid** family along with chimpanzees, gorillas, and orangutans because they shared even more features with these great apes. Over 98 percent of human DNA is the same as that of chimpanzees, which indicates to most scientists that humans and chimpanzees share a common ancestor. That common ancestor probably lived between 5 million and 7 million years ago.

Genetic analysis is one of many types of technology used by scholars who study early humans. They often use chemical and physical tests to evaluate bones and other body parts left by humans and the animals they ate, and to study the material surrounding these remains. One of the most important of these tests is the analysis of the radioactive isotope of carbon, C-14, which appears in all things that were once alive. C-14 breaks down at a rate that is known, so that measuring the amount of C-14 that remains in an object allows scientists to determine how old the object is.

Archaeologists at a Dig These researchers at a Native American site in the Boise National Forest in Idaho follow careful procedures to remove objects from the soil and note their location. The soil itself may also yield clues, such as seeds or pollen, about what was growing in the area, allowing better understanding of the people who once lived at the site. (David R. Frazier/Science Source)

Physical remains were the earliest type of evidence studied to learn about the distant human past, and scholars used them to develop another system of classification, one that distinguished between periods of time rather than types of living creatures. (Constructing models of time is called "periodization.") They gave labels to eras according to the primary materials out

• **hominids** Members of the family Hominidae that contains humans, chimpanzees, gorillas, and orangutans.

of which tools that survived were made. Thus the earliest human era became the Stone Age, the next era the Bronze Age, and the next the Iron Age. They further divided the Stone Age into the Old Stone Age, or **Paleolithic era**, during which people used stone, bone, and other natural products to make tools and gained food largely by **foraging**—that is, by gathering plant products, trapping or catching small animals and birds, and hunting larger prey. This was followed by the New Stone Age, or **Neolithic era**, which saw the beginning of agricultural and animal domestication. People around the world adopted agriculture at various times, and some never did, but the transition between the Paleolithic and the Neolithic is usually set at about 9000 B.C.E., the point at which agriculture was first developed.*

Geologists refer to the last twelve thousand years as the Holocene (meaning very recent) epoch, a period so short given the 4.5 billion years of the solar system that it often does not show up on geologic timelines. The entire history of the human species fits well within the Holocene and the previous geologic epoch, the Pleistocene (PLIGH-stuh-seen), which began about 2.5 million years ago.

The Pleistocene was marked by repeated advances in glaciers and continental ice sheets. Glaciers tied up huge quantities of the earth's water, leading to lower sea levels, making it possible for animals and eventually humans to walk between places that were separated by oceans during interglacial times. Animals and humans were also prevented from migrating to other places by the ice sheets themselves, however, and the colder climate made large areas unfit to live in. Climate thus dramatically shaped human cultures.

Genetic analysis can indicate many things about the human family, and physical remains can provide some evidence about how people lived in the distant past, but the evidence is often difficult to interpret. By themselves, tools and other objects generally do not reveal who made or used them (though sometimes this can be determined from the location in which they were found), nor do they indicate what the objects meant to their creators or users. Thus, to learn about the early human past, scholars often also study groups of people from more recent times whose technology and way of life offer parallels with those of people in the distant past. They read written reports of conquerors, government officials, and missionaries who encountered groups that lived by foraging, and they directly observe the few remaining groups that maintain a foraging lifestyle today. Such evidence is also problematic, however. Outsiders had their own perspectives, generally regarded those who lived by foraging as inferior, and often misinterpreted what they were seeing. Contemporary foragers are not fully cut off from the modern world, nor is it correct to assume that their way of living has not changed for thousands of years, particularly because adaptability is a key feature of the foraging way of life. Thus evidence from more recent groups must be used carefully, but it can provide valuable clues.

Hominid Evolution

Using many different pieces of evidence from all over the world, archaeologists, paleontologists, and other scholars have developed a view of human evolution whose basic outline is widely shared, though there are disagreements about details. Most primates, including other hominids such as chimpanzees and gorillas, have lived primarily in trees, but at some point a group of hominids in East Africa began to spend more time on the ground, and between 6 and 7 million years ago they began to walk upright at least some of the time. Very recently, scientists have determined that skeletal remains from the genus *Ardipithecus*, which probably date from 4.4 million years ago, indicate a combination of two-limbed movement on land and four-limbed movement in trees. *Ardipithecus* also had smaller canine teeth than do modern chimpanzees, and male and female canine teeth were equal in size, which suggests that there was less male-male combat and perhaps closer male-female relations than among earlier hominids.

Over many generations, the skeletal and muscular structure of some hominids evolved to make upright walking easier, and they gradually became fully bipedal. The earliest fully bipedal hominids, whom paleontologists place in the genus *Australopithecus*, lived in south-

- **Paleolithic era** Period during which humans used tools of stone, bone, and wood and obtained food by gathering and hunting. Roughly 250,000–9000 B.C.E.
- **foraging** A style of life in which people gain food by gathering plant products, trapping or catching small animals and birds, and hunting larger prey.
- **Neolithic era** Period beginning in 9000 B.C.E. during which humans obtained food by raising crops and animals and continued to use tools primarily of stone, bone, and wood.

***A note on dates:** This book generally uses **B.C.E.** (Before the Common Era) and **C.E.** (Common Era) when giving dates, a system of chronology based on the Christian calendar and now used widely around the world. Scholars who study the very earliest periods of hominid and human history usually use the phrase "years ago" to date their subjects, as do astrophysicists and geologists; this is often abbreviated as **B.P.** (Before the Present). Because the scale of time covered in Chapter 1 is so vast, a mere 2,000 years does not make much difference, and so **B.C.E.** and "years ago" have similar meaning.

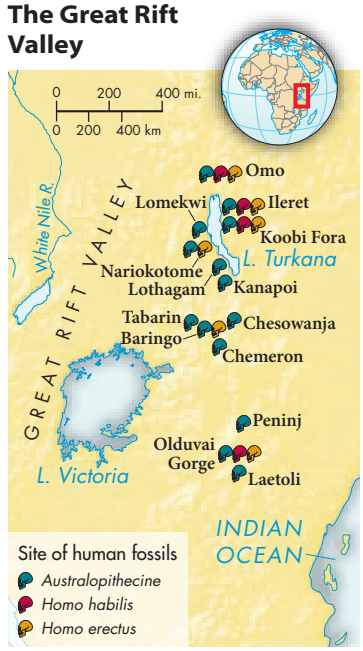
ern and eastern Africa between 2.5 and 4 million years ago. Here they left bones, particularly in the Great Rift Valley that stretches from Ethiopia to Tanzania. Walking upright allowed australopithecines to carry and use things, which allowed them to survive better and may have also spurred brain development.

About 3.4 million years ago, some hominids began to use naturally occurring objects as tools, and sometime around 2.5 million years ago, one group of australopithecines in East Africa began to make and use simple tools, evolving into a different type of hominid that later paleontologists judged to be the first in the genus *Homo*. Called *Homo habilis* ("handy human"), they made sharpened stone pieces, which archaeologists call hand axes, and used them for various tasks. This suggests greater intelligence, and the skeletal remains support this, for *Homo habilis* had a larger brain than did the australopithecines.

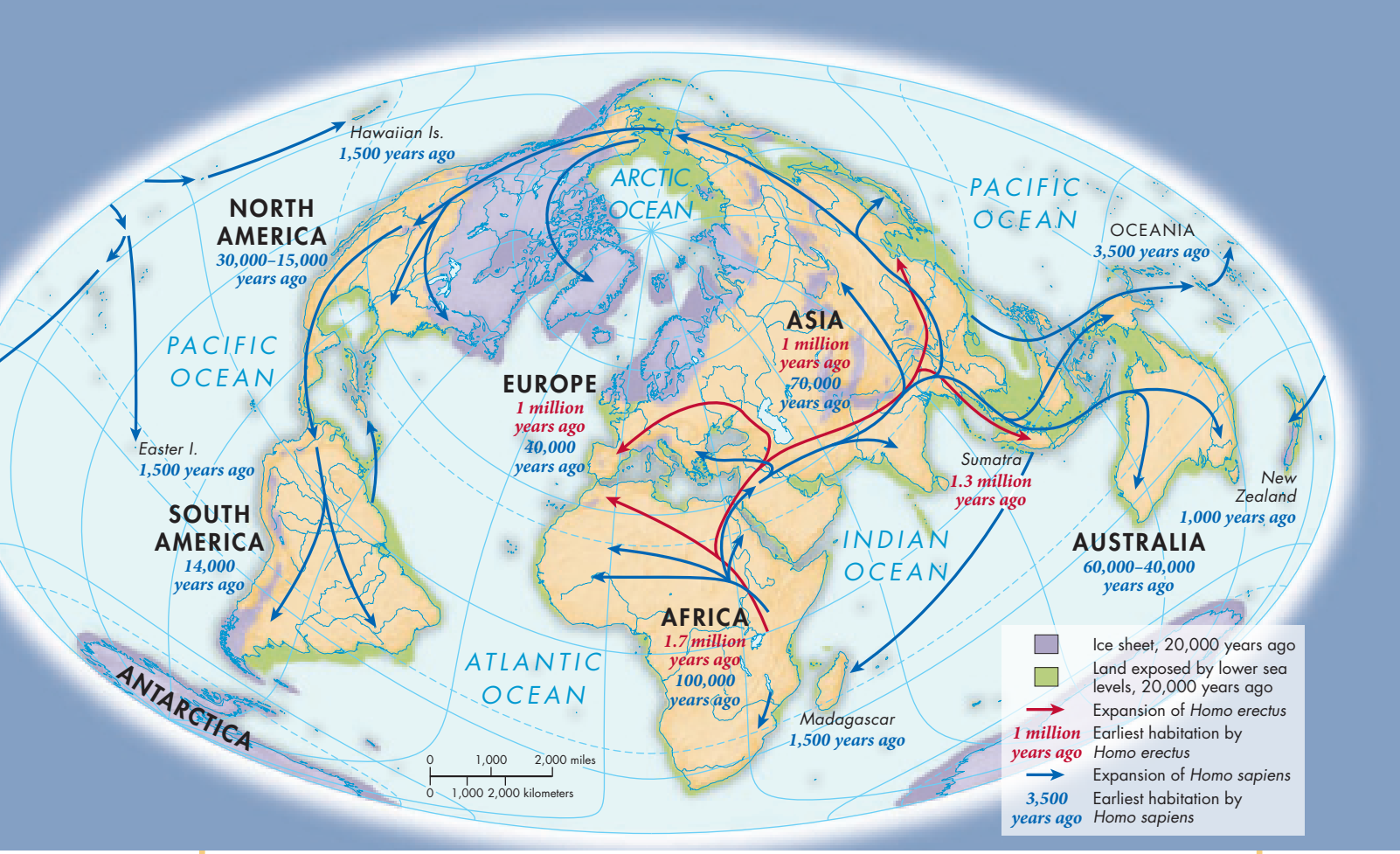
About 2 million years ago, another species, called *Homo erectus* ("upright human"), evolved in East Africa. *Homo erectus* had still larger brains and made tools that were slightly specialized for various tasks, such as hand-held axes, cleavers, and scrapers. Archaeological remains indicate that *Homo erectus* lived in larger groups than had earlier hominids and engaged in cooperative gathering, hunting, and food preparation. The location and shape of the larynx suggest that members of this species were able to make a wider range of sounds than were earlier hominids, so they may have relied more on vocal sounds than on gestures to communicate ideas to one another.

One of the activities that *Homo erectus* carried out most successfully was moving (Map 1.1). Gradually small groups migrated out of East Africa onto the open plains of central Africa, and from there into northern Africa. From 1 million to 2 million years ago, the earth's climate was in a warming phase, and these hominids ranged still farther, moving into western Asia by as early as 1.8 million years ago. Bones and other materials from China and the island of Java in Indonesia indicate that *Homo erectus* had reached there by about 1.5 million years ago, migrating over large landmasses as well as along the coasts. (Sea levels were lower than they are today, and Java could be reached by walking.) *Homo erectus* also walked north, reaching what is now Spain by at least 800,000 years ago and what is now Germany by 500,000 years ago. In each of these places, *Homo erectus* adapted gathering and hunting techniques to the local environment, learning how to find new sources of plant food and how to best catch local animals. Although the climate was warmer than it is today, central Europe was not balmy, and these hominids may have used fire to provide light and heat, cook food, and keep away predators. Many lived in the open or in caves, but some built simple shelters, another indication of increasing flexibility and problem solving.

The Great Rift Valley



Fossil Footprints from Laetoli in Tanzania About 3.5 million years ago, several australopithecines walked in wet ash from a volcanic eruption. Their footprints, discovered by the archaeologist Mary Leakey, indicate that they walked fully upright and suggest that they were not solitary creatures, for they walked close together. (John Reader/Science Source)



Mapping the Past

MAP 1.1 Human Migration in the Paleolithic and Neolithic Eras

ANALYZING THE MAP What were the major similarities and differences between the migrations of *Homo erectus* and those of *Homo sapiens*? How did environmental factors shape human migration?

CONNECTIONS What types of technology were required for the migration patterns seen here? What do these migration patterns suggest about the social organization of early people?

Homo Sapiens, "Thinking Humans"

Homo erectus was remarkably adaptable, but another hominid proved still more so: *Homo sapiens* ("thinking human"). A few scientists think that *Homo sapiens* evolved from *Homo erectus* in a number of places in Afroeurasia, but the majority think that, like hominid evolution from earlier primates, this occurred only in East Africa. The evidence is partly archaeological, but also genetic. One type of DNA, called mitochondrial DNA, indicates that modern humans are so similar genetically that they cannot have been evolving for the last 1 million or 2 million years. This evidence suggests that the evolution of *Homo sapiens* has instead taken place for only about 250,000 years. Because there is greater human genetic variety today in Africa than in other parts of the world, the evidence also suggests that *Homo sapiens* have lived there the longest, so that Africa is where they first emerged. According to this hypothesis, all modern humans are descended from a relatively small group in East Africa.

Although there is some debate about where and when *Homo sapiens* emerged, there is little debate about what distinguished these humans from earlier hominids: a bigger brain, in particular a bigger forebrain, the site of conscious thought. The ability to think reflectively allowed for the creation of symbolic language, that is, for language that follows certain rules and that can refer to things or states of being that are not necessarily present. Greater intelligence allowed *Homo sapiens* to better understand and manipulate the world around them, and symbolic language allowed this understanding to be communicated within a group and passed from one generation to the next. Through spoken language *Homo sapiens* began to develop collective explanations for the world around them that we would now call religion, science, and philosophy. Spoken language also enabled *Homo sapiens* to orga-

nize socially into larger groups, thus further enhancing their ability to affect the natural world.

The advantages of a larger brain seem evident to us, so we may not think to ask why hominids evolved this way. Large brains also bring disadvantages, however. They take more energy to run than other parts of the body, so that large-brained animals have to eat more than small-brained ones. Large brains create particular problems for bipedal mammals, for the narrow pelvic structure that works best for upright walking makes giving birth to a large-headed infant difficult and painful.

The question of why hominids developed ever-larger brains might best be answered by looking at how paleontologists think it happened. As *Homo habilis*, *Homo erectus*, and *Homo sapiens* made and used tools, the individuals whose mental and physical abilities allowed them to do so best were able to obtain more food and were more likely to mate and have children who survived. Thus bigger brains led to better tools, but the challenges of using and inventing better tools also created selective pressure that led to bigger brains.

The same thing may have happened with symbolic language and thought. A slightly bigger brain allowed for more complex thought and better language skills (aided by anatomical changes in the vocal tract and larynx that allowed for a greater range of sounds). These thinking and speaking skills enabled individuals to better attract mates and fend off rivals, which meant a greater likelihood of passing on the enhanced brain to the next generation. As we know from contemporary research on the brain, learning language promotes the development of specific areas of the brain.

The growth in brain size and complexity may also have been linked to social organization. Individuals who had better social skills were more likely to mate than those who did not—this has been observed in chimpanzees and, of course, in modern humans—and thus to pass on their genetic material. Social skills were particularly important for females, because the combination of bipedalism and growing brain size led to selective pressure for hominid infants to be born at an even earlier stage in their development than other primate infants. Thus the period when human infants are dependent on others is very long, and mothers with good social networks to assist them were more likely to have infants who survived. Humans are unique in the duration and complexity of their care for children, and cooperative child rearing, along with the development of social skills and the adaptability this encouraged, may have been an impetus to brain growth.

All these factors operated together in processes that promoted bigger and better brains. In the Paleolithic period, *Homo sapiens*' brains invented highly specialized tools made out of a variety of materials that replaced the more general-purpose stone tools made by *Homo erectus*: barbed fishhooks and harpoons, snares and traps for catching small animals, bone needles for sewing clothing, awls for punching holes in leather, nets for catching fish, sharpened flint pieces bound to wooden or bone handles for hunting or cutting, and slings for carrying infants. By 25,000 years ago, and perhaps earlier, humans in some parts of the world were weaving cloth and baskets, and by 17,000 years ago they were using bows and atlatls (AHT-lah-tuhlz)—notched throwing sticks made of bone, wood, or antler—to launch arrows and barbs with flint points bound to wooden shafts. The archaeological evidence for increasingly sophisticated language and social organization is less direct than that for tool use, but it is hard to imagine how humans could have made the tools they did—or would have chosen to decorate so many of them—without both of these.

Migration and Differentiation

Like *Homo erectus* had earlier, groups of *Homo sapiens* moved. By 200,000 years ago they had begun to spread across Africa, and by 120,000 years ago they had begun to migrate out of Africa to Eurasia (see Map 1.1). They most likely walked along the coasts of India and Southeast Asia, and then migrated inland. At the same time, further small evolutionary changes led to our own subspecies of anatomically modern humans, *Homo sapiens sapiens* (which literally translates as "thinking thinking humans"). *Homo sapiens sapiens* moved into areas where there were already *Homo erectus* populations, eventually replacing them, leaving *Homo sapiens* as the only survivors and the ancestors of all modern humans.

The best-known example of interaction between *Homo erectus* and *Homo sapiens sapiens* is that between Neanderthals (named after the Neander Valley in Germany, where their remains were first discovered) and a group of anatomically modern humans called Cro-Magnons. **Neanderthals** lived throughout Europe and western Asia beginning about 150,000 years ago, had brains as large as those of modern humans, and used tools, including spears and scrapers for animal skins, that enabled them to survive in the cold climate of Ice Age central Europe and Russia. They built freestanding houses, and they decorated objects and themselves with red ochre, a form of colored clay. They sometimes buried their dead carefully with tools, animal bones, and perhaps flowers, which suggests that they understood death to have a symbolic meaning. These characteristics led them to be originally categorized as a branch of *Homo sapiens*, but DNA evidence from Neanderthal

• **Neanderthals** Group of *Homo erectus* with brains as large as those of modern humans that flourished in Europe and western Asia between 150,000 and 30,000 years ago.

bones now indicates that they were a separate branch of highly developed *Homo erectus.*

Cro-Magnon peoples moved into parts of western Asia where Neanderthals lived by about 70,000 years ago, and into Europe by about 45,000 years ago. The two peoples appear to have lived side by side for millennia, hunting the same types of animals and gathering the same types of plants. In 2010 DNA evidence demonstrated that they also had sex with one another, for between 1 and 4 percent of the DNA in modern humans living outside of Africa likely came from Neanderthals. The last evidence of Neanderthals as a separate species comes from about 30,000 years ago, and it is not clear exactly how they died out. They may have been killed by Cro-Magnon peoples, or they simply may have lost the competition for food as the climate worsened around 30,000 years ago and the glaciers expanded.

Until very recently Neanderthals were thought to be the last living hominids that were not *Homo sapiens*, but in 2003 archaeologists on the Indonesian island of Flores discovered bones and tools of three-foot-tall hominids that dated from only about 18,000 years ago. A few scientists view them as very small or malformed *Homo sapiens*, but most see them as a distinct species, probably descended from *Homo erectus* as were Neanderthals. Nicknamed "hobbits," the Flores hominids or their ancestors appear to have lived on the island for more than 800,000 years.

Homo erectus migrated great distances, but *Homo sapiens sapiens* made use of greater intelligence and better toolmaking capabilities to migrate still farther. They used simple rafts to reach Australia by at least 50,000 years ago, and by 35,000 years ago had reached New Guinea. By at least 15,000 years ago, humans had walked across the land bridges then linking Siberia and North America at the Bering Strait and had crossed into the Americas. Because by 14,000 years ago humans were already in southern South America, ten thousand miles from the land bridges, many scholars now think that people came to the Americas much earlier. They think humans came from Asia to the Americas perhaps as early as 20,000 or even 30,000 years ago, walking or using rafts along the coasts. (See Chapter 11 for a longer discussion of this issue.)

Land Bridge Across the Bering Strait, ca. 15,000 B.C.E.

With the melting of glaciers sea levels rose, and parts of the world that had been linked by land bridges, including North America and Asia as well as many parts of Southeast Asia, became separated by water.

Polynesian Oceangoing Sailing Canoe This is a Hawaiian replica of the type of large double-hulled canoe in which Polynesians sailed around the Pacific as they settled many different island groups. This canoe, called the Hokule'a, has taken many voyages using traditional Pacific techniques of celestial navigation. The two hulls provided greater stability, and canoes designed like this sailed thousands of miles over the open ocean. (© Monte Costa/ PhotoResourceHawaii.com)

This cut off migratory paths but also spurred innovation. Humans designed and built ever more sophisticated boats and learned how to navigate by studying wind and current patterns, bird flights, and the position of the stars. They sailed to increasingly remote islands, including those in the Pacific, the last parts of the globe to be settled. The western Pacific islands were inhabited by about 2000 B.C.E., Hawaii by about 500 C.E., and New Zealand by about 1000 C.E. (For more on the settlement of the Pacific islands, see page 357.)

Once humans had spread out over much of the globe, groups often became isolated from one another, and people mated only with other members of their own group or those who lived nearby, a practice anthropologists call endogamy. Thus, over thousands of generations, although humans remained one species, *Homo sapiens sapiens* came to develop differences in physical features, including skin and hair color, eye and body shape, and amount of body hair. Language also changed over generations, so that thousands of different languages were eventually spoken. Groups created widely varying cultures and passed them on to their children, further increasing diversity among humans.

Beginning in the eighteenth century, European natural scientists sought to develop a system that would explain human differences at the largest scale. They divided people into very large groups by skin color and other physical characteristics and termed these groups "races," a word that had originally meant lineage. They first differentiated these races by continent of origin—Americanus, Europaeus, Asiaticus, and Africanus—and then by somewhat different geographic areas. The word *Caucasian* was first used by the German anatomist and naturalist Johann Friedrich Blumenbach (1752–1840) to describe light-skinned people of Europe and western Asia because he thought that their original home was most likely the Caucasus Mountains on the border between Russia and Georgia. He thought that they were the first humans and the most attractive. This meaning of *race* has had a long life, though biologists and anthropologists today do not use it, as it has no scientific meaning or explanatory value. All humans are one species with less genetic variety than chimpanzees.

Paleolithic Hand Axes Like most Paleolithic stone tools, these two hand axes from Libya in northern Africa were made by chipping flakes off stone to form a sharpened edge. Although they are traditionally called axes, they were used for a variety of purposes, including skinning, cutting, and chopping. (Robert Harding Images/Masterfile)

Paleolithic Society, 250,000–9000 B.C.E.

- What were the key features of Paleolithic society?

Eventually human cultures became widely diverse, but in the Paleolithic period people throughout the world lived in ways that were similar to one another. Archaeological evidence and studies of modern foragers suggest that people lived in small groups of related individuals and moved throughout the landscape in search of food. Most had few material possessions, only what they could carry, although in areas where food resources were especially rich, such as along seacoasts, they built structures and lived more permanently in one place. In the later Paleolithic, people in many parts of the world created art and music and developed religious ideas that linked the natural world to a world beyond.

Foraging for Food

Paleolithic peoples have often been called hunter-gatherers, but recent archaeological and anthropological research indicates that both historical and contemporary hunter-gatherers have depended much more on gathered foods than on hunted meat. Thus it would be more accurate to call them "gatherer-hunters," and most scholars now call them foragers, a term that highlights the flexibility and adaptability in their search for food. Most of what foragers ate were plants, and much of the animal protein in their diet came from foods gathered or scavenged rather than hunted directly: insects, shellfish, small animals caught in traps, fish and other sea creatures caught in weirs and nets, and animals killed by other predators. Gathering and hunting probably varied in importance from year to year depending on environmental factors and the decisions of the group.

Paleolithic peoples did hunt large game. Groups working together forced animals over cliffs, threw spears, and, beginning about 15,000 B.C.E., used bows and atlatls to shoot projectiles so that they could stand farther away from their prey while hunting. The final retreat of the glaciers also occurred between 10,000 and 15,000 years ago, and the warming climate was less favorable to the very large mammals that had roamed the open spaces of many parts of the world. Wooly mammoths, mastodons, and wooly rhinos all died out in Eurasia in this **megafaunal extinction**, as did camels, horses, and sloths in the Americas and giant kangaroos and wombats in Australia. In many places, these extinctions occurred just about the time that modern humans appeared, and increasing numbers of scientists think that they were at least in part caused by human hunting.

- **megafaunal extinction** Die-off of large animals in many parts of the world about 15,000–10,000 B.C.E., caused by climate change and perhaps human hunting.

Most foraging societies that exist today or did so until recently have some type of **division of labor** by sex, and also by age, with children and older people responsible for different tasks than adult men and women. Men are more often responsible for hunting, through which they gained prestige as well as meat, and women for gathering plant and animal products. This has led scholars to assume that in Paleolithic society men were also responsible for hunting, and women for gathering. Such a division of labor is not universal, however: in some of the world's foraging cultures, such as the Agta of the Philippines, women hunt large game, and in many they participate in group hunts. The stone and bone tools that remain from the Paleolithic period give no clear evidence of who used them, and the division of labor may have been somewhat flexible, particularly during periods of scarcity.

Obtaining food was a constant preoccupation, but it was not a constant job. Studies of recent foragers indicate that, other than in times of environmental disasters such as prolonged droughts, people need only about ten to twenty hours a week to gather food and carry out the other tasks needed to survive, such as locating water and building shelters. The diet of foragers is varied and nutritious: low in fat and salt, high in fiber, and rich in vitamins and minerals. The slow pace of life and healthy diet did not mean that Paleolithic life spans approached those of the modern world, however. People avoided such contemporary killers as heart disease and diabetes, but they often died at young ages from injuries, infections, animal attacks, and interpersonal violence. Mothers and infants died in childbirth, and many children died before they reached adulthood.

Total human population thus grew very slowly during the Paleolithic. Scholars can make rough estimates only, but one of them proposes that there were perhaps 500,000 humans in the world about 30,000 years ago. By about 10,000 years ago this number had grown to 5 million — ten times as many people. This was a significant increase, but it took twenty thousand years. (By contrast, the earth's population today is more than 7 billion; it was slightly under 1 billion a mere 300 years ago.) The low population density meant that human impact on the environment was relatively small, although still significant. In addition to contributing to the extinction of some large animals, Paleolithic people may have also shaped their environments by setting fires, which encouraged the growth of new plants and attracted animals that fed on them, making hunting or snaring game easier. This practice was a factor in the spread of plants that thrived best with occasional burning, such as the eucalyptus in Australia.

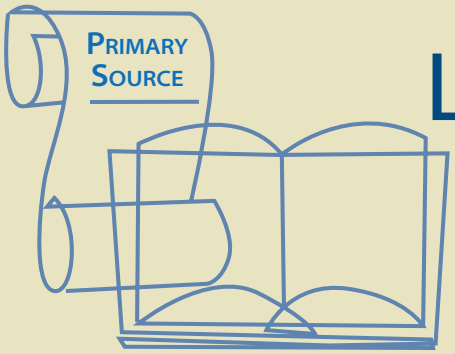
• **division of labor** Differentiation of tasks by gender, age, training, status, or other social distinction.

Family and Kinship Relationships

Small bands of humans — twenty or thirty people was a standard size for foragers in harsh environments — were scattered across broad areas, but this did not mean that each group lived in isolation. Their travels in search of food brought them into contact with one another, not simply for talking and celebrating, but also for providing opportunities for the exchange of sexual partners, which was essential to group survival. Today we understand that having sexual relations with close relatives is disadvantageous because it creates greater risk of genetic disorders. Earlier societies did not have knowledge of genetics, but most of them developed rules against sexual relations among immediate family members. Mating arrangements varied in their permanence, but many groups seem to have developed a somewhat permanent arrangement whereby a man or woman left his or her original group and joined the group of his or her mate, what would later be termed marriage.

Within each band, and within the larger kin groups, individuals had a variety of identities; they were simultaneously fathers, sons, husbands, and brothers, or mothers, daughters, wives, and sisters. Each of these identities was relational (parent to child, sibling to sibling, spouse to spouse), and some of them, especially parent to child, gave one power over others. In many areas kin groups remained significant power structures for millennia, and in some areas they still have influence over major aspects of life, such as an individual's job or marital partner. Paleolithic people were not differentiated by wealth, for in a foraging society accumulating material goods was not advantageous. But they were differentiated by such factors as age, gender, and position in a family, and no doubt by personal qualities such as intelligence, courage, and charisma.

Stereotypical representations of Paleolithic people often portray a powerful fur-clad man holding a club and dragging off a (usually attractive) fur-clad woman by her hair, or men going off to hunt while women and children crouched around a fire, waiting for the men to bring back great slabs of meat. Studies of the relative importance of gathering to hunting, women's participation in hunting, and gender relations among contemporary foraging peoples have led some analysts to turn these stereotypes on their heads. They see Paleolithic bands as egalitarian groups in which the contributions of men and women to survival were recognized and valued, and in which both men and women had equal access to the limited amount of resources held by the group. Other scholars argue that this is also a stereotype, overly romanticizing Paleolithic society. They note that although social relations among foragers were not as hierarchical as they were in other types of societies, many foraging groups had one person who



Listening to the Past

Paleolithic Venus Figures

The Venus of Lespugue from France, made from tusk ivory around 25,000 years ago (reproduction). (Ronald Sheridan/© Ancient Art & Architecture Collection, Ltd.)

Written sources provide evidence about the human past only after the development of writing, allowing us to listen to the voices of people long dead. For most of human history, however, there were no written sources, so we "listen" to the past through objects. Interpreting written documents is difficult, and interpreting archaeological evidence about the earliest human belief systems is even more difficult and often contentious. For example, small stone statues of women with enlarged breasts and buttocks dating from the later Paleolithic period (roughly 33,000–9000 B.C.E.) have been found in many parts of Europe. These were dubbed "Venus figures" by nineteenth-century archaeologists, who thought they represented Paleolithic standards of female beauty just as the goddess Venus represented classical standards. A reproduction of one of these statues, the six-inch-tall Venus of Lespugue made from a mammoth tusk about 25,000 years ago in southern France, is shown here. Venus figures provoke more questions than answers: Are they fertility goddesses, evidence of people's beliefs in a powerful female deity? Or are they aids to fertility, carried around by women hoping to have children—or perhaps hoping not to have more—and then discarded in the household debris where they have been most commonly found? Or are they sexualized images of women carried around by men, a sort of Paleolithic version of the centerfold in a men's magazine? Might they have represented different things to different people? Like so much Paleolithic evidence, Venus figurines provide tantalizing evidence about early human cultures, but evidence that is not easy to interpret.

QUESTIONS FOR ANALYSIS

1. As you look at this statue, does it seem to link more closely with fertility or with sexuality? How might your own situation as a twenty-first-century person shape your answer to this question?
2. Some scholars see Venus figures as evidence that Paleolithic society was egalitarian or female dominated, but others point out that images of female deities or holy figures are often found in religions that deny women official authority. Can you think of examples of the latter? Which point of view seems most persuasive to you?

held more power than others, and that person was almost always a man. This debate about gender relations is often part of larger discussions about whether Paleolithic society—and by implication, "human nature"—was primarily peaceful and nurturing or violent and brutal, and whether these qualities are gender related. Like much else about the Paleolithic, sources about gender and about violence are fragmentary and difficult to interpret; there may simply have been a diversity of patterns, as there is among more modern foragers. (See "Listening to the Past: Paleolithic Venus Figures," above.)

Whether peaceful and egalitarian or violent and hierarchical, heterosexual relations produced children, who were cared for as infants by their mothers or other women who had recently given birth. Breast milk was the only food available that infants could easily digest, so mothers nursed their children for several years. Along with providing food for infants, extended nursing brings a side benefit: it suppresses ovulation and thus acts as a contraceptive. Foraging groups needed children to survive, but too many could tax scarce food resources. Many groups may have practiced selective infanticide or abandonment. They may also have

exchanged children of different ages with other groups, which further deepened kinship connections between groups. Other than for feeding, children were most likely cared for by other male and female members of the group as well as by their mothers during the long period of human childhood.

Cultural Creations and Spirituality

Early human societies are often described in terms of their tools, but this misses a large part of the story. Beginning in the Paleolithic, human beings have expressed themselves through what we would now term the arts or culture: painting and decorating walls and objects, making music with their voices and a variety of instruments, imagining and telling stories, dancing alone or in groups. Evidence from the Paleolithic, particularly from after about 50,000 years ago, includes flutes, carvings, jewelry, and paintings done on cave walls and rock outcroppings that depict animals, people, and symbols. In many places these paintings show the outline of a human hand—often done by blowing pigment around it—or tracings of the fingers, a simple art form that allowed individuals to say "I was here." (See "Viewpoints 1.1: Paleolithic Hand Markings," at right.)

Some cultural creations appear to have had a larger purpose: they may have been created to honor and praise ancestors or leaders, help people remember events and traditions, or promote good hunting or safe childbirth. Some were easy to do, and everyone in a culture was expected to participate in some way: to dance in order to bring rain or give thanks, to listen when stories were told, to take part in ceremonies. Other creations required particular talents or training and were probably undertaken only by specialists.

At the same time that people marked and depicted the world around them, they also appear to have developed ideas about supernatural forces that controlled some aspects of the natural world and the place of humans in it, what we now term spirituality or religion. The Neanderthals' careful burial of their dead suggests to some scholars that they had ideas about an afterlife or at least something beyond the visible world, and there is no doubt that this was the case for Paleolithic *Homo sapiens*. Paleolithic burials, paintings, and objects suggest that people may have thought of their world as extending beyond the visible. People, animals, plants, natural occurrences, and other things around them had spirits, an idea called **animism**. The only evidence of Paleolithic animism that survives is physical, of course, but more recent animist traditions carry on this understanding of the spiritual nature and interdependence of all things, as in this contemporary Chinook blessing from northwestern North America:

> We call upon the Earth, our planet home, with its beautiful depths and soaring heights, its vitality and abundance of life, and together we ask that it *Teach us, and show us the Way*. . . .
>
> We call upon the creatures of the fields and the forests and the seas, our brothers and sisters the wolves and the deer, the eagle and dove, the great whales and the dolphin, the beautiful orca and salmon who share our Northwest home, and ask them to *Teach Us and show us the Way*.[1]

Paleolithic Flute This flute, carved from the wing bone of a griffon vulture, was unearthed in a cave in Germany along with pieces of other flutes made from mammoth ivory and stone tools. Dating from at least 33,000 B.C.E., it is the oldest musical instrument ever found and suggests that music has long been an important part of human culture. (H. Jensen/University of Tübingen)

Death took people from the realm of the living, but for Paleolithic groups people continued to inhabit an unseen world, along with spirits and deities, after death; thus kin groups included deceased as well as living members of a family. The unseen world regularly intervened in the visible world, for good and ill, and the actions of dead ancestors, spirits, and gods could be shaped by living people. Concepts of the supernatural pervaded all aspects of life; hunting, birth, death, and natural occurrences such as eclipses, comets, and rainbows all had religious meaning. Supernatural forces were understood to determine the basic rules for human existence, and upsetting these rules could lead to chaos.

Ordinary people learned about the unseen world through dreams and portents, and messages and revelations were also sent more regularly to **shamans**, spiritually adept men and women who communicated with the unseen world. Shamans created complex rituals through which they sought to ensure the health and prosperity of an individual, family, or group. Many cave paintings show herds of prey animals, and several include a masked human figure usually judged to be a shaman performing some sort of ritual. Objects understood to have special power, such as carvings or

- **animism** Idea that people, animals, plants, natural occurrences, and other parts of the physical world have spirits.
- **shamans** Spiritually adept men and women who communicated with the unseen world.

Primary Sources

Viewpoints 1.1

Paleolithic Hand Markings

• *Paleolithic finger and hand markings have been found all over the world. They were made in a variety of ways—running fingers over wet or soft stone, dipping a hand in pigment and pressing it onto a surface, or tracing around a hand. The most common pigment was made from red ochre, a naturally occurring mixture of clay and iron oxide that is plentiful and quite permanent. Humans have been using red ochre, which varies in color from yellow to red to brown to purple, for more than a hundred thousand years, burying pieces of it with bodies, sprinkling it on cave floors, and mixing it with liquids such as urine, animal fat, blood, egg whites, or water to make paint. In 2011 scientists in South Africa discovered abalone shells holding paint made from red ochre, charcoal, and liquid, along with specialized stone and bone tools, that date to about 100,000 B.C.E., in what they dubbed the "world's oldest art studio."*

QUESTIONS FOR ANALYSIS

1. Why, in your opinion, was the human hand such a common image in Paleolithic art?
2. Some scholars have suggested that because Paleolithic hand markings were often made by children or adolescents, they were done as part of coming-of-age ceremonies or other spiritual rituals. Others suggest that they were made as part of play or as adolescent rebellion akin to today's graffiti. Which explanation seems most plausible to you?

Handprints from Cueva de las Manos (Cave of the Hands) in Argentina, ca. 8000 B.C.E. These handprints, made by blowing paint made from red ochre around the hand through a bone pipe, are from different individuals. All are slightly smaller than adult hands, so they were most likely made by adolescents. Most are left hands, which indicates that even in the Paleolithic, most people were right-handed, since they would have held the pipe for blowing in the hand they normally used for tasks. (© Hubert Stadler/Corbis)

Finger Marks from Rouffignac Cave in France, 18,000–9000 B.C.E. The finger marks of a young child are among those made by a group of adults and children who each left such finger flutings in the wet surfaces of the cave, far from the entrance, indicating that they would have used torches to see as they decorated the walls and ceiling. Through comparing these finger marks with those made by girls' and boys' fingers today, archaeologists judge them to have been made by a girl. She ran the three middle fingers of each hand down the wall of the cave at the same time, which meant someone else was holding the torch for her to see. (© Leslie Van Gelder)

Picturing the Past

Cave Paintings of Horses and a Horned Aurochs from Lascaux Cave, Southern France, ca. 15,000 B.C.E. The artist who made these amazing animals in charcoal and red ochre first smoothed the surface, just as a contemporary artist might. This cave includes paintings of hundreds of animals, including predators such as lions, as well as abstract symbols. (JM Labat/Photo Researchers, Inc.)

ANALYZING THE IMAGE The artist painted the animals so close together that they overlap. What might this arrangement have been trying to depict or convey?

CONNECTIONS Why might Paleolithic people have made cave paintings? What do these paintings suggest about Stone Age culture and society?

masks in the form of an animal or person, could give additional protection, as could certain plants or mixtures eaten, sniffed, or rubbed on the skin. Shamans thus also operated as healers, with cures that included what we would term natural medicines and religious healing.

Judging by practices from later periods, the rituals and medicines through which shamans and healers operated were often closely guarded secrets, but they were passed orally from one spiritually adept individual to another, so that gradually a body of knowledge developed around the medicinal properties of local plants and other natural materials. By observing natural phenomena and testing materials for their usable qualities, Paleolithic people began to invent what would later be called science.

The Development of Agriculture in the Neolithic Era, ca. 9000 B.C.E.

How did plant and animal domestication develop, and what effects did it have on human society?

Foraging remained the basic way of life for most of human history, and for groups living in extreme environments, such as tundras or deserts, it was the only possible way to survive. In a few especially fertile areas, however, the natural environment provided enough food that people could become more settled. As they remained in one place, they began to plant seeds as

Neolithic Tools from Lakes in Switzerland These highly specialized tools include arrow points, awls, chisels, scrapers, stone ax blades in antler sockets, sickle blades, and round spindle whorls, designed to twist fibers into thread. The people who made and used them lived in wooden houses on stilts over the water, and the mud of the lake bed preserved even the bone and antler. (Courtesy of Peter A. Bostrom)

well as gather wild crops, to raise certain animals instead of hunting them, and to selectively breed both plants and animals to make them more useful to humans. This seemingly small alteration was the most important change in human history; because of its impact it is often termed the **Agricultural Revolution**. Plant and animal domestication marked the transition from the Paleolithic to the Neolithic. It allowed the human population to grow far more quickly than did foraging, but it also required more labor, which became increasingly specialized.

The Development of Horticulture

Areas of the world differed in the food resources available to foragers. In some, acquiring enough food to sustain a group was difficult, and groups had to move constantly. In others, moderate temperatures and abundant rainfall allowed for verdant plant growth; or seas, rivers, and lakes provided substantial amounts of fish and shellfish. Groups in such areas were able to become more settled. About 15,000 years ago, the earth's climate entered a warming phase, and the glaciers began to retreat. As the earth became warmer, the climate became wetter, and more parts of the world were able to support sedentary or semi-sedentary groups of foragers.

In several of these places, foragers began planting seeds in the ground along with gathering wild grains, roots, and other foodstuffs. By observation, they learned the optimum times and places for planting. They removed unwanted plants through weeding and selected the seeds they planted in order to get crops that had favorable characteristics, such as larger edible parts. For grain crops, people chose plants with larger kernels clustered together that ripened all at one time and did not just fall on the ground, qualities that made harvesting more efficient. Through this human intervention, certain crops became **domesticated**, that is, modified by selective breeding so as to serve human needs, in this case to provide a more reliable source of food. Archaeologists trace the development and spread of plant raising by noting when the seeds and other plant parts they discover show evidence of domestication.

This early crop planting was done by individuals using hoes and digging sticks, and it is often termed **horticulture** to distinguish it from the later agriculture using plows. In some places, digging sticks were weighted with stones to make them more effective (earlier archaeologists thought these stones were the killing parts of war clubs). Intentional crop planting developed first in the area archaeologists call the Fertile Crescent, which runs from present-day Lebanon,

- **Agricultural Revolution** Dramatic transformation in human history resulting from the change from foraging to raising crops and animals.
- **domesticated** Plants and animals modified by selective breeding so as to serve human needs; domesticated animals will behave in specific ways and breed in captivity.
- **horticulture** Crop raising done with hand tools and human power.

MAP 1.2 The Spread of Agriculture and Pastoralism Local plants and animals were domesticated in many different places. Agriculturalists and pastoralists spread the knowledge of how to raise them, and spread the plants and animals themselves through migration, trade, and conquest.

Israel, and Jordan north to Turkey and then south to the Iran-Iraq border (Map 1.2). About 9000 B.C.E. people there began to plant seeds of the wild wheat and barley they had already been harvesting, along with seeds of legume crops, such as peas and lentils, and of the flax with which they made linen cloth. They then modified these crops through domestication. By about 8000 B.C.E. people were growing sorghum and millet in parts of the Nile River Valley, and perhaps yams in western Africa. By about 7000 B.C.E. they were growing domesticated rice, millet, and legumes in China; yams and taro in Papua New Guinea; and perhaps squash in Mesoamerica. In each of these places, the development of horticulture occurred independently, and it may have happened in other parts of the world as well. Archaeological evidence does not survive well in tropical areas like Southeast Asia and the Amazon Basin, which may have been additional sites of plant domestication.

The Fertile Crescent

Nowhere do archaeological remains alone answer the question of who within any group first began to cultivate crops, but the fact that, among foragers, women were primarily responsible for gathering plant products suggests that they may also have been the first to plant seeds in the ground. In many parts of the world, crops continued to be planted with hoes and digging sticks for millennia, and crop raising remained primarily women's work, while men hunted or later raised animals.

Why, after living successfully as foragers for tens of thousands of years, did humans in so many parts of the world all begin raising crops at about the same time? The answer to this question is not clear, but crop rais-

ing may have resulted from population pressures in those parts of the world where the warming climate provided more food. More food meant lower child mortality and longer life spans, which allowed communities to grow. Naturally occurring and then planted foods included cereal crops, which were soft enough for babies to eat, so that women could stop nursing their children at a younger age. Women lost the contraceptive effects of breast-feeding, so children may have been born at more frequent intervals, further speeding up population growth. Thus people had a choice: they could move to a new area—the solution that foragers had relied on when faced with the problem of food scarcity—or they could develop ways to increase the food supply to keep up with population growth, a solution that the warming climate was making possible. They chose the latter and began to plant more intensively, beginning cycles of expanding population and intensification of land use that have continued to today.

A recent archaeological find at Göbekli Tepe in present-day Turkey, at the northern edge of the Fertile Crescent, suggests that cultural factors may have played a role in the development of agriculture. Here, around 9000 B.C.E. hundreds of people came together to build rings of massive, multi-ton, elaborately carved limestone pillars and then covered them with dirt and built more. The people who created this site lived some distance away, where archaeological evidence indicates they first carved the pillars. The evidence also reveals that they ate wild game and plants, not crops. The project may have unintentionally spurred the development of new methods of food production that would allow the many workers to be fed efficiently. Indeed, it is very near here that evidence of the world's oldest domesticated wheat has been discovered. Archaeologists speculate that the symbolic, cultural, or perhaps religious importance of the structure can help explain why the people building it changed from foraging to agriculture.

Whatever the reasons for the move from foraging to crop raising, within several centuries of initial crop planting, people in the Fertile Crescent, parts of China, and the Nile Valley were relying on domesticated food products alone. They built permanent houses near one another in villages surrounded by fields, and they invented new ways of storing foods, such as in pottery made from clay. (See "Viewpoints 1.2: Stone Age Houses in Chile and China," page 18.) Villages were closer together than were the camps of foragers, so population density as well as total population grew.

A field of planted and weeded crops yields ten to one hundred times as much food—measured in calories—as the same area of naturally occurring plants, a benefit that would have been evident to early crop planters. It also requires much more labor, however, which was provided both by the greater number of people in the community and by those people working longer hours. In contrast to the twenty hours a week foragers spent on obtaining food, farming peoples were often in the fields from dawn to dusk, particularly during planting and harvest time, but also during the rest of the growing year because weeding was a constant task. Early farmers were also less healthy than foragers were. Their narrower range of foodstuffs made them more susceptible to disease and nutritional deficiencies such as anemia.

Foragers who lived at the edge of horticultural communities appear to have recognized the negative aspects of crop raising, for they did not immediately adopt this new way of life. Instead farming spread when a village became too large and some residents moved to a new area, cleared land, planted seeds, and built a new village, sometimes intermarrying with the local people. Because the population of farming communities grew so much faster than that of foragers,

Primary Sources

Viewpoints 1.2

Stone Age Houses in Chile and China

• *One of the central issues facing most human groups has been shelter from the elements. People's varying solutions to this issue reflect the environmental challenges and opportunities offered by their particular surroundings. Not only are houses physical structures, however, but they also reflect, communicate, and shape cultural and social values. The photographs on this page show the remains of houses built during the Paleolithic and Neolithic periods in two parts of the world very far from one another.*

QUESTIONS FOR ANALYSIS

1. From the photographs and the descriptions, what similarities and differences do you see in the two types of houses?
2. Monte Verde was a Paleolithic community of foragers, and Banpo a Neolithic community of agriculturalists. How might the differences between the two houses have been shaped by the technology of food production? What other factors might account for the differences?
3. It is easy to see the vast differences between these houses and those of today, but what similarities do you find? What social and cultural values might lie behind these similarities?

Monte Verde Monte Verde in Chile dates from about 12,000 B.C.E. The archaeologists who have studied this site have concluded that here, along a creek, a small group of perhaps twenty to thirty people built a 20-foot-long structure of wooden poles covered by animal skins. Within the structure were smaller living quarters separated by skins, each with its own small fire pit, around which archaeologists have found stone tools, rope made of reeds, and many different types of foraged food, including wild potatoes and seaweed that came from coastal areas far away. (Courtesy of Tom D. Dillehay)

Banpo The village of Banpo near Xi'an in China dates from about 4500 B.C.E. Archaeologists have concluded that a group of several hundred people built fifty or so houses there, along with kilns for making pottery and cellars for storage. They built each house by digging a shallow hole as a foundation, surrounding this with walls made of stakes interwoven with branches and twigs, and plastering this with mud, which dried to become wind and water resistant. They made the roof out of thatch made from millet and rice stalks, grains they raised that formed the main part of their diet. (JTB Photo/SuperStock)

Pillar at Göbekli Tepe The huge limestone pillars arranged in rings at the Paleolithic site Göbekli Tepe are somewhat humanoid in shape, and the carvings are of dangerous animals, including lions, boars, foxes, snakes, vultures, and scorpions. The structure required enormous skill and effort of the people who built it, and clearly had great importance to them. (Vincent J. Musi/National Geographic Creative)

however, horticulture quickly spread into fertile areas. By about 6500 B.C.E. farming had spread northward from the Fertile Crescent into Greece, and by 4000 B.C.E. farther northward all the way to Britain; by 4500 B.C.E. it had spread southward into Ethiopia. At the same time, crop raising spread out from other areas in which it was first developed, and slowly larger and larger parts of China, South and Southeast Asia, and East Africa became home to horticultural villages.

People adapted crops to their local environments, choosing seeds that had qualities that were beneficial, such as drought resistance. They also domesticated new kinds of crops. In the Americas, for example, by about 3000 B.C.E. corn was domesticated in southern Mexico and potatoes and quinoa in the Andes region of South America, and by about 2500 B.C.E. squash and beans in eastern North America. These crops then spread, so that by about 1000 B.C.E. people in much of what is now the western United States were raising corn, beans, and squash. In the Indus Valley of South Asia, people were growing dates, mangoes, sesame seeds, and cotton along with grains and legumes by 4000 B.C.E. Accordingly, crop raising led to dramatic human alteration of the environment.

Certain planted crops eventually came to be grown over huge areas of land, so that some scientists describe the Agricultural Revolution as a revolution of codependent domestication: humans domesticated crops, but crops also "domesticated" humans so that they worked long hours spreading particular crops around the world. Of these, corn has probably been the most successful; more than half a million square miles around the world are now planted in corn.

In some parts of the world horticulture led to a dramatic change in the way of life, but in others it did not. Horticulture can be easily combined with gathering and hunting, as plots of land are usually small; many cultures, including some in Papua New Guinea and North America, remained mixed foragers and horticulturists for thousands of years. Especially in deeply wooded areas, people cleared small plots by chopping and burning the natural vegetation, and planted crops in successive years until the soil eroded or lost its fertility, a method termed "slash and burn." They then moved to another area and began the process again, perhaps returning to the first plot many years later, after the soil had rejuvenated itself. Groups using shifting slash-and-burn cultivation remained small and continued to rely on the surrounding forest for much of their food.

Animal Domestication and the Rise of Pastoralism

At roughly the same time that they domesticated certain plants, people also domesticated animals. The earliest animal to be domesticated was the dog, which separated genetically as a subspecies from wolves at least 15,000 years ago and perhaps earlier. The mechanism of dog domestication is hotly debated: did it result only from human action, as foragers chose and bred animals that would help them with the hunt rather than attack them, or was it also caused by selective pressure resulting from wolf action, as animals less afraid of human contact came around campsites and then bred with one another? However it happened, the relationship benefited both: humans gained dogs' better senses of smell and hearing and their body warmth, and dogs gained new food sources and safer surroundings. Not surprisingly, humans and domestic dogs migrated together, including across the land bridges to the Americas and on boats to Pacific islands.

Sheep Herders in Western China Pastoral economies thrive in many parts of the world today, particularly in areas that are too dry for agriculture, including central Australia, Central Asia, northern and western Africa, and much of the U.S. West. As in early pastoralism, contemporary herders choose and breed their animals for qualities that will allow them to prosper in the local environment. (Yvan Travert/akg-images)

Dogs fit easily into a foraging lifestyle, but humans also domesticated animals that led them to completely alter their way of life. In about 9000 B.C.E., at the same time they began to raise crops, people in the Fertile Crescent domesticated wild goats and sheep, probably using them first for meat, and then for milk, skins, and eventually fleece (see Map 1.2). They learned from observation and experimentation that traits are passed down from generation to generation, and they began to breed the goats and sheep selectively for qualities that they wanted, including larger size, greater strength, better coats, increased milk production, and more even temperaments. Sometimes they trained dogs to assist them in herding, and then selectively bred the dogs for qualities that were advantageous for this task. The book of Genesis in the Bible, written in the Fertile Crescent sometime in the first millennium B.C.E., provides an early example of selective breeding. Jacob makes a deal with his father-in-law to take only those goats and sheep that are spotted, but he secretly increases the number of spotted animals in the flock by placing a spotted stick "before the eyes . . . of the strongest of the flocks . . . whenever they were breeding" so that more and stronger spotted animals were born (Genesis 30:41). This method was based on the idea—accepted for a very long time—that what a pregnant animal or woman saw during pregnancy would influence the outcome; although this notion has been firmly rejected in modern science, the Bible notes that the scheme was successful and that Jacob "grew exceedingly rich, and had large flocks."

Sometime after goats and sheep, pigs were domesticated in both the Fertile Crescent and China, as were chickens in southern Asia. Like domesticated crops, domesticated animals eventually far outnumbered their wild counterparts. For example, in the United States today (excluding Alaska), there are about 77 million dogs, compared to about 6,000 wolves. (Including Alaska would add about 150,000 dogs and 10,000 wolves.) There are more than 1.5 billion cattle, with enormous consequences for the environment. Animal domestication also shaped human evolution; groups that relied on animal milk and milk products for a significant part of their diet tended to develop the ability to digest milk as adults, while those that did not remained lactose intolerant as adults, the normal condition for mammals.

Sheep and goats allow themselves to be herded, and people developed a new form of living, **pastoralism**, based on herding and raising livestock. In areas with sufficient rainfall and fertile soil, pastoralism can be relatively sedentary and thus is easily combined with horticulture; people built pens for animals, or in colder climates constructed special buildings or took them into their houses. They learned that animal manure increases crop yields, so they gathered the manure from enclosures and used it as fertilizer.

• **pastoralism** An economic system based on herding flocks of goats, sheep, cattle, or other animals.

Increased contact with animals and their feces also increased human contact with various sorts of disease-causing pathogens, including minor illnesses such as the common cold and deadly killers such as influenza, bubonic plague, and smallpox. This was particularly the case where humans and animals lived in tight quarters. Thus pastoralists and agriculturalists developed illnesses that had not plagued foragers, and the diseases became endemic, that is, widely found within a region without being deadly. Ultimately people who lived with animals developed resistance to some of these illnesses, but foragers' lack of resistance to many illnesses meant that they died more readily after coming into contact with new endemic diseases, as was the case when Europeans brought smallpox to the Americas in the sixteenth century.

In drier areas, flocks need to travel long distances from season to season to obtain enough food, so some pastoralists became nomadic. Nomadic pastoralists often gather wild plant foods as well, but they tend to rely primarily on their flocks of animals for food. Pastoralism was well suited to areas where the terrain or climate made crop planting difficult, such as mountains, deserts, dry grasslands, and tundras. Eventually other grazing animals, including cattle, camels, horses, yak, and reindeer, also became the basis of pastoral economies in Central and West Asia, many parts of Africa, and far northern Europe.

Plow Agriculture

Horticulture and pastoralism brought significant changes to human ways of life, but the domestication of certain large animals had an even bigger impact. Cattle and water buffalo were domesticated in some parts of Asia and North Africa in which they occurred naturally by at least 7000 B.C.E., and horses, donkeys, and camels by about 4000 B.C.E. All these animals can be trained to carry people or burdens on their backs and to pull loads dragged behind them, two qualities that are rare among the world's animal species. In many parts of the world, including North America and much of South America and sub-Saharan Africa, no naturally occurring large species could be domesticated. In the mountainous regions of South America, llamas and alpacas were domesticated to carry packs, but the steep terrain made it difficult to use them to pull loads. The domestication of large animals dramatically increased the power available to humans to carry out their tasks, which had both an immediate effect in the societies in which this happened and a long-term effect when these societies later encountered societies in which human labor remained the only source of power.

The pulling power of animals came to matter most, because it could be applied to food production. Sometime in the seventh millennium B.C.E., people attached wooden sticks to frames that animals dragged through the soil, thus breaking it up and allowing seeds to sprout more easily. These simple scratch plows were pulled first by cattle and water buffalo, and later by horses. Over millennia, moldboards—angled pieces that turned the soil over, bringing fresh soil to the top—were added, which reduced the time needed to plow and allowed each person to work more land.

Using plows, Neolithic people produced a significant amount of surplus food, which meant that some people in the community could spend their days performing other tasks, increasing the division of labor. Surplus food had to be stored, and some began to specialize in making products for storage, such as pots, baskets, bags, bins, and other kinds of containers. Others specialized in making tools, houses, and other items needed in village life, or for producing specific types of food, including alcoholic beverages made from fermented fruits and grains. Families and households became increasingly interdependent, trading food for other commodities or services. In the same way that foragers had continually improved their tools and methods, people improved the processes through which they made things. Sometime in the fifth millennium B.C.E., pot makers in Mesopotamia invented the potter's wheel, which by a millennium later had been

Neolithic Pot, from China, ca. 2600–2300 B.C.E. This two-handled pot, made of baked ceramics in the Yellow River Valley, is painted in a swirling red and black geometric design. Neolithic agricultural communities produced a wide array of storage containers for keeping food and other commodities from one season to the next. (Museum purchase, Fowler McCormack, Class of 1921. Fund. y1979-94. Photo: Bruce M. White/Princeton University Art Museum/Art Resource, NY)

adapted for use on carts and plows pulled by animals. Wheeled vehicles led to road building, and wheels and roads together made it possible for people and goods to travel long distances more easily, whether for settlement, trade, or conquest.

Stored food was also valuable and could become a source of conflict, as could other issues in villages where people lived close together. Villagers needed more complex rules than did foragers about how food was to be distributed and how different types of work were to be valued. Certain individuals began to specialize in the determination and enforcement of these rules, and informal structures of power gradually became more formalized as elites developed. These elites then distributed resources to their own advantage, often using force to attain and maintain their power.

Neolithic Society

- How did growing social and gender hierarchies and expanding networks of trade increase the complexity of human society in the Neolithic period?

The division of labor that plow agriculture allowed led to the creation of **social hierarchies**, the divisions between rich and poor, elites and common people that have been a central feature of human society since the Neolithic era. Plow agriculture also strengthened differentiation based on gender, with men becoming more associated with the world beyond the household and women with the domestic realm. Social hierarchies were reinforced over generations as children inherited goods and status from their parents; even the gods were increasingly understood to be arranged in a hierarchy, and assuring fertility became the most important religious practice. People increasingly communicated ideas within local and regional networks of exchange, just as they traded foodstuffs, tools, and other products.

Social Hierarchies and Slavery

Archaeological finds from Neolithic villages, particularly burials, show signs of growing social differentiation. Some people were buried with significant amounts of jewelry, household goods, weapons, and other objects, while others were buried with very little. How were some people able to attain such power over their neighbors that they could even take valuable commodities with them to the grave? This is one of the key questions in all of human history. Written sources do not provide a clear answer, because social hierarchies were already firmly in place by the time writing was invented, so that scholars have largely relied on archaeological sources.

Within foraging groups, some individuals already had more authority because of their links with the world of gods and spirits, positions as heads of kin groups, or personal characteristics. These three factors gave individuals advantages in agricultural societies, and the advantages became more significant over time as there were more resources to control. Priests and shamans developed more elaborate rituals and became full-time religious specialists, exchanging their services in interceding with the gods for food. In many communities, religious specialists were the first to work out formal rules of conduct that later became oral and written codes of law, generally explaining that these represented the will of the gods. The codes threatened divine punishment for those who broke them, and they often required people to accord deference to priests as the representatives of the gods, so that they became an elite group with special privileges.

Individuals who were the heads of large families or kin groups had control over the labor of others, and this power became more significant when that labor brought material goods that could be stored. Material goods—plows, sheep, cattle, sheds, pots, carts—gave one the ability to amass still more material goods, and the gap between those who had them and those who did not widened. Storage also allowed wealth to be retained over long periods of time and handed down from one family member to another, so that over generations small differences in wealth grew larger. The ability to control the labor of others could also come from physical strength, a charismatic personality, or leadership talents, and such traits may have also led to greater wealth.

Wealth itself could command labor, as individuals or families could buy the services of others to work for them or impose their wishes through force, hiring soldiers to threaten or carry out violence. Eventually some individuals bought others outright. As with social hierarchies in general, slavery predates written records, but it developed in almost all agricultural societies. Like animals, slaves were a source of physical power for their owners, providing them an opportunity to amass still more wealth and influence. In the long era before the invention of fossil fuel technology, the ability to exploit animal and human labor was the most impor-

- **social hierarchies** Divisions between rich and poor, elites and common people that have been a central feature of human society since the Neolithic era.
- **patriarchy** Social system in which men have more power and access to resources than women and some men are dominant over other men.

tant mark of distinction between elites and the rest of the population. As we will see in later chapters, landownership was often what distinguished elites from others, but that land was valuable only if there were people living on it who were required to labor for the owner.

Gender Hierarchies and Inheritance

Along with hierarchies based on wealth and power, the development of agriculture was intertwined with a hierarchy based on gender. The system in which men have more power and access to resources than women and some men are dominant over other men is called **patriarchy**. Every society in the world that has left written records has been patriarchal, but patriarchy came before writing, and searching for its origins involves interpreting many different types of sources. Some scholars see the origins of gender inequality in the hominid past, noting that male chimpanzees form alliances to gain status against other males and engage in cooperative attacks on females, which might have also happened among early hominids. Other scholars see the origins in the Paleolithic, with the higher status of men in lineage groups.

Plow agriculture heightened patriarchy. Although farming with a hoe was often done by women, plow agriculture came to be a male task, perhaps because of men's upper-body strength or because plow agriculture was more difficult to combine with care for infants and small children than was horticulture. The earliest depictions of plowing are on Mesopotamian cylinder seals, and they invariably show men with the cattle and plows. At the same time that cattle began to be raised for pulling plows and carts rather than for meat, sheep began to be raised primarily for wool. Spinning thread and weaving cloth became primarily women's work; the earliest Egyptian hieroglyph for weaving is, in fact, a seated woman with a shuttle, and a Confucian moral saying from ancient China asserts that "men plow and women weave." Spinning and weaving were generally done indoors and involved simpler and cheaper tools than plowing; they could also be taken up and put down easily, and so could be done at the same time as other tasks.

Though in some ways this arrangement seems complementary, with each sex doing some of the necessary labor, plow agriculture increased gender hierarchy. Men's responsibility for plowing and other agricultural tasks took them outside the household more often than women's duties did, enlarging their opportunities for leadership. This role may have led to their being favored as inheritors of family land and the right to farm communally held land, because when inheritance systems were established in later millennia, they often favored sons when handing down land. In some places inheritance was traced through the female line, but in such systems women themselves did not necessarily inherit goods or property; instead a man inherited from his mother's brother rather than from his father. Accordingly, over generations, women's independent access to resources decreased, and it became increasingly difficult for women to survive without male support.

As inherited wealth became more important, men wanted to make sure that their sons were theirs, so they restricted their wives' movements and activities. This was especially the case among elite families. Among foragers and horticulturalists, women needed to be mobile for the group to survive; their labor outdoors was essential. Among agriculturalists, the labor of animals, slaves, and hired workers could substitute for that of women in families that could afford them. Thus in some Neolithic societies, there is evidence that women spent more and more of their time within the household, either indoors or behind walls and barriers that separated the domestic realm from the wider world. Social norms and ideals gradually reinforced this pattern, so that by the time written laws and other records emerged in the second millennium B.C.E., elite women were expected to work at tasks that would not take them beyond the household or away from male supervision. Non-elite women also tended to do work that could be done within or close by the household, such as cooking, cloth production, and the care of children, the elderly, and small animals. A special program set up under the third-century-B.C.E. Indian emperor Ashoka, for example, supported poor women by paying them to spin and weave in their own homes.

Social and gender hierarchies were enhanced over generations as wealth was passed down unequally, and they were also enhanced by rules and norms that shaped sexual relationships, particularly heterosexual ones. However their power originated, elites began to think of themselves as a group set apart from the rest by some element that made them distinctive—such as military prowess, natural superiority, or connections with a deity. They increasingly understood this distinctive quality to be hereditary and developed traditions—later codified as written laws—that stipulated which heterosexual relationships would pass this quality on, along with passing on wealth. Relationships between men and women from elite families were formalized as marriage, through which both status and wealth were generally passed down. Relationships between elite men and non-elite women generally did not function in this way, or did so to a lesser degree; the women were defined as concubines or mistresses, or simply as sexual outlets for powerful men. The 1780 B.C.E. Code of Hammurabi, for example, one of the

world's earliest law codes, sets out differences in inheritance for the sons a man had with his wife and those he had with a servant or slave, while not mentioning daughters at all:

> If his wife bear sons to a man, [and] his maid-servant [has] also borne sons, [but] the father while still living . . . did not say to the sons of the maid-servant: "My sons," and then the father dies, then the sons of the maid-servant shall not share with the sons of the wife, but the freedom of the maid and her sons shall be granted.[2]

Relations between an elite woman and a non-elite man generally brought shame and dishonor to the woman's family and sometimes death to the man. (Early rules and laws about sex generally did not pay much attention to same-sex relations because these did not produce children that could threaten systems of inheritance.)

Thus, along with the distinctions among human groups that resulted from migration and were enhanced by endogamy, distinctions developed within groups that were reinforced by social endogamy, what we might think of as the selective breeding of people. Elite men tended to marry elite women, which in some cases resulted in actual physical differences over generations, as elites had more access to food and were able to become taller and stronger. By 1800 C.E., for example, men in the highest level of the English aristocracy were five inches taller than the average height of all English people.

No elite can be completely closed to newcomers, however, because the accidents of life and death, along with the genetic problems caused by repeated close intermarriage, make it difficult for any small group to survive over generations. Thus mechanisms were developed in many cultures to adopt boys into elite families, to legitimate the children of concubines and slave women, or to allow elite girls to marry men lower on the social hierarchy. All systems of inheritance also need some flexibility. The inheritance patterns in some cultures favored male heirs exclusively, but in others close relatives were favored over those more distant, even if this meant allowing daughters to inherit. The drive to keep wealth and property within a family or kin group often resulted in women inheriting, owning, and in some cases managing significant amounts of wealth, a pattern that continues today. Hierarchies of wealth and power thus intersected with hierarchies of gender in complex ways, and in many cultures age and marital status also played roles. In many European and African cultures, for example, widows were largely able to control their own property, while unmarried sons were often under their father's control even if they were adults.

Trade and Cross-Cultural Connections

The increase in food production brought by the development of plow agriculture allowed Neolithic villages to grow ever larger. By 7000 B.C.E. or so, some villages in the Fertile Crescent may have had as many as ten thousand residents. One of the best known of these, Çatal Hüyük in what is now modern Turkey, shows evidence of trade as well as of the specialization of labor. Çatal Hüyük's residents lived in mud-brick houses whose walls were covered in white plaster and whose interiors were kept very clean, for all trash was taken outside the town. The houses were built next to one another with no lanes or paths separating them, and people seem to have entered through holes in the roofs; the rooftops may have also served as a place for people to congregate, for there is no sign of large public buildings. The men and women of the town grew wheat, barley, peas, and almonds and raised sheep and perhaps cattle, though they also seem to have hunted. They made textiles, pots, figurines, baskets, carpets, copper and lead beads, and other goods, and decorated their houses with murals showing animal and human figures. They gathered, sharpened, and polished obsidian, a volcanic rock that could be used for knives, blades, and mirrors, and then traded it with neighboring towns, obtaining seashells and flint. From here the obsidian was exchanged still farther away, for Neolithic societies slowly developed local and then regional networks of exchange and communication.

Among the goods traded in some parts of the world was copper. Pure copper occurs close to the surface in some areas, and people, including those at Çatal Hüyük, hammered it into shapes for jewelry and tools. More often, copper, like most metals, occurs mixed with other materials in a type of rock called ore, and by about 5500 B.C.E. people in the Balkans had learned that copper could be extracted from ore by heating it in a smelting process. Smelted copper was poured into molds and made into spear points, axes, chisels, beads, and other objects. (See "Individuals in Society: The Iceman," at right.) Smelting techniques were discovered independently in many places around the world, including China, Southeast Asia, West Africa, and the Andes region. Pure copper is soft, but through experimentation artisans learned that it would become harder if they mixed it with other metals such as arsenic, zinc, or tin during heating, creating an alloy called bronze.

Because it was stronger than copper, bronze had a far wider range of uses, so much so that later historians decided that its adoption marked a new period in human history, the Bronze Age. Like all new technologies, bronze arrived at different times in different places, so the dates of the Bronze Age vary. It began

Individuals in Society

The Iceman

ON SEPTEMBER 19, 1991, TWO GERMAN VACATIONERS climbing in the Italian Alps came upon a corpse lying facedown and covered in ice. Scientists determined that the Iceman, as the corpse is generally known, died 5,300 years ago. He was between twenty-five and thirty-five years old at the time of his death, and he stood about five feet two inches tall. An autopsy revealed much about the man and his culture. The bluish tinge of his teeth showed a diet of milled grain, which proves that he came from an environment where crops were grown. The Iceman hunted as well as farmed: he was found with a bow and arrows and shoes of straw, and he wore a furry cap and a robe of animal skins that had been stitched together with thread made from grass.

The equipment discovered with the Iceman demonstrates that his people mastered several technologies. He carried a hefty copper ax, made by someone with a knowledge of metallurgy. In his quiver were numerous wooden arrow shafts and two finished arrows. The arrows had sharpened flint heads and feathers attached to the ends of the shafts with resin-like glue. Apparently the people of his culture knew the value of feathers to direct the arrow and thus had mastered the basics of ballistics. His bow was made of yew, a relatively rare wood in central Europe that is among the best for archers.

Yet a mystery still surrounds the Iceman. When his body was first discovered, scholars assumed that he was a hapless traveler overtaken in a fierce snowstorm. But the autopsy found an arrowhead lodged under his left shoulder. The Iceman was not alone on his last day. Someone was with him, and that someone had shot him from below and behind. The Iceman is the victim in the first murder mystery in Europe, and the case will never be solved.

The artifacts found with the body tell scientists much about how the Iceman lived. The Iceman's shoes, made with a twine framework stuffed with straw and covered with skin, indicate that he used all parts of the animals he hunted. (discovery: Courtesy, Roger Teissl; shoes: South Tyrol Museum of Archaeology, http://www.iceman.it)

QUESTIONS FOR ANALYSIS

1. What does the autopsy of the corpse indicate about the society in which the Iceman lived?
2. How do the objects found with the Iceman support the generalizations about Neolithic society in this chapter?

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What can artifacts tell us about Neolithic society? Examine the objects found with the Iceman, and then complete a quiz and writing assignment based on the evidence and details from this chapter.

See inside the front cover to learn more.

Stone Circle at Nabta Playa, Egypt, ca. 4800 B.C.E. This circle of stones, erected when the Egyptian desert received much more rainfall than it does today, may have been a type of calendar marking the summer solstice. Circular arrangements of stones or ditches were constructed in many places during the Neolithic era, and most no doubt had calendrical, astronomical, and/or religious purposes. (Courtesy of Raymond Betz)

about 3000 B.C.E. in some places, and by about 2500 B.C.E. bronze technology was having an impact in many parts of the world, especially in weaponry. The end of the Bronze Age came with the adoption of iron technology, which also varied in its beginnings from 1200 B.C.E. to 300 B.C.E. (See "Global Trade: Iron," page 50.) All metals were expensive and hard to obtain, however, which meant that stone, wood, and bone remained important materials for tools and weapons long into the Bronze Age.

Objects were not the only things traded over increasingly long distances during the Neolithic period, for people also carried ideas as they traveled on foot or camels, and in boats, wagons, or carts. Knowledge about the seasons and the weather was vitally important for those who depended on crop raising, and agricultural peoples in many parts of the world began to calculate recurring patterns in the world around them, slowly developing calendars. Scholars have demonstrated that people built circular structures of mounded earth or huge upright stones to help them predict the movements of the sun and stars, including Nabta Playa, erected about 4500 B.C.E. in the desert west of the Nile Valley in Egypt, and Stonehenge, erected about 2500 B.C.E. in southern England.

The rhythms of the agricultural cycle and patterns of exchange also shaped religious beliefs and practices. Among foragers, human fertility is a mixed blessing, as too many children can overtax food supplies, but among crop raisers and pastoralists, fertility—of the land, animals, and people—is essential. Shamans and priests developed ever more elaborate rituals designed to assure fertility, in which the gods were often given something from a community's goods in exchange for their favor, such as food offerings, animal sacrifices, or sacred objects. In many places gods came to be associated with patterns of birth, growth, death, and regeneration. They could bring death and destruction, but they also created life. Figurines, carvings, and paintings from the Neolithic include pregnant women and women giving birth, men with erect penises, and creatures that are a combination of a man and a male animal such as a bull or goat. Like humans, the gods came to have a division of labor and a social hierarchy. Thus there were rain gods and sun gods, sky goddesses and moon goddesses, gods that assured the health of cattle or the growth of corn, goddesses of the hearth and home. Powerful father and mother gods sometimes presided, but they were challenged and overthrown by virile young male gods, often in epic battles. Thus, as

human society was becoming more complex, so was the unseen world.

Chapter Summary

Through studying the physical remains of the past, sometimes with very new high-tech procedures such as DNA analysis, scholars have determined that human evolution involved a combination of factors, including bipedalism, larger brain size, spoken symbolic language, and longer periods of infancy. Humans invented ever more complex tools, many of which were made of stone, from which later scholars derived the name for this earliest period of human history, the Paleolithic era. These tools allowed Paleolithic peoples to shape the world around them. During this era, humans migrated out of Africa, adapting to many different environments and developing diverse cultures. Early humans lived in small groups of related individuals, moving through the landscape as foragers in the search for food. Social and gender hierarchies were probably much less pronounced than they would become later. Beginning around 50,000 B.C.E. people in many parts of the world began to decorate their surroundings with images that suggest they had developed ideas about supernatural or spiritual forces.

Beginning about 9000 B.C.E. people living in southwest Asia, and then elsewhere, began to plant seeds as well as gather wild crops, raise certain animals, and selectively breed both plants and animals to make them more useful to humans. This domestication of plants and animals was the most important change in human history and marked the beginning of the Neolithic era. Crop raising began as horticulture, in which people—often women—used hand tools to plant and harvest. Animal domestication began with sheep and goats, which were often herded from place to place, a system called pastoralism. The domestication of large animals led to plow agriculture, through which humans could raise much more food, and the world's population grew. Plow agriculture allowed for a greater division of labor, which strengthened social hierarchies based on wealth and gender. Neolithic agricultural communities developed technologies to meet their needs and often traded with one another for products that they could not obtain locally. Religious ideas came to reflect the new agricultural society, with fertility as the most important goal and the gods, like humans, arranged in a hierarchy.

CHRONOLOGY

ca. 4.4 million years ago	*Ardipithecus* evolve in Africa
ca. 2.5–4 million years ago	*Australopithecus* evolve in Africa
ca. 500,000–2 million years ago	*Homo erectus* evolve and spread out of Africa
ca. 250,000–9000 B.C.E.	Paleolithic era
ca. 250,000 years ago	*Homo sapiens* evolve in Africa
ca. 30,000–150,000 years ago	Neanderthals flourish in Europe and western Asia
ca. 120,000 years ago	*Homo sapiens* migrate out of Africa to Eurasia
ca. 50,000 years ago	Human migration to Australia
ca. 20,000–30,000 years ago	Possible human migration from Asia to the Americas
ca. 25,000 B.C.E.	Earliest evidence of woven cloth and baskets
ca. 15,000 B.C.E.	Earliest evidence of bows and atlatls; humans cross the Bering Strait land bridge to the Americas
ca. 15,000–10,000 B.C.E.	Final retreat of glaciers; megafaunal extinctions
ca. 9000 B.C.E.	Beginning of the Neolithic; horticulture; domestication of sheep and goats
ca. 7000 B.C.E.	Domestication of cattle; plow agriculture
ca. 5500 B.C.E.	Smelting of copper
ca. 5000 B.C.E.	Invention of pottery wheel
ca. 3200 B.C.E.	Earliest known invention of writing
ca. 3000 B.C.E.	Development of wheeled transport; beginning of bronze technology
ca. 2500 B.C.E.	Bronze technology becomes common in many areas; beginning of the Bronze Age

NOTES

1. Chinook Blessing Litany, in Wilma Mankiller, ed., *Every Day Is a Good Day: Reflections by Contemporary Indigenous Women* (Golden, Colo.: Fulcrum Publishing, 2004), pp. 170, 171. Copyright © 2004 by Wilma P. Mankiller. Used by permission of Fulcrum Publishing.
2. Code of Hammurabi, article 171, translated by L. W. King (1910), Internet Ancient History Sourcebook, http://www.fordham.edu/halsall/ancient/hamcode.html#text.

CONNECTIONS

The human story is often told as a narrative of unstoppable progress toward greater complexity. The simple stone hand axes of the Paleolithic were replaced by the specialized tools of the Neolithic and then by bronze, iron, steel, plastic, and silicon. The small kin groups of the Paleolithic gave way to Neolithic villages that grew ever larger until they became cities and eventually today's megalopolises. Egalitarian foragers became stratified by divisions of wealth and power that were formalized as aristocracies, castes, and social classes, leading to today's vast divisions between wealth and poverty. Oral rituals of worship, healing, and celebration in which everyone participated grew into a dizzying array of religions, philosophies, and branches of knowledge presided over by specialists including priests, scholars, scientists, doctors, generals, and entertainers. The rest of this book traces this story and explores the changes over time that are the central thread of history.

As you examine what—particularly in world history—can seem to be a staggering number of developments, it is also important to remember that many things were slow to change and that some aspects of human life in the Neolithic, or even the Paleolithic, continued. Foraging, horticulture, pastoralism, and agriculture have been the primary economic activities of most people throughout the entire history of the world. Though today there are only a few foraging groups in very isolated areas, there are significant numbers of horticulturalists and pastoralists, and their numbers were much greater just a century ago. At that point the vast majority of the world's people still made their living directly through agriculture. The social patterns set in early agricultural societies—with most of the population farming the land and a small number of elite who lived off their labor—lasted for millennia. You have no doubt recognized other similarities between the early peoples discussed in this chapter and the people you see around you, and it is important to keep these continuities in mind as you embark on your examination of human history.

Review and Explore

Make It Stick

LearningCurve

Go online and use LearningCurve to retain what you've read.

Identify Key Terms

Identify and explain the significance of each item below.

hominids (p. 3)
Paleolithic era (p. 4)
foraging (p. 4)
Neolithic era (p. 4)
Neanderthals (p. 7)
megafaunal extinction (p. 9)
division of labor (p. 10)
animism (p. 12)
shamans (p. 12)
Agricultural Revolution (p. 15)
domesticated (p. 15)
horticulture (p. 15)
pastoralism (p. 20)
social hierarchies (p. 22)
patriarchy (p. 23)

Review the Main Ideas

Answer the focus questions from each section of the chapter.

1. How did humans evolve, and where did they migrate? (p. 2)
2. What were the key features of Paleolithic society? (p. 9)
3. How did plant and animal domestication develop, and what effects did it have on human society? (p. 14)
4. How did growing social and gender hierarchies and expanding networks of trade increase the complexity of human society in the Neolithic period? (p. 22)

Make Connections

Analyze the larger developments and continuities within and across chapters.

1. Why is the Agricultural Revolution called the most important change in human history?
2. What continuities persisted between the Paleolithic and Neolithic eras?
3. Why and how did social hierarchies develop?

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The Iceman's World

What can artifacts tell us about Neolithic society?
Examine the objects found with the Iceman, and then complete a quiz and writing assignment based on the evidence and details from this chapter.

See inside the front cover to learn more.

Suggested Reading

Burenhelt, Goren. *People of the Stone Age: Hunter-Gatherers and Early Farmers*. 1994. Short articles and extensive illustrations of the transition to agriculture, presented as part of the American Museum of Natural History's excellent *Illustrated History of Humankind*.

Christian, David. *Maps of Time: An Introduction to Big History*. 2002. An elegant examination of the story of the cosmos, from the Big Bang to today.

Diamond, Jared. *Guns, Germs, and Steel: The Fates of Human Societies*, 2d ed. 2005. Extremely influential and wide-ranging examination of the long-term impact of agriculture, animal domestication, and the environment on differing rates of development around the world.

Ehrlich, Paul R., and Anne H. Ehrlich. *Dominant Animal: Human Evolution and the Environment*. 2009. By two of today's leading biologists; traces the impact of humans on the planet from the Paleolithic to today.

Fagan, Brian M. *People of the Earth: An Introduction to World Prehistory*, 13th ed. 2009. A thorough survey that presents up-to-date scholarship, designed for students.

Gamble, Clive. *Timewalkers: The Prehistory of Global Colonization*. 2006. A lively examination of how and why humans came to be everywhere in the world.

Hawkes, Kristen, and Richard R. Paine. *The Evolution of Human Life History*. 2006. A series of articles that examine the ways in which the distinctions between humans and other animals came to be.

Hrdy, Sarah Blaffer. *Mothers and Others: The Evolutionary Origins of Human Understanding*. 2009. Provides the new, more egalitarian perspective on evolution.

Lewin, Roger. *Human Evolution: An Illustrated Introduction*, 5th ed. 2004. A relatively compact and very readable introduction that includes the newest archaeological and chemical evidence.

Lewis-Williams, David, and David Pearce. *Inside the Neolithic Mind: Consciousness, Cosmos, and the Realm of the Gods*. 2005. An analysis of Neolithic belief systems and the cultural products that resulted from them.

McCarter, Susan Foster. *Neolithic*. 2007. An introductory survey of the development and impact of agriculture, with many illustrations.

Pinker, Steven. *How the Mind Works*, 2d ed. 2009. An insightful examination of how the mind evolved, along with a survey of modern brain science.

Pollan, Michael. *The Omnivore's Dilemma: A Natural History of Four Meals*. 2007. A witty and thoughtful look at the way food is produced today, and how this contrasts with our foraging past.

Tattersall, Ian. *Masters of the Planet: The Search for Our Human Origins.* 2012. An up-to-date survey of how humans evolved, in a lively narrative written for general readers.

The Rise of the State in Southwest Asia and the Nile Valley

3200–500 B.C.E.

2

Persian Archers

In this colorful decorative frieze made of glazed brick, men wearing long Persian robes and laced ankle boots carry spears, bows, and quivers. This reconstruction in the Louvre Museum in Paris was made from material found in the palace of King Darius I of Persia in Susa, built about 510 B.C.E. Enough bricks were found there to suggest that there were originally many archers, perhaps representing Darius's royal guards or symbolizing the entire Persian people. (Louvre, Paris, France/Erich Lessing/Art Resource, NY)

LearningCurve
After reading the chapter, go online and use LearningCurve to retain what you've read.

Chapter Preview

Five thousand years ago, humans were living in most parts of the planet. They had designed technologies to meet the challenges presented by deep forests and jungles, steep mountains, and blistering deserts. As the climate changed, they adapted, building boats to cross channels created by melting glaciers and finding new sources of food when old sources were no longer plentiful. In some places the new sources included domesticated plants and animals, which allowed people to live in much closer proximity to one another than they had as foragers.

That proximity created opportunities, as larger groups of people pooled their knowledge to deal with life's challenges, but it also created problems. Human history from that point on can be seen as a response to these opportunities, challenges, and conflicts. As small villages grew into cities, people continued to develop technologies and systems to handle new issues. To control their more complex structures, people created systems of governance that were not based on the kin group, as well as military forces and taxation systems. In some places they invented writing to record taxes, inventories, and payments, and they later put writing to other uses. The first places where these new technologies and systems were introduced were the Tigris and Euphrates River Valleys of southwest Asia and the Nile Valley of northeast Africa, areas whose histories became linked through trade, military conquests, and migrations.

Writing, Cities, and States

- How does writing shape what we can know about the past, and how did writing develop to meet the needs of cities and states?

The remains of buildings, burial sites, weapons, tools, artwork, and other handmade objects provide our only evidence of how people lived, thought, felt, and died during most of the human past. Beginning about 5,000 years ago, however, people in some parts of the world developed a new technology, writing, the surviving examples of which have provided a much wider range of information. Writing developed to meet the needs of more complex urban societies that are often referred to as "civilizations." In particular, writing met the needs of the state, a new political form that developed during the time covered in this chapter.

Written Sources and the Human Past

Writing is closely tied to the idea of history itself. The term *history* comes from the Greek word *historia*, coined by Herodotus (hi-ROD-duh-tuhs) (ca. 484–ca. 425 B.C.E.) in the fifth century B.C.E. to describe his inquiry into the past. As Herodotus used them, the

Clay Letter Written in Cuneiform and Its Envelope, ca. 1850 B.C.E. In this letter from a city in Anatolia, located on the northern edge of the Fertile Crescent in what is now southern Turkey, a Mesopotamian merchant complains to his brother at home, hundreds of miles away, that life is hard and comments on the trade in silver, gold, tin, and textiles. Correspondents often enclosed letters in clay envelopes and sealed them by rolling a cylinder seal across the clay, leaving the impression of a scene, just as you might use a stamped wax seal today. Here the very faint impression of the sender's seal at the bottom shows a person, probably the owner of the seal, being led in a procession toward a king or god. (© The Trustees of the British Museum/Art Resource, NY)

words *inquiry* and *history* are the same. Herodotus based his *Histories*, at their core a study of the origins of the wars between the Persians and the Greeks that occurred about the time he was born, on the oral testimony of people he had met as he traveled. Many of these people had been participants in the wars, and Herodotus was proud that he could rely so much on the eyewitness accounts of the people involved. Today we call this methodology "oral history," and it remains a vital technique for studying the recent past. Following the standard practice of the time, Herodotus most likely read his *Histories* out loud at some sort of public gathering. Herodotus also wrote down his histories and consulted written documents. From his day until quite recently, this aspect of his methods has defined history and separated it from prehistory: history came to be regarded as the part of the human past for which there are written records. In this view, history began with the invention of writing in the fourth millennium B.C.E. in a few parts of the world.

As noted in Chapter 1, this line between history and prehistory has largely broken down. Historians who study human societies that developed systems of writing continue to use many of the same types of physical evidence as do those who study societies without writing. For some cultures, the writing or record-keeping systems have not yet been deciphered, so our knowledge of these people also depends largely on physical evidence. Scholars can read the writing of a great many societies, however, adding greatly to what we can learn about them.

Much ancient writing survives only because it was copied and recopied, sometimes years after it was first produced. The oldest known copy of Herodotus's *Histories*, for example, dates from about 900 C.E., nearly a millennium and a half after he finished this book. The survival of a work means that someone from a later period—and often a long chain of someones—judged it worthy of the time, effort, and resources needed to produce copies. The copies may not be completely accurate, either because the scribe made an error or because he (or, much less often, she) decided to change something. Historians studying ancient works thus often try to find as many early copies as they can and compare them to arrive at the version they think is closest to the original.

The works considered worthy of copying tend to be those that, like the *Histories*, are about the political

and military events involving major powers, those that record religious traditions, or those that come from authors who were later regarded as important. By contrast, written sources dealing with the daily life of ordinary men and women were few to begin with and were rarely saved or copied because they were not considered significant.

Some early written texts survive in their original form because people inscribed them in stone, shells, bone, or other hard materials, intending them to be permanent. Stones with inscriptions were often erected in the open in public places for all to see, so they include text that leaders felt had enduring importance, such as laws, religious proclamations, decrees, and treaties. (The names etched in granite on the Vietnam Veterans Memorial in Washington, D.C., are perhaps the best-known modern example, but inscriptions can be found on nearly every major public building.) Sometimes this permanence was accidental: in ancient Mesopotamia (in the area of modern Iraq), all writing was initially made up of indentations on soft clay tablets, which then hardened. Hundreds of thousands of these tablets have survived, the oldest dating to about 3200 B.C.E., and from them historians have learned about many aspects of everyday life. By contrast, writing in Egypt at the same time was often done in ink on papyrus sheets, made from a plant that grows abundantly in Egypt. Some of these papyrus sheets have survived, but papyrus is much more fragile than hardened clay, so most have disintegrated. In China, the oldest surviving writing is on bones and turtle shells from about 1200 B.C.E., but it is clear that writing was done much earlier on less permanent materials such as silk and bamboo. (For more on the origins of Chinese writing, see page 95.)

However they have survived and however limited they are, written records often become scholars' most important original sources for investigating the past. Thus the discovery of a new piece of written evidence from the ancient past—such as the Dead Sea Scrolls, which contain sections of the Hebrew Bible and were first seen by scholars in 1948—is always a major event. But reconstructing and deciphering what are often crumbling documents can take decades, and disputes about how these records affect our understanding of the past can go on forever.

Cities and the Idea of Civilization

Along with writing, the growth of cities has often been a way that scholars mark the increasing complexity of human societies. In the ancient world, residents of cities generally viewed themselves as more advanced and sophisticated than rural folk—a judgment still made today. They saw themselves as more "civilized," a word that comes from the Latin adjective *civilis*, which refers to a citizen either of a town or of a larger political unit such as an empire.

This depiction of people as either civilized or uncivilized was gradually extended to whole societies. Beginning in the eighteenth century European scholars described those societies in which political, economic, and social organizations operated on a large scale, not primarily through families and kin groups, as "civilizations." Civilizations had cities; laws that governed human relationships; codes of manners and social conduct that regulated how people were to behave; and scientific, philosophical, and theological ideas that explained the larger world. Generally only societies that used writing were judged to be civilizations, for writing allowed more permanent expression of thoughts, ideas, and feelings. Human societies in which people were nomadic or lived in small villages without formal laws, and in which traditions and ideas were passed down orally, were generally not regarded as civilizations.

Until the middle of the twentieth century, historians often referred to the earliest places where writing and cities developed as the "cradles of civilization," proposing a model of development for all humanity patterned on that of an individual person. However, the idea that all human societies developed (or should develop) in a uniform process from a "cradle" to a "mature" civilization has now been largely discredited, and some world historians choose not to use the word *civilization* at all because it could imply that some societies are superior to others. But they have not rejected the idea that about 5,000 years ago a new form of human society appeared.

The Rise of States, Laws, and Social Hierarchies

Cities concentrated people and power, and they required more elaborate mechanisms to make them work than had small agricultural villages and foraging groups. These mechanisms were part of what political scientists call "the state," an organization distinct from a tribe or kinship group in which a small share of the population is able to coerce resources out of everyone else in order to gain and then maintain power. In a state, the interest that gains power might be one particular family, a set of religious leaders, or even a charismatic or talented individual able to handle the problems of dense urban communities.

However they are established, states coerce people through violence, or the threat of violence, and develop permanent armies for this purpose. Using armed force every time they need food or other resources is not very efficient, however, so states also establish bureaucracies and systems of taxation. States also need to keep track of people and goods, so they sometimes develop sys-

tems of recording information and accounting, usually through writing, though not always. In the Inca Empire of the Andes, for example, information about money, goods, and people was recorded on collections of colored knotted strings called *khipus* (see page 299). Systems of recording information allow the creation of more elaborate rules of behavior, often written down in the form of law codes, which facilitate further growth in state power, or in the form of religious traditions, which specify what sort of behavior is pleasing to the gods or other supernatural forces.

Written laws and traditions generally create more elaborate social hierarchies, in which divisions between elite groups and common people are established more firmly. They also generally heighten gender hierarchies. Those who gain power in states are most often men, so they tend to establish laws and norms that favor males in marriage, property rights, and other areas.

Whether we choose to call the process "the birth of civilization" or "the growth of the state," in the fourth millennium B.C.E., Neolithic agricultural villages expanded into cities that depended largely on food produced by the surrounding countryside while people living in cities carried out other tasks. The organization of a more complex division of labor was undertaken by an elite group, which enforced its will through laws, taxes, and bureaucracies backed up by armed force or the threat of it. Social and gender hierarchies became more complex and rigid. All this happened first in Mesopotamia, then in Egypt, and then in India and China.

Mesopotamia from Sumer to Babylon

- How did the peoples of Mesopotamia form states and develop new technologies and institutions?

States first developed in Mesopotamia, where sustained agriculture reliant on irrigation from the Euphrates and Tigris Rivers resulted in larger populations, a division of labor, and the growth of cities. Priests and rulers developed ways to control and organize these complex societies, including armies, taxation systems, and written records. Conquerors from the north unified Mesopotamian city-states into larger empires and spread Mesopotamian culture over a large area.

Environmental Challenges, Irrigation, and Religion

Mesopotamia was part of the Fertile Crescent, where settled agriculture first developed (see pages 15–16). The earliest agricultural villages in Mesopotamia were in the northern, hilly parts of the river valleys, where there is abundant rainfall for crops. Farmers had brought techniques of crop raising southward by about 5000 B.C.E., to the southern part of Mesopotamia known as Sumer (SOO-mer). In this arid climate farmers developed large-scale irrigation, which required organized group effort but allowed the population to grow. By about 3800 B.C.E. one of these agricultural villages, Uruk (OO-rook), had expanded significantly, becoming what many historians view as the world's first city, with a population that eventually numbered more than fifty thousand. Over the next thousand years, other cities emerged in Sumer, trading with one another and creating massive hydraulic projects including reservoirs, dams, and dikes to prevent major floods. These cities built defensive walls, marketplaces, and large public buildings; each came to dominate the surrounding countryside, becoming city-states independent from one another, though not very far apart.

The city-states of Sumer relied on irrigation systems that required cooperation and at least some level of social and political cohesion. The

Sumerian Harpist This small clay tablet, carved between 2000 B.C.E. and 1500 B.C.E., shows a seated woman playing a harp. Her fashionable dress and hat suggest that she is playing for wealthy people, perhaps at the royal court. Images of musicians are common in Mesopotamian art, which indicates that music was important in Mesopotamian culture and social life. (Erich Lessing/Art Resource, NY)

authority to run this system was, it seems, initially assumed by Sumerian priests. Encouraged and directed by their religious leaders, people built temples on tall platforms in the center of their cities. Temples grew into elaborate complexes of buildings with storage space for grain and other products and housing for animals. (Much later, by about 2100 B.C.E., some of the major temple complexes were embellished with a huge stepped pyramid, called a ziggurat, with a shrine on the top.) Surrounding the temple and other large buildings were the houses of ordinary citizens, each constructed around a central courtyard.

To Sumerians, and to later peoples in Mesopotamia as well, many different gods and goddesses controlled the world, a religious idea later scholars called **polytheism**. Each deity represented cosmic forces such as the sun, moon, water, and storms. The gods judged good and evil and would punish humans who lied or cheated. Gods themselves suffered for their actions, sometimes for no reason at all, just as humans did. People believed that humans had been created to serve the gods and generally anticipated being well treated by the gods if they served them well. The best way to honor the gods was to make any temple built for them as grand and impressive as possible, because the temple's size demonstrated the strength of the community and the power of its chief deity. Once it was built, the temple itself, along with the shrine on the top of the ziggurat, was often off-limits to ordinary people. Instead the temple was staffed by priests and priestesses who carried out rituals to honor the god or goddess.

Sumerian Politics and Society

Exactly how kings emerged in Sumerian society is not clear. Scholars have suggested that during times of crisis, a chief priest or sometimes a military leader assumed what was supposed to be temporary authority over a city. He established an army, trained it, and led it into battle, making increasing use of bronze weaponry that became more common after 2500 B.C.E. Temporary power gradually became permanent kingship, and kings in some Sumerian city-states began to hand down the kingship to their sons, establishing patriarchal hereditary dynasties in which power was handed down through the male line. This is the point at which written records of kingship begin to appear. The symbol of royal status was the palace, which came to rival the temple in its grandeur.

Kings made alliances with other powerful individuals, often through marriage. Royal family members were responsible for many aspects of government. Kings worked closely with religious authorities and relied on ideas about their connections with the gods, as well as the kings' military might, for their power. Royal children, both sons and daughters, were sometimes priests and priestesses in major temples. Acting together, priests, nobles, and kings in Sumerian cities used force, persuasion, and threats of higher taxes to maintain order, keep the irrigation systems working, and keep food and other goods flowing.

The king and the nobles held extensive tracts of land, as did the temple; these lands were worked by the palace's or the temple's clients—free men and women who were dependent on the palace or the temple. They received crops and other goods in return for their labor. Although this arrangement assured the clients of a livelihood, the land they worked remained the possession of the palace or the temple. Some individuals and families owned land outright and paid their taxes in the form of agricultural products or items they made.

At the bottom rung of society were slaves. Slavery, like many other aspects of society, predates written records, so we are not sure exactly how and when people first began to own other people. Like animals, slaves were a source of physical power for their owners, providing them an opportunity to amass more wealth and influence.

Each of these social categories included both men and women, but their experiences were not the same, for Sumerian society made distinctions based on gender. Most elite landowners were male, but women who held positions as priestesses or as queens ran their own estates independently of their husbands and fathers. Some women owned businesses and took care of their own accounts. They could own property and distribute it to their offspring. Sons and daughters inherited from their parents, although a daughter received her inheritance in the form of a dowry, which technically remained hers but was managed by her husband or husband's family after marriage. The Sumerians established the basic social, economic, and intellectual patterns of Mesopotamia and influenced their neighbors to the north and east.

Writing, Mathematics, and Poetry

The origins of writing probably date back to the ninth millennium B.C.E., when people in southwest Asia used clay tokens as counters for record keeping. By the fourth millennium people had realized that impressing the tokens on soft clay, or drawing pictures of the

- **polytheism** The worship of many gods and goddesses.
- **cuneiform** Sumerian form of writing; the term describes the wedge-shaped marks made by a stylus.
- **epic poem** An oral or written narration of the achievements and sometimes the failures of heroes that embodies people's ideas about themselves.

tokens on clay, was simpler than making tokens. This breakthrough in turn suggested that more information could be conveyed by adding pictures of other objects, and slowly the new technology of writing developed. The result was a complex system of pictographs in which each sign pictured an object, such as "star" (line A of Figure 2.1). These pictographs were the forerunners of the Sumerian form of writing known as **cuneiform** (kyou-NEE-uh-form), from the Latin term for "wedge shaped," used to describe the indentations made by a sharpened stylus in clay.

Scribes could combine pictograms to express meaning. For example, the sign for "woman" (line B) and the sign for "mountain" (line C) were combined, literally, into "mountain woman" (line D), which meant "slave woman" because the Sumerians regularly obtained their slave women from wars against enemies in the mountains. Pictographs were initially limited in that they could not represent abstract ideas, but the development of ideograms—signs that represented ideas—made writing more versatile. Thus the sign for "star" could also be used to indicate "heaven," "sky," or even "god." The real breakthrough came when scribes started using signs to represent sounds. For instance, the symbol for "water" (two parallel wavy lines) could also be used to indicate "in," which sounded the same as the spoken word for "water" in Sumerian.

The development of the Sumerian system of writing was piecemeal, with scribes making changes and additions as they were needed. The system became so complicated that the Sumerians established scribal schools, which by 2500 B.C.E. flourished throughout the region. Students at the schools were all male, and most came from families in the middle range of urban society. Each school had a master, a teacher, and monitors. Discipline was strict, and students were caned for sloppy work and misbehavior. One graduate of a scribal school had few fond memories of the joy of learning:

> My headmaster read my tablet, said:
> "There is something missing," caned me.
> . . .
> The fellow in charge of silence said:
> "Why did you talk without permission," caned me.
> The fellow in charge of the assembly said:
> "Why did you stand at ease without permission," caned me.[1]

Scribal schools were primarily intended to produce individuals who could keep records of the property of temple officials, kings, and nobles. Thus writing first developed as a way to enhance the growing power of elites, not to record speech.

Sumerians wrote numbers as well as words on clay tablets, and some surviving tablets show multiplication and division problems. Mathematics was not just a theoretical matter to the people living in Mesopotamia, because the building of cities, palaces, temples, and canals demanded practical knowledge of geometry and trigonometry. The Sumerians and later Mesopotamians made significant advances in mathematics using a numerical system based on units of sixty, ten, and six, from which we derive our division of hours into sixty minutes and minutes into sixty seconds. They also developed the concept of place value—that the value of a number depends on where it stands in relation to other numbers.

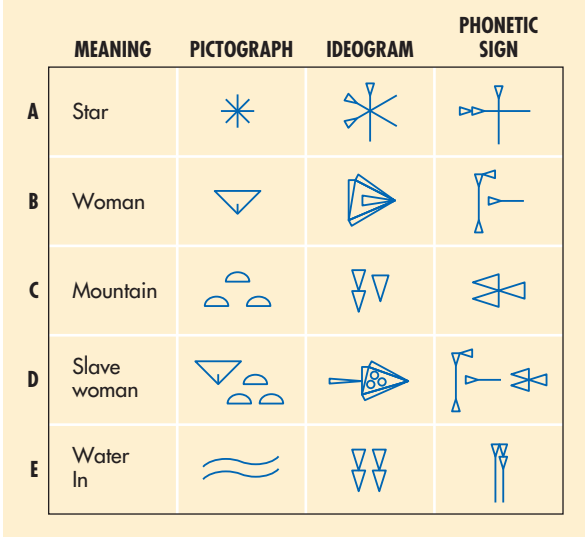
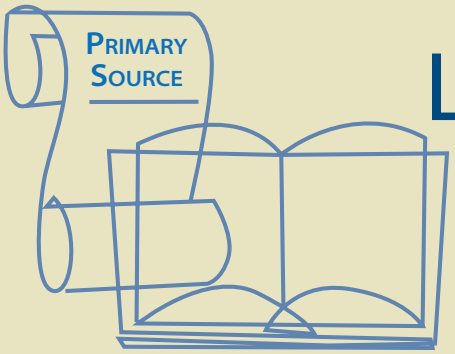


FIGURE 2.1 Sumerian Writing (Source: S. N. Kramer, *The Sumerians: Their History, Culture, and Character.* Copyright © 1963 by the University of Chicago Press. Reproduced with permission of UNIVERSITY OF CHICAGO PRESS in the format Republish in a book via Copyright Clearance Center.)

Written texts were not an important part of Sumerian religious life, nor were they central to the religious practices of most of the other peoples in this region. Stories about the gods circulated orally and traveled with people when they moved up and down the rivers, so that gods often acquired new names and new characteristics over the centuries. Sumerians also told stories about heroes and kings, many of which were eventually reworked into the world's first **epic poem**, the *Epic of Gilgamesh* (GIL-guh-mesh), which was later written down. An epic poem is a narration of the achievements, labors, and sometimes failures of heroes that embodies people's ideas about themselves. Historians can use epic poems to learn about various aspects of a society, and to that extent epics can be used as historical sources. The epic recounts the wanderings of Gilgamesh—the semihistorical king of Uruk—and his search for eternal life, and it grapples with enduring questions about life and death, friendship, humankind and deity, and immortality. (See "Listening to the Past: Gilgamesh's Quest for Immortality," page 38.)



Listening to the Past

Gilgamesh's Quest for Immortality

The human desire to escape the grip of death appears in many cultures. The Epic of Gilgamesh *is perhaps the earliest recorded treatment of this topic. The oldest elements of the epic go back to stories told in the third millennium* B.C.E. *According to tradition, Gilgamesh was a king of the Sumerian city of Uruk. In the story, Gilgamesh is not fulfilling his duties as the king very well and sets out with his friend Enkidu to perform wondrous feats against fearsome agents of the gods. Together they kill several supernatural beings, and the gods decide that Enkidu must die. He foresees his own death in a dream.*

"Listen again, my friend [Gilgamesh]! I had a dream in the night.
The sky called out, the earth replied,
I was standing in between them.
There was a young man, whose face was obscured.
His face was like that of an Anzu-bird.
He had the paws of a lion, he had the claws of an eagle.
He seized me by my locks, using great force against me. . . .
He seized me, drove me down to the dark house, dwelling of Erkalla's god [the underworld], . . .
On the road where travelling is one way only,
To the house where those who stay are deprived of light. . . ."

Enkidu sickens and dies. Gilgamesh is distraught and determined to become immortal. He decides to journey to Ut-napishtim and his wife, the only humans who have eternal life. Everyone he meets along the way asks him about his appearance, and Gilgamesh always answers with the same words:

"How could my cheeks not be wasted, nor my face dejected,
Nor my heart wretched, nor my appearance worn out,
Nor grief in my innermost being,
Nor my face like that of a long-distance traveller,
Nor my face weathered by wind and heat
Nor roaming open country clad only in a lionskin?
My friend was the hunted mule, wild ass of the mountain, leopard of open country,
Enkidu my friend was the hunted mule, wild ass of the mountain, leopard of open country.
We who met, and scaled the mountain,
Seized the Bull of Heaven [the sacred bull of the goddess Ishtar] and slew it,
Demolished Humbaba [the ogre who guards the forest of the gods] who dwelt in the Pine Forest,
Killed lions in the passes of the mountains,
My friend whom I love so much, who experienced every hardship with me,
Enkidu my friend whom I love so much, who experienced every hardship with me—
The fate of mortals conquered him!
For six days and seven nights I wept over him: I did not allow him to be buried
Until a worm fell out of his nose.
I was frightened and
I am afraid of Death, and so I roam open country.
The words of my friend weigh upon me. . . .
I roam open country on long journeys.
How, O how could I stay silent, how, O how could I keep quiet?
My friend whom I love has turned to clay: Enkidu my friend whom I love has turned to clay.
Am I not like him? Must I lie down too,
Never to rise, ever again?"

Gilgamesh finally reaches Ut-napishtim, to whom he tells his story, and who says to him:

"Why do you prolong grief, Gilgamesh?
Since [the gods made you] from the flesh of gods and mankind,
Since [the gods] made you like your father and mother
[Death is inevitable] . . . ,
Nobody sees the face of Death,
Nobody hears the voice of Death.

Empires in Mesopotamia

The wealth of Sumerian cities also attracted conquerors from the north. Around 2300 B.C.E. Sargon, the king of a region to the north of Sumer, conquered a number of Sumerian cities with what was probably the world's first permanent army and created a large state. The symbol of his triumph was a new capital, the city of Akkad (AH-kahd). Sargon also expanded the Akkadian empire westward to northern Syria, which became the breadbasket of the empire. He encouraged trading networks that brought in goods from as far away as the Indus River in South Asia and what is now Turkey (Map 2.1). Sargon spoke a different language than did the Sumerians, one of the many languages that scholars identify as belonging to the Semitic language family,

Savage Death just cuts mankind down.
Sometimes we build a house, sometimes we make a nest,
But then brothers divide it upon inheritance.
Sometimes there is hostility in [the land],
But then the river rises and brings flood-water. . . .
The Anunnaki, the great gods, assembled;
Mammitum [the great mother goddess] who creates fate
decreed destinies with them.
They appointed death and life.
They did not mark out days for death,
But they did so for life. ”

Gilgamesh asks Ut-napishtim how he and his wife can be immortal like the gods, if death is inevitable. Ut-napishtim tells him the story of how they survived a flood sent by the gods and the chief god Enlil blessed them with eternal life. Gilgamesh wants this as well, but fails two opportunities Ut-napishtim provides for him to achieve it. At the end of the epic, he simply returns to Uruk with the boatman Ur-shanabi, to whom he points out the glories of the city:

“ Go up on to the wall of Uruk, Ur-shanabi, and walk around,
Inspect the foundation platform and scrutinize the brickwork!
Testify that its bricks are baked bricks,
And that the Seven Counsellors must have laid its foundations!
One square mile is city, one square mile is orchards, one square mile is claypits, as well as the open ground of Ishtar's temple.
Three square miles and the open ground comprise Uruk. ”

Source: *Myths from Mesopotamia: Creation, the Flood, Gilgamesh, and Others*, trans. Stephanie Dalley (Oxford: Oxford University Press, 1989), pp. 88–89, 103–104, 107, 108–109, 120. Used by permission of Oxford University Press.

Gilgamesh, from decorative panel of a lyre unearthed at Ur.
(Courtesy of the Penn Museum, Image #150108)

QUESTIONS FOR ANALYSIS

1. What does the *Epic of Gilgamesh* reveal about Sumerian attitudes toward the gods and human beings?
2. What does the epic tell us about Sumerian views of the nature of human life? Where do human beings fit into the cosmic world?
3. At the end of his quest, did Gilgamesh achieve immortality? If so, what was the nature of that immortality?

which includes modern-day Hebrew and Arabic. Akkadians adapted cuneiform writing to their own language, and Akkadian became the diplomatic language used over a wide area.

Sargon tore down the defensive walls of Sumerian cities and appointed his own sons as their rulers to help him cement his power. He also appointed his daughter, Enheduana (2285–2250 B.C.E.), as high priestess in the city of Ur. Here she wrote a number of hymns, especially those in praise of the goddess Inanna, becoming the world's first author to put her name to a literary composition. (See “Viewpoints 2.1: Addressing the Gods in Mesopotamia and Egypt,” page 41.)

Sargon's dynasty appears to have ruled Mesopotamia for about 150 years, and then collapsed, in part because of a period of extended drought. Various city-

MAP 2.1 Spread of Cultures in Southwest Asia and the Nile Valley, ca. 3000–1640 B.C.E.
This map illustrates the spread of the Mesopotamian and Egyptian cultures through the semicircular stretch of land often called the Fertile Crescent. From this area, the knowledge and use of agriculture spread throughout western Asia, northern Africa, and Europe.

Sargon of Akkad
This bronze head, with elaborately worked hair and beard, might portray the great conqueror Sargon of Akkad (though his name does not appear on it). The eyes were originally inlaid with precious jewels, which have since been gouged out. Produced about 2300 B.C.E., this head was found in the Assyrian capital of Nineveh, where it had been taken as loot. (© Interfoto/Alamy)

states then rose to power, one of which was centered on the city of Babylon. Babylon was in an excellent position to dominate trade on both the Tigris and Euphrates Rivers, and it was fortunate in having a very able ruler in Hammurabi (hahm-moo-RAH-bee) (r. 1792–1750 B.C.E.). Initially a typical king of his era, he unified Mesopotamia later in his reign by using military force, strategic alliances with the rulers of smaller territories, and religious ideas. As had earlier rulers, Hammurabi linked his success with the will of the gods. He connected himself with the sun-god Shamash, the god of law and justice, and encouraged the spread of myths that explained how Marduk, the primary god of Babylon, had been elected king of the gods by the other deities in Mesopotamia. Marduk later became widely regarded as the chief god of Mesopotamia, absorbing the qualities and powers of other gods. Babylonian ideas and beliefs thus became part of the cultural mixture of Mesopotamia, which spread far beyond the Tigris and Euphrates Valleys to the shores of the Mediterranean Sea and the Harappan cities of the Indus River Valley (see pages 65–68).

Life Under Hammurabi

Hammurabi's most memorable accomplishment was the proclamation of an extensive law code, introduced about 1755 B.C.E. Hammurabi's was not the first law code in Mesopotamia; the earliest goes back to about 2100 B.C.E. Like the codes of the earlier lawgivers,

Viewpoints 2.1

Addressing the Gods in Mesopotamia and Egypt

• *Hymns and incantations to the gods are among the earliest written works in Mesopotamia and Egypt. Enheduana, the daughter of Sargon of Akkad, was appointed by her father as high priestess in the Sumerian city of Ur, where she wrote a number of literary and religious works, which were frequently recopied long after her death. The first text below is a part of her best-known work, a hymn to the goddess Inanna. The second text below was inscribed on a wall of the royal burial chambers in the pyramid of the Egyptian king Unas (r. 2375–2345 B.C.E.) at Saqqara, a burial ground near the Nile. It is one of many incantations designed to assist the king's ascent to the heavens and transformation into a god.*

Enheduana's "Exaltation of Inanna"

"Your divinity shines in the pure heavens. . . . Your torch lights up the corners of heaven, turning darkness into light. The men and women form a row for you and each one's daily status hangs down before you. Your numerous people pass before you, as before Utu [the sun-god], for their inspection. No one can lay a hand on your precious divine powers; all your divine powers. . . . You exercise full ladyship over heaven and earth; you hold everything in your hand. Mistress, you are magnificent, no one can walk before you. You dwell with great An [the god of the heavens] in the holy resting-place. Which god is like you in gathering together . . . in heaven and earth? You are magnificent, your name is praised, you alone are magnificent!

I am En-hedu-ana, the high priestess of the moon god. . . . Mercy, compassion, care, lenience and homage are yours, and to cause flood storms, to open hard ground and to turn darkness into light. My lady, let me proclaim your magnificence in all lands, and your glory! Let me praise your ways and greatness! Who rivals you in divinity? Who can compare with your divine rites? . . . An and Enlil [the chief god of Sumer] have determined a great destiny for you throughout the entire universe. They have bestowed upon you ladyship in the assembly chamber. Being fitted for ladyship, you determine the destiny of noble ladies. Mistress, you are magnificent, you are great! Inanna, you are magnificent, you are great! My lady, your magnificence is resplendent. May your heart be restored for my sake! Your great deeds are unparalleled, your magnificence is praised! Young woman, Inanna, your praise is sweet!"

Pyramid Text of King Unas

"Re-Atum [the sun god], this Unas comes to you,
A spirit indestructible
Who lays claim to the place of the four pillars!
Your son comes to you, this Unas comes to you,
May you cross the sky united in the dark,
May you rise in lightland, the place in which you shine!
Osiris, Isis, go proclaim to Lower Egypt's gods
And their spirits:
"This Unas comes, a spirit indestructible,
Like the morning star above Hapy [the god of the flooding of the Nile],
Whom the water-spirits worship;
Whom he wishes to live will live,
Whom he wishes to die will die!"
. . .
Thoth [the god of law and science], go proclaim to the gods of the west
And their spirits:
"This Unas comes, a spirit indestructible,
Decked above the neck as Anubis,
Lord of the western height,
He will count hearts, he will claim hearts,
Whom he wishes to live will live,
Whom he wishes to die will die!"

Sources: Excerpts from J. A. Black et al., *Electronic Text Corpus of Sumerian Literature* (http://etcsl.orinst.ox.ac.uk/), Oxford 1998–2006, http://etcsl.orinst.ox.ac.uk/cgi-bin/etcsl.cgi?text=t.4.07.3#; Miriam Lichtheim, *Ancient Egyptian Literature: A Book of Readings*. Vol. 1: *The Old and Middle Kingdoms*. Reproduced with permission of UNIVERSITY OF CALIFORNIA PRESS in the format Book via Copyright Clearance Center.

QUESTIONS FOR ANALYSIS

1. What powers and qualities of the goddess Inanna does Enheduana praise? What powers does the author of the pyramid text ascribe to the god-king Unas?
2. Enheduana was a member of the ruling dynasty of Akkad, and Unas was the king of Egypt. How did their social position shape their relationship to the gods? What differences do you see in their relationships to the gods in the two works?

Hammurabi's law code proclaimed that he issued his laws on divine authority "to establish law and justice in the language of the land, thereby promoting the welfare of the people." Hammurabi's code set a variety of punishments for breaking the law, including fines and physical punishment such as mutilation, whipping, and burning. It demanded that the punishment fit the crime, calling for "an eye for an eye and a tooth for a tooth," at least among social equals, although higher-ranking people could pay a fine to lower-ranking victims instead of having an arm broken or losing an eye.

Hammurabi's code provides a wealth of information about daily life in Mesopotamia, although, like all law codes, it prescribes what the lawgivers hope will be the situation rather than providing a description of real life. We cannot know if its laws were enforced, but we can use it to see what was significant to people in Hammurabi's society. Because of farming's fundamental importance, the code dealt extensively with agriculture. Tenants faced severe penalties for neglecting the land or not working it at all. Since irrigation was essential to grow crops, tenants had to keep the canals and ditches in good repair. Anyone whose neglect of the canals resulted in damaged crops had to either bear the cost of losses or be sold into slavery. The code also regulated other trades, and artisans had to guarantee the quality of their goods and services to consumers. Hammurabi gave careful attention to marriage and the family. As elsewhere in the area, marriage had aspects of a business agreement. The groom or his father offered the prospective bride's father a gift, and if this was acceptable, the bride's father provided his daughter with a dowry, which technically remained hers. The penalty for adultery, defined as sex between a married woman and a man not her husband, was death, but a husband had the power to spare his wife by obtaining a pardon for her from the king. (Sex between a married man and a woman who was not his wife was not defined as adultery and carried no penalty.) A father could not disinherit a son without just cause, and the code ordered the courts to forgive a son for his first offense. On family matters and other issues, Hammurabi's code influenced other law codes, including those later written down in Hebrew Scripture (see page 53).

Law Code of Hammurabi Hammurabi ordered his code to be inscribed on stone pillars and set up in public throughout the Babylonian empire. At the top of the pillar Hammurabi (left) is depicted receiving the rod and ring of authority from Shamash, the god of law and justice.

The Egyptians

☐ How did the Egyptians create a prosperous and long-lasting society?

At about the same time that Sumerian city-states expanded and fought with one another in the Tigris and Euphrates Valleys, a more cohesive state under a single ruler grew in the valley of the Nile River in North Africa. This was Egypt, which for long stretches of history was prosperous and secure. At various times groups invaded and conquered Egypt or migrated into Egypt seeking better lives. Often these newcomers adopted aspects of Egyptian religion, art, and politics, and Egyptians also carried their traditions with them when they established an empire and engaged in trade.

The Nile and the God-King

The Greek historian and traveler Herodotus called Egypt the "gift of the Nile," and no other single geographical factor had such a fundamental and profound

impact on Egyptian life, society, and history as this river (Map 2.2). The Nile flooded once a year for a period of several months, bringing fertile soil and moisture for farming. In contrast to the violent and destructive floods of the Tigris and Euphrates, Nile floods were relatively gentle, and Egyptians praised the Nile primarily as a creative and comforting force:

> Hail to thee, O Nile, that issues from the earth
> and comes to keep Egypt alive! . . .
> He that waters the meadows which Ra created,
> He that makes to drink the desert . . .
> He who makes barley and brings emmer [wheat]
> into being . . .
> He who brings grass into being for the cattle . . .
> He who makes every beloved tree to grow . . .
> O Nile, verdant art thou, who makest man and
> cattle to live.[2]

Through the fertility of the Nile and their own hard work, Egyptians produced an annual agricultural surplus, which in turn sustained a growing and prosperous population. The Nile also unified Egypt, serving as a highway that promoted easy communication.

The political power structures that developed in Egypt came to be linked with the Nile. Somehow the idea developed that a single individual, a king, was responsible for the rise and fall of the Nile. The king came to be viewed as a descendant of the gods and thus a god himself. This belief came about before the development of writing in Egypt, so the precise details of its origins have been lost. Political unification most likely proceeded slowly, but stories told about early kings highlighted one who had united Upper Egypt—the upstream valley in the south—and Lower Egypt—the delta area of the Nile that empties into the Mediterranean Sea—into a single kingdom around 3100 B.C.E. Historians later divided Egyptian history into dynasties, or families, of kings, and more recently into periods with distinctive characteristics (see Thematic Chronology, above). The political unification of Egypt in the Archaic Period (3100–2660 B.C.E.) ushered in the period known as the Old Kingdom (2660–2180 B.C.E.), an era of prosperity, artistic flowering, and the evolution of religious beliefs.

The focal point of religious and political life in the Old Kingdom was the king, who commanded the wealth, resources, and people of Egypt. The king's surroundings had to be worthy of a god, and only a magnificent palace was suitable for his home; in fact, the word **pharaoh**, which during the New Kingdom (1570–1070 B.C.E.) came to be used for the king, originally meant "great house." Just as the kings occupied a great house in life, so they reposed in great pyramids after death. Built during the Old Kingdom, these massive stone tombs contained all the things needed by the king in his afterlife and also symbolized the king's power and his connection with the sun-god.

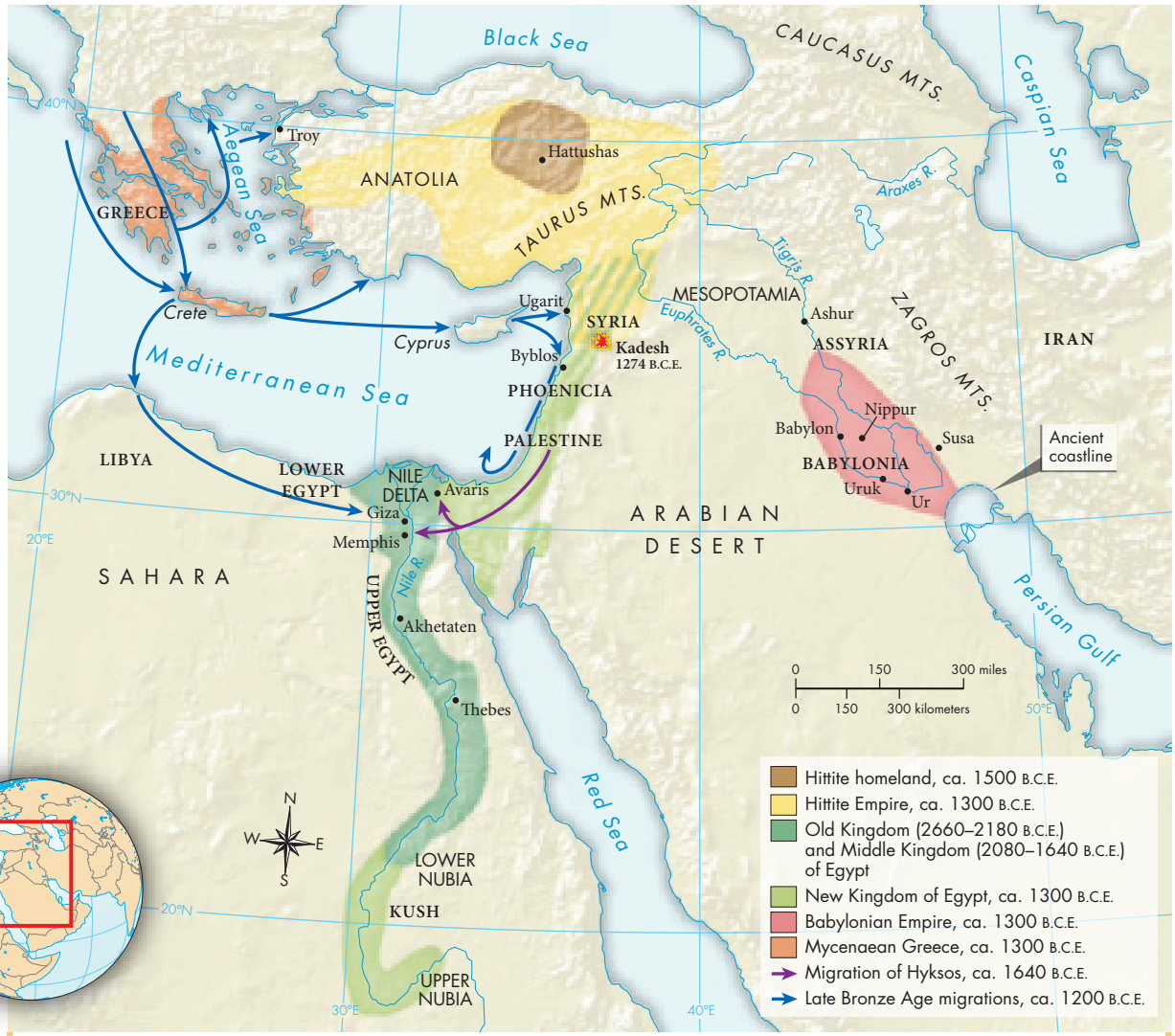
Like the Mesopotamians, the Egyptians were polytheistic, worshipping many gods of all types, some mightier than others. They developed complex ideas of their gods that reflected the world around them, and these views changed over the many centuries of Egyptian history as gods took on new attributes and often merged with one another. During the Old Kingdom, Egyptians considered the sun-god Ra the creator of life. Much later, during the New Kingdom (see page 46), the pharaohs of a new dynasty favored the worship of a different sun-god, Amon, whom they described as creating the entire cosmos by his thoughts. As his cult grew, Amon came to be identified with Ra, and eventually the Egyptians combined them into one sun-god, Amon-Ra.

The Egyptians likewise developed views of an afterlife that reflected the world around them and that changed over time. During the later part of the Old Kingdom, the walls of kings' tombs were carved with religious texts that provided spells that would bring the king back to life and help him ascend to heaven. (See "Viewpoints 2.1: Addressing the Gods in Mesopotamia and Egypt," page 41.) Toward the end of the Old

PERIODS OF EGYPTIAN HISTORY

PERIOD	DATES	SIGNIFICANT EVENTS
Archaic	3100–2660 B.C.E.	Unification of Egypt
Old Kingdom	2660–2180 B.C.E.	Construction of the pyramids
First Intermediate	2180–2080 B.C.E.	Political chaos
Middle Kingdom	2080–1640 B.C.E.	Recovery and political stability
Second Intermediate	1640–1570 B.C.E.	Hyksos migrations; struggles for power
New Kingdom	1570–1070 B.C.E.	Creation of an Egyptian empire; growth in wealth
Third Intermediate	1100–653 B.C.E.	Political fragmentation and conquest by outsiders

- **Hammurabi's law code** A proclamation issued by Babylonian king Hammurabi to establish laws regulating many aspects of life.
- **pharaoh** The title given to the king of Egypt in the New Kingdom, from a word that meant "great house."



Mapping the Past

MAP 2.2 Empires and Migrations in the Eastern Mediterranean The rise and fall of empires in the eastern Mediterranean were shaped by internal developments, military conflicts, and the migration of peoples to new areas.

ANALYZING THE MAP At what point was the Egyptian Empire at its largest? The Hittite Empire? What were the other major powers in the eastern Mediterranean at this time?

CONNECTIONS What were the major effects of the migrations of the Hyksos? Of the late Bronze Age migrations? What clues does the map provide as to why the late Bronze Age migrations had a more powerful impact than those of the Hyksos?

Kingdom, the tombs of powerful nobles also contained such inscriptions, an indication that more people expected to gain everlasting life. In the Middle Kingdom (2080–1640 B.C.E.), new types of spells appeared on the coffins of even more people, a further expansion in admissions to the afterlife. During the New Kingdom, a time when Egypt came into greater contact with the cultures of the Fertile Crescent, Egyptians developed even more complex ideas about the afterlife, recording these in written funerary manuscripts that have come to be known as the *Book of the Dead*. These texts explained that the soul left the body to become part of the divine after death and told of the god Osiris (oh-SIGH-ruhs), who died each year and was then brought back to life by his wife Isis (IGH-suhs) when the Nile flooded. Osiris eventually became king of the dead, weighing dead humans' hearts to determine whether they had lived justly enough to deserve ever-

Picturing the Past

Egyptian Home Life This grave painting depicts an intimate moment in the life of an aristocratic family, with the father and mother in the center and their children around them. (Giraudon/The Bridgeman Art Library)

ANALYZING THE IMAGE What evidence do you find in the painting that Egyptian artists based the size of figures on people's status in the household?

CONNECTIONS Based on your reading, how might an image of a poor family differ from this depiction?

lasting life. Egyptians also believed that proper funeral rituals, in which the physical body was mummified, were essential for life after death, so Osiris was assisted by Anubis, the jackal-headed god of mummification.

To ancient Egyptians, the king embodied justice and order—harmony among people, nature, and the divine. Kings did not always live up to this ideal, of course. The two parts of Egypt were difficult to hold together, and several times in Egypt's long history there were periods of civil war and political fragmentation, which scholars term the First (2180–2080 B.C.E.) and Second (1640–1570 B.C.E.) Intermediate Periods. Yet the monarchy survived, and in each period a strong warrior-king arose to restore order and expand Egyptian power.

Egyptian Society and Work

Egyptian society reflected the pyramids that it built. At the top stood the pharaoh, who relied on a circle of nobles, officials, and priests to administer his kingdom. All of them were assisted by scribes, who used a writing system perhaps adapted from Mesopotamia or perhaps developed independently. Egyptian scribes actually created two writing systems: one called hieroglyphics for engraving important religious or political texts on stone or writing them on papyrus made from reeds growing in the Nile Delta, and a much simpler system called hieratic that allowed scribes to write more quickly and was used for the documents of daily life. Students learned hieratic first, and only those from well-off families or whose families had high aspirations

took the time to learn hieroglyphics. The cities of the Nile Valley were also home to artisans of all types, along with merchants and other tradespeople. A large group of farmers made up the broad base of the social pyramid.

For Egyptians, the Nile formed an essential part of daily life. During the flooding season—from June to October—farmers worked on the pharaoh's building programs and other tasks away from their fields. When the water began to recede, they diverted some of it into ponds for future irrigation and began planting wheat and barley for bread and beer, using plows pulled by oxen or people. From October to February, farmers planted and tended crops, and from February until the next flood, they harvested them. As in Mesopotamia, common people paid their obligations to their superiors in products and in labor. People's labor obligations in the Old Kingdom may have included forced work on the pyramids and canals, although recent research suggests that most people who built the pyramids were paid for their work. Some young men were drafted into the pharaoh's army, which served as both a fighting force and a labor corps.

The lives of all Egyptians centered around the family. Just as in Mesopotamia, marriage was a business arrangement. A couple's parents arranged the marriage, which seems to have taken place at a young age. Once couples were married, having children, especially sons, was a high priority, as indicated by surviving charms to promote fertility and prayers for successful childbirth. Boys continued the family line, and only they could perform the proper burial rites for their father. Most Egyptian men had only one wife, but among the wealthy some had several wives or concubines. Ordinary women were expected to obey their fathers, husbands, and other men, but they possessed considerable economic and legal rights. They could own land in their own names, operate businesses, and testify in court. Literature and art depict a world in which ordinary husbands and wives enjoyed each other's company.

Migrations, Revivals, and Collapse

While Egyptian civilization flourished in the Nile Valley, various groups migrated throughout the Fertile Crescent and then accommodated themselves to local cultures (see Map 2.2). Some settled in the Nile Delta, including a group the Egyptians called Hyksos, meaning "rulers of the uplands." Although they were later portrayed as a conquering horde, the Hyksos were actually migrants looking for good land, and their entry into the delta, which began around 1800 B.C.E., was probably gradual and generally peaceful. The newcomers began to worship Egyptian deities and modeled their political structures on those of the Egyptians.

The Hyksos brought with them methods of making bronze (see Chapter 1) and casting it into weapons that became standard in Egypt. They thereby brought Egypt fully into the Bronze Age culture of the Mediterranean world. The Hyksos also introduced horse-drawn chariots and the composite bow, made of multiple materials for greater strength, which along with bronze weaponry revolutionized Egyptian warfare. The migration of the Hyksos, combined with a series of famines and internal struggles for power, led Egypt to fragment politically in what later came to be known as the Second Intermediate Period.

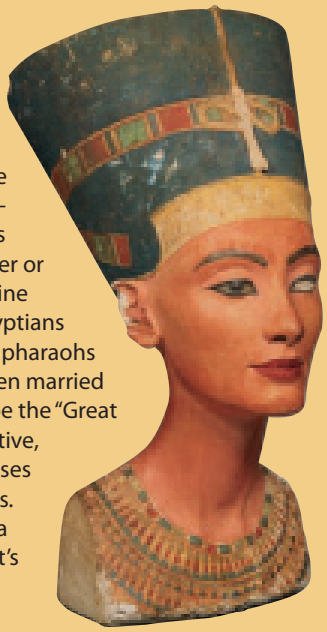
In about 1570 B.C.E. a new dynasty of pharaohs arose, pushing the Hyksos out of the delta and conquering territory to the south and northeast. These warrior-pharaohs inaugurated what scholars refer to as the New Kingdom, a period characterized not only by enormous wealth and conscious imperialism but also by a greater sense of insecurity because of new contacts and military engagements. By expanding Egyptian power beyond the Nile Valley, the pharaohs created the first Egyptian empire, and they celebrated their triumphs with monuments on a scale unparalleled since the pyramids of the Old Kingdom. Their giant statues and rich tombs might also indicate an expansion of imported slave labor, although some scholars are rethinking the extent of slave labor in the New Kingdom.

The New Kingdom pharaohs include a number of remarkable figures. Among these was Hatshepsut (haht-SHEP-soot) (r. ca. 1479–ca. 1458 B.C.E.), one of the few female pharaohs in Egypt's long history who seized the throne for herself and used her reign to promote building and trade. (See "Individuals in Society: Hatshepsut and Nefertiti," right.) Amenhotep III (ah-men-HOE-tep) (r. ca. 1388–ca. 1350 B.C.E.) corresponded with other powerful kings in Babylonia and other kingdoms in the Fertile Crescent, sending envoys, exchanging gifts, making alliances, and in some cases marrying their daughters. Amenhotep III was succeeded by his son, who took the name Akhenaten (ah-keh-NAH-tuhn) (r. 1351–1334 B.C.E.). He renamed himself as a mark of his changing religious ideas, choosing to worship a new sun-god, Aten, instead of the traditional Amon or Ra. He was not a monotheist—someone who worships only one god—but he did order the erasure of the names of other sun-gods from the walls of buildings, the transfer of taxes from the traditional priesthood of Amon-Ra, and the building of huge new temples to Aten. Akhenaten's wife Nefertiti (nehf-uhr-TEE-tee) supported his religious ideas, but this new religion, imposed from above, failed to find a place among the people, and after his death traditional religious practices returned.

One of the key challenges facing the pharaohs after Akhenaten was the expansion of the kingdom of the

Individuals in Society

Hatshepsut and Nefertiti



Painted limestone bust of Nefertiti. (bpk, Berlin/Aegyptisches Museum, Staatliche Museen, Berlin, Germany/Photo: Margarete Buesing/Art Resource, NY)

Granite head of Hatshepsut. (bpk, Berlin/Aegyptisches Museum, Staatliche Museen, Berlin, Germany/Photo: Margarete Buesing/Art Resource, NY)

EGYPTIANS UNDERSTOOD THE PHARAOH TO be the living embodiment of the god Horus, the source of law and morality, and the mediator between gods and humans. His connection with the divine stretched to members of his family, so his siblings and children were also viewed as in some ways divine. Because of this, a pharaoh often took his sister or half-sister as one of his wives. This concentrated divine blood set the pharaonic family apart from other Egyptians (who did not marry close relatives) and allowed the pharaohs to imitate the gods, who in Egyptian mythology often married their siblings. A pharaoh chose one of his wives to be the "Great Royal Wife," or principal queen. Often this was a relative, though sometimes it was one of the foreign princesses who married pharaohs to establish political alliances.

The familial connection with the divine allowed a handful of women to rule in their own right in Egypt's long history. We know the names of four female pharaohs, of whom the most famous was Hatshepsut. She was the sister and wife of Thutmose II and, after he died, served as regent — as adviser and co-ruler — for her young stepson Thutmose III, who was the son of another woman. Hatshepsut sent trading expeditions and sponsored artists and architects, ushering in a period of artistic creativity and economic prosperity. She built one of the world's great buildings, an elaborate terraced temple at Deir el Bahri, which eventually served as her tomb. Hatshepsut's status as a powerful female ruler was difficult for Egyptians to conceptualize, and she is often depicted in male dress or with a false beard, thus looking more like the male rulers who were the norm. After her death, Thutmose III tried to destroy all evidence that she had ever ruled, smashing statues and scratching her name off inscriptions, perhaps because of personal animosity and perhaps because he wanted to erase the fact that a woman had once been pharaoh. Only within recent decades have historians and archaeologists begun to (literally) piece together her story.

Though female pharaohs were very rare, many royal women had power through their position as Great Royal Wives. The most famous was Nefertiti (ca. 1370–1330 B.C.E.), the wife of Akhenaten. Her name means "the perfect (or beautiful) woman has come," and inscriptions give her many other titles.

Nefertiti used her position to spread the new religion of the sun-god Aten. Together she and Akhenaten built a new palace at Akhetaten, the present-day Amarna, away from the old centers of power. There they developed the cult of Aten to the exclusion of the traditional deities. Nearly the only literary survivor of their religious belief is the "Hymn to Aten," which declares Aten to be the only god. It describes Nefertiti as "the great royal consort whom he, Akhenaten, loves. The mistress of the Two Lands, Upper and Lower Egypt."

Nefertiti is often shown as being the same size as her husband, and in some inscriptions she is performing religious rituals that would normally have been carried out only by the pharaoh. The exact details of her power are hard to determine, however. An older theory held that her husband removed her from power, though there is also speculation that she may have ruled secretly in her own right after his death. Her tomb has long since disappeared, though some scholars believe that an unidentified mummy discovered in 2003 in Egypt's Valley of the Kings may be Nefertiti's.

QUESTIONS FOR ANALYSIS

1. Why might it have been difficult for Egyptians to accept a female ruler?
2. What opportunities do hereditary monarchies such as that of ancient Egypt provide for women? How does this fit with gender hierarchies in which men are understood as superior?

LaunchPad

Online Document Project

Considering Egyptian views of gender roles, what complexities did Egyptian writers and artists face in depicting Hatshepsut? Analyze written and visual representations of Hatshepsut, and then complete a quiz and writing assignment based on the evidence and details from this chapter.

See inside the front cover to learn more.

Hittite Archer in a Chariot In this stylized stone carving made about 1000 B.C.E. in Anatolia (modern-day Turkey), a Hittite archer driven in a chariot shoots toward his foes, while a victim of an earlier shot is trampled beneath the horse's hooves. The arrows might have been tipped with iron, which was becoming a more common material for weapons and tools. (Museum of Anatolian Civilizations, Ankara, Turkey/Gianni Dagli Orti/The Art Archive at Art Resource, NY)

Hittites. At about the same time that the Sumerians were establishing city-states, speakers of **Indo-European languages** migrated into Anatolia, modern-day Turkey. Indo-European is a large family of languages that includes English, most of the languages of modern Europe, ancient Greek, Latin, Persian, Hindi, Bengali, and Sanskrit (for more on Sanskrit, see page 68). It also includes Hittite, the language of one of the peoples who migrated into this area. Information about the Hittites comes from archaeological sources and also from written cuneiform tablets that provide details about politics and economic life. These records indicate that beginning about 1600 B.C.E., Hittite kings began to conquer more territory (see Map 2.2). As the Hittites expanded southward, they came into conflict with the Egyptians, who were establishing their own larger empire. There were a number of battles, but both sides seem to have recognized the impossibility of defeating the other, and in 1258 the Egyptian king Ramesses II (r. ca. 1290–1224 B.C.E.) and the Hittite king Hattusili III (r. ca. 1267–1237 B.C.E.) concluded a peace treaty, which was recorded in both Egyptian hieroglyphics and Hittite cuneiform.

The treaty brought peace between the Egyptians and the Hittites for a time, but this stability did not last. Within several decades of the treaty, groups of seafaring peoples whom the Egyptians called "Sea Peoples" raided, migrated, and marauded in the eastern Mediterranean, disrupting trade and in some cases looting and destroying cities. Just who these people were and where they originated is much debated among scholars, but their raids, combined with the expansion of the Assyrians (see page 55), led to the collapse of the Hittite Empire and the fragmentation of the Egyptian empire in what historians later termed the Third Intermediate Period (1100–653 B.C.E.). There is evidence of drought, and some scholars have suggested that a major volcanic explosion in Iceland cooled the climate for several years, leading to a series of poor harvests. All of these developments are part of a general "Bronze Age Collapse" in the period around 1200 B.C.E. that historians see as a major turning point.

The political and military story of battles, waves of migrations, and the rise and fall of empires can mask striking continuities in the history of Egypt and its neighbors. Disrupted peoples and newcomers shared practical concepts of agriculture and metallurgy with one another, and wheeled vehicles allowed merchants to transact business over long distances. Merchants, migrants, and conquerors carried their gods and goddesses with them, and religious beliefs and practices blended and changed. Cuneiform tablets, wall inscriptions, and paintings testify to commercial exchanges and cultural accommodation, adoption, and adaptation.

The Emergence of New States

The Bronze Age Collapse was a time of massive political and economic disruption, but it was also a period of the spread of new technologies, especially iron. Iron appears to have been smelted in Anatolia as early as 2500 B.C.E., but it was too brittle to be of much use until about 1100 B.C.E., when techniques improved and iron weapons gradually became stronger and cheaper than their bronze counterparts. Thus, in the schema of dividing history into periods according to the main material out of which tools are made (see Chapter 1), the **Iron Age** began in about 1100 B.C.E. Iron weapons became important items of trade around the Mediter-

- **Indo-European languages** A large family of languages that includes English, most of the languages of modern Europe, ancient Greek, Latin, Persian, Hindi, Bengali, and Sanskrit, the sacred tongue of ancient India.
- **Iron Age** Period beginning about 1100 B.C.E. when iron became the most important material for weapons and tools in some parts of the world.
- **Phoenicians** People of the prosperous city-states in what is now Lebanon who traded and founded colonies throughout the Mediterranean and spread the phonetic alphabet.

ranean and throughout the Tigris and Euphrates Valleys, and the technology for making them traveled as well. (See "Global Trade: Iron," page 50.)

The decline of Egypt allowed new powers to emerge. South of Egypt along the Nile was a region called Nubia, which as early as 2000 B.C.E. served as a conduit of trade through which ivory, gold, ebony, and other products flowed north from sub-Saharan Africa. Small kingdoms with large buildings and rich tombs arose in this area. As Egypt expanded during the New Kingdom, it took over northern Nubia, incorporating it into the growing Egyptian empire. The Nubians adopted many features of Egyptian culture, including Egyptian gods, the use of hieroglyphs, and the building of pyramids. Many Nubians became officials in the Egyptian bureaucracy and officers in the army, and there was significant intermarriage between the two groups.

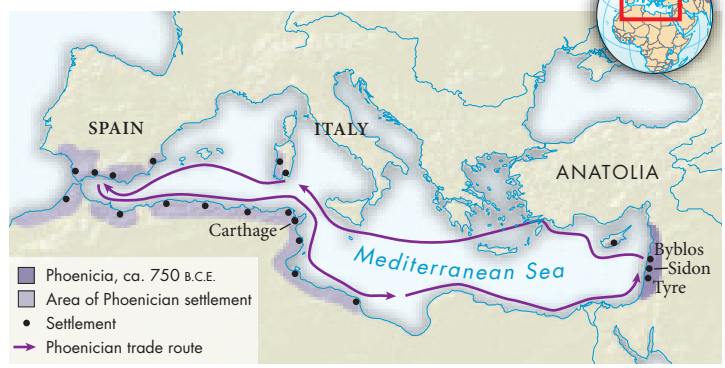
With the contraction of the Egyptian empire, an independent kingdom, Kush, rose to power in Nubia, with its capital at Napata in what is now Sudan. The Kushites conquered southern Egypt, and in 727 B.C.E. the Kushite king Piye (r. ca. 747–716 B.C.E.) swept through the entire Nile Valley to the delta in the north. United once again, Egypt enjoyed a brief period of peace during which the Egyptian culture continued to influence that of its conquerors. In the seventh century B.C.E. invading Assyrians pushed the Kushites out of Egypt, and the Kushite rulers moved their capital farther up the Nile to Meroë, where they built hundreds of pyramids. Meroë became a center of iron production, its iron products the best in the world, smelted using wood from the vast forests in the area. Meroë traded iron goods to much of Africa and across the Red Sea and the Indian Ocean to India. Gold and cotton textiles also provided wealth to the Kushite kingdom, which in the third century B.C.E. developed its own alphabet. It was simpler than the Egyptian alphabet, but Meroitic script has not yet been deciphered.

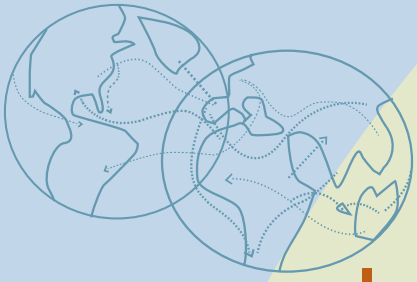
While Kush expanded in the southern Nile Valley, another group rose to prominence along the Mediterranean coast of modern Lebanon. These people established the prosperous commercial centers of Tyre, Sidon, and Byblos, all cities still thriving today. These peoples were master shipbuilders, and from about 1100 B.C.E. to 700 B.C.E. many of the residents of these cities became the seaborne merchants of the Mediterranean. Their most valued products were purple and blue textiles, from which originated their Greek name, **Phoenicians**, meaning "Purple People." They also worked bronze and iron, which they shipped processed or as ore, and made and traded glass products. Phoenician ships often carried hundreds of jars of wine, and the Phoenicians introduced grape growing to new regions around the Mediterranean, dramatically increasing the amount of wine available for consumption and trade. They imported rare goods and materials, including hunting dogs, gold, and ivory, from Persia in the east and from their neighbors to the south.

The variety and quality of the Phoenicians' trade goods generally made them welcome visitors. They established colonies and trading posts throughout the Mediterranean and as far west as the Atlantic coast of modern-day Portugal. In the ninth

Nubian Cylinder Sheath This small silver sheath made about 520 B.C.E., perhaps for a dagger, shows a winged goddess on one side and the Egyptian god Amon-Ra (not visible in this photograph) on the other. It and others like it were found in the tombs of the king of Kush and suggest ways that Egyptian artistic styles and religious ideas influenced cultures farther up the Nile. (Cylinder sheath of Amani-natake-lebte, Nubian, Napatan Period, reign of King Amani-natake-lebte, 538–519 B.C.E. Findspot: Sudan, Nubia, Nuri, Pyramid 10. Gilded silver, colored paste inclusions. Height by diameter: 12 x 3.1 cm. (4 ¾ x 1 ¼ in.). Museum of Fine Arts, Boston. Harvard University–Museum of Fine Arts Expedition, 20.275. Photograph © 2014 Museum of Fine Arts, Boston)

Phoenician Settlements in the Mediterranean



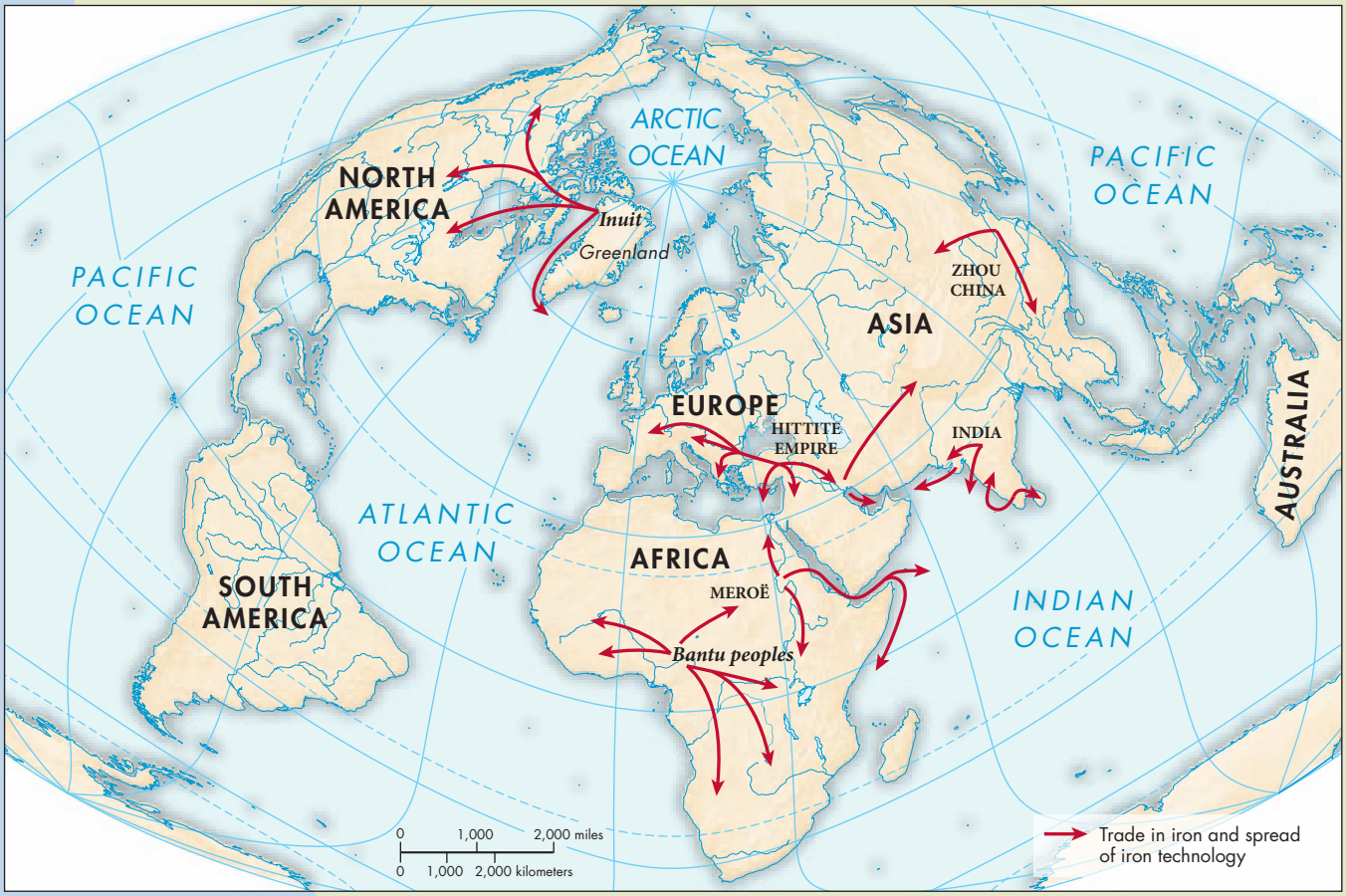


Global Trade

Iron has shaped world history more than any other metal, even more than gold and silver. In its pure state iron is soft, but adding small amounts of carbon and various minerals, particularly at very high temperatures, transforms it into a material with great structural strength. Tools and weapons made of iron dramatically shaped interactions between peoples in the ancient world, and machines made of iron and steel literally created the modern world.

Human use of iron began during the Paleolithic era, when people living in what is now Egypt used small pieces of hematite, a type of iron oxide, as part of their tools, along with stone, bone, and wood. Beginning around 4000 B.C.E. people in several parts of the world began to pick up iron-nickel meteorites and pound them into shapes. Such meteorites were rare, and the objects produced from them were luxury goods, not things for everyday use. Jewelry, weapons, and occasionally tools from meteoric iron have also been found in China, Africa, and North and South America. These were traded over very long distances, including thousands of miles around the Arctic, where indigenous peoples traded sharpened pieces from a gigantic iron meteorite that fell in Greenland for use as harpoon tips and knife blades.

Iron is the most common element in the earth, but most iron on or near the earth's surface occurs in the form of ore, which must be smelted to extract the metal. This is also true of copper and tin, but these can be smelted at much lower temperatures than iron, so they were the first metals to be produced to any great extent and were usually mixed together to form bronze. As artisans perfected bronze metalworking techniques, they also experimented with iron. They developed a long and difficult process to smelt iron, using burning charcoal and a bellows (which raised the temperature further) to extract the iron from the ore. This was done in an enclosed furnace, and



MAP 2.3 Trade in Iron and Iron Technology, to 500 B.C.E.

the process was repeated a number of times as the ore was transformed into wrought iron, which could be formed into shapes.

Exactly where and when the *first* smelted iron was produced is a matter of debate — many places would like to have this honor — but it happened independently in several different places. In Anatolia (modern-day Turkey), the first smelted weapon has been dated to around 2500 B.C.E., but most of the iron produced was too brittle to be of much use until 1100 B.C.E., when techniques improved. Iron weapons gradually became stronger and began to be traded around the Mediterranean. By 1700 B.C.E. artisans in northern India were making and trading iron implements. By 1200 B.C.E. iron was being produced and sold in southern India, though scholars debate whether smelting was discovered independently there or learned through contact with ironmaking cultures to the north. Iron objects were traded from Anatolia north into Greece, central Europe, and western Asia, and by 500 B.C.E. knowledge of smelting had traveled these routes as well.

Smelting was discovered independently in what is now Nigeria in western Africa about 1500 B.C.E. by a group of people who spoke Bantu languages. They carried iron hoes, axes, shovels, and weapons, and the knowledge of how to make them, as they migrated south and east over many centuries, gave them a distinct advantage over foraging peoples. In East Africa, the Kushite people learned the advantages of iron weaponry when the iron-using Assyrians drove them out of Egypt, and they then established a major center of iron production at Meroë and traded down the African coast and across the sea to India.

Ironworkers continued to experiment and improve their products. The Chinese probably learned smelting from Central Asian steppe peoples, but in about 500 B.C.E. artisans in China developed techniques of making cast iron using molds, whereby implements could be made much more efficiently. Somewhere in the Near East ironworkers discovered that if the relatively brittle wrought iron objects were placed on a bed of burning charcoal and then cooled quickly, the outer layer would form into a layer of a much harder material, steel. Goods made of cast iron were usually traded locally because they were heavy, but fine sword and knife blades of steel traveled long distances, and the knowledge of how to make them followed.

century B.C.E. they founded the city of Carthage in modern-day Tunisia, which became the leading city in the western Mediterranean, although it would one day struggle with Rome for domination of the region (see pages 151–153). The Phoenicians' voyages brought them into contact with the Greeks, to whom they introduced many aspects of the older and more urbanized cultures of Mesopotamia and Egypt.

The Phoenicians' overwhelming cultural achievement was the spread of a completely phonetic system of writing — that is, an alphabet (Figure 2.2). Writers of cuneiform and hieroglyphics had developed signs that were used to represent sounds, but these were always used with a much larger number of ideograms. Sometime around 1800 B.C.E., workers in the Sinai Peninsula, which was under Egyptian control, began to use only phonetic signs to write, with each sign designating one sound. This system vastly simplified writing and reading and spread among common people as a practical means of record keeping and communication. Egyptian scribes and officials continued to use hieroglyphics, but the Phoenicians adapted the simpler system for their own language and spread it around the Mediterranean. The Greeks modified this alphabet for their own language, and the Romans later based their alphabet — the script we use to write English today — on Greek. Alphabets based on the Phoenician alphabet were also created in the Persian Empire and formed the basis of Hebrew, Arabic, and various alphabets of South and Central Asia. The system invented by ordinary people and spread by Phoenician merchants is the origin of most of the world's phonetic alphabets in use today.

The Hebrews

□ How did the Hebrews create an enduring written religious tradition?

The legacy of another people who took advantage of Egypt's collapse to found an independent state may have been even more far-reaching than that of the Phoenicians. For a period of several centuries, the Hebrews controlled first one and then two small states on the western end of the Fertile Crescent. Politically unimportant when compared with the Egyptians or Babylonians, the Hebrews created a new form of religious belief, a monotheism based on the worship of an all-powerful god they called **Yahweh** (YAH-way). Beginning in the late seventh century B.C.E. the Hebrews began to write down their religious ideas, traditions,

• **Yahweh** All-powerful god of the Hebrew people and the basis for the enduring religious traditions of Judaism.

FIGURE 2.2 Origins of the Alphabet List of hieroglyphic, Ugaritic, Phoenician, Greek, and Roman sign forms. (Source: A. B. Knapp, *The History and Culture of Ancient Western Asia and Egypt*. Reproduced with permission of Wadsworth Publishing Company in the format Book via Copyright Clearance Center.)

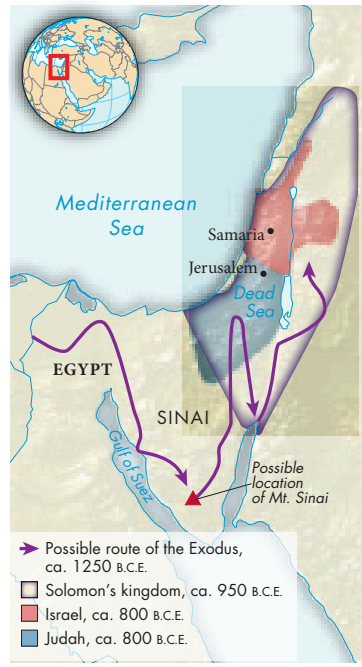
HIEROGLYPHIC	REPRESENTS	UGARITIC	PHOENICIAN	GREEK	ROMAN
	Throw stick			Γ	G
	Man with raised arms			E	E
	Basket with handle			K	K
	Water			M	M
	Snake			N	N
	Eye			O	O
	Mouth			Π	P
	Head			P	R
	Pool with lotus flowers		W	Σ	S
	House			B	B
	Ox-head		K	A	A

laws, advice literature, prayers, hymns, history, and prophecies in a series of books. These were gathered together centuries later to form the Hebrew Bible, which Christians later adopted and termed the "Old Testament" to parallel specific Christian writings in the "New Testament." These writings later became the core of the Hebrews' religion, Judaism, named after Judah, the southern of the two Hebrew kingdoms. Jews today revere these texts, as do many Christians, and Muslims respect them, all of which gives them particular importance.

The Hebrew State

Most of the information about the Hebrews comes from the Bible, which, like all ancient documents, must be used with care as a historical source. Archaeological evidence has supported many of its details, and because it records a living religious tradition, extensive textual and physical research into everything it records continues, with enormous controversies among scholars about how to interpret findings.

The Hebrews were nomadic pastoralists who may have migrated into the Nile Delta from the east seeking good land for their herds of sheep and goats. According to the Hebrew Bible, they were enslaved by the Egyptians but were led out of Egypt by a charismatic leader named Moses. The Hebrews settled in the area between the Mediterranean and the Jordan River known as Canaan and were organized into tribes, each tribe consisting of numerous families who thought of themselves as related to one another. They slowly adopted agriculture and, not surprisingly, at times worshipped the agricultural gods of their neighbors, including Baal, an ancient fertility god represented as a golden calf. In this they followed the common historical pattern of newcomers by adapting the culture of an older, well-established people.



The Hebrew Exodus and State, ca. 1250–800 B.C.E.

The Bible reports that the greatest danger to the Hebrews came from a group known as the Philistines (FIH-luh-steenz), who migrated to and established a kingdom in Canaan. The Philistines' superior technology and military organization at first made them invincible, but the Hebrews found a leader in Saul, who with his men fought the Philistines. Saul subsequently established a monarchy over the Hebrew tribes, an event conventionally dated to about 1025 B.C.E. Saul's work was carried on by

David of Bethlehem, who captured the city of Jerusalem, which he made the religious and political center of the realm. His military successes enlarged the kingdom and his reign was a period of vitality. David's son Solomon (r. ca. 965–925 B.C.E.) launched a building program that the biblical narrative describes as including cities, palaces, fortresses, and roads. The most symbolic of these projects was the Temple of Jerusalem, which became the home of the Ark of the Covenant, the chest that contained the holiest Hebrew religious articles. The Temple of Jerusalem was intended to be the religious heart of the kingdom, a symbol of Hebrew unity and of Yahweh's approval of the Hebrew state.

This state did not last long. At Solomon's death his kingdom broke into political halves. The northern part became Israel, with its capital at Samaria, and the southern half was Judah, with Jerusalem remaining its center. War broke out between the northern and southern halves, and the Assyrians wiped out the northern kingdom in 722 B.C.E. Judah survived numerous invasions until the Babylonians crushed it in 587 B.C.E. The survivors were sent into exile in Babylonia, a period commonly known as the Babylonian Captivity. In 538 B.C.E. the Persian king Cyrus the Great conquered the Babylonians and permitted some forty thousand exiles to return to Jerusalem (see page 56 and "Viewpoints 2.2: Rulers and Divine Favor: Cyrus the Great in the Cyrus Cylinder and Hebrew Scripture," page 54). They rebuilt the temple, although politically the area was simply part of the Persian Empire.

Hebrew Seal Archaeologists found this stone seal in 2012 while unearthing an ancient drainage channel in central Jerusalem. Dating from the seventh or sixth century B.C.E., the tiny seal would have been set in a ring and used for signing letters. The inscription reads, "Belonging to Matanyahu . . . ," a name that is found in Hebrew Scripture and is very close to the name of the current prime minister of Israel, Benjamin Netanyahu. (Bible Land Pictures/akg-images)

The Jewish Religion

During and especially after the Babylonian Captivity, the most important Hebrew texts of history, law, and ethics were edited and brought together in the Torah, the first five books of the Hebrew Bible. Here the exiles redefined their beliefs and practices, establishing what they believed to be the law of Yahweh. Fundamental to an understanding of the Jewish religion is the concept of the Covenant, an agreement that people believed to exist between themselves and Yahweh. According to the Bible, Yahweh appeared to the tribal leader Abraham, promising him that he would be blessed, as would his descendants, if they followed Yahweh. (Because Judaism, Christianity, and Islam all regard this event as foundational, they are referred to as the "Abrahamic religions.") Yahweh next appeared to Moses when he was leading the Hebrews out of Egypt, and Yahweh made a covenant with the Hebrews: if they worshipped Yahweh as their only god, he would consider them his chosen people and protect them from their enemies. Individuals such as Abraham and Moses who acted as intermediaries between Yahweh and the Hebrew people were known as "prophets." Much of the Hebrew Bible consists of writings in the prophets' voices, understood as messages from Yahweh to the Hebrews.

Worship was embodied in a series of rules of behavior, the Ten Commandments, which Yahweh gave to Moses; these required certain kinds of religious observances and forbade the Hebrews to steal, kill, lie, or commit adultery, thus creating a system of ethical absolutes. From the Ten Commandments a complex system of rules of conduct was created and later written down as Hebrew law. Like the followers of other religions, Jews engaged in rituals through which they showed their devotion. They were to please Yahweh by living up to high moral standards and by worshipping him above all other gods. Increasingly this was understood to be a commandment to worship Yahweh alone. The later prophets such as Isaiah created a system of ethical monotheism, in which goodness was understood to come from a single transcendent god, and in which religious obligations included fair and just behavior toward other people as well as rituals.

Like Mesopotamian deities, Yahweh punished people, but the Hebrews also believed he would pro-

Viewpoints 2.2

Rulers and Divine Favor: Cyrus the Great in the Cyrus Cylinder and Hebrew Scripture

• *In Mesopotamia—and elsewhere in the ancient world—individuals who established large empires through conquest often subsequently proclaimed that their triumph was the result of divine favor, and they honored the gods of the regions they conquered. King Cyrus the Great of Persia appears to have followed this tradition. A text written in cuneiform on a sixth-century-B.C.E. Babylonian clay cylinder presents Cyrus describing the way in which the main Babylonian god, Marduk, selected him to conquer Babylon and restore proper government and worship. Cyrus is also portrayed as divinely chosen in the book of Isaiah in Hebrew Scripture, probably written sometime in the late sixth century B.C.E., after Cyrus allowed the Jews to return to Jerusalem. Because Cyrus was not a follower of the Jewish god, however, the issue of divine favor was more complicated.*

The Cyrus Cylinder

"I am Cyrus, king of the universe, the great king, the powerful king, king of Babylon, king of Sumer and Akkad, king of the four quarters of the world. . . .

When I went as harbinger of peace i[nt]o Babylon I founded my sovereign residence within the palace amid celebration and rejoicing. Marduk, the great lord, bestowed on me as my destiny the great magnanimity of one who loves Babylon, and I every day sought him out in awe. My vast troops marched peaceably in Babylon, and the whole of [Sumer] and Akkad had nothing to fear. I sought the welfare of the city of Babylon and all its sanctuaries. As for the population of Babylon, . . . [w]ho as if without div[ine intention] had endured a yoke not decreed for them, I soothed their weariness, I freed them from their bond. . . . Marduk, the great lord, rejoiced at [my good] deeds, and he pronounced a sweet blessing over me, Cyrus, the king who fears him, and over Cambyses, the son [my] issue, [and over] all my troops, that we might proceed further at his exalted command."

The Book of Isaiah, Chapter 45

"Thus said the Lord to Cyrus, His anointed one—whose right hand He has grasped, Treading down nations before him, Ungirding the loins of kings, Opening doors before him, and letting no gate stay shut: I will march before you, and level the hills that loom up; I will shatter doors of bronze and cut down iron bars. I will give you treasures concealed in the dark and secret hoards—So that you may know that it is I the LORD, the God of Israel, who call you by name. For the sake of My servant Jacob, Israel My chosen one, I call you by name, I hail you by title, though you have not known Me. I am the LORD, and there is none else; beside Me, there is no God. I engird you, though you have not known Me. . . .

It was I who roused him [that is, Cyrus] for victory, and who level all roads for him. He shall rebuild My city, and let My exiled people go, without price and without payment—said the LORD of hosts."

Sources: Cylinder inscription translation by Irving Finkel, curator of Cuneiform Collections at the British Museum, www.britishmuseum.org. "The Book of Isaiah" in *Tanakh: A New Translation of The Holy Scriptures According to the Traditional Hebrew Text*.

QUESTIONS FOR ANALYSIS

1. How would you compare the portrayal of Cyrus in the two texts?
2. The Babylonians were polytheistic, and the Hebrews were monotheistic. How does this shape the way divine actions and favor are portrayed in the texts?
3. Both of these texts have been very influential in establishing the largely positive historical view of Cyrus. What limitations might there be in using these as historical sources?