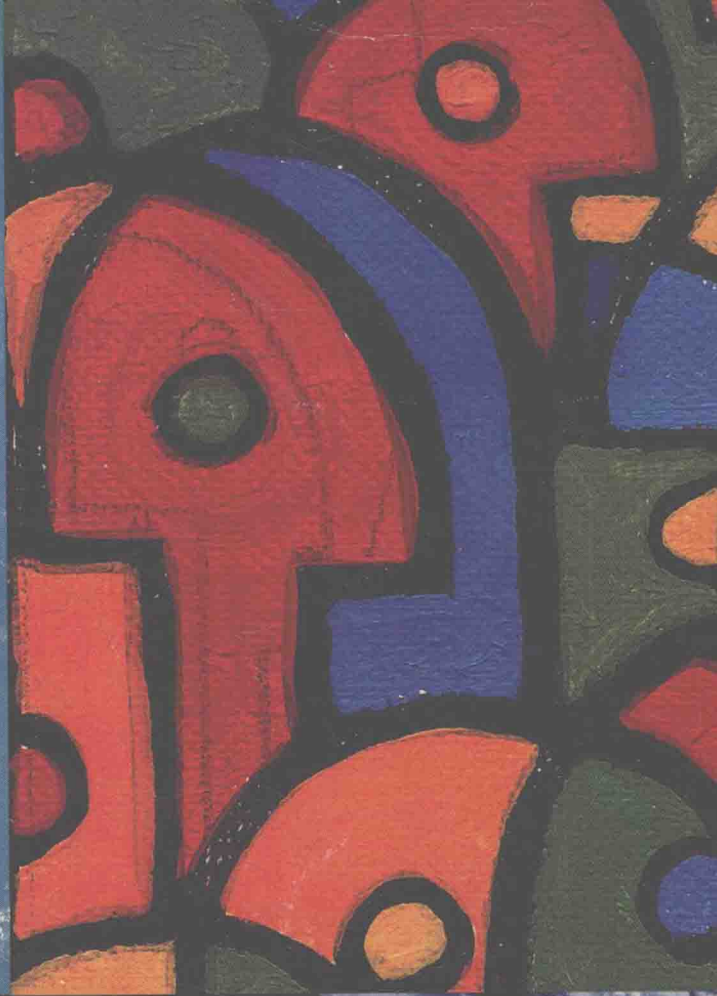
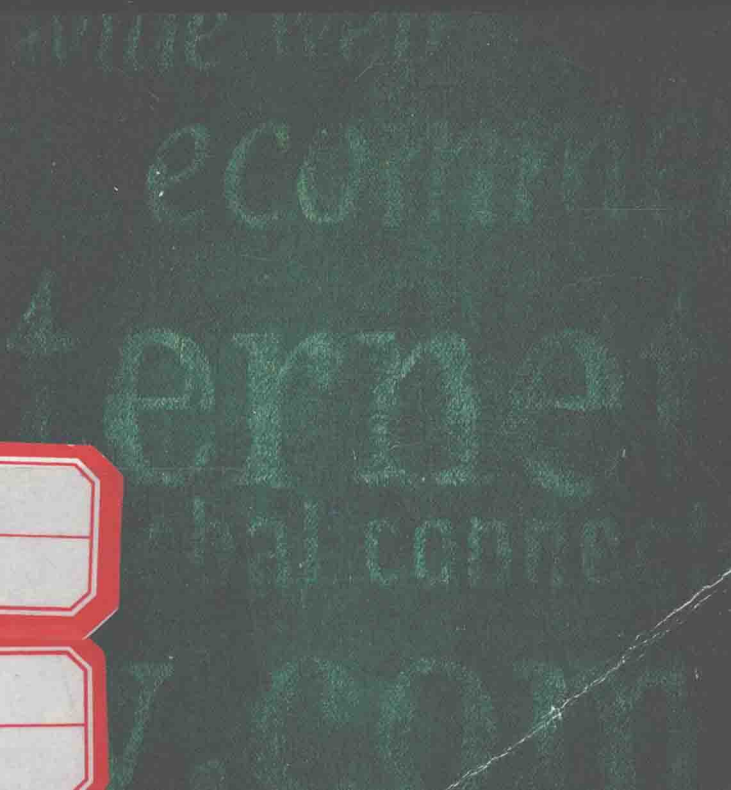


History 3A
World History to 1500

Upshur/Terry/Holoka/Goff/Cassar



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History 3A

World History to 1500

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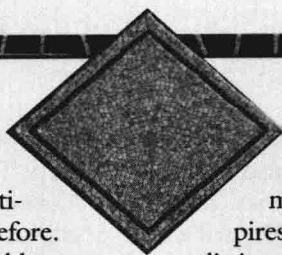
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Preface



Modern communications and transportation have linked the world's continents closer together and made them more integrated politically, economically, and culturally than ever before. Our technological society is predicated on a world economy and depends on a precarious ecological balance that makes events in the forests of Brazil or the deserts of Africa and Asia vitally important to people all around the globe.

Many institutions of higher learning have come to realize that students need insights into the historical backgrounds of other cultures in order to respond effectively to the currents that make us all citizens of a global village. As a result, many are now emphasizing world history as an essential part of the basic undergraduate curriculum, rather than traditional courses in Western civilization.

The five authors set out to produce a truly global and well-balanced world history text. We have expertise in different regions, periods, and topics of history, including the classics and Greco-Roman history, modern Europe, military history, the Western Hemisphere, the Islamic world, American history, and South and East Asia. We are conversant in more than a half-dozen ancient and modern languages. Each has more than thirty years' experience teaching college survey courses of Western and world history and advanced courses in special subjects. All have extensive experience in writing successful textbooks and editing primary source materials in world history and Western civilization. The result is a smooth integration of diverse materials.

Our first edition, widely adopted across the United States and Canada, was a success. Our second and third editions were even more successful. Thus encouraged, we have now made additional improvements to further enhance this fourth edition.

While other world history textbooks have stressed specific themes, human civilizations, in our view, have produced too rich a tapestry of experience to limit our examination of them to any single theme. Our consistent goal has been not only to show students the diversity and distinctive qualities of the various civilizations, but to trace their social, cultural, and economic influences and interactions. Furthermore, we point out the many dimensions of the lives of individual men and women across cultures, religions, social classes, and times.

Several distinctive features of our book bear enumeration.

First, we have divided world history into seventeen chapters, each highlighting a major trend (emergence of civilization, early empires, invasion and disruption, and so on) during a distinct chronological era. The subsections of each chapter are devoted to the areas of the world affected by this trend. This effective organization has been continued from previous editions, with revisions based on the latest discoveries and advances in scholarship. Chapter 17 has been carefully reworked and updated to incorporate recent events.

Second, we have placed twelve comparative essays at strategic points in the book. These lay the groundwork for the historical concepts examined in detail in subsequent chapter sections. For example, the essay "The Defining Characteristics of Great Empires," which discusses the dynamics of large states, precedes Chapter 4, which covers the roughly contemporary Hellenistic, Roman, Mauryan, and Han Empires. For this edition, we have added quotations from original sources at the opening of each essay to demonstrate the pertinence of such material and to heighten the essays' interest and relevance.

Third, we have included many charts and maps; each chapter features helpful maps to accentuate the geographical contexts of historical events. In each chapter the "Summary and Comparisons" section is accompanied by a timeline of important events that occurred during the period covered by that chapter, an important learning aid for students.

Fourth, we have chosen many new, attractive illustrations, all in full color, to bring to life events, individuals, and locations of historical interest. As the old adage says, a picture is worth a thousand words. This book abounds with good pictures, some never before published. About a quarter of the illustrations in this edition are new, and many are unique.

Fifth, we have added new boxes to each chapter; most of these consist of quotations from primary sources. Students, reviewers, and professors have praised this engaging and useful enhancement of the text.

Sixth, expanding on a successful feature, we have added more short essays entitled "Lives and Times Across Cultures." These informative, often offbeat, and entertaining pieces present facts and details of life not found in traditional textbooks.

Seventh, Pat Manning at the World History Center, Northeastern University, has created one “Connections Box” per chapter that integrates one of four themes (migrations, technology, family, and culture) with three technologies (the *Migration CD-ROM*, the World Wide Web, and *InfoTrac College Edition*). Students will receive a copy of the *Migrations CD-ROM* and free access to *InfoTrac College Edition* with the purchase of their new textbook. See the *Instructor’s Manual* for more details.

Eighth, the chapter summaries, titled “Summary and Comparisons,” stress the comparative aspect of historical study. Since each chapter contains much information about diverse regions of the world, this emphasis on comparison ensures a better integration of the various materials of a given chapter and a clearer overall view of world events.

Ninth, at the end of each chapter we have compiled an updated list of sources to guide interested students to well-written monographs, fiction, dramas, films, and television programs that provide historical perspective. We have also added selections of appropriate, exciting, and carefully screened Internet resources.

Tenth, the publisher has put together an invaluable package of ancillary materials. These include aids for instructors:

- **Instructor’s Manual and Testbank.** Includes a multimedia guide, chapter outlines, recommended readings, paper topics, identification questions, multiple-choice questions, short-essay questions, and new to this edition, Internet resources. One comprehensive volume.
- **ExamView for Windows and Macintosh.** Create, deliver, and customize tests and study guides (both print and online) in minutes with this easy-to-use assessment and tutorial system. ExamView offers both a Quick Test Wizard and an Online Test Wizard that guide you step by step through the process of creating tests, while its unique “WYSIWYG” capability allows you to see the test you are creating on the screen exactly as it will print or display online. You can build tests of up to 250 questions using up to 12 question types. Using ExamView’s complete word-processing capabilities, you can enter an unlimited number of new questions or edit existing questions.
- **Map Acetates and Commentary for World History, 2002 Edition.** Contains maps from the text and

from other sources as well as commentary on each map. The commentary, by James Harrison of Siena College, includes not only the text caption but also additional points of interest about the map, such as what it shows and its relevance to the study of world history. Possible discussion questions for student involvement are included.

- **HistoryLink 2002.** This is an advanced PowerPoint presentation tool containing text-specific lecture outlines, figures, and images that allows you to quickly deliver dynamic lectures. In addition, it provides the flexibility to customize each presentation by editing what we have provided or by adding your own collection of slides, videos, and animations. All of the map acetates and selected photos have also been incorporated into each of the lectures. In addition, the extensive Map Commentaries for each map slide are available through the Comments feature of PowerPoint.
- **Wadsworth Video Library: History.** Recommended Films for the Humanities & Sciences videos are available free upon adoption, subject to terms of the Wadsworth video policy.
- **CNN Today Video: World History, Volumes I and II.** Launch lectures with riveting footage from CNN, the world’s leading twenty-four-hour global news television network. CNN Today: *World History, Volumes I and II*, allows you to integrate the news-gathering and programming power of CNN into the classroom to show students the relevance of course topics to their everyday lives. Organized by topics covered in a typical course, these videos are divided into short segments—perfect for introducing key concepts. A Wadsworth/Thomson Learning exclusive.
- **Slide Set.** A set of 150 slides of photos taken throughout the world.
- **Sights and Sounds of History Videodisk/Video.** Short, focused video clips, photos, artwork, animations, music, and dramatic readings are used to bring life to historical topics and events that are most difficult for students to appreciate from a textbook alone. For example, students will experience the grandeur of Versailles and the defeat felt by a German soldier at Stalingrad. The video segments (average length, four minutes) are available on VHS and make excellent lecture launchers.

The following ancillaries are also available for students:

- ***Study Guide for World History, Volumes I and II.*** The study guide contains identifications, true-or-false questions, essay study questions, for further reading, and map exercises.
- ***InfoTrac College Edition.*** This online library allows students to study and learn about history at any time of the day or night. The online database gives students access to full-length articles from more than 900 scholarly and popular periodicals, updated daily, and dating back as far as four years. Periodicals include *Historian*, *Smithsonian*, and *Harper's* magazines. Free with every new copy of the text.
- ***Migrations in History CD-ROM.*** Free with every new copy of the text. An interactive multimedia curriculum on CD-ROM by Patrick Manning and the World History Center. Includes over 400 primary source documents; analytical questions to help the student develop his/her own interpretations of history; timelines; and additional suggested resources, including books, films, and websites.
- ***Map Exercise Workbook, Volumes I and II.*** Prepared by Cynthia Kosso of Northern Arizona University, this workbook features approximately thirty exercises. Designed to help students feel comfortable with maps by having them work with different kinds of maps and identify places in order to improve their geographic understanding of world history.
- ***Document Exercise Workbook, Volumes I and II.*** Prepared by Donna Van Raaphorst of Cuyahoga Community College, this workbook provides a collection of exercises based on primary sources in history.
- ***Journey of Civilization CD-ROM.*** This CD-ROM takes the student on eighteen interactive journeys through history. Enhanced with QuickTime movies, animations, sound clips, maps, and more, the journeys allow students to engage in history as active participants rather than as readers of past events.
- ***Internet Guide for History*** by John Soares. Section One introduces students to the Internet and includes tips for searching on the web. Section Two introduces students to methods of doing history research and lists URL sites by topic.
- ***Magellan World History Atlas.***
- ***Lives and Times: A World History Reader.*** Assembled by two of the text authors, James Holoka and Jiu-Hwa Upshur, the reader includes 150 short and lively selections, most of them biographical.
- **Web Tutor on WebCT or Blackboard.** This web-based teaching and learning tool is rich with study and mastery tools, communication tools, and course content. Use Web Tutor to provide virtual office hours, post syllabi, set up threaded discussions, track student progress with the quizzing material, and more. For students, Web Tutor offers real-time access to a full array of study tools, including flashcards (with audio), practice quizzes, online tutorials, and web links. Professors can customize the content by uploading images and other resources, adding web links, or creating their own practice materials. Web Tutor also provides rich communication tools, including a course calendar, asynchronous discussion, “real time” chat, and an integrated e-mail system.
- **Web page.** Both instructors and students will enjoy our web page. Visit Historic Times, the Wadsworth History Resource Center at <http://history.wadsworth.com>. From this full-service site, instructors and students can access many selections, such as a career center, lessons on surfing the web, and links to great history-related websites. Students can also take advantage of the online Student Guide to *InfoTrac College Edition*, featuring lists of article titles with discussion and critical-thinking questions linked to the articles to invite deeper examination of the material. Instructors can visit book-specific sites to learn more about our texts and supplements, and students can access chapter-by-chapter resources for the book, interactive quizzes, and a lively “Join the Forum” online bulletin board.

In sum, we have striven to make this book not only accurate and informative but also exciting for students and other readers. Our textbook combines key characteristics to work effectively in various learning situations. It offers a clear narrative focusing on major historical forces and concepts, uncluttered by minute detail. This edition gives greater attention to social, economic, cultural, and gender history in order to provide a more balanced and comprehensive account of human experience.

We have nevertheless kept our book relatively short—short enough to be suitable for courses at most colleges, so that instructors may assign supplementary readings without overwhelming their students.

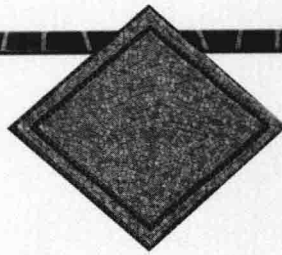
To provide a true world perspective, we have adopted several special conventions. First, because the text will be used mostly in North American colleges, we have based our general chronology on the traditional Christian/Western calendar; however, we have designated year dates as B.C.E. (Before the Common Era) instead of B.C. (Before Christ) and C.E. (Common Era) instead of A.D. (Anno Domini). Next, wherever possible we have eliminated Eurocentric geographical terms such as *Far East*, *Levant*, *New World*, and the like. Finally, we have generally transliterated (rather than Latinized or Anglicized) names and terms from their original language; thus, *Qur'an* instead of *Koran*, *Tanakh* instead of *Old Testament*, and (post-1949) *Mao Zedong* instead of *Mao Tse-tung* and *Beijing* instead of *Peking* (see also “Romanizing Chinese Words” at the end of this volume). However, we have made exceptions of such familiar Westernized spellings as *Confucius*, *Averroës*, *Christopher Columbus*, and *Aztec*.

An enterprise of this magnitude and complexity succeeds only through the dedicated efforts of many people. Wadsworth Publishing secured the services of reviewers whose insights and information materially strengthened this and the previous three editions. The list follows this preface.

We wish to thank our colleagues at Eastern Michigan University—in particular, Ronald Delph and Joseph Engwenyu for their assistance at several stages in the writing—and Gersham Nelson, head of the History Department, for his constant support and encouragement. Nancy Snyder and her assistants were stalwart helpers in handling innumerable practical and technological chores. Raymond Craib at Yale University supplied information and text on women's history and Mexican history. From the outset of this project, Sally Marks, in Providence, Rhode Island, has been exceptionally helpful in suggesting improvements. We also wish to thank Margot Duley of Eastern Michigan University and Richard Edwards of the University of Michigan for making available to us photographs of historical interest from their personal collections. We are grateful to John Nystuen of the University of Michigan for photographing some of the artifacts illustrated in this edition. The authors' spouses furnished copious practical and moral support and showed a high tolerance for hectic writing and production schedules. Thanks also go to Pat Manning at the World History Center at Northeastern University and his graduate assistants, Stacy Tweedy, Tiffany Olson, and Bin Yang. A final word of thanks goes to Clark Baxter, Sharon Adams Poore, Nancy Crochiere, and other members of the Wadsworth Publishing team for their patient attention to all manner of details. Their collective skills have once again transformed our project into a most attractive textbook.

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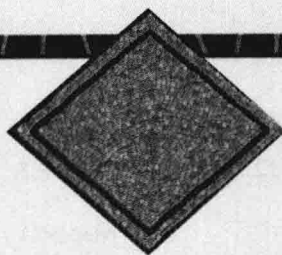
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Custom Contents

	Maps	xix
	Preface	xxi
	Reviewers	xxv
Introduction	Paleolithic and Neolithic Cultures Around the World	1
Chapter 1	Early Civilization in West Asia, Africa, the Aegean, and the Western Hemisphere	13
Chapter 2	The Early Civilizations of South and East Asia	45
Chapter 3	The Flowering of Great Faiths and Philosophies	79
Chapter 4	The Age of Great Empires	121
Chapter 5	Disruption and Renewal in West Asia and Europe	173
Chapter 6	Disruption and Renewal in South and East Asia	223
Chapter 7	Developing Civilizations	275
Chapter 8	Three Continents: Conflict and Commerce	309
	Glossary	777
	Index	791

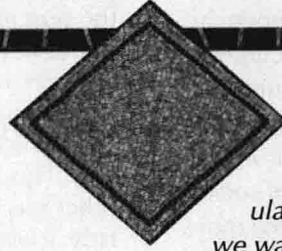
Maps



- Map 1.1** The Origins of Agricultural Crops and of Domestic Animals 6
- Map 1.1** Ancient Mesopotamia 15
- Map 1.2** Ancient Egypt 21
- Map 1.3** Greece and the Aegean Basin 27
- Map 1.4** Persian Empire 36
- Map 1.5** Early Peruvian-Andean Civilization 39
- Map 1.6** Early Mesoamerican Civilization 40
- Map 2.1** Indus Valley Civilization 47
- Map 2.2** Shang China 59
- Map 2.3** Western Chou China 71
- Map 3.1** Ancient Palestine 81
- Map 3.2** The Greek Homeland 85
- Map 3.3** The Ch'in Empire 112
- Map 4.1** Conquests of Alexander the Great and the Hellenistic Kingdoms 125
- Map 4.2** The Roman World at the Time of the Late Republic 137
- Map 4.3** The Roman Empire from 14 to 117 C.E. 142
- Map 4.4** The Empire of Asoka 150
- Map 4.5** The Han Empire and the Silk Road 165
- Map 5.1** German Invasion Routes 184
- Map 5.2** Germanic States in Europe 186
- Map 5.3** The Carolingian Empire 188
- Map 5.4** A Manor 197
- Map 5.5** Medieval Trade Routes 198
- Map 5.6** The Mediterranean in the Time of Justinian 210
- Map 5.7** Constantinople 211
- Map 5.8** The Expansion of Islam 216
- Map 6.1** The Gupta Empire 225
- Map 6.2** Southeast Asia in the Twelfth Century 234
- Map 6.3** China in the Age of Disunity 238
- Map 6.4** T'ang China 242
- Map 6.5** The Sung and Its Neighbors 250
- Map 6.6** The Southern Sung 253
- Map 6.7** Early Korea and Japan 257
- Map 7.1** The Development of Mesoamerican Civilization 278
- Map 7.2** The Development of Andean Civilization 285
- Map 7.3** Africa, 900–1500 292
- Map 8.1** The Abbasid Empire 311
- Map 8.2** The Crusader States and Empire of Salah ed-Din 321
- Map 8.3** The Mongol Empire under Genghis Khan 325
- Map 8.4** The Mongol Empire in 1255 331
- Map 8.5** Timurlane's Empire 339
- Map 8.6** The Ottoman Empire in 1461 345
- Map 9.1** Ottoman Expansion 355
- Map 9.2** The Ottoman and Safavid Empires 359
- Map 9.3** Renaissance Italy 366
- Map 9.4** Catholics and Protestants in Europe by 1560 380
- Map 9.5** Africa, 1500–c. 1750, and the Slave Trade 384
- Map 9.6** The Western Hemisphere, c. 1600 387
- Map 9.7** European Holdings in North America, c. 1685 393
- Map 10.1** Southeast Asia, c. 1750 402
- Map 10.2** The Moghul Empire 413
- Map 10.3** The Ming Empire 419
- Map 10.4** Chinese Sea Voyages during the Ming Dynasty 422
- Map 10.5** The Ch'ing Dynasty at Its Height 433
- Map 10.6** Japan under the Tokugawa Shogunate 443
- Map 11.1** Europe, c. 1715 463
- Map 11.2** Spanish and Portuguese Possessions in the Western Hemisphere, 1784 478
- Map 11.3** North America, 1700–1803 492
- Map 11.4** British Empire in India, c. 1800 493
- Map 11.5** European Colonial Empires and Global Trade Patterns, c. 1770 497
- Map 12.1** Napoleon's Grand Empire 518
- Map 12.2** Europe after the Congress of Vienna 521
- Map 12.3** Latin America in the First Half of the Nineteenth Century 526
- Map 12.4** Principal Centers of Revolution, 1848–1849 527
- Map 12.5** The Unification of Italy 530
- Map 12.6** The Unification of Germany 533
- Map 13.1** Africa in 1914, after Partition 570

- Map 13.2** Conflicting Claims in South Africa 573
Map 13.3 Ottoman Territorial Losses, 1699–1912 577
Map 13.4 Asia in 1914 581
Map 13.5 U.S. Imperialism in the Caribbean to 1934 587
Map 13.6 Europe in 1914 589
Map 13.7 Western and Eastern Fronts, and **13.8** 1914–1918 593
Map 13.9 Europe after 1919 604
Map 14.1 Spheres of Influence in West Asia after World War I 617
Map 14.2 Union of Soviet Socialist Republics 641
Map 15.1 Central Europe, April 1939 678
Map 15.2 Japanese Aggression in Asia 681
Map 15.3 World War II in Asia and the Pacific 685
Map 15.4 World War II in Europe and North Africa 687
Map 15.5 Post–World War II European Economic Division 699
Map 15.6 The Cold War in Europe 700
Map 15.7 Zones of Allied Occupation in Germany and Austria, 1945–1955 701
Map 16.1 Present-Day South Asia 707
Map 16.2 Africa after World War II 711
Map 16.3 The Cold War in Asia 722
Map 16.4 The Caribbean and Central America after World War II 727
Map 16.5 Political Trends in South America since World War II 730
Map 16.6 The Global Cold War, 1950s–1980s 737
Map 17.1 Post–Cold War Europe, 2000 748 and **17.2**
Map 17.3 The Arab-Israeli Conflict 753
Map 17.4 The Persian Gulf 758
Map 17.5 South Africa 759

Introduction: Paleolithic and Neolithic Cultures Around the World



HUMAN DEVELOPMENT IN
THE OLD STONE AGE

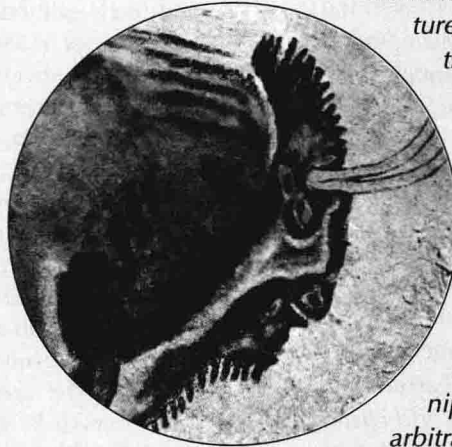
THE NEOLITHIC FOOD-PRODUCING
REVOLUTION IN WEST ASIA

NEOLITHIC TIMES IN EUROPE

NEOLITHIC TIMES IN AFRICA

NEOLITHIC TIMES IN ASIA

NEOLITHIC TIMES IN
THE WESTERN HEMISPHERE



What are we? To the biologist we are . . . Homo sapiens sapiens. . . . But what is particularly interesting about our species? For a start, we walk upright on our hind legs at all times, which is an extremely unusual way of getting around for a mammal. There are also several unusual features about our head, not least of which is the very large brain it contains. . . . Unlike the apes, we are not covered by a coat of thick hair. . . . Very probably this has something to do with [the fact that] the skin is richly covered with millions of microscopic sweat glands. . . . Our forelimbs, being freed from helping us to get about, possess a very high degree of manipulative skill. . . . No other animal manipulates the world in the extensive and arbitrary way that humans do. . . . Unlike any other animal, we have a spoken language which is characterized by a huge vocabulary and a complex grammatical structure. . . .

*All [these] . . . are characteristics of a very intelligent creature, but humans are more than just intelligent. Our sense of justice, our need for aesthetic pleasure, our imaginative flights and our penetrating self-awareness, all combine to create an indefinable spirit which I believe is the "soul."**

*Richard E. Leakey, *The Making of Mankind* (New York: Dutton, 1981), pp. 18, 20.

This passage by anthropologist Richard Leakey states the dual nature of human beings—physical and spiritual. Students of history are particularly concerned to identify how these various distinguishing traits have found expression in the accomplishments of mankind. Such historical study records advances in production of food, in technology, in the building of social groups and their habitations, and in general in the more efficient control of the environment. It also seeks to define what it is to be human. This means that historians also study the ways human beings have viewed the world around them, that is, how people have understood its working through science, answered unfathomable questions through religion, and expressed their thoughts in art, literature, and philosophy.

Through such investigation, students of history have ascertained that, to begin with, humans survived precariously through hunting and gathering. Eventually, after hundreds of thousands of years, humans living in several continents created first the agricultural and then the urban revolutions noted in the passage above, thus bringing about civilized life in both the Eastern and Western Hemispheres. This section of *World History* surveys these initial advances of humankind. It first discusses what modern researchers have reconstructed about the emergence of the human species and about life in the hunter-gatherer era around the world. It then takes up the dramatic material changes brought by the invention of agriculture.



Human Development in the Old Stone Age

The story of humanity's achievement began with the Paleolithic or Old Stone Age sometime around 2,000,000 B.C.E., probably in East Africa, as the famous finds in the Olduvai Gorge show. (The labeling of Ages as "Stone," "Bronze," and "Iron" refers to the materials used in the making of tools at a given stage in history.) After 1,000,000 B.C.E., hominids of the *Homo erectus* type moved out of East Africa into West Asia, Europe, East Asia, and Indonesia. This whole vast stretch of time cannot be described with great confidence or detail because there are no written records to illumine it. Instead, we have had to rely on the conclusions and conjectures which modern scientists have drawn from materials obtained from archaeological excavations.

In response to changes in the natural environment, Old Stone Age people made physical and cultural adaptations fundamental for subsequent human development. Crucial physiological refinements included the ability to

stand and walk easily in an upright position, changes in the position and size of teeth (especially the canines) in response to changing diet, the evolution and increasing dexterity of an opposable thumb, and changes in the size and configuration of the skull.

Particularly dramatic was the doubling of their brain size. This gave men and women mental superiority over other species, demonstrated in creating artifacts, particularly tools. They could both expand and perfect their cultural equipment and transmit knowledge of how to use that equipment through language, the most flexible and finely calibrated tool of all.

A series of four major ice ages, marked by the movement of ice sheets hundreds of feet thick over vast areas of the earth, stimulated human development. The glaciations changed land formations, sea levels, and plant and animal life and habitats. People had to be innovative and able to modify their patterns of living to survive. Many animals, solely dependent on physical equipment for their survival, were often unable to adjust to changing environmental conditions and became extinct.

By 100,000 B.C.E., modern humans (*Homo sapiens sapiens*) had evolved in Africa. By 40,000 B.C.E. they had occupied the areas originally settled by *Homo erectus*, and afterwards spread into northern Eurasia and into Australia. The South Pacific was settled much later, between 1100 B.C.E. and 1300 C.E.

Modern *Homo sapiens* also migrated through Siberia, across to Alaska, and then east and south throughout North America. Most scholars think that, as in Australia, the greater number of movements occurred during the last ice ages, when glaciers locked up some of the world's water, thus lowering sea levels and exposing land bridges.

As elsewhere in the world at this time, these *Homo sapiens* migrants were still hunters and gatherers, fire-users with chipped stone tools, whose relics in the Western Hemisphere date from about 40,000 B.C.E. By 20,000 B.C.E. humans had arrived in Middle America (the southern two-thirds of Mexico and parts of current Central America south to Panama). It appears that they soon spread thereafter throughout South America, although isolated archaeological finds hinting at settlements even as early as 30,000 B.C.E. may require a revision of our chronology.

The Arctic zone of North America, though it was on the migration route from Asia, was in fact the last part of the continent to be settled. The earliest Paleolithic culture of the Eskimos dates to about 7000 B.C.E. in the region of the Bering Strait. Succeeding cultures known as Pre-Dorset and Dorset combined influences from East Asia and from regions to the south in North America. They were characterized by hunting of caribou, rabbits, and birds, with a gradual shift to fishing and the hunting of polar bears and marine creatures such as walrus and seals. By the first millennium B.C.E., these Eskimo cultures were prevalent in the Arctic from

The Ascent of Mankind

*Fossil skulls have been found in Southern Africa . . . which establish the characteristic structure of the head when it began to be man-like. . . . A historic skull, found [in 1924] . . . at a place called Taung, by . . . Raymond Dart . . . is [that of] a baby, five to six years old. . . . Dart called this creature Australopithecus [Southern Ape]. . . . For me the little Australopithecus baby has a personal history. In 1950, . . . I was asked to do a piece of mathematics. Could I combine a measure of the size of the Taung child's teeth with their shape, so as to discriminate them from the teeth of apes? I had never held a fossil skull in my hands, and I was by no means an expert on teeth. But it worked pretty well; and it transmitted to me a sense of excitement which I remember at this instant. I, at over forty, having spent a lifetime in doing abstract mathematics about the shape of things, suddenly saw my knowledge reach back two million years and shine a searchlight into the history of man. . . . I do not know how the Taung baby began life, but to me it still remains the primordial infant from which the whole adventure of man began.**

*Jacob Bronowski, *The Ascent of Man* (Boston: Little Brown, 1973), pp. 28–30.

Thus Jacob Bronowski described the excitement he felt as he looked at a bit of evidence of ancient human life on our planet. The title of his book, *The Ascent of Man*, is an allusion to Charles Darwin's famous book *The Descent of Man*, published a century earlier, which advanced evidence for the hypothesis that human beings had evolved from more primitive life forms. Darwin's claim released a torrent of controversy by its challenge to the traditional belief in the biblical story of Creation, but it also stimulated the sciences of physical anthropology and archaeology. Researchers have made stunning discoveries about the ancestry of our species through excavations at sites such as the Olduvai Gorge in East Africa and Hsihoutu in Shansi province in China. Their work has yielded insights into the earliest achievements that brought humanity from primitive origins to the creation of civilized life, from crude stone implements to spacecraft, from the rudiments of spoken language to the art of poetry, from nomadic hunting and gathering to the complex socioeconomic and political structures of city life.

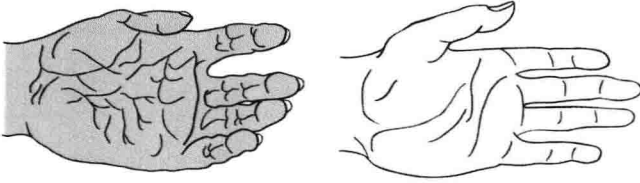
Alaska in the west through northern Canada to Greenland in the east.

By the late Paleolithic era, human beings around the world had (1) manufactured a range of stone or bone implements (knives, scrapers, borers) and weapons (blades, bows and arrows, spears and spear throwers), (2) controlled fire for cooking and for giving heat and light, (3) developed spoken language in addition to the nonverbal gestures used by all primates, (4) formulated an artistic tradition, seen for example in the famous cave paintings at Lascaux in France and Altamira in Spain, (5) created ritual practices connected chiefly with fertility and with burial of the dead, and (6) organized themselves into social groups for more efficient collection and sharing of food.

Also by late Paleolithic times, human beings had probably acquired the superficial physical traits conventionally known as racial. Differences in skin, hair, and eye color, in size and shape of the nostrils, and perhaps in stature and cranial shape likely resulted from adaptation to environmental conditions in various parts of the world.

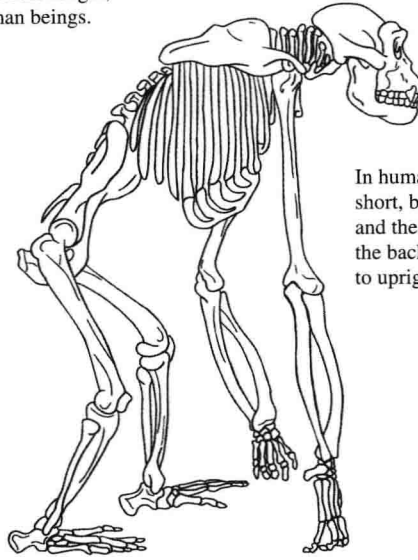
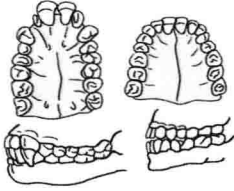
The Neolithic Food-Producing Revolution in West Asia

Because Paleolithic humans lived by hunting animals and by gathering wild fruits, nuts, and grains, they needed a relatively large space to support even a single family. This severely restricted the size of human communities and made settled life in one area impossible, since the group had to follow its food supply and move in conjunction with animal migrations and vegetation cycles. Only when people shifted from the random collection of food to its regular cultivation did they overcome such limitations. In the Neolithic or New Stone Age, humans assured themselves of a regular food supply by developing agricultural techniques and domesticating food-producing animals. Stable food supplies in turn produced a rapid increase in population and the founding of permanent settlements, which later became the

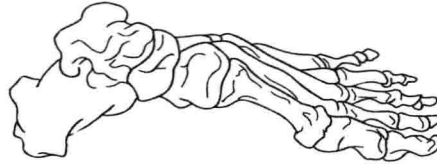
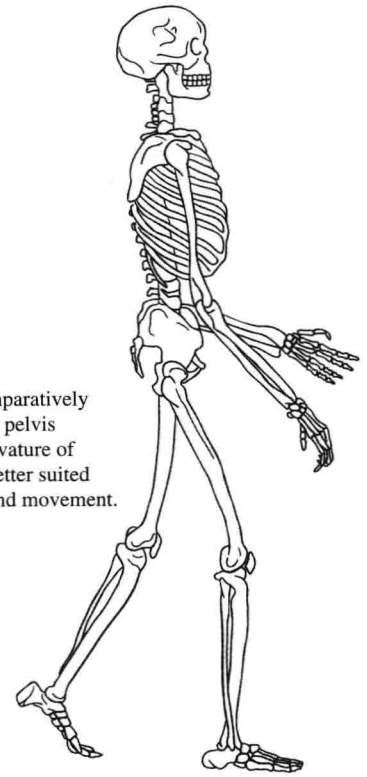


Simian and human hands are roughly similar, but the longer, highly mobile thumb is especially useful to human beings.

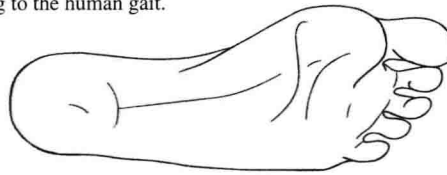
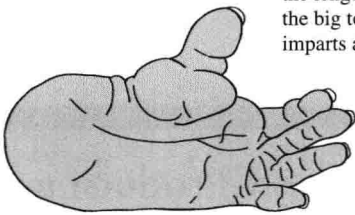
Although humans and gorillas have the same number of teeth and bones, evolution has given them quite distinct forms: apes possess large, strong canines set in massive jaws, while humans have smaller canines set in a more curved row, permitting side-to-side mastication.



In humans, the comparatively short, basin-shaped pelvis and the distinct curvature of the backbone are better suited to upright stature and movement.



The gorilla's foot differs from the human foot in the length of its toes, the more lateral location of the big toe, and the absence of an arch, which imparts a spring to the human gait.



Comparisons of the Skeletal Structures of Humans and Apes.

basis for the more complex social structures and more dynamic technologies of urban civilization. These characteristics of the Neolithic revolution varied from region to region and emerged much earlier in some parts of the world than in others. Indeed, to speak of a "revolution" is somewhat misleading, since the transformation in most areas was very gradual. Still, in terms of the vast time frame of human evolution, the change was comparatively quick. In 10,000 B.C.E., 100 percent of the world's population of ca. 10 million were hunters and gatherers; by 1500 C.E., only 1 percent of the world's roughly 350 million people were hunters and gatherers; today, less than 0.001 percent of the world's population—for example, Eskimos, African !Kung San people, and the aborigines of Australia—still live in pre-Neolithic conditions.

With the retreat of the last ice age, beginning around 10,000 B.C.E., climatic conditions in that part of West Asia called the Fertile Crescent became well suited to raising grain and domesticating animals. The valleys and foothills of this region were home to the wild ancestors of domesticable plants (barley, wheat, millet, and so on) and animals (goats, donkeys, and the like). During a transitional period, the Mesolithic or Middle Stone Age (10,000 to 7000 B.C.E.), at places like Mount Carmel in Palestine, humans made tentative efforts to move from hunting-gathering subsistence methods to the systematic harvesting of grain.

By 7000 B.C.E. the residents of West Asia had developed the true farming villages that typify the Neolithic era. These centers consisted of at most a few thousand inhabitants engaged in the cultivation of wheat, barley,

peas, beans, and lentils and in the raising of goats, sheep, pigs, and cattle. These early farmers continued to supplement their diet with wild fruits, nuts, and grains. They lived in caves or pit houses or huts made of mud, reeds, logs, or stones, grouped in small open communities or in larger fortified towns like Jericho, in the Jordan Valley near the Dead Sea, or Çatal Hüyük in the Anatolian Peninsula (modern Turkey). The point of such communities was to concentrate labor both for agricultural work—plowing, sowing, harvesting, and the like—and for the protection of the farmland on which the community's survival now depended.

Early farmers also devised techniques for making porridge, bread, and beer, and developed ovens for cooking and, later, for firing pottery. (Pottery in particular is a joy for archaeologists because it is almost imperishable and once a culture starts to make pottery, it leaves behind a trail of broken shards, often distinctively decorated and therefore datable.) They wove baskets and textiles from wool and flax, and began to work metals like gold, silver, and copper. Finally, they discovered the wheel and made wagons and pottery wheels, and they invented the plow, which superseded digging sticks and hoes. Food surpluses freed some members of the community, generally males, to become at least part-time specialists: smiths, potters, weavers, artists, and perhaps priests.

Gender roles in Neolithic communities were affected by the production of food surpluses. Plow agriculture required the physical strength of males, rather than of females, whose energies were taken up by pregnancy and the nursing and rearing of children. Animal husbandry, too, was likely a male occupation. The males' control of surpluses of livestock, meat, pelts, and grain gave them an economic advantage that translated into the leisure to develop and engage in the specializations mentioned above. In short, males managed production, while to women fell the lifetime-consuming and labor-intensive tasks of reproduction.

Once the agricultural revolution had occurred in the Fertile Crescent, it quickly spread to other regions in Asia, North Africa, and Europe. By contrast, farming emerged independently in North and South America (see Map I.1). In all these areas, the revolution in food production enabled humans to take the next major step toward civilization, from village to city. Before turning to that major change, we will consider Neolithic culture elsewhere in the world.



Neolithic Times in Europe

The earliest agricultural villages in Europe appeared about 6500 B.C.E. in Greece, probably as a result of colonization by Anatolians across the Aegean. The farmers lived in square mudbrick buildings, sometimes with one larger

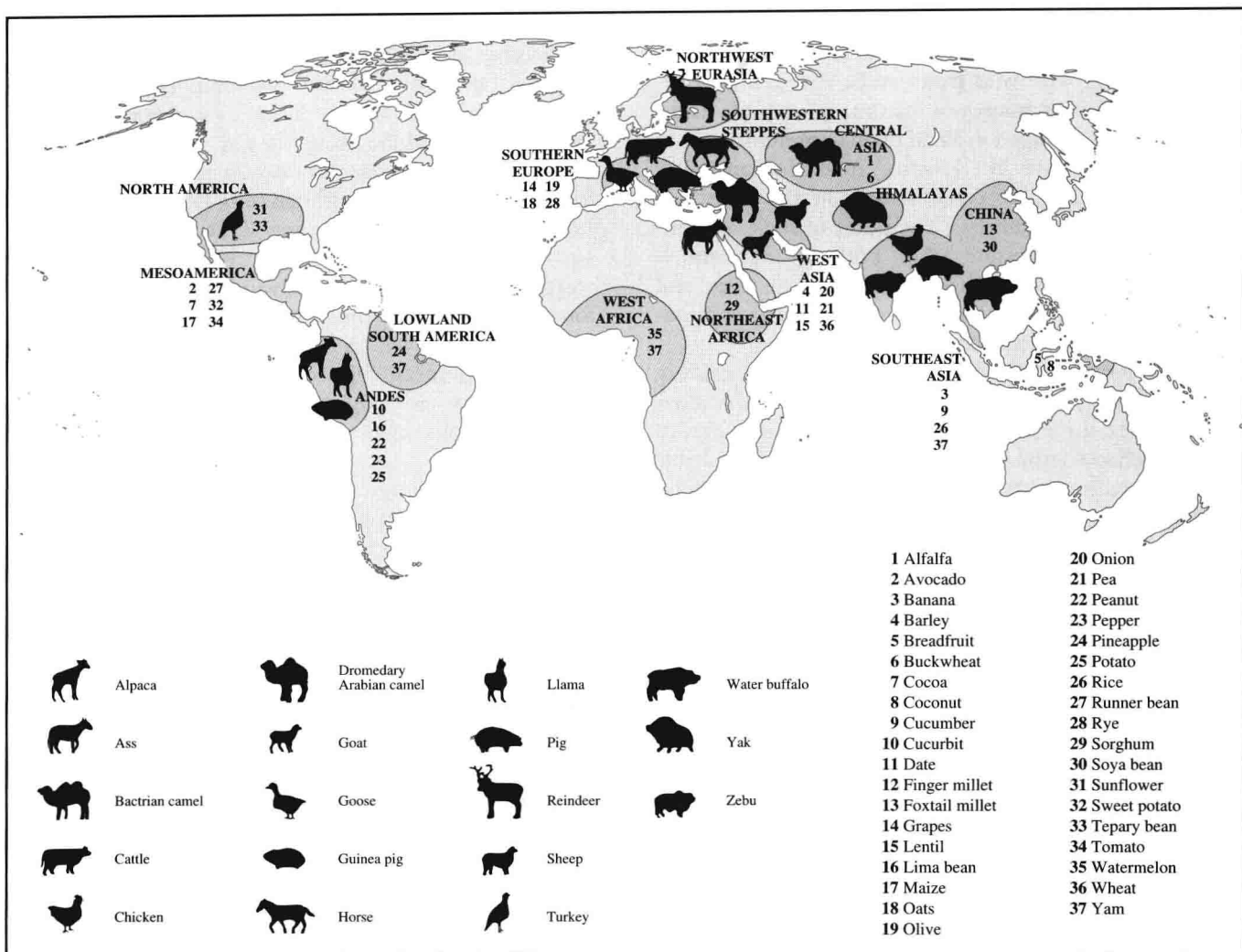
building as a meeting place. Their economy centered on the raising of sheep and the cultivation of wheat and legumes. By 4000 B.C.E., Neolithic settlements had spread throughout Europe along two major routes: the Vardar-Danube-Rhine corridor, and the coastal areas of the Mediterranean Sea. Wooden longhouses were . . . more common than mud brick huts outside the Balkans. Initially, the pattern of farming settlements was dictated by the location of fertile soil that had resulted from the weathering of loess (layers of wind-blown dust that had formed like silt along the rims of glaciers in earlier times). Eventually, however, as incoming farmers carved land from the European forests, the hunters who had lived there since the early postglacial period (ca. 10,000 B.C.E.) left their former mode of life to swell the ranks of the agriculturalists.

The earliest progress toward civilization on the European continent took place along the Mediterranean coasts, especially in the Balkan and Italian peninsulas. Northern and western Europe was another matter; this area made few contributions (mainly in the form of natural resources) to the general advance of civilization before 500 B.C.E. It was largely unreceptive to external cultural influences (metalworking was an exception). Literacy, for example, came very late, imposed by conquerors. However, one ancient European art form does remain noteworthy: the megalithic (literally “large stone”) constructions scattered from Scandinavia in the north to Corsica, Sardinia, and Malta in the south. Some of these are older than the great pyramids of Giza in Egypt, though they are by comparison very crude both in form and arrangement. Many of them are tombs; others are laid out in symmetrical patterns selected for religious or astronomical reasons. The most famous of these megaliths is Stonehenge in southern England. Here, in late Neolithic and early Bronze Age times (c. 2800–1800 B.C.E.), the prehistoric builders collected about 136 massive stones, some as large as thirty feet long and weighing fifty tons. The megaliths, transported over some eighteen miles, were assembled in a hundred-foot-diameter circle with an inner horseshoe consisting of five massive post and lintel gateways. The structure as a whole is aligned to the movements of sun, moon, and stars at specific points in the year, thus constituting a kind of gigantic observatory. All this argues a remarkably precise awareness of astronomical movements, unassisted by the mathematical theorems later developed by Babylonians and Egyptians. Stonehenge also bespeaks both an elaborate cooperation of labor activity and a careful organization of religious and social observances.



Neolithic Times in Africa

The Neolithic Revolution spread to the Nile Valley between 5000 and 4000 B.C.E. Wheat and barley, and



Map I.1 The Origins of Agricultural Crops and of Domestic Animals. This map shows the areas where particular plant and animal species were first cultivated or domesticated. Some species (for example, the pig) seem to have developed independently in different areas. In most cases, however, contact between neighboring cultures facilitated the rapid spread of plant and animal cultivation around the globe.

goats, sheep, and pigs were introduced very likely from the Fertile Crescent, especially Palestine and Mesopotamia. Irrigation by control of the Nile flood started at this time. Such developments laid the agricultural foundations for the first historical dynasties of ancient Egypt, beginning about 3000 B.C.E., discussed later in this chapter. Elsewhere, African peoples in the Saharan region, which did not become uninhabitably arid till after 3000 B.C.E., adopted the domestication of animals and, more slowly, the practice of agriculture from the neighboring Nile Valley. With the desiccation of the Sahara, these peoples carried their Neolithic skills with them in migrations to central and western Africa, though hunting-gathering cultures persisted in many areas. The barrier that the Sahara desert imposed by 2500 B.C.E. prevented the spread of the urban civilization that flow-

ered with such magnificence in Old Kingdom Egypt. It was not until the first millennium B.C.E. that settled agricultural life and the practice of metallurgy became more widespread in sub-Saharan Africa. In all cases, however, the scarcity of water has meant that African peoples engaged in long-term agriculture have lived within the limits of a precariously balanced ecological system.

A very few African peoples remained at the hunter-gatherer stage till quite recently. Thus anthropologists could observe directly the cultural implications of changeover to an agricultural mode of life, for example, among the !Kung San people (formerly called “bushmen”) of southern Africa (the ! symbolizes an explosive sound or “click” common to the language). Here the transition to settled farming meant a shift from the mentality of sharing to that of saving. Among hunter-gather-