

The background of the cover is a photograph of an ancient site. In the upper portion, there are large, reddish-brown rock surfaces with intricate, light-colored petroglyphs or pictographs. Below these, a stone structure made of rectangular blocks is visible, featuring a small, dark, rectangular opening. The overall scene is lit with warm, golden light, suggesting an interior or a sheltered outdoor space.

FOURTEENTH EDITION

ANTHROPOLOGY

CAROL R. EMBER MELVIN EMBER PETER N. PEREGRINE

Anthropology

FOURTEENTH EDITION

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Human Relations Area Files

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For Mel-

Always the optimist, who believed that there were laws governing human behavior that could be found if you thought hard enough, worked hard enough, and tested ideas against the anthropological record.



1933-2009

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Preface

This fourteenth edition of *Anthropology* reflects both a new approach to the publication of the book and a thorough re-examination of the text itself. We retain our emphasis on the holistic four-field approach that we consider central to the discipline of anthropology and the important role of applied anthropology (called by some the fifth field of anthropology).

We have responded to reviewers' desire to have more pedagogical material included in the text. In response we have added learning objectives to each chapter and have completely revised the end-of-chapter summary materials so that they give both a clear overview of the important material covered in the chapter and link that material back to the learning objectives. We also include more review and thought questions.

We have always tried to go beyond descriptions to explain not only *what* humans are and were like but also *why* they got to be that way, in all their variety. This edition is no different. An important part of updating the text is finding new explanations, and we try to communicate the necessity to evaluate these new explanations logically as well as on the basis of the available evidence. Throughout the book, we try to communicate that no idea, including ideas put forward in textbooks, should be accepted even tentatively without supporting tests that could have gone the other way.

What's New to This Edition

Engaging Pedagogically-Driven Design

NEW! Learning Objectives have been added to each chapter helping readers to focus on the material ahead. Chapter-ending summary materials have been completely revised to link back to the Learning Objectives presenting a more clear overview of the important material covered in the chapter.

A Clear Understanding of Humans

NEW! Application of major topics. *Applied Anthropology* Boxes provide students a better understanding of the vast range of issues to which anthropological knowledge can be usefully applied. These boxes offer an additional way to show how anthropology helps people lead better lives. Significant expansion of practicing anthropology with an expanded chapter and separation of medical anthropology into its own chapter.

Focus on Contemporary issues

NEW! Environmental issues. An expanded focus on environmental issues is presented.

Chapter-by-Chapter Changes

Part I: Introduction

Chapter 1: What Is Anthropology? Two new boxes on individual anthropologists—an ethnographer and a physical anthropologist—and their work.

Chapter 2: Research Methods in Anthropology In a new section we provide a brief introduction to some of the major ideas that have guided this history of anthropology in the United States. The new applied box describes work that forensic anthropologists conducted to identify the remains of Philip II of Macedon.

Part II: Human Evolution

Chapter 3: Genetics and Evolution We incorporate a brief history of evolutionary thought to give context to the extensive review of genetics and the processes of evolution, including natural selection and what it means, that follows. A new second box feature introduces the emerging field of molecular anthropology.

Chapter 5: Primates: Past and Present This chapter is completely new. We combined what were separate chapters on living primates and primate evolution into a single chapter that we hope provides a clearer and more engaging introduction to our primate heritage.

Chapter 6: The First Hominins This chapter has been revised to include discussions of new species and information on early hominin diets. One box feature, moved from a later chapter for this edition, discusses how we reconstruct ancient diet from teeth. A new box feature discusses ideas about how environmental change contributed to hominin evolution.

Part III: Cultural Evolution

Chapter 7: The Origins of Culture and the Emergence of Homo In this edition, we have expanded our discussion about ancient DNA studies, as these are contributing significantly to our understanding of human evolution. The new box feature explains how scholars are able to reconstruct ancient environments. A second box discusses research on when hominids first migrated out of Africa.

Chapter 8: The Emergence of Homo sapiens In this edition, we discuss the new hominin species from Denisova Cave in southern Siberia, and update the discussion of modern human origins based on new DNA evidence. A new box explores the idea that mother-infant communication may have played an important role in the evolution of language.

Chapter 9: The Upper Paleolithic World We revised the section on human colonization of North and South America, based on new archaeological sites and genetic research.

Chapter 11: Origins of Cities and States A new box feature discusses the question of whether Cahokia, a pre-Columbian city located near present-day St. Louis, Missouri, was a state.

Part IV: Cultural Variation

Chapter 12: Culture and Culture Change This chapter has been revised considerably to make it more engaging. New examples on food preferences and taboos are used to illustrate that culture is learned. The section on controversies about the concept of culture has been rewritten. A new section and figure

on baby names in the United States illustrates random copying of neutral traits. A broader and more historical view of globalization is introduced. The revolution section now contains a discussion of the Arab Spring and the difficulties of bringing about change by revolution. The second box has been updated and discusses an applied anthropologist's attempts to accommodate Bedouin needs in designed change programs with the Oman government.

Chapter 13: Culture and the Individual We have repositioned this chapter after culture and culture change to emphasize the importance of individuals and their role in culture change. The first box on how cultures vary in tightness or looseness of rules and emotional expressiveness is new and integrates anthropological research with research on countries. The second box is updated and discusses how schools may consciously and unconsciously teach values by comparing pre-schools in Japan, China, and the United States. A new figure is introduced to help explain changes in cognitive development of children.

Chapter 14: Communication and Language In an extensively rewritten section on nonverbal human communication, we include new research on handshaking, pheromones, and other communication such as whistle communication. The second box, which has been extensively rewritten, discusses why some immigrant groups retain their “mother tongues” longer than others.

Chapter 15: Getting Food We have expanded our discussion of complex foragers for this edition. To put food-getting in better historical perspective, we have significantly expanded our discussion of the origin of food production in prehistory—when it occurred and the theories about why it occurred.

Chapter 16: Economic Systems We have introduced a body of experimental and observational research providing evidence that sharing and cooperation may be universally associated with pleasure.

Chapter 17: Social Stratification: Class, Ethnicity, and Racism We have expanded our section on caste, adding a discussion of occupational caste in Africa. The section on “race” is extensively expanded with a new section on the concept of race in biology. The first box on global inequality is extensively rewritten and updated with new material. The second box updates the discussion of why there are disparities in death by disease between African Americans and European Americans.

Chapter 18: Sex, Gender, and Culture This chapter has been extensively rewritten to be more engaging and easier to read with more subheadings for clarity. The box on women in combat has been updated to reflect recent changes in policy.

Chapter 19: Marriage and the Family The third updated box discusses why one-parent families are on the increase in countries like ours. The fourth box, on the changing family and social security in Japan has been completely rewritten and updated.

Chapter 20: Marital Residence and Kinship To make this chapter more engaging, this chapter now opens with a new introduction with a piece of poetry from Robert Frost that we hope raises awareness of what it means to be kin.

Chapter 21: Associations and Interest Groups There is a new introduction to this chapter which begins with a Hopi

fable about common purpose. We also include new research on how male age-sets and separate dwelling effect the status of women is also included. The chapter has been rearranged so that explanations of various types of association follow immediately after they are described and illustrated. The first updated box addresses the question of whether separate women's associations increase women's status and power.

Chapter 22: Political Life: Social Order and Disorder We have added a new section that discusses the concepts of nation-states, nationalism and political identity, pointing out that people living in states may not identify with the state they live in nor have their notion of nationhood correspond to political boundaries. In the warfare section we also discuss the controversy about whether violence has increased or decreased in human history.

Chapter 23: Religion and Magic We have added a new theoretical discussion on the need for human cooperation and the recent research that supports that theory. Also added is new research on the relationships between religiosity and stress and anxiety as well as a new discussion on how most religions began as minority sects or cults. The first box, which is updated, raises the question of whether and to what degree religion promotes moral behavior, cooperation, and harmony.

Chapter 24: The Arts In a new section we discuss the problematic and fuzzy distinctions made in labeling some art negatively as “tourist” art versus more positively as “fine” art.

Part V: Using Anthropology

Chapter 25: Practicing and Applying Anthropology This chapter used to include medical anthropology, but to enable us to expand other areas of applied anthropology, we have moved medical anthropology into its own chapter. The introductory section now explicitly discusses specializations in practicing and applied anthropology such as development anthropology, environmental anthropology, business or organizational anthropology, museum anthropology, cultural resource management, and forensic anthropology. We have updated the ethics section with an extended discussion of displacement projects, their risks, and whose lives are actually improved. We have also greatly expanded and updated the section on anthropologists as advocates and collaborators forensics section with detail about estimating time of death. The sections on environmental anthropology and business and organizational anthropology are completely new. The first box is new to this chapter and is about how to get development programs to include more women. The second box is new and is about anthropological work to help a car company improve its business culture.

Chapter 26: Health and Illness This is now its own chapter, broken out from the previous edition where it was combined with applied anthropology. Much of the research has been updated.

Chapter 27: Global Problems We have extensively updated the research in this chapter. In revising the section on natural disasters and the famines that frequently result from them, we give increasing attention to the inequalities that contribute to them. New research on relationships to gender equality is included in the family violence section. In the section on war,

we discuss changes over the long course of history, the complex relationship between disasters and war, and the increasing attention to how the vulnerability of populations to disasters can be reduced. The first box has been extensively reworked and updated and now emphasizes climate change and ways anthropologists can contribute to understanding solutions.

Organization of the Text

Part I: Introduction

We see anthropology as a unified discipline that combines the insights of ethnographers, linguists, archaeologists, and physical anthropologists to create a holistic understanding of humans. In this section, we introduce the discipline of anthropology, outline its history and its major theoretical perspectives, and give an overview of the methods employed by anthropologists.

Chapter 1: What Is Anthropology? Chapter 1 introduces the student to anthropology. We discuss what we think is distinctive about anthropology in general, and about each of its subfields in particular. We outline how each of the subfields is related to other disciplines such as biology, psychology, and sociology. We direct attention to the increasing importance of applied anthropology and the importance of understanding others in today's more globalized world. To emphasize the excitement of research we include three boxes on individual researchers (an ethnographer, an archaeologist, and a physical anthropologist).

Chapter 2: Research Methods in Anthropology In this chapter, we begin by discussing what it means to explain and what kinds of evidence are needed to evaluate an explanation. We provide a brief introduction to some of the major ideas that have guided the history of anthropology in the United States. We then turn to the major types of study in anthropology—ethnography, within-culture comparisons, regional comparisons, worldwide cross-cultural comparisons, and historical research. We follow this with a brief introduction to the unique methods that archaeologists and biological anthropologists use and end with a discussion of ethics in anthropological research. There are two boxes: the first box evaluates alternative theories and the second explores changes in gender roles during the Shell Mound Archaic period in the southeastern United States.

Part II: Human Evolution

This section of the book focuses on the evolution of humans from early mammals to the present. We emphasize evolution as both a foundational and potentially unifying perspective within anthropology. We also emphasize the fact that humans continue to adapt to their environments both physically and culturally. Thus, anthropology must combine biological understanding and cultural understanding if we wish to develop an accurate understanding of humans.

Chapter 3: Genetics and Evolution This chapter discusses evolutionary theory as it applies to all forms of life, including humans. We have incorporated a brief history of evolutionary thought to give context to the extensive review of genetics and the processes of evolution, including natural selection and what it means, that follows. We also discuss how natural selection may operate on behavioral traits and how cultural evolution differs

from biological evolution. We provide a thorough discussion of creationism and intelligent design. The first box features the emerging issue of who owns DNA samples. The second box feature introduces the emerging field of molecular anthropology.

Chapter 4: Human Variation and Adaptation We bring the discussion of human genetics and evolution into the present, dealing with physical variation in living human populations and how physical anthropologists study and explain such variation. We examine how both the physical environment and the cultural environment play important roles in human physical variation. In a section on “race” and racism, we discuss why many anthropologists think the concept of “race” as applied to humans is not scientifically useful. We discuss the myths of racism and how “race” is largely a social category in humans. One box feature explores the use of “race” in forensic anthropology, and another box examines physical differences between native and immigrant populations.

Chapter 5: Primates Past and Present This new chapter combines what were two separate chapters in past editions. In it we describe the living nonhuman primates and their variable adaptations as background for understanding the evolution of primates in general and humans in particular. After describing the various kinds of primates, we discuss the distinctive features of humans in comparison with the other primates. We then go on to discuss the evolution of the primates. One box feature deals with how and why many primates are endangered and how they might be protected. Another box feature discusses the importance of studying the diversity of primates, both ancient and modern, for understanding our planet's biodiversity.

Chapter 6: The First Hominins This chapter discusses the evolution of bipedal locomotion—the most distinctive feature of the group that includes our genus and those of our direct ancestors. We discuss the various types of early hominins and how they might have evolved. One box feature discusses how we reconstruct ancient diet from teeth. A second box feature discusses ideas about how environmental change contributed to hominin evolution.

Part III: Cultural Evolution

Humans are unique in our ability to use culture to adapt to new or changing environments, both physical and cultural. In this section, we discuss evidence for when and how culture developed, and what may have fostered more complex cultural developments over time. We examine the emergence of agriculture, settled communities, and complex political and economic systems in the framework of cultural adaptation.

Chapter 7: The Origins of Culture and the Emergence of *Homo* This chapter examines the first clear evidences of cultural behavior—stone tools—and other clues suggesting that early hominins had begun to develop culture around 2.5 million years ago. We discuss the first hominins—the first members of our genus, *Homo*—who are most likely responsible for the early signs of cultural behavior, and *Homo erectus*, the first hominin to leave Africa and the first to demonstrate complex cultural behavior. The first box feature explains how scholars are able to reconstruct ancient environments. A second box discusses research on when hominins first migrated out of Africa.

Chapter 8: The Emergence of *Homo sapiens* This chapter examines the transition between *Homo erectus* and *Homo sapiens* and the emergence of modern-looking humans. We give

special consideration to the Neandertals and the question of their relationship to modern humans. We also discuss the new hominin species from Denisova Cave in southern Siberia. One box describes how forensic anthropologists reconstruct the faces of early humans. A second box explores the idea that mother–infant communication may have played an important role in the evolution of language.

Chapter 9: The Upper Paleolithic World This chapter considers the cultures of modern humans in the period before agriculture developed—roughly 40,000 years to 10,000 years ago. We examine their tools, their economies, and their art—the first art made by humans. We discuss the human colonization of North and South America, based on new archaeological sites and genetic research. The first box considers how women are depicted in Upper Paleolithic art. The second box discusses the evidence that the first colonists of the Americas may have died out and may be only distantly related to modern Native Americans.

Chapter 10: Origins of Food Production and Settled Life This chapter deals with the emergence of broad-spectrum collecting and settled life, and then the domestication of plants and animals, in various parts of the world. Our discussion focuses mainly on the possible causes and consequences of these developments in Mesoamerica and the Near East, the areas best known for these developments, but we also consider Southeast Asia, Africa, North and South America, and Europe. One box describes the work of archaeologists who are re-creating ancient agricultural systems in the Andes and elsewhere to help local populations produce more food. A second box describes how archaeological data are being used to create models of long-term environmental change.

Chapter 11: Origins of Cities and States This chapter deals with the rise of civilizations in various parts of the world and the theories that have been offered to explain the development of state-type political systems. Our focus is on the evolution of cities and states in Mesoamerica and the Near East, the areas archaeologists know best, but we also discuss the rise of cities and states in South America, South Asia, China, and Africa. We discuss how states affect people living in them and their environments. We conclude with a discussion of the decline and collapse of states. The first box feature discusses the question of whether Cahokia, a pre-Columbian city located near present-day St. Louis, Missouri, was a state. A second box discusses the links between imperialism, colonialism, and the state.

Part IV: Cultural Variation

In the chapters that follow, we try to convey the range of cultural variation with ethnographic examples from all over the world. Wherever we can, we discuss possible explanations of why societies may be similar or different in regard to some aspect of culture. If anthropologists have no explanation as yet for the variation, we say so. If we are to train students to go beyond what we know now, we have to tell them what we do not know, as well as what we think we know.

Chapter 12: Culture and Culture Change After introducing the concept of culture and some of the controversies surrounding the concept, we emphasize that culture is always changing. Throughout the chapter we discuss individual variation and how such variation may be the beginning of new cultural patterns. We also discuss attitudes that hinder the study

of culture, cultural relativism and the issue of human rights, patterning of culture, culture and adaptation, and mechanisms of culture change, before getting to the emergence of new cultures and the impact of globalization.

The first box is on culture change and persistence in China. The second box discusses an applied anthropologist's attempts to accommodate Bedouin needs in designed change programs with the Oman government. The third box discusses the increasing cultural diversity within countries of the world as a result of immigration and migration.

Chapter 13: Culture and the Individual In this extensively revised and updated chapter, we discuss some of the universals of psychological development and also the processes that contribute to differences in childhood experience and personality formation. We then turn to how understanding psychological processes may help us understand cultural variation. The chapter closes with a section on the individual as an agent of culture change.

Chapter 14: Communication and Language To place language in perspective, the chapter begins with a discussion of communication more broadly, including nonverbal human communication and communication in other animals. We discuss how language differs from other forms of communication and ideas about the origins of language. We then turn to some fundamentals of descriptive linguistics, the processes of linguistic divergence, and postulated relationships between language and other aspects of culture. Toward the end of the chapter we discuss the ethnography of speaking, and writing and literacy. The first box, an applied box, discusses language extinction and what some anthropologists are doing about it. And to stimulate thinking about the possible impact of language on thought, we ask in the last box whether the English language promotes sexist thinking.

Chapter 15: Getting Food This chapter discusses how societies vary in getting their food, how they have changed over time, and how the variation seems to affect other kinds of cultural variation. Our first box explores where particular foods came from and how different foods and cuisines spread around the world as people migrated. Our second box deals with the negative effects in preindustrial times of irrigation, animal grazing, and overhunting. To put food-getting in better historical perspective, we discuss the origin of food production in prehistory—when it occurred and the theories about why it occurred.

Chapter 16: Economic Systems Not only does this chapter describe variation in traditional economic systems and how much of it has been linked to ways of getting food, but there is also integrated discussion of change brought about by local and global political and economic forces. This chapter begins with a discussion of how societies vary in the ways they allocate resources, convert or transform resources through labor into usable goods, and distribute and perhaps exchange goods and services. The first box addresses the controversy over whether communal ownership leads to economic disaster. The second box discusses the impact of working abroad and sending money home. The third illustrates the impact of the world system on local economies, with special reference to the deforestation of the Amazon.

Chapter 17: Social Stratification: Class, Ethnicity, and Racism This chapter explores the variation in degree of social

stratification and how the various forms of social inequality may develop. We point out concepts of how “race,” racism, and ethnicity often relate to the inequitable distribution of resources. The first box discusses the degree of global inequality and why the gap between rich and poor countries may have widened. The second box discusses why there are disparities in death by disease between African Americans and European Americans.

Chapter 18: Sex and Gender This chapter opens with a section on culturally varying gender concepts, including diversity in what genders are recognized. After discussing universals and differences in gender roles in subsistence and leadership, we turn to theories about why men dominate political leadership and what may explain variation in relative status of women and men. In the second part of the chapter we discuss variation in attitudes and practices regarding heterosexual and homosexual sexuality. In the first box, we examine cross-cultural research about why some societies allow women to participate in combat. A second box discusses research on why women’s political participation may be increasing in some Coast Salish communities of western Washington State and British Columbia now that they have elected councils. The last is a box that examines the impact of economic development on women’s status.

Chapter 19: Marriage and the Family After discussing various theories and evidence about why marriage might be universal, we move on to discuss variation in how one marries, restrictions on marriage, whom one should marry, and how many one should marry. We close with a discussion of variation in family form and customs of adoption. We now discuss the phenomenon of couples choosing to live together, and to better prepare students for understanding kinship charts in the chapter that follows, we have a diagram explaining different types of family structures. Our first box discusses arranged marriage and how it has changed among South Asian immigrants in England and the United States. The second box discusses variation in love, intimacy, and sexual jealousy. The third box discusses why one-parent families are on the increase in countries like ours. The fourth box is on the changes in family structure in Japan and how it has affected “social security.”

Chapter 20: Marital Residence and Kinship Rather than jumping right into principles of kinship, we broadly discuss the different functions of kinship, the consequences of different kinship systems, and how the importance of kin changes with economic fortunes. In addition to describing the variation that exists in marital residence, kinship structure, and kinship terminology, this chapter discusses theory and research that try to explain that variation. The first box, “Blood is Thicker than Water,” discusses the role that Chinese lineages play in supporting migration and making a living in the diaspora. The second box explores how variation in residence and kinship affects the lives of women. The third box discusses how cross-cultural research on the floor area of residences in matrilineal versus patrilineal societies can be used to help archaeologists make inferences about the past. The last box discusses the possible relationship between neolocality and adolescent rebellion.

Chapter 21: Associations and Interest Groups We distinguish associations by whether they are nonvoluntary (common in more egalitarian societies) or voluntary, and whether they are based on universally ascribed characteristics

(like age and sex), variably ascribed characteristics (like ethnicity), or achieved characteristics. The first box discusses why street gangs may develop and why they often become violent. The second box discusses the role of ethnic associations in Chinatowns in North America. The third box looks at the importance of NGOs in bringing about change at the local and international levels. And the last box addresses the question of whether separate women’s associations increase women’s status and power.

Chapter 22: Political Life: Social Order and Disorder We look at how societies have varied in their levels of political organization, the various ways people become leaders, the degree to which they participate in the political process, and the peaceful and violent methods of resolving conflict. We emphasize change, including what may explain shifts from one type of organization to another, such as colonialization and other outside forces have transformed legal systems and ways of making decisions. We then discuss the concepts of nation-states, nationalism, and political identity. The first box is on the role of migrants in the growth of cities. The second box deals with the cross-national and cross-cultural relationship between economic development and democracy. The third box deals with how new local courts among the Abelam of New Guinea are allowing women to address sexual grievances.

Chapter 23: Religion and Magic The chapter opens with a discussion of how the concepts of the supernatural and natural have varied over time and space and then turn to theories about why religion is universal. We go on to discuss variation in the types, nature, and structure of gods, spirits, and forces; human/god interactions, concepts of life after death; ways to interact with the supernatural; and the number and types of religious practitioners. A major portion of the chapter deals with religious change, religious conversion and revitalization, and fundamentalist movements. The first box, raises the question of whether and to what degree religion promotes moral behavior, cooperation, and harmony. The second discusses the role of colonialism in religious change.

Chapter 24: The Arts After discussing how art might be defined and the appearance of the earliest art, we discuss variation in the visual arts, music, and folklore, and review how some of those variations might be explained. In regard to how the arts change over time, we discuss the myth that the art of “simpler” peoples is timeless, as well as how arts have changed as a result of European contact. We address the role of ethnocentrism in studies of art in a section on how Western museums and art critics look at the visual art of less complex cultures. Similarly in a new section we discuss the problematic and fuzzy distinctions made in labeling some art negatively as “tourist” art versus more positively as “fine” art. The first box explores ancient and more recent rock art and the methods that can be used to help preserve it. The second box discusses the global spread of popular music. The last box deals with universal symbolism in art, particularly research on the emotions displayed in masks.

Part V: Using Anthropology

Anthropology is not a discipline that focuses on pure research; rather, most anthropologists believe their work is truly valuable only if it can be used to improve the lives of others. In this section we examine how anthropological knowledge is used in a variety of settings and towards a variety of ends.

Chapter 25: Practicing and Applying Anthropology

An introductory section discusses specializations in practicing and applied anthropology. We move on to an expanded section on ethics, evaluating the effects of planned change, and difficulties in bringing about change. Since most of the examples in the first part of the chapter have to do with development, the remainder of the chapter gives an introduction to a number of other specialties; environmental anthropology, business and organizational anthropology, museum anthropology, cultural resource management, and forensic anthropology.

Chapter 26: Health and Illness This chapter concerns itself with cultural understandings of health and illness, the treatment of illness (particularly from a biocultural rather than just a biomedical point of view), varying medical practitioners, and political and economic influences on health. To give a better understanding of what medical anthropologists do, we focus on AIDS, mental and emotional disorders (particularly *susto* and depression), and undernutrition. The first box discusses an anthropologist's attempt to evaluate why an applied medical project didn't work, and the second updated box explores eating disorders, biology, and the cultural construction of beauty.

Chapter 27: Global Problems We begin this chapter with a discussion of the relationship between basic and applied research, and how research may suggest possible solutions to various global social problems, including natural disasters and famines, homelessness, crime, family violence, war, and terrorism. There are three boxes. The first now emphasizes climate change and ways anthropologists can contribute to understanding solutions. The second box is on how the problem of refugees has become a global problem. The last box describes ethnic conflicts and whether or not they are inevitable.

Features

Applied Anthropology Boxes. Anthropology is not a discipline focused on pure research. Most anthropologists want their work to be actively used to help others. And in our increasingly interconnected world, it would seem that anthropological knowledge would become increasingly valuable for understanding others. For these reasons, in the last few editions we have emphasized applied anthropology. Twenty-two of the 27 chapters have an applied anthropology box in each chapter. We hope this will provide students a better understanding of the vast range of issues to which anthropological knowledge can be usefully applied.

Current Research and Issues Boxes. These boxes deal with current research, topics students may have heard about in the news, and research controversies in anthropology. Examples include molecular anthropology, variation in love, intimacy, and sexual jealousy in the husband-wife relationship; increasing global inequality; and whether ethnic conflicts are ancient hatreds.

Migrants and Immigrants Boxes. These boxes deal with humans on the move, and how migration and immigration have impacted recent and contemporary social life. Examples include why some immigrant groups retained their "mother tongues" longer than others, the spread of foods in recent times, arranging marriages in the diaspora, and the problem of refugees.

Perspectives on Gender Boxes. These boxes involve issues pertaining to sex and gender, both in anthropology and everyday life. Examples are sexism in language, separate women's associations and women's status and power, and mother-infant communication and the origin of language.

Dorling Kindersley Maps To emphasize important themes, we have adapted maps originally produced by Dorling Kindersley, a leading publisher of educational maps.

Student-Friendly Pedagogy

Readability. We derive a lot of pleasure from trying to describe research findings, especially complicated ones, in ways that introductory students can understand. Thus, we try to minimize technical jargon, using only those terms students must know to appreciate the achievements of anthropology and to take advanced courses. We think readability is important not only because it may enhance the reader's understanding of what we write but also because it should make learning about anthropology more enjoyable! When new terms are introduced, which of course must happen sometimes, they are set off in boldface type and defined in the text, set off in the margins for emphasis, and of course also appear in the glossary at the end of the book.

Learning Objectives. Learning objectives are new to this edition. Each chapter begins with learning objectives that indicate what students should know after reading the material. The learning objectives are reinforced with specific questions at the end of each chapter that unite the topics, help students gauge their comprehension, and signal what topics they might have to reread.

Key Terms and Glossary. Important terms and concepts appearing in boldface type within the text are defined in the margins where they first appear. All key terms and their definitions are repeated in the Glossary at the end of the book.

Summaries. In addition to the learning objectives provided at the beginning of each chapter, each chapter has a detailed summary organized in terms of the learning objectives that will help students review the major concepts and findings discussed, along with review questions to reinforce and to complement the summary.

End of Book Notes. Because we believe in the importance of documentation, we think it essential to tell our readers, both professionals and students, what our conclusions are based on. Usually the basis is published research. The abbreviated notes in this edition provide information to find the complete citation in the bibliography at the end of the book.

Supplements

This textbook is part of a complete teaching and learning package that has been carefully created to enhance the topics discussed in the text.

Instructor's Resource Manual with Tests: For each chapter in the text, this valuable resource provides a detailed outline, list of objectives, discussion questions, and classroom activities. In addition, test questions in multiple-choice and short-answer formats are available for each chapter; the answers to all questions are page-referenced to the text.

MyTest: This computerized software allows instructors to create their own personalized exams, to edit any or all of the existing

test questions and to add new questions. Other special features of this program include random generation of test questions, creation of alternate versions of the same test, scrambling question sequence, and test preview before printing.

PowerPoint™ Presentation Slides: These PowerPoint slides combine text and graphics for each chapter to help instructors convey anthropological principles in a clear and engaging way.

Strategies in Teaching Anthropology, Sixth Edition (0-205-71123-5): Unique in focus and content, this book focuses on the “how” of teaching anthropology across all four fields and provides a wide array of associated learning outcomes and student activities. It is a valuable single-source compendium of strategies and teaching “tricks of the trade” from a group of seasoned teaching anthropologists, working in a variety of teaching settings, who share their pedagogical techniques, knowledge, and observations.

The Dorling Kindersley/Prentice Hall Atlas of Anthropology (0-13-191879-6): Beautifully illustrated by Dorling Kindersley, with narrative by leading archaeological author Brian M. Fagan, this striking atlas features 30 full-color maps, timelines, and illustrations to offer a highly visual but explanatory geographical overview of topics from all four fields of anthropology. Please contact your Prentice Hall representative for ordering information.

Acknowledgments

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*Carol R. Ember, Melvin Ember,
and Peter N. Peregrine*

About the Authors

CAROL R. EMBER started at Antioch College as a chemistry major. She began taking social science courses because some were required, but she soon found herself intrigued. There were lots of questions without answers, and she became excited about the possibility of a research career in social science. She spent a year in graduate school at Cornell studying sociology before continuing on to Harvard, where she studied anthropology, primarily with John and Beatrice Whiting.

For her PhD dissertation, she worked among the Luo of Kenya. While there, she noticed that many boys were assigned “girls’ work,” such as babysitting and household chores, because their mothers (who did most of the agriculture) did not have enough girls to help out. She decided to study the possible effects of task assignment on the social behavior of boys. Using systematic behavior observations, she compared girls, boys who did a great deal of girls’ work, and boys who did little such work. She found that boys assigned girls’ work were intermediate in many social behaviors compared with the other boys and girls. Later, she did cross-cultural research on variation in marriage, family, descent groups, and war and peace, mainly in collaboration with Melvin Ember, whom she married in 1970. All of these cross-cultural studies tested theories on data for worldwide samples of societies.

From 1970 to 1996, she taught at Hunter College of the City University of New York. She has served as president of the Society of Cross-Cultural Research and was one of the directors of the Summer Institutes in Comparative Anthropological Research, which were funded by the National Science Foundation. She has recently served as President of the Society for Anthropological Sciences and is currently the Past President. Since 1996, she has been at the Human Relations Area Files, Inc., a nonprofit research agency at Yale University, first serving as Executive Director, then as Acting President, and is currently President of that organization.

MELVIN EMBER majored in anthropology at Columbia College and went to Yale University for his PhD. His mentor at Yale was George Peter Murdock, an anthropologist who was instrumental in promoting cross-cultural research and building a full-text database on the cultures of the world to facilitate cross-cultural hypothesis testing. This database came to be known as the Human Relations Area Files (HRAF) because it was originally sponsored by the Institute of Human Relations at Yale. Growing in annual installments and now distributed in electronic format, the HRAF database currently covers more than 385 cultures, past and present, all over the world.

Melvin Ember did fieldwork for his dissertation in American Samoa, where he conducted a comparison of three villages to study the effects of commercialization on political life. In addition, he did research on descent groups and how they changed with the increase of buying and selling. His cross-cultural studies focused originally on variation in marital residence and descent groups. He has also done cross-cultural research on the relationship between economic and political development, the origin and

extension of the incest taboo, the causes of polygyny, and how archaeological correlates of social customs can help us draw inferences about the past.

After four years of research at the National Institute of Mental Health, he taught at Antioch College and then Hunter College of the City University of New York. He served as president of the Society for Cross-Cultural Research. From 1987 until his death in September, 2009, he was president of the Human Relations Area Files, Inc., a nonprofit research agency at Yale University.

PETER N. PEREGRINE came to anthropology after completing an undergraduate degree in English. He found anthropology's social scientific approach to understanding humans more appealing than the humanistic approach he had learned as an English major. He undertook an ethnohistorical study of the relationship between Jesuit missionaries and Native American peoples for his master's degree and realized that he needed to study archaeology to understand the cultural interactions experienced by Native Americans before their contact with the Jesuits.

While working on his PhD at Purdue University, Peter Peregrine did research on the prehistoric Mississippian cultures of the eastern United States. He found that interactions between groups were common and had been shaping Native American cultures for centuries. Native Americans approached contact with the Jesuits simply as another in a long string of intercultural exchanges. He also found that relatively little research had been done on Native American interactions and decided that comparative research was a good place to begin examining the topic. In 1990, he participated in the Summer Institute in Comparative Anthropological Research, where he met Carol R. Ember and Melvin Ember.

Peter Peregrine is professor of anthropology at Lawrence University in Appleton, Wisconsin and external professor at the Santa Fe Institute in Santa Fe, New Mexico. He also serves as research associate for the Human Relations Area Files. He continues to do archaeological research, and to teach anthropology and archaeology to undergraduate students.

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What Is Anthropology?

1

CHAPTER



LEARNING OBJECTIVES

Explain the general definition and purpose of anthropology.

1.1

Describe the scope of anthropology.

1.2

Explain the holistic approach.

1.3

Explain anthropology's distinctive curiosity.

1.4

Differentiate among the five major fields of anthropology.

1.5

Explain the ways in which anthropologists specialize within their fields of study.

1.6

Communicate the relevance of anthropology.

1.7

1.1 Explain the general definition and purpose of anthropology.

Anthropology A discipline that studies humans, focusing on the study of differences and similarities, both biological and cultural, in human populations. Anthropology is concerned with typical biological and cultural characteristics of human populations in all periods and in all parts of the world.

1.2 Describe the scope of anthropology.

What Is Anthropology?

Anthropology, by definition, is a discipline of infinite curiosity about human beings. The term comes from the Greek *anthropos* for “man, human” and *logos* for “study.” Anthropologists seek answers to an enormous variety of questions about humans. They are interested in both universals and differences in human populations. They want to discover when, where, and why humans appeared on the earth, how and why they have changed, and how and why the biological and cultural features of modern human populations vary. Anthropology has a practical side too. Applied and practicing anthropologists put anthropological methods, information, and results to use in efforts to solve practical problems.

The study of human beings is not an adequate definition of anthropology, however, since it would appear to incorporate a whole catalog of disciplines: sociology, psychology, political science, economics, history, human biology, and perhaps even the humanistic disciplines of philosophy and literature. Most of the disciplines concerned with human beings have existed longer than anthropology, and each has its distinctive focus. There must, then, be something unique about anthropology—a reason for its having developed and grown as a separate discipline for over a century.

...

The Scope of Anthropology

Anthropologists are generally thought of as individuals who travel to little-known corners of the world to study exotic peoples or dig deep into the earth to uncover the fossil remains, tools, and pots of people who lived long ago. Though stereotypical, this view does suggest how anthropology differs from other disciplines concerned with humans. Anthropology is broader in scope, both geographically and historically. Anthropology is concerned explicitly and directly with all varieties of people throughout the world, not just those close at hand or within a limited area. Anthropologists are also interested in people of all periods. Beginning with the immediate ancestors of humans, who lived a few million years ago, anthropology traces the development of humans until the present. Every part of the world that has ever contained a human population is of interest to anthropologists.

Anthropologists have not always been as global and comprehensive in their concerns as they are today. Traditionally, they concentrated on non-Western cultures and left the study of Western civilization and similarly complex societies, with their recorded histories, to other disciplines. In recent years, however, this division of labor among the disciplines has begun to disappear. Now anthropologists work in their own and other complex societies.

What induces anthropologists to choose so broad a subject for study? In part, they are motivated by the belief that any suggested generalization about human beings, any possible explanation of some characteristic of human culture or biology, should be shown to apply to many times and places of human existence. If a generalization or explanation does not prove to apply widely, anthropologists are entitled or even obliged to be skeptical about it. The skeptical attitude, in the absence of persuasive evidence, is our best protection against accepting invalid ideas about humans.

Because anthropologists are acquainted with human life in an enormous variety of geographic and historical settings, they are also often able to correct mistaken beliefs about different groups of people.

For example, when American educators discovered in the 1960s that African American schoolchildren rarely drank milk, they assumed that lack of money or education was the cause. But evidence from anthropology suggested a different explanation. Anthropologists had known for years that people do not drink fresh milk in many parts of the world where milking animals are kept; rather, they sour it before they drink it, or they make it into cheese. Why they do so is now clear. Many people lack the enzyme lactase that is necessary for breaking down lactose, the sugar in milk. When such people drink regular milk, it actually interferes with digestion. Not only is the lactose in milk not digested, but other nutrients are less likely to be digested as well. In many cases, drinking milk will

cause cramps, stomach gas, diarrhea, and nausea. Studies indicate that milk intolerance is found in many parts of the world.¹ The condition is common in adulthood among Asians, southern Europeans, Arabs and Jews, West Africans, Inuit (Eskimos), and North and South American native peoples, as well as African Americans.

The Holistic Approach

In addition to its worldwide and historical scope, anthropology has the distinguishing feature of having a **holistic** approach to the study of human beings. Anthropologists study the many aspects of human experience as an integrated whole. For example, an anthropologist's description of a group of people is likely to encompass their physical environment, a history of the area, how their family life is organized, general features of their language, their settlement patterns, their political and economic systems, their religion, and their styles of art and dress. The goal is not only to understand these aspects of physical and social life separately but to glean connections among them. Throughout this book, you will see that these seemingly separate factors in a culture regularly co-occur; that is, they form patterns of traits. Anthropologists want not only to identify those patterns but to explain them.

1.3 Explain the holistic approach.

Holistic Refers to an approach that studies many aspects of a multifaceted system.

Anthropological Curiosity

Thus far, we have described anthropology as being broader in scope, both historically and geographically, and more holistic in approach than other disciplines concerned with human beings. But this statement again implies that anthropology is the all-inclusive human science. How, then, is anthropology really different from the other disciplines? We suggest that anthropology's distinctiveness lies principally in the kind of curiosity it arouses.

Anthropologists tend to focus on the *typical* characteristics of the human populations they study rather than on individual variation or variation in small groups. Why do some populations have lighter skin than others? Why do some societies practice polygamy whereas others prohibit it? Where and when did people first start to farm rather than collecting and hunting wild resources? Anthropologists want to know why the characteristics that others might take for granted exist. Whereas economists take a monetary system for granted and study how it operates, anthropologists ask how frequently monetary systems occur, why they vary, and why only some societies have had them during the last few thousand years. It is not that anthropologists do not concern themselves with individuals. For instance, in studying political systems, anthropologists might want to know why certain people tend to be leaders. But when they study individual traits of leaders in order to answer the question, it may be because they want to better understand the political process in a larger social group, such as a society. Or, anthropologists might ask an even broader question, such as whether certain qualities of leaders are universally preferred.

Because anthropologists view human groups holistically, their curiosity may lead them to find patterns of relationships between seemingly unrelated characteristics. So, for example, the presence of the ability to digest lactose (a physical trait) in a population seems to be found in societies that depend heavily on dairying. In recent times, as more anthropologists work in larger and more complex societies, the focus of inquiry has shifted from looking at a whole society to smaller entities such as neighborhoods, communities, organizations, or social networks. But the focus on the whole entity is still strong.

1.4 Explain anthropology's distinctive curiosity.

Fields of Anthropology

In the past, an anthropologist covered as many subjects as possible. Today, as in many other disciplines, so much information has accumulated that anthropologists tend to specialize in one topic or area (see Figure 1.1). Some are concerned primarily with the *biological* or *physical characteristics* of human populations; others are interested principally in what we call *cultural characteristics*. Hence, there are two broad classifications of subject

1.5 Differentiate among the five major fields of anthropology.

Biological (physical) anthropology

The study of humans as biological organisms, dealing with the emergence and evolution of humans and with contemporary biological variations among human populations.

Cultural anthropology

The study of cultural variation and universals in the past and present.

Applied (practicing) anthropology

The branch of anthropology that concerns itself with applying anthropological knowledge to achieve practical goals.

Human paleontology

The study of the emergence of humans and their later physical evolution. Also called **paleoanthropology**.

Human variation The study of how and why contemporary human populations vary biologically.

Fossils The hardened remains or impressions of plants and animals that lived in the past.

Primate A member of the mammalian order Primates, divided into the two suborders of prosimians and anthropoids.

Primatologists People who study primates.

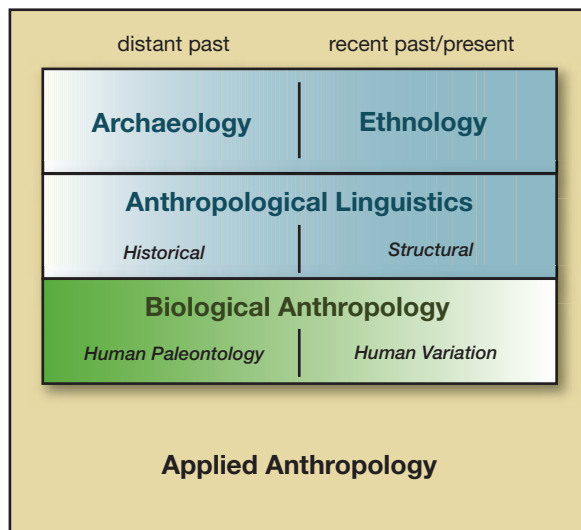


FIGURE 1.1 The Four Fields of Anthropology

The subdisciplines of anthropology (In bold letters) may be classified according to the period with which each is concerned (distant past or recent past and present) or by subject matter. Traditionally, the three fields shown in Blue are classified as Cultural Anthropology, as distinct from Biological (or Physical) Anthropology, shown in green. Found in all four fields is a fifth subfield Applied Anthropology.

matter in anthropology: **biological (physical) anthropology** and **cultural anthropology**. While biological anthropology is one major field of anthropology, cultural anthropology is divided into three subfields—archaeology, linguistics, and ethnology. Ethnology, the study of recent cultures, is now usually referred to by the parent name cultural anthropology. Crosscutting these four fields is a fifth, **applied or practicing anthropology**.

Biological Anthropology

Biological (physical) anthropology seeks to answer two distinct sets of questions. **Human paleontology** or **paleoanthropology** poses questions about the emergence of humans and their later evolution. A focus on **human variation** includes questions about how and why contemporary human populations vary biologically.

To reconstruct evolution, human paleontologists search for and study the buried, hardened remains or impressions—known as **fossils**—of humans, prehumans, and related animals. Paleontologists working in East Africa, for instance, have excavated the fossil remains of humanlike beings that lived more than 4 million years ago. These findings have suggested the approximate dates when our ancestors began to develop two-legged walking, very flexible hands, and a larger brain.

In attempting to clarify evolutionary relationships, human paleontologists may use not only the fossil record but also geological information on the succession of climates, environments, and plant and animal populations. Moreover, when reconstructing the past of humans, paleontologists are interested in the behavior and evolution of our closest relatives among the mammals—the prosimians, monkeys, and apes—which, like ourselves, are members of the order of **Primates**. Anthropologists, psychologists, and biologists who specialize in the study of primates are called **primatologists**. The various species of primates are observed in the wild and in the laboratory. One especially popular subject of study is the chimpanzee, which bears a close resemblance to humans in behavior and physical appearance, has a similar blood chemistry, and is susceptible to many of the same diseases. It now appears that chimpanzees share 99 percent of their genes with humans.²

From primate studies, biological anthropologists try to discover characteristics that are distinctly human, as opposed to those that might be part of the primate heritage. With this information, they may be able to infer what our prehistoric ancestors were like.



Birute Galdikas works with two orangutans in Borneo.

The inferences from primate studies are checked against the fossil record. The evidence from the earth, collected in bits and pieces, is correlated with scientific observations of our closest living relatives. In short, biological anthropologists piece together bits of information obtained from different sources. They construct theories that explain the changes observed in the fossil record and then attempt to evaluate their theories by checking one kind of evidence against another. Human paleontology thus overlaps such disciplines as geology, general vertebrate (particularly primate) paleontology, comparative anatomy, and the study of comparative primate behavior.

The second major focus of biological anthropology, the study of human variation, investigates how and why contemporary human populations differ in biological or physical characteristics. All living people belong to one species, *Homo sapiens*. Yet much varies among human populations. Investigators of human variation ask such questions as: Why are some peoples generally taller than others? How have human populations adapted physically to their environmental conditions? Are some peoples, such as Inuit (Eskimos), better equipped than other peoples to endure cold? Does darker skin pigmentation offer special protection against the tropical sun?

To understand better the biological variations among contemporary human populations, biological anthropologists use the principles, concepts, and techniques of at least three other disciplines: human genetics (the study of inherited human traits); population biology (the study of environmental effects on, and interaction with, population characteristics); and epidemiology (the study of how and why diseases affect different populations in different ways). Although research on human variation overlaps research in other fields, biological anthropologists remain primarily concerned with human populations and how they vary biologically.

Cultural Anthropology

Cultural anthropology is the study of how and why cultures in the past and present vary or are similar. But what is *culture*? The concept of culture is so central to anthropology that we will devote an entire chapter to it. Briefly, the term *culture* refers to the customary ways that a particular population or society thinks and behaves. The culture of a social group includes many things—from the language that people speak, childrearing, and the roles assigned to males and females to religious beliefs and practices and preferences in music. Anthropologists are interested in all of these and other learned behaviors and ideas that have come to be widely shared or customary in the group.

Homo sapiens All living people belong to one biological species, *Homo sapiens*, which means that all human populations on earth can successfully interbreed. The first *Homo sapiens* may have emerged about 200,000 years ago.

Current Research and Issues



Researcher at Work: Alyssa Crittenden

When an anthropologist's best-laid plans meet the "facts on the ground," the results can be unexpected. For Alyssa Crittenden, an anthropology professor at the University of Nevada, fieldwork also brought some delightful revelations.

In 2004, Crittenden began working with the Hadza, a hunter-gatherer people in Tanzania. (Because hunter-gatherers subsist by foraging for their food, they represent the basic economy and way of life that has characterized most of human history. Therefore, such few remaining peoples are valued subjects for anthropological study.) As a biological anthropologist, Crittenden was especially interested in what Hadza culture might reveal about the evolution of the human diet. She chose the diets of women for study and measured the relationship between their reproductive capacity and the amount and nutritional value of the food they foraged. Yet that data told only part of the previously untold story of Hadza women.

"I quickly realized," Crittenden says, "that I could not study the women's diet in isolation. These women belonged to a community of people, a support system of kin and neighbors. To understand women's contributions to the Hadza economy, I had to be an ethnographer, as well as a biological anthropologist." Thus, after 10 years of fieldwork among the Hadza, Crittenden characterizes herself as a biocultural anthropologist.

One surprising discovery Crittenden made was that Hadza children were hunters and gatherers in their own right. They were helping their mothers indirectly by providing their own food and thus contributing to their economy. This evidence contradicted what was known about the



Alyssa Crittenden interacting with Hadza children.

children of other hunter-gatherer groups, such as the San of the Kalahari Desert, whose children were observed to help process mongongo nuts but otherwise do little else but play. The difference may partly be due to the environment. The Kalahari has less variable terrain, less water, and more predators than southwestern Tanzania.

For Hadza children, foraging for their own food becomes an extension of play. Children who are 5 years old and younger can contribute up to 50 percent of their caloric needs by foraging for their own food. By the time they turn 6, children can contribute up to 75 percent of their own food. While girls collect water and plant foods, boys also hunt, using a bow and arrow like their elders. Indeed, at age 3, Hadza boys receive their own child-sized bow and arrow and begin

to hunt for the birds, rodents, bush babies, and lizards that make up their meat diet. Moreover, children learn to process and cook their own food. Crittenden observed children as young as 4 years old building their own miniature fires with embers from camp to cook their foraged meals.

Hadza children spend their days together in groups, seemingly unsupervised, though there is usually an older child nearby keeping an eye on them. Toddlers join a group of children as soon as they are weaned—that is, when their mothers can no longer carry them, usually between 1 1/2 and 3 years of age.

"Observing Hadza children, you can't help but wonder how the long, dependent childhood most of us experience evolved," says Crittenden.

Source: Crittenden 2013.

Archaeology Archaeology is the study of past cultures, primarily through their material remains. Archaeologists seek not only to reconstruct the daily life and customs of peoples who lived in the past but also to trace cultural changes and to offer possible explanations for those changes. While their subject matter is similar to that of historians, archaeologists reach much farther back in time. Historians deal only with societies that left written

records, which limits their scope to the last 5,000 years of human history and to the small proportion of societies that developed writing. Human societies have existed for more than a million years, however, and archaeologists serve as historians for all those past societies that lacked a written record. With scant or no written records to study, archaeologists must try to reconstruct history from the remains of human cultures. Some of these remains are as grand as the Mayan temples discovered at Chichén Itzá in Yucatán, Mexico. More often, what remains is as ordinary as bits of broken pottery, stone tools, and garbage heaps.

Most archaeologists deal with **prehistory**, the time before written records. But a specialty within archaeology, called **historical archaeology**, studies the remains of recent peoples who left written records. This specialty, as its name implies, employs the methods of both archaeologists and historians to study recent societies.

To understand how and why ways of life have changed through time in different parts of the world, archaeologists collect materials from sites of human occupation. Usually, these sites must be unearthed. On the basis of materials they have excavated and otherwise collected, they then ask a variety of questions: Where, when, and why did the distinctive human characteristic of toolmaking first emerge? Where, when, and why did agriculture first develop? Where, when, and why did people first begin to live in cities?

To collect the data they need to suggest answers to these and other questions, archaeologists use techniques and findings borrowed from other disciplines, as well as what they can infer from anthropological studies of recent and contemporary cultures. For example, to guess where to dig for evidence of early toolmaking, archaeologists rely on geology to tell them where sites of early human occupation are likely to be found, because of erosion and uplifting, near the surface of the earth. More recently, archaeologists have employed aerial photography and even radar imaging via satellite (a technique developed

Archaeology The branch of anthropology that seeks to reconstruct the daily life and customs of peoples who lived in the past and to trace and explain cultural changes. Often lacking written records for study, archaeologists must try to reconstruct history from the material remains of human cultures. See also **Historical archaeology**.

Prehistory The time before written records.

Historical archaeology A specialty within archaeology that studies the material remains of recent peoples who left written records.



Archaeologists try to reconstruct the cultures of past societies like those who created this “Cliff Palace” in what is today Mesa Verde National Park.

Perspectives on Gender



Researcher at Work: Elizabeth M. Brumfiel

Elizabeth M. Brumfiel (1945–2012) became interested in the origins of social inequality when she was an undergraduate. Archaeologists had known for some time that substantial wealth differences between families developed only recently—that is, only since about 6,000 years ago. Some archaeological indicators of inequality are clear: elaborate burials with valuable goods for some families and large differences in houses and possessions. When Brumfiel was in graduate school at the University of Michigan, she did not accept the then-current explanation that inequality provided benefits to the society—for example, that the standard of living of most people improved as the leaders got richer. Consequently, when Brumfiel undertook her PhD research in central Mexico, she began to test the “benefit” explanation in an area that had been independent politically and then became part of the Aztec Empire. She studied the surface material remains in the area and historical documents written by Europeans and Aztec nobility. Her findings contradicted the benefit explanation of social inequality; she found little improvement in the standard of living of the local people after the Aztec Empire had absorbed them.

Brumfiel also focused on how everyday women lived and how the expansion of the Aztec Empire had affected them. She found that women’s workload increased under the Aztecs. Brumfiel studied Aztec artwork for evidence of differences in status based on gender. In art from the Aztec capital of Tenochtitlán, images of militarism and masculinity became increasingly important with the growth of the empire, thus elevating the position of men. Sculptures of women, on the other hand, showed them in positions of work (kneeling). Yet the images of women in the area of Brumfiel’s fieldwork did not change. Unlike their rulers, these commoners usually depicted women as standing, not kneeling.



Aztec artwork showing daily activities of women.

Just as Brumfiel challenged conventional wisdom, she recognized that others too will challenge her work. As she said, she was quite comfortable with knowing that someone will think that she has “gotten it

wrong, and will set out on a lifetime of archaeological research to find her own answers.”

Sources: Brumfiel 2008, 2009.

by NASA) to pinpoint sites. To infer when agriculture first developed, archaeologists date the relevant excavated materials by a process originally developed by chemical scientists. Information from the present and recent past can also help illuminate the distant past. For example, to try to understand why cities first emerged, archaeologists may use information from historians, geographers, and political scientists about how recent and contemporary cities are related economically and politically to their hinterlands. By discovering what recent and contemporary cities have in common, archaeologists can speculate about why cities developed originally.

Anthropological Linguistics Anthropological linguistics is the anthropological study of language. Linguistics, or the study of languages, is an older discipline than anthropology, but the early linguists concentrated on the study of languages that had been written for a long time—languages such as English, which existed in written form for nearly a thousand years. Anthropological linguists began to do fieldwork in places where the language was not yet written. This meant that anthropologists could not consult a dictionary or grammar to help them learn the language. Instead, they first had to construct a dictionary and grammar. Then they could study the structure and history of the language.

Like biological anthropologists, linguists study changes that have taken place over time as well as contemporary variation. **Historical linguistics** is the study of how languages change over time and how they may be related. **Descriptive** or **structural linguistics** is the study of how contemporary languages differ, especially in their construction.

Sociolinguistics examines how language is used in social contexts.

In contrast with human paleontologists and archaeologists, who have physical remains to help them reconstruct change over time, historical linguists deal only with languages—and usually unwritten ones at that. (Remember that writing is only about 5,000 years old, and only a few languages have been written.) Because unwritten languages are transmitted orally, the historical evidence dies with the speakers. Linguists interested in reconstructing the history of unwritten languages must begin in the present, with comparisons of contemporary languages. On the basis of these comparisons, they draw inferences about the kinds of change in language that may have occurred in the past and that may account for similarities and differences observed in the present. Historical linguists might typically ask, for example, whether two or more contemporary languages diverged from a common ancestral language. And if so, how far back in time they began to differ?

Unlike historical linguists, descriptive (structural) linguists are concerned with discovering and recording the principles that determine how sounds and words are put together in speech. For example, a structural description of a particular language might tell us that the sounds *t* and *k* are interchangeable in a word without causing a difference in meaning. In American Samoa, one could say *Tutuila* or *Kukuila* to name the largest island, and everyone, except perhaps newly arrived anthropologists who knew little about the Samoan language, would understand that the same island was meant.

Sociolinguists are interested in the social aspects of language, including what people speak about, how they interact conversationally, their attitudes toward speakers of other dialects or languages, and how they speak differently in different contexts. In English, for example, we do not address everyone we meet in the same way. “Hi, Sandy” may be the customary way a person greets a friend. But we would probably feel uncomfortable addressing a doctor by her or his first name; instead, we would probably say, “Good morning, Dr. Brown.” Such variations in language use, which are determined by the social status of the people being addressed, are significant for sociolinguists.

Ethnology (Cultural Anthropology) The subfield of **ethnology**, now commonly called *cultural anthropology*, seeks to understand how and why peoples today and in the recent past differ or are similar in their customary ways of thinking and acting. They ask how and why cultures develop and change and how one aspect of culture affects others. Cultural anthropologists seek answers to a variety of questions, such as: Why is the custom of marriage nearly universal in all cultures? Why do families live with or near their kin in some societies but not in others? What changes result from the introduction of money to a previously nonmonetary economy? How are relationships impacted when family members move far away to work? What happens to a society that suffers severe stress because

Anthropological linguistics The anthropological study of languages.

Historical linguistics The study of how languages change over time.

Descriptive (structural) linguistics The study of how languages are constructed.

Sociolinguistics The study of cultural and sub-cultural patterns of speaking in different social contexts.

Ethnology The study of how and why recent cultures differ and are similar.