

CULTURAL ANTHROPOLOGY

AN APPLIED PERSPECTIVE

THIRD EDITION

GARY FERRARO



CULTURAL ANTHROPOLOGY

AN APPLIED PERSPECTIVE

THIRD EDITION

GARY FERRARO

The University of North Carolina at Charlotte



West / Wadsworth

ITP® An International Thomson Publishing Company

Belmont, CA • Albany, NY • Bonn • Boston • Cincinnati • Detroit • Johannesburg • London • Madrid • Melbourne
Mexico City • New York • Paris • Singapore • Tokyo • Toronto • Washington

Anthropology Editor: Denise Simon
Marketing Manager: Chaun Hightower
Project Editor: Jerilyn Emori
Print Buyer: Karen Hunt
Production Coordinator: Patty O'Connell, Electronic Publishing Services Inc., NYC
Interior and Cover Designer: Bruce Kortebein, Marilyn Perry/Design Office
Copy Editor: Carol Anne Peschke, Electronic Publishing Services Inc., NYC
Photo Researcher: Julie Tesser, Electronic Publishing Services Inc., NYC
Illustrators: Electronic Publishing Services Inc., NYC; Byron Gin
Cover Photographs: (top) John Elk III/Stock Boston (bottom) Robert Estall Photographs/© Angela Fisher and Carol Beckwith
Compositor: Electronic Publishing Services Inc., NYC
Printer: World Color Book Services/Taunton

COPYRIGHT © 1998 by Wadsworth Publishing Company
A Division of International Thomson Publishing Inc.

ITP The ITP logo is a registered trademark under license.

Printed in the United States of America
2 3 4 5 6 7 8 9 10

For more information, contact Wadsworth Publishing Company, 10 Davis Drive, Belmont, CA 94002, or electronically at
<http://www.thomson.com/wadsworth.html>

International Thomson Publishing Europe
Berkshire House 168-173
High Holborn
London, WC1V 7AA, England

International Thomson Editorés
Campos Eliseos 385, Piso 7
Col. Polanco
11560 México D.F. México

Thomas Nelson Australia
102 Dodds Street
South Melbourne 3205
Victoria, Australia

International Thomson Publishing Asia
221 Henderson Road
#05-10 Henderson Building
Singapore 0315

Nelson Canada
1120 Birchmount Road
Scarborough, Ontario
Canada M1K 5G4

International Thomson Publishing Japan
Hirakawacho Kyowa Building, 3F
2-2-1 Hirakawacho
Chiyoda-ku, Tokyo 102, Japan

International Thomson Publishing GmbH
Konigswinterer Strasse 418
53227 Bonn, Germany

International Thomson Publishing Southern Africa
Building 18, Constantia Park
240 Old Pretoria Road
Halfway House, 1685 South Africa

All rights reserved. No part of this work covered by the copyright hereon may be reproduced or used in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems—without the written permission of the publisher.

Library of Congress Cataloging-in-Publication Data

Ferraro, Gary P.

Cultural anthropology : an applied perspective / Gary Ferraro. --
3rd ed.
p. cm.

Includes bibliographical references and index.
ISBN 0-534-53316-7

1. Ethnology. 2. Applied anthropology.

GN316.F46 1997
306--dc21

97-14054



t h o m s o n • c o m

changing the way the world learnsSM

To get extra value from this book for no additional cost, go to:

<http://www.thomson.com/wadsworth.html>

thomson.com is the World Wide Web site for Wadsworth/ITP and is your direct source to dozens of on-line resources.

thomson.com helps you find out about supplements, experiment with demonstration software, search for a job, and send e-mail to many of our authors. You can even preview new publications and exciting new technologies.

thomson.com: *It's where you'll find us in the future.*

For my father,

CHARLES FERRARO,

*for his many ways of teaching me
the meaning of excellence.*

PREFACE

As with earlier editions, this text has two major objectives. First, the book is designed to introduce university undergraduates to the field of cultural anthropology. With its comparative approach to the variety of human societies, the text provides a comprehensive overview of the discipline. And second, the text is unique in that it goes beyond the basic outline of introductory materials by applying the theory, insights, and methods of cultural anthropology to those situations that students, both majors and nonmajors, are likely to encounter in their professional and personal lives. Most students enrolled in introductory anthropology courses will never take another course in anthropology during their undergraduate careers. It is, therefore, important that they be exposed to the relevance of the discipline at the introductory level, rather than expecting them to take additional courses in more applied areas of anthropology.

The text's applied orientation is integrated into each of the chapters by the twin features of (a) "applied perspectives" and (b) "cross-cultural miscues." The applied perspectives, appearing at the end of Chapters 2 through 16, demonstrate how cultural anthropology has been used to solve specific societal problems in the areas of medicine, education, government, architecture, business, and economic development, among others. For example, in Chapter 7 of this Third Edition, students are shown how the study of ethnobotany in the Amazon region by cultural anthropologists can lead to the use of new drugs to treat a wide variety of diseases currently inflicting the world's population. And the applied perspective in Chapter 15 shows how a physicist and boatbuilder is currently using ethnohistorical data on the art of building eighteenth-century Aleutian kayaks in the design of modern boats. Also appearing twice in each of Chapters 2 through 16, the cross-cultural miscues are short scenarios illustrating the potential negative results of failing to understand cultural differences. To illustrate, one miscue from Chapter 9 tells how a well intentioned, but culturally insensitive, physician from the United States contributed to the death of an unmarried pregnant woman in Saudi Arabia.

Over the past six years an increasing number of cultural anthropologists have agreed with our basic premise: that an introductory text with an applied focus was long overdue. The first two editions of the book have been adopted by anthropology instructors at a number of different types of institutions, public and private, large and small, two year and four year. However, as well received as the first two editions have been, there is always room for improvement. Responding to a number of helpful suggestions by reviewers, the following changes have been made in the third edition:

- Every chapter has received new materials and updated references.
- About 40% of the "cross cultural miscues" and 20% of the "applied perspectives" are new.
- New sections have been included on such topics as urban anthropology, development anthropology, language and values, religious nationalism, and liberation theology.
- More illustrative materials from Canada has been incorporated.
- Internet exercises are now found at the end of each chapter. These exercises are designed to reinforce some of the insights found in the chapter, while at the same time, give students a chance to hone their computer/Internet skills. The student also has access to a new appendix dealing with the Internet which both discusses how best to find anthropological data on the Web and also gives some important anthropological web sites (URLs).
- New to the third edition, a companion reader in applied anthropology (entitled *Readings in Applied Anthropology*) will be available to students. Containing 35 selected readings in applied anthropology, this supplementary reader will allow students to explore the variety of ways by which anthropology has been applied to such areas as business, medicine, education, government and law, criminal justice, and housing.

As with the earlier editions, students will again be able to purchase for a nominal cost the *Study Guide* which contains

learning objectives, definitions, and sample test items for each chapter.

ACKNOWLEDGMENTS

As you may have noticed, the Third Edition of the book is published by West/Wadsworth, not West Publishing Company which had published the first two editions. The transition to a new company and a new editor has proceeded astonishingly smoothly, and I am delighted to be part of the new “extended family” brought about by the recent merger of West and Wadsworth. I want to thank my original editor from West, Pete Marshall, for encouraging me to write an introductory textbook with an applied perspective in the first place, and for his support and advice for the first two editions. I also want to thank my new editor, Denise Simon, for her vision, counsel, and many excellent suggestions for improving the Third Edition. Many thanks also to Jerilyn Emori for shepherding the book through the production process and to Patty O’Connell of EPS for keeping me on task in a very effective, yet gentle, manner. Also, I am grateful to Julie Tesser, the photo researcher for this third edition who has an excellent “anthropological eye.”

As with the two previous editions, many reviewers have made valuable and insightful suggestions for strengthening the text: Jeanne Humble, Lexington Community College; Susan Johnston, University of Rhode Island; Christina Lemieux, Kutztown University; Purna Mahanti, Paine College; Marjorie Mitchell, Camosun College; Peter Stephenson, University of Victoria; and Thomas Stevenson, Ohio University at Zanesville.

I also want to thank the many unsolicited reviewers—both adopters and nonadopters—who have commented on various aspects of the text over the years. I trust that all of these reviewers will see that many of their helpful suggestions have been incorporated into the third edition. I would encourage any readers, professors or students, to send me your comments, corrections, and suggestions for improvements via e-mail at the following address:

gpferrar@email.uncc.edu

And finally, I want to thank my many students over the last quarter of a century who have helped me define and refine the concepts and interpretations in this book.

CONTENTS IN BRIEF

Detailed Contents	xiii		
Preface	xvii		
CHAPTER ONE		CHAPTER TEN	
WHAT IS ANTHROPOLOGY?	1	MARRIAGE AND THE FAMILY	192
CHAPTER TWO		CHAPTER ELEVEN	
THE CONCEPT OF CULTURE	17	GENDER	217
CHAPTER THREE		CHAPTER TWELVE	
APPLIED ANTHROPOLOGY	37	POLITICAL ORGANIZATION AND SOCIAL CONTROL	238
CHAPTER FOUR		CHAPTER THIRTEEN	
THE GROWTH OF ANTHROPOLOGICAL THEORY	55	SOCIAL STRATIFICATION	261
CHAPTER FIVE		CHAPTER FOURTEEN	
METHODS IN CULTURAL ANTHROPOLOGY	82	RELIGION	283
CHAPTER SIX		CHAPTER FIFTEEN	
LANGUAGE	103	ART	307
CHAPTER SEVEN		CHAPTER SIXTEEN	
GETTING FOOD	125	CULTURE CHANGE	326
CHAPTER EIGHT		CHAPTER SEVENTEEN	
ECONOMICS	147	THE FUTURE OF ANTHROPOLOGY	348
CHAPTER NINE		Appendix: Anthropology and Jobs	353
KINSHIP AND DESCENT	170	Appendix: The Anthropology Student's Guide to the Internet	356
		Glossary	359
		Bibliography	369
		Credits	385
		Index	387

DETAILED CONTENTS

Preface	xvii	Chapter 4	
		THE GROWTH OF ANTHROPOLOGICAL THEORY	55
Chapter 1		Evolutionism	56
WHAT IS ANTHROPOLOGY?	1	Diffusionism	60
Physical Anthropology	3	American Historicism	62
Archaeology	5	Functionalism	63
Anthropological Linguistics	6	Psychological Anthropology	66
Cultural Anthropology	7	Neoevolution	69
Contributions of Anthropology	11	French Structuralism	70
		Ethnoscience	71
Chapter 2		Cultural Materialism	72
THE CONCEPT OF CULTURE	17	Interpretive Anthropology	72
Culture Defined	18	Statistical Cross-Cultural Comparisons	74
Culture Is Shared	18	Some Concluding Thoughts on Anthropological Theory	75
Culture Is Learned	20	<i>Applied Perspective: Anthropological Theory</i>	75
How Culture Influences Biological Processes	21		
Culture Changes	22	Chapter 5	
Evaluating Cultural Differences	24	METHODS IN CULTURAL ANTHROPOLOGY	82
Cultural Universals	27	Preparing for Fieldwork	84
Culture: Adaptive and Maladaptive	29	Stages of Field Research	85
Cultures Are Generally Integrated	30	Data-Gathering Techniques	88
"Primitive" Cultures	31	The Pains and Gains of Fieldwork	95
Culture and the Individual	32	Recent Trends in Ethnographic Fieldwork	97
<i>Applied Perspective: Culture</i>	32	<i>Applied Perspective: Anthropological Methods</i>	98
Chapter 3		Chapter 6	
APPLIED ANTHROPOLOGY	37	LANGUAGE	103
Applied Versus Pure Anthropology	38	The Nature of Language	104
Organizations Supporting Applied Anthropology	39	The Structure of Language	107
The Anthropologist's Involvement in Applied Projects	40	Are Some Languages Superior to Others?	109
Special Features of Anthropology	41	Language and Culture	110
The Rise of Applied Anthropology	42	Sociolinguistics	115
The Ethics of Applied Anthropology	46	Nonverbal Communication	117
<i>Applied Perspective: Some Detailed Examples</i>	49	<i>Applied Perspective: Language and Communication Systems</i>	120

Chapter 7

GETTING FOOD 125

Environment and Technology	126
Major Food-Getting Strategies	127
Food Collecting Strategies and Science	140
<i>Applied Perspective: Food Getting</i>	142

Chapter 8

ECONOMICS 147

Economics and Economic Anthropology	148
The Allocation of Natural Resources	150
Production	152
Distribution of Goods and Services	156
<i>Applied Perspective: Economics</i>	164

Chapter 9

KINSHIP AND DESCENT 170

Kinship Defined	171
Cultural Rules Regarding Kinship	172
Functions of Kinship Systems	172
Using Kinship Diagrams	172
Principles of Kinship Classification	173
The Formation of Descent Groups	176
Six Basic Systems of Classification	181
Kinship and the Modern World	184
<i>Applied Perspective: Kinship</i>	186

Chapter 10

MARRIAGE AND THE FAMILY 192

Marriage and the Family: Some Definitions	193
Marriage and the Family: Functions	194
The Universal Incest Taboo	195
Mate Selection: Whom Should You Marry?	197
Number of Spouses	200
Economic Considerations of Marriage	204
Residence Patterns: Where Do Wives and Husbands Live?	208
Family Structure	208
<i>Applied Perspective: Marriage and the Family</i>	212

Chapter 11

GENDER 217

Human Sexuality	220
Gender Roles	221
Gender Stratification	222
Gender Ideology	226
Extreme Gender Ideology Can Lead to Exploitation	229
Gender in the United States	230
<i>Applied Perspective: Gender</i>	232

Chapter 12

POLITICAL ORGANIZATION AND SOCIAL CONTROL 238

Types of Political Organization	239
Social Control	246
<i>Applied Perspective: Political Organization</i>	256

Chapter 13

SOCIAL STRATIFICATION 261

Dimensions of Social Inequality	262
Types of Societies	263
Racial and Ethnic Stratification	271
Theories of Stratification	274
<i>Applied Perspective: Social Stratification</i>	277

Chapter 14

RELIGION 283

Defining Religion	284
Myths	288
Functions of Religion	288
Types of Religious Organization	291
Religion and Social Change	298
<i>Applied Perspective: Religion</i>	301

Chapter 15

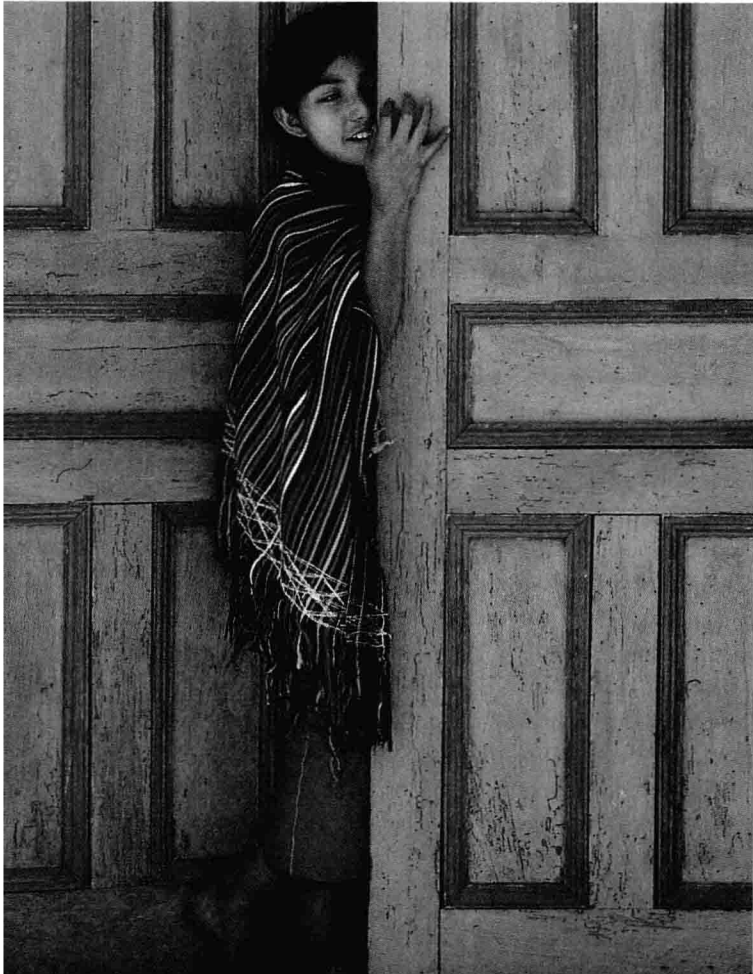
ART 307

What Is Art?	308
Differences in Art Forms	309
The Functions of Art	310

Graphic and Plastic Arts	313	Chapter 17	
Art: Continuity and Change	314	THE FUTURE OF ANTHROPOLOGY	348
Music	315		
Dance	317	Cultural Survival of Indigenous Peoples	349
Verbal Arts	319	The Study of Complex Societies	351
<i>Applied Perspective: Art</i>	321	The Greater Use of Anthropological Knowledge	352
		Appendix: Anthropology and Jobs	353
Chapter 16		Appendix: The Anthropology Student's Guide to the Internet	356
CULTURAL CHANGE	326	Glossary	359
Inventions/Innovations	327	Bibliography	369
Diffusion	329	Credits	385
Acculturation	330	Index	387
Linked Changes	331		
Obstacles to Cultural Change	332		
Urbanization and Change	334		
Change and Development	338		
<i>Applied Perspective: Cultural Change</i>	342		



WHAT IS ANTHROPOLOGY?



WHAT WE WILL LEARN:

- How does anthropology differ from other social and behavioral sciences?
- What is the four-field approach to the discipline of anthropology?
- What contributions can anthropology make to the solution of social problems?

A young girl from Guatemala peers from behind the door of her home to see what is going on in the world around her, an activity in which students of cultural anthropology also engage.

When most North Americans hear the word *anthropologist*, a number of images come to mind. They picture, for example,

- Dian Fossey devoting years of her life to making systematic observations of mountain gorillas in their natural environment in Rwanda
- A field anthropologist wearing natural-fibered clothing and Birkenstocks, interviewing an exotic tribesman about the nature of his kinship system
- The excavation of a jawbone that will be used to demonstrate the evolutionary link between early and modern humans
- A linguist meticulously recording the sounds of various words from a native informant who speaks a language that has never before been written down
- A team of archaeologists in pith helmets unearthing an ancient temple from a rain forest in Guatemala

Each of these impressions—to one degree or another—accurately represents the concerns of scientists who call themselves anthropologists. Anthropologists do in fact travel to the far corners of the world to study little-known cultures (cultural anthropologists) and languages (anthropological linguists). There are also anthropologists who unearth fossil remains (physical anthropologists) and various artifacts (archaeologists) of people who lived thousands and, in some cases, millions of years ago. Even though these anthropological subspecialties engage in substantially different types of activities and generate different types of data, they are all directed toward a single purpose: the scientific study of humans, both biologically and culturally, in whatever form, time period, or region of the world they might be found.

Anthropology—derived from the Greek words *anthropos* for “human” and *logos* for “study”—is, if we take it literally, the study of humans. In one sense this is an accurate description to the extent that it raises a wide variety of questions about the human condition. And yet this literal definition is not particularly illuminating because a number of other academic disciplines—including sociology, biology, psychology, political science, economics, philosophy, and history—also study human beings. What gives the discipline of anthropology

the right to refer to itself as the study of humans? What is it that distinguishes anthropology from all of these other disciplines?

Anthropology is the study of people—their origins, their development, and contemporary variations, wherever and whenever they have been found on the face of the earth. Of all the disciplines that study humans, anthropology is by far the broadest in scope. The subject matter of anthropology includes fossilized skeletal remains of early humans, artifacts and other material remains from archaeological sites, and all of the contemporary and historical cultures of the world. The task that anthropology has set for itself is an enormous one. Anthropologists strive for an understanding of the biological and cultural origins and evolutionary development of the species. They are concerned with all humans, both past and present, as well as humans’ behavior patterns, thought systems, and material possessions. In short, anthropology aims to describe, in the broadest sense, what it means to be human (see Peacock 1986).

In their search to understand the human condition, anthropologists—drawing on a wide variety of data and methods—have created a diverse field of study. Many specialists in the field of anthropology often engage in research that is directly relevant to other fields. It has been suggested (Wolf 1964:13) that anthropology spans the gap between the humanities, the social sciences, and the natural sciences. To illustrate, anthropological investigations of native art, folklore, values, and supernatural belief systems are primarily humanistic in nature; studies of social stratification, comparative political systems, and means of distribution have a good deal in common with the social science investigations of sociology, political science, and economics, respectively; and studies of comparative anatomy and radio-carbon dating are central to the natural sciences of biology and chemistry.

The breadth of anthropology becomes apparent when looking at the considerable range of topics discussed in papers published in the *American Anthropologist* (one of the primary professional journals in the field). For example, the following

are just a few of the topics discussed in the *American Anthropologist* during the 1990s:

- Health and nutrition of a medieval Nubian population in the Sudan
- The origins of agriculture in the Near East
- The migration, education, and status of women in southern Nigeria
- An explanation of differences in overseas experiences among employees of the General Motors Corporation
- Sexual behavior among bonobos (pygmy chimpanzees)
- An analysis of tension between African-Americans and Korean immigrants in Los Angeles
- Status and power in classical Mayan society
- Men's and women's speech patterns among the Creek Indians of Oklahoma
- A comparison of social interaction among old women and old female Japanese monkeys
- The role of maize in bringing about political changes in Peru between A.D. 500 and 1500
- The distribution and consumption of Islamic religious paraphernalia in Egypt and how it has transformed urban religious consciousness

The global scope of anthropological studies has actually increased in recent years. In the early 1900s, anthropologists concentrated on the non-Western, preliterate, and technologically simple societies of the world, and were content to leave the study of industrial societies to other disciplines. In the past several decades, however, anthropologists have been studying cultural and subcultural groups in industrialized areas while continuing their studies of more exotic peoples of the world. It is not uncommon today for anthropologists to apply their field methods to the study of hardcore unemployed men in American cities, rural communes in California, or urban street gangs. Only when the whole range of human cultural variation is examined will we be in a position to test the accuracy of theories about human behavior.

Traditionally, anthropology as practiced in the United States during the twentieth century is divided into four distinct branches or subfields: physical anthropology, which deals with humans as biological organisms; archaeology, which attempts to reconstruct the cultures of the past, most of which have left no written records; anthropological linguistics, which focuses on the study of language in historical, structural, and social contexts; and cultural anthropology, which examines similarities and differences between contemporary cultures of the world (see Table 1–1). Although this last branch, cultural anthropology, is the central focus of this text, it is important to discuss the other three branches and to provide an adequate description of the whole discipline.

Despite this four-field division of anthropology and the considerable specialization among the practitioners, the discipline has had a long-standing tradition of emphasizing the interrelations among these four subfields. Moreover, in recent years there has been considerable blurring of the boundaries among the four branches. For example, the new area of specialization known as medical anthropology draws heavily from both physical and cultural anthropology, educational anthropology addresses issues that bridge the gap between cultural anthropology and linguistics, and sociobiology looks at the interaction between culture and biology.

PHYSICAL ANTHROPOLOGY

Physical anthropology is the study of the human condition from a biological perspective. Essentially, physical anthropologists are concerned with two broad areas of investigation. First, they are interested in reconstructing the evolutionary record of the human species; that is, they ask questions about the emergence of humans and how humans have evolved up to the present time. This area of physical anthropology is known as **human paleontology** or **paleoanthropology**. The second area of concern to physical anthropologists deals with

TABLE 1-1 **BRANCHES OF ANTHROPOLOGY**

PHYSICAL	ARCHAEOLOGY	LINGUISTICS	CULTURAL ANTHROPOLOGY
Paleontology	Historical archaeology	Historical linguistics	Economic anthropology
Primatology	Prehistoric archaeology	Descriptive linguistics	Psychological anthropology
Human variation	Contract archaeology	Ethnolinguistics	Educational anthropology
Forensic anthropology		Sociolinguistics	Medical anthropology
			Urban anthropology
			Political anthropology

how and why the physical traits of contemporary human populations vary across the world. This area of investigation is called human variation. Physical anthropologists differ from comparative biologists in that they study how culture and environment have influenced these two areas of biological evolution and contemporary variations.

EVOLUTIONARY RECORD OF HUMANS

In their attempts to reconstruct human evolution, paleoanthropologists have drawn heavily on fossil remains (hardened organic matter such as bones and teeth) of humans, **protohumans**, and other primates. Once these fossil remains have been unearthed, the difficult job of comparison, analysis, and interpretation begins. To which species do the remains belong? Are the remains human or those of our prehuman ancestors? If not human, how do the remains relate to our own species? When did these primates live? How did they adapt to their environment? To answer these questions, paleoanthropologists use the techniques of comparative anatomy. They compare such physical features as cranial capacity, teeth, hands, and the shape of the head of the fossil remains with those of humans or other nonhuman primates. In addition to comparing physical features, paleoanthropologists look for signs of culture (such as tools) to help determine the humanity of the fossil remains. For example, if fossil remains are found in association with tools, and if it can be determined that the tools were made by these creatures, it is likely that the remains will be considered human.

The work of paleoanthropologists is often tedious and must be conducted with meticulous attention to detail. Even though the quantity of fossilized materials is growing each year, the paleoanthropologist has few data to analyze. Much of the evolutionary record remains under the ground. Of the fossils that have been found, many are partial or fragmentary, and more often than not they are not found in association with tools or other cultural artifacts. Consequently, to fill in the human evolutionary record, physical anthropologists need to draw on the work of a number of other specialists: paleontologists (who specialize in prehistoric plant and animal life), archaeologists (who study prehistoric material culture), and geologists (who provide data on local physical and climatic conditions).

Since the 1950s, physical anthropologists have developed an area of specialization of their own that helps shed light on human evolution and adaptation over time and space. This is the new field of study known as **primatology**—the study of our nearest living relatives (apes, monkeys, and prosimians) in their natural habitat. Primatologists study the anatomy and social behavior of such nonhuman primate species as gorillas, baboons, and chimpanzees in an effort to gain clues about our own evolution as a species. Because physical anthropologists do not have the luxury of observing the behavior of our human ancestors several million years ago, we can learn how early humans responded to certain environmental conditions and changes in their developmental past by studying contemporary nonhuman primates in similar environments. For example,



Archaeologists excavate decorated vases on the Greek Island of Santorini.



Primatologists study such nonhuman primates as this mountain gorilla of Rwanda.

the simple yet very real division of labor among baboon troops can shed light on role specialization and social stratification in early human societies.

PHYSICAL VARIATIONS AMONG HUMANS

Although all humans are members of the same species and therefore are capable of interbreeding, considerable biological variations exist among human populations. Some of these differences are based on visible physical traits, such as the shape of the nose, the thickness of the lips, and the color of the skin. Other variations are based on less visible biochemical factors, such as blood type or susceptibility to diseases.

For decades, physical anthropologists attempted to document the human physical variations throughout the world by dividing the world's populations into various racial categories. (A **race** is a group of people who share a greater statistical frequency of genes and physical traits with one another than they do with people outside the group.) Today the physical anthropologist's

attention is focused more on trying to explain *why* the variations exist by asking such questions as, Are peoples of the Arctic better endowed physically to survive in colder climates? Why do some populations have darker skin than others? Why are most Chinese adults unable to digest milk? Why is the blood type B nonexistent among Australian aborigines? How have certain human populations adapted biologically to their local environments? To help answer these and other questions involving human biological variation, physical anthropologists draw on the work of three allied disciplines: **genetics** (the study of inherited physical traits), **population biology** (the study of the relationship between population characteristics and environment), and **epidemiology** (the study of differential effects of disease on populations).

ARCHAEOLOGY

Archaeology is the study of the lifeways of people from the past through excavating and analyzing the things these people leave behind, including, in some cases, written records. The purpose of archaeology is not to fill up museums by collecting exotic relics from prehistoric societies. Rather, it is to reconstruct the cultures of people who are no longer living. Because archaeology concentrates on societies of the past, archaeologists are limited to working with only one of the three basic components of culture—material culture—because the other two components—ideas and behavior patterns—are not preserved in the absence of people for thousands and, in some cases, millions of years.

Archaeologists work with three types of material remains: **artifacts**, **features**, and **ecofacts**. Artifacts are objects that have been made or modified by humans and that can be removed from the site and taken to the laboratory for further analysis. Tools, arrowheads, and fragments of pottery are examples of artifacts. Features, like artifacts, are made or modified by people, but they differ in that they cannot be readily carried away. Archaeological features include such things as house foundations, fireplaces, and post holes. Ecofacts are the third type of physical remains used by archaeologists. These include objects found in the natural environment (such as bones, seeds, and wood) that were not made or altered by humans but were used by them. Ecofacts provide archaeologists with important data concerning the environment and how the people used natural resources.

The data that archaeologists have at their disposal are very selective. Not only are archaeologists limited to material remains, but also the overwhelming majority of material possessions that may have been part of a culture do not survive



Paleontologist Richard Leakey unearths some prehistoric fossil remains at Koobi Fora in Kenya.

thousands of years under the ground. As a result, archaeologists search for fragments of material evidence that will enable them to piece together as much of the culture as possible—such items as arrowheads, hearths, beads, post holes, and burial stones. A prehistoric garbage dump is particularly revealing, for the archaeologist can learn a great deal about how people lived from what they threw away. These material remains are then used to make inferences about the nonmaterial aspects of the culture being studied. For example, the finding that all women and children are buried with their heads pointing in one direction whereas the heads of adult males point in a different direction could lead to the possible explanation that the society practiced matrilineal kinship (that is, children followed their mother's line rather than their father's).

Once the archaeologist has collected the physical evidence, the difficult work of analysis and interpretation begins. By studying the bits and pieces of material culture left behind (within the context of both environmental data and anatomical remains), the archaeologist seeks to determine how the people supported themselves, whether or not they had a notion of an afterlife, how roles were allocated between men and women, whether some people were more prominent than others, and whether the people engaged in trade with neighboring peoples.

Present-day archaeologists work with both historic and prehistoric cultures. Historic archaeologists help to reconstruct the cultures of people who used writing and about whom historical documents have been written. For example,

historical archaeologists have contributed significantly to our understanding of colonial American cultures by analyzing material remains that can supplement such historical documents as books, letters, graffiti, and government reports.

Prehistoric archaeology, on the other hand, deals with the vast segment of the human record before writing. In the several million years of human existence, writing is a very recent development, first appearing about 5,500 years ago. Prehistoric archaeologists attempt, then, to reconstruct cultures that existed before the development of writing. Archaeology thus remains the one scientific enterprise that systematically focuses on prehistoric cultures and, consequently, it has provided us with a much fuller time frame for understanding the record of human development.

ANTHROPOLOGICAL LINGUISTICS

Anthropological linguistics is the branch of the discipline that studies human speech and language. Although humans are not the only species that have systems of symbolic communication, they have by far the most complex form. In fact, some would argue that language is the most distinctive feature of being human, for without language we could not acquire and transmit our culture from one generation to the next.

Linguistic anthropology, which studies contemporary human languages as well as those of the past, is divided into four distinct branches: historical linguistics, descriptive linguistics, ethnolinguistics, and sociolinguistics.