



Courtesy of Raymond Hames

1

INTRODUCTION TO ANTHROPOLOGY

LEARNING OBJECTIVES

After reading this chapter, you should be able to:

- 1.1 Compare and contrast the four major subfields of anthropology.
- 1.2 Describe how the field of anthropology is holistic, interdisciplinary, and global.
- 1.3 Explain how the scientific method is used in anthropological explanations.
- 1.4 Discuss how the field of anthropology bridges both the sciences and the humanities.
- 1.5 Describe why students should study anthropology.

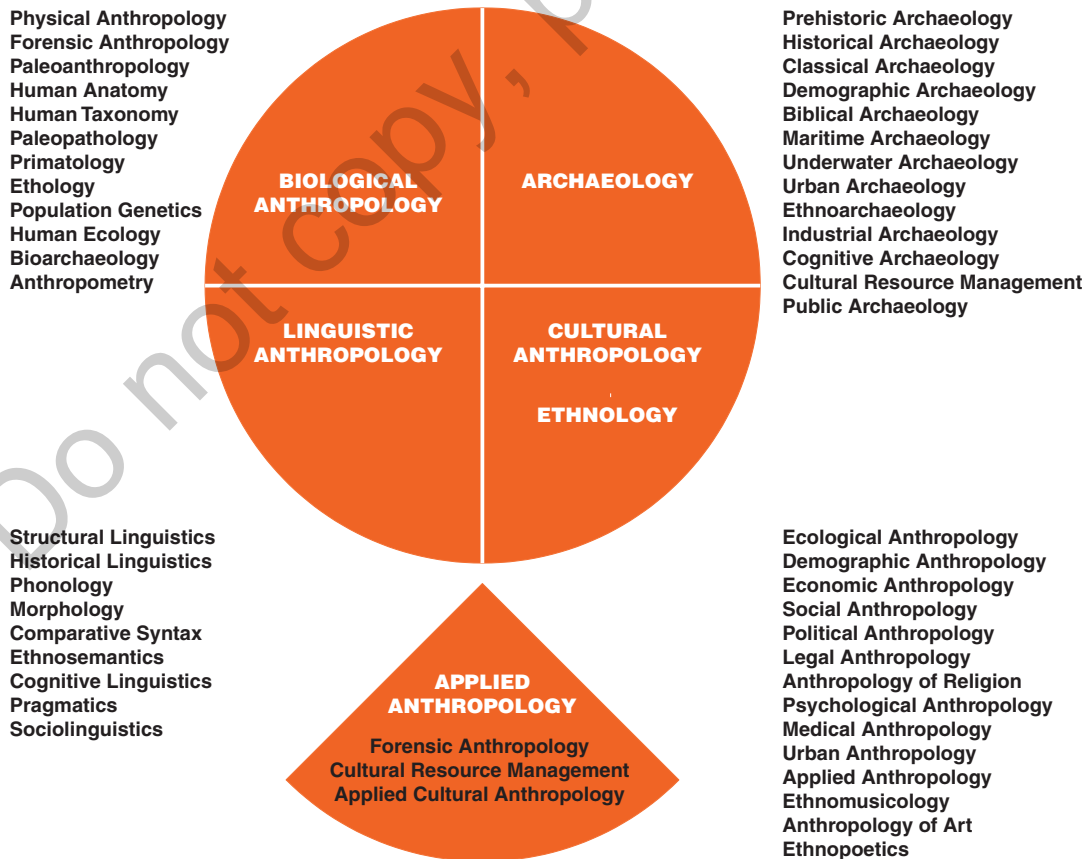
Anthropologists use varied methods, techniques, and theoretical approaches in their investigations, which have two major goals: to understand the *uniqueness and diversity* of human behavior and human societies around the world and to discover the *fundamental similarities* that connect human beings throughout the world. To accomplish these goals, anthropologists undertake systematic case studies across the globe, focusing on human populations in both the past and the present. These studies have broadened our understanding of humanity, from the earliest human societies to the present. This chapter introduces the distinctive approaches used in anthropology to achieve these goals.

ANTHROPOLOGY: THE FOUR SUBFIELDS

- 1.1 Compare and contrast the four major subfields of anthropology.

The word *anthropology* is derived from the Greek words *anthropo*, meaning “human beings” or “humankind,” and *logia*, translated as “knowledge of” or “the study of.” Thus, we can define **anthropology** as the study of humankind. This definition in itself, however, does not distinguish anthropology from other disciplines. After all, historians, psychologists, economists, sociologists, and scholars in many other fields systematically study humankind in one way or another. Anthropology stands apart because it combines four

FIGURE 1.1 ■ The Four Core Subfields of Anthropology and Applied Anthropology



subfields that bridge the natural sciences, the social sciences, and the humanities. These four subfields—biological anthropology, archaeology, linguistic anthropology, and cultural anthropology—constitute a broad approach to the study of humanity the world over, both past and present. Figure 1.1 shows these subfields and the various specializations that make up each one.

The subfields of anthropology initially emerged in Western society in an attempt to understand non-Western peoples. When Europeans began exploring and colonizing the world in the fifteenth century, they encountered native peoples in the Americas, Africa, the Middle East, and Asia. European travelers, missionaries, and government officials described these non-Western cultures, providing a record of their physical appearances, customs, and beliefs. By the nineteenth century, anthropology had developed into the primary discipline for understanding non-Western societies and cultures. The major questions that these nineteenth-century anthropologists sought to answer dealt with the basic differences and similarities of human societies and cultures and with the physical variation found in peoples throughout the world. Today, anthropologists do not solely focus their attention on non-Western cultures: They are just as likely to examine cultural practices in an urban setting in the United States as to conduct fieldwork in some far-off place. However, anthropologists continue to grapple with the basic questions of human diversity and similarities through systematic research.

Biological Anthropology

Biological anthropology (also referred to as physical anthropology) is the subfield of anthropology concerned with humans as a biological species. As such, it is the subfield most closely related to the natural sciences. Biological anthropologists conduct research to understand both human evolution and modern human variation. The investigation of human evolution presents one of the most tantalizing areas of anthropological study. Research has now traced the African origins of humanity back over 6 million years, while fieldwork in other world areas has sketched the expansion of early human ancestors throughout the world. Much of the evidence for human origins consists of **fossils**, the fragmentary remains of bones and living materials preserved from earlier periods. The study of human evolution through analysis of fossils is called **paleoanthropology** (the prefix *paleo* from the Greek word *palaios* meaning “old” or “ancient”). Paleoanthropologists use a variety of scientific techniques to date, classify, and compare fossilized bones to determine the links between modern humans and their biological ancestors. Paleoanthropologists may work closely with archaeologists when studying ancient tools and activity areas to learn about the behavior of early human ancestors.

Other biological anthropologists explore human evolution through **primatology**, the study of primates. **Primates** are a diverse order of mammals that includes humans, as well as other species such as chimpanzees, gorillas, gibbons, and orangutans that share an evolutionary history and, therefore, have many physical characteristics in common with us. Many primatologists



Courtesy of Zachary J. M. Baer

Staff and students from the University of the West Indies document a human burial discovered during excavations at White Marl in Jamaica. One of the largest pre-Columbian settlements on the island, it was continuously inhabited from AD 850 to the Spanish conquest in the 16th century.

observe nonhuman primates in their natural habitats to ascertain the similarities and differences between these other primates and humans. These observations of living primates provide insight into the behaviors of early human ancestors.

Other biological anthropologists focus their research on the range of physical variation within and among modern human populations. These anthropologists study human variation by measuring physical characteristics—such as body size, variation in blood types, or differences in skin color—or genetic traits. Their research aims at explaining *why* such variation occurs, as well as documenting the differences in human populations.

Skeletal structure is also the focus of anthropological research. Human *osteology* is the particular area of specialization within biological anthropology dealing with the study of the human skeleton. Skeletal remains are crucial in the study of human evolution, prehistoric societies, and individual life histories. For example, osteological studies can determine social and gender inequalities, which impact diet and living conditions, traces of which are preserved in an individual's bones (Klaus, Harvey, and Cohen 2017). Such studies have wide-ranging applications, from the identification of murder victims from fragmentary skeletal remains to the design of ergonomic airplane cockpits. Biological anthropologists are also interested in evaluating how disparate physical characteristics reflect evolutionary adaptations to different environmental conditions, thus shedding light on why human populations vary.

An increasingly important area of research within biological anthropology is *genetics*, the study of the biological “blueprints” that dictate the inheritance of physical characteristics. Genetic research examines a wide variety of questions. It has, for instance, been important in identifying the genetic sources of some diseases, such as sickle cell anemia, cystic fibrosis, and Tay-Sachs disease. Genetic research has also provided important clues into human origins. Through the study of the genetic makeup of modern humans, biological anthropologists have calculated the genetic distance among modern humans, thus providing a means of inferring rates of evolution and the

ANTHROPOLOGISTS AT WORK

JOHN HAWKS, BIOLOGICAL ANTHROPOLOGIST



Courtesy John Hawks

John Hawks

John Hawks is a biological anthropologist who works on the border between paleoanthropology and genetics. He got his start teaching evolution in his home state of Kansas, followed by doctoral training and teaching in Michigan and Utah and then at his current home, the University of Wisconsin. Hawks feels that it is especially important for biological anthropologists to be trained in human anatomy—especially *bone* anatomy, or osteology, to interpret evidence from the fossil record. They have to understand the anatomical differences between humans and other primates, and the way these anatomies relate to habitual behaviors. The social and ecological behaviors of primates vary extensively in response to their unique ecological environments. Understanding the relationship of anatomy, behavior, and environment gives biological anthropologists a way to interpret ancient fossils and place them in their environmental context. Hawks has also incorporated recent genetic data to better understand human origins.

Hawks has made substantial contributions in the understanding of the Neandertals, an extinct species of humans or human relatives (discussed in Chapter 2). The evolutionary relationship between Neandertals and humans has been a source of debate among researchers since the first fossil finds in the mid-nineteenth century. In many respects, these debates highlight the challenges anthropologists face in

classifying species on the basis of fragmentary fossil finds. How much physical variation was present within ancient populations? By integrating genetic evidence with studies of the physical difference of living primates, Hawks and his colleagues have provided a more nuanced view of how physical differences do not necessarily mirror differences in genetic relatedness (Ahern, Hawks, and Lee 2005).

Hawks has also studied the relationships between the genes of living and ancient people to discover the ways that natural selection has affected them. In 2007, Hawks and his coworkers scanned the genome, finding evidence for widespread selection on new, advantageous mutations during the last 40,000 years (Hawks et al. 2007). The breadth of this selection across the genome indicated that human evolution accelerated as larger populations and new agricultural subsistence patterns exerted pressures on human populations. Far from slowing down human evolution, culture created new opportunities for adaptive change.

More recently, Hawks has collaborated on studies of *Homo naledi*, a previously unknown species discovered in the Rising Star cave system in South Africa (L. Berger et al. 2015). Dated to approximately 250,000 years ago, *Homo naledi* is particularly interesting as the species would have overlapped temporally with early modern humans. While the species shares many physical characteristics with other members of the genus *Homo*, including its cranial capacity, it also processes more primitive features, similar to earlier species. For this reason, it is placed in a side branch on the human family tree. The story of this find is told in Hawks's recent coauthored book *Almost Human: The Astonishing Tale of Homo naledi and the Discovery That Changed Our Human Story* (L. Berger and Hawks 2017).

Hawks is widely known for his blog, which is visited by several thousand readers every day. Describing new research from an expert's perspective, he has shown the power of public outreach as an element of the scientific process. This aspect of his work has made him a leader in "open science," a movement to expand public accessibility to scientific research and open access to scientific data. Hawks welcomes everyone who is interested in human evolution based on a scientific approach to go to his blog at <http://johnhawks.net/>.

evolutionary relationships within the species (Kitchen 2015). These data have helped provide independent evidence for the African origins of the human species.

Archaeology

Archaeology, the branch of anthropology that examines the material traces of past societies, informs us about the culture of those societies—the shared way of life of a group of people that

includes their values, beliefs, and norms. **Artifacts**, the material products of former societies, provide clues to the past. Some archaeological sites reveal spectacular jewelry like that found by the film character Indiana Jones or in the treasures of a pharaoh's tomb. Most artifacts, however, are not so spectacular. Despite the popular image of archaeology as an adventurous, even romantic pursuit, it usually consists of methodical, time-consuming, and—sometimes—somewhat tedious research. Archaeologists often spend hours sorting through ancient trash

piles, or **middens**, to discover how members of past societies ate their meals, what tools they used, and what beliefs gave meaning to their lives. They collect and analyze the broken fragments of pottery, stone, glass, and other materials. It may take years to fully complete the study of an archaeological excavation. Unlike fictional archaeologists, who experience glorified adventures, real-world archaeologists thrive on the challenges of scientific research that enlarge our understanding of the past.

While excavation, or “scientific digging,” and fieldwork remain the key means of gathering archaeological data, a host of new techniques are available to help archaeologists locate and study archaeological sites. One innovative approach commonly used in archaeology employs GIS (geographic information systems), a tool that is also increasingly used by geologists, geographers, and other scientists. Archaeologists can integrate satellite data to plot the locations of ancient settlements, transportation routes, and even the distribution of individual objects, allowing them to study the patterns and changes represented (Tripcevich and Wenke 2010).

Archaeologists have examined sites the world over, from ancient campsites to modern landfills. Some archaeologists investigate past societies whose history is primarily told by the archaeological record. Known as **prehistoric archaeologists**, they study the artifacts of groups such as the ancient inhabitants of Europe and the first human settlers of the Americas. Because these researchers have no written documents or oral traditions to help interpret the sites they examine and the artifacts they recover, the archaeological record provides the primary source of information for their interpretations of the past. **Historical archaeologists**, on the other hand, draw on documentary records and oral traditions to investigate the societies of the more recent past. Some historical archaeologists have probed the remains of plantations in the southern United States to gain an understanding of the lifestyles of enslaved Africans and slave owners during the nineteenth century. Other archaeologists, called **classical archaeologists**, conduct research on ancient civilizations such as in Egypt, Greece, and Rome. **Ethnoarchaeologists** study the material artifacts of the past along with the observation of modern peoples who have knowledge of the use and symbolic meaning of those artifacts.

There are many more areas of specialization within archaeology that reflect the geographic area, topic, or time period on which the archaeologist works (see Figure 1.1).

Linguistic Anthropology

Linguistics, the study of language, has a long history that dovetails with the discipline of philosophy, but is also one of the integral subfields of anthropology. **Linguistic anthropology** focuses on the relationship between language and culture, how language is used within society, and how the human brain acquires and uses language. Linguistic anthropologists seek to



Archaeological excavations in Saint Martin in the Caribbean Islands.

discover the ways in which languages are different from one another, as well as how they are similar. Two wide-ranging areas of research in linguistic anthropology are structural linguistics and historical linguistics.

Structural linguistics explores how language works. Structural linguists compare grammatical patterns or other linguistic elements to learn how contemporary languages mirror and differ from one another. Structural linguistics has also uncovered some intriguing relationships between language and thought patterns among different groups of people. Do people who speak different languages with distinct grammatical structures think and perceive the world differently from each other? Do native Chinese speakers think or view the world and life experiences differently from native English speakers? Structural linguists are attempting to answer this type of question.

Linguistic anthropologists also examine the connections between language and social behavior in different cultures. This specialty is called **sociolinguistics**. Sociolinguists are interested both in how language is used to define social groups and in how belonging to a particular group leads to specialized kinds of language use. In Thailand, for example, there are thirteen

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ARCHAEOLOGIST KATHRYN SAMPECK



Kathryn Sampeck

Kathryn Sampeck's career path was not a straight line, but rather a voyage that has led to many different places. Growing up on a Texas ranch fostered a love of the outdoors, hard physical work in varied conditions, and coming up with clever ways to solve everyday problems: how to get that reluctant colt into the pen in the pouring rain, how to soothe a mare giving birth, or the best way to stack all those bales of hay. Sampeck became enchanted with archaeology because it offered these challenges, and even more. She hungered for an equally rigorous workout and reveled in thinking about and debating all sorts of things. Sampeck found that the best of both worlds has been archaeology, particularly archaeology of the recent past.

She gradually came to this conclusion with experience. From one field school in archaeology to the next, she moved from some of the most ancient evidence of humanity at Koobi Fora, Kenya, to the remarkable Paleolithic contexts for stunning artwork in Altamira and nearby caves in northern Spain. Sampeck's first graduate work at the University of Chicago and then at Tulane University focused on palatial complexes in the great pre-Columbian cities of Tiwanaku in the Bolivian Andes and Copán of the ancient Maya in Honduras. Each of these contexts—early hominins, Paleolithic Europe, America's first cities—is fascinating in its own right. What increasingly captured her attention, however, was the extraordinary meeting of different worlds during the fifteenth- and sixteenth-century European colonialism of Latin America. Sampeck's research evaluates pre-Columbian practices and material worlds, how they both shape and are transformed by colonial dynamics, and their lasting legacies. Her research questions may seem pretty simple: Why do so many people today enjoy chocolate and other American products? How did ideas of race become part of people's lives? When do people use money? How old are current place names and territorial boundaries? All of Sampeck's diverse interests relate strongly to each other because they are different avenues toward the same goal: understanding the development and maintenance of inequalities as a first step for promoting a more equitable future. She is a champion of archaeology's unique perspectives, methods, and information as crucial to this endeavor. Her emphasis on material culture, food production and

cuisine, and spatial organization and practices provides alternative ways to understand the past.

For example, archaeological survey and excavations give an intimate view of what living and working spaces of producers of cacao, the tree seed that people use to make chocolate, were like in the birthplace of chocolate in Central America. The connections between those producers and local consumers to consumers in the rest of the world are visceral and tangible. The taste, texture, appearance, and meanings of chocolate today are the product of a long colonial history. Archaeological methods are not just survey or excavation, but a way of looking at information. She analyzed quantitative elements—ingredients—of historic recipes to create dendrograms, rather like family trees, as a systematic way to evaluate when and where strong differences in taste occurred, which gives insight into gastropolitics.

Sampeck's work on GIS modeling of travel routes in the U.S. Southeast clarifies that analyses of topography, travel, and movement have to consider the size of the traveling party; the human scale of the endeavor has a dramatic effect on the paths people took. Where and when people used colonial tin-glazed earthenware, *maiolica*, gives a way to evaluate how much Spanish colonial city neighborhoods—some segregated by racial and ethnic categories—differed from one another. Dissecting these material histories pushes to the forefront those assumptions that continue to impact people's lives; with that knowledge, we can choose to make the commodity chain for cacao producers more equitable; we can recognize inequalities that disproportionately affect the lives of people of African descent in Latin America. Likewise, understanding the cultural geography of the U.S. Southeast reveals the extent to which Native Americans such as the Cherokees continue to be dispossessed from history and their ancestral homelands.

Sampeck notes that not only the results of archaeology but the very process of investigation and the subsequent sharing of results can promote fairness, transparency, and respect. She believes that archaeological research is really a program of partnership with local stakeholders, including decisions about what to investigate, how, and ways to share results. While changes in today's economy or political system may be slow to happen, archaeology can move rapidly by creating digital humanities environments to share insights and information. She feels fortunate to work on digital projects in close partnership with Maya colleagues in Central America, the Eastern Band of Cherokee Indians Tribal Historic Preservation Office in North Carolina, and numerous colleagues across Latin America who participate in the Afro-Latin American Archaeological Consortium, an organization she founded to support activities and agendas that promote understanding and conservation of resources relating to the culture and history of peoples of African descent in Latin America. Sampeck believes that archaeology continues to be hard physical work and require intellectual heavy lifting, but even more energizing is its capacity to be a collective endeavor for social justice in the future.

Some of Sampeck's publications include "Archaeology in Post-War El Salvador," in *Post-Conflict Archaeology and Cultural Heritage: Rebuilding Knowledge, Memory and Community From War-Damaged Material Culture*, edited by Paul Nelson and Ruth Young (Taylor & Francis, 2018); *Substance and Seduction: Ingested Commodities in Early Modern Mesoamerica*, edited with Stacey Schwartzkopf (University of Texas Press, 2017); "Insights of Afro-Latin American Archaeology,"

in *International Journal of Historical Archaeology* 22, no. 1 (2018): 167–182; "Ancient Quelepa, Colonial San Miguel: Shifting Cultural Frontiers and Rogue Colonialism in Eastern El Salvador," in *The Maya and Their Central American Neighbors: Settlement Patterns, Architecture, and Ceramics*, edited by Geoffrey Braswell (Routledge, 2014); and "GIS Modeling of De Soto's Route From Joara to Chiaha," *American Antiquity* 80, no. 1 (2015): 46–66.

ANTHROPOLOGISTS AT WORK

LINGUISTIC ANTHROPOLOGIST LISE DOBRIN



Courtesy Lise Dobrin

Linguistic anthropologist Lise Dobrin with Martin Maitana, an Arapesh speaker from East Sepik Province, Papua New Guinea.

Lise Dobrin is an associate professor of anthropology and director of the interdepartmental program in linguistics at the University of Virginia. She began her career as a PhD student in linguistics at the University of Chicago, a field that she discovered during coursework as an undergraduate psychology major at the University of Illinois at Urbana-Champaign. While in graduate school at Chicago, Dobrin became interested in morphology, the subfield of linguistics that studies how the words in a language are composed and related with other words. Dobrin became fascinated by the Arapesh languages of Papua New Guinea. According to the available records, Arapesh has an elaborate set of noun classes, akin to the grammatical genders of European languages, that depends not on what the words mean, but on how they sound: What determines a noun's class is its final consonant. These same consonants are also used to mark grammatical agreement (associating an adjective with a noun, as in *dabeiti nimbat* "big dog" or *dabeih^w*; *uroh^w* "big house.post"), which means that "raw" sounds are getting grammatically propagated around sentences in ways that are much freer than linguists generally thought possible. Dobrin made an extended

field trip to an Arapesh village in order to directly study and audio-record this interesting grammatical phenomenon. You can read about the results of this study in her 2012 book *Concreteness in Grammar: The Noun Class Systems of the Arapesh Languages*.

When Dobrin arrived in Papua New Guinea, it became evident to her that the language she had come so far to study was no longer being learned by children. In other words, Arapesh, like many other small languages throughout the world, was heading toward extinction. So, she began to create and preserve what knowledge could still be gleaned about how Arapesh was spoken. In addition to taking field notes, Dobrin made and transcribed audio-recordings in order to create a lasting documentary record of the language. In collaboration with specialists in the digital humanities, Dobrin has continued to curate these recordings, extracting information about Arapesh words into a lexicon to which the recordings are linked. She also worked with a missionary linguist who studied a related variety of Arapesh to archive his materials. Some of this work can be seen at the Arapesh Grammar and Digital Language Archive (www.arapesh.org). Dobrin and her collaborators have designed a system that allows the recordings and associated transcripts to be played together on a web browser, even without access to the internet, since many people in Papua New Guinea are not online. She is currently working on a grammatical description of the language that refers to all these materials.

Knowledge production always builds upon work done by other scholars. In the 1930s, Arapesh language and culture were studied by two researchers, Margaret Mead and Reo Fortune, who carried out their fieldwork together as a married couple but who came to opposite conclusions about Arapesh culture. Together with her husband, Ira Bashkow, a cultural anthropologist who was with her during her own fieldwork, Dobrin has written about what led to these earlier researchers' differences of interpretation. Blending methods drawn from history, ethnography, and linguistic anthropology, Dobrin and Bashkow's analysis emphasizes the way personal factors play a role in ethnographic interpretation. This collaborative research is described in their coauthored

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2010 essay “‘Arapesh Warfare’: Reo Fortune’s Veiled Critique of Margaret Mead’s *Sex and Temperament*” published in the *American Anthropologist*.

Dobrin’s experiences in Papua New Guinea led her to try to understand how and why communities shift their linguistic allegiance away from a traditional language to another language of wider communication, and how cultural factors shape the revitalization activities communities engage in as they attempt to address language shift. Cultural contact plays a role in all aspects of endangered language documentation, since this activity is motivated by the way social difference is interpreted by both those in communities undergoing shift and outsiders doing research that responds to it—though it may not mean the same thing to each of these groups. These problems are discussed in her 2008 journal article “From Linguistic Elicitation to Eliciting the Linguist: Lessons in Community Empowerment From Melanesia” (*Language* 84, no. 2: 300–324) as well as several other essays, including “Language Shift in an ‘Importing Culture’: The Cultural Logic of the Arapesh Roads,” which appeared in a volume about endangered languages (Austin and Sallabank 2014).

Currently, Dobrin is preparing to annotate and publish a historical document that was composed by an important

Arapesh intellectual, Bernard Narokobi. Narokobi was one of the founding fathers of the modern nation of Papua New Guinea, which only underwent decolonization in the 1970s. The document tells the history of Narokobi’s village from mythical times to the present. The goal of the project is to preserve local knowledge while also shedding light on Narokobi’s published writings in which he promoted a conception of the new nation as a “village writ large.” This work will be important not only for anthropologists and historians, but also for the Papua New Guinean people, who have so generously welcomed her into their communities.

Dobrin’s interests in linguistic anthropology are not limited to Arapesh and Papua New Guinea. For example, in 2016 she coauthored a review essay with Americanist anthropologist Saul Schwartz on “The Cultures of Native North American Language Documentation and Revitalization.” Finally, Dobrin has a more general interest in the ethical issues that arise during fieldwork in anthropology. She has served on her university’s Social and Behavioral Sciences Institutional Review Board (IRB), the American Anthropological Association’s Committee on Ethics, and the Linguistic Society of America’s Committee on Endangered Languages and Their Preservation.



Courtesy/Christina Pomianek

Anthropologist Christina Pomianek doing linguistic research in West Kalimantan, Borneo, Indonesia.

forms of the pronoun *I*. One form is used with equals, other forms come into play with people of higher status, and some forms are used when males address females (Scupin 1988).

Another area of research that has interested linguistic anthropologists is historical linguistics. **Historical linguistics** concentrates on the comparison and classification of different languages to discern the historical links among them. By examining and analyzing grammatical structures and sounds of languages, researchers are able to discover rules for how languages

change over time, as well as which languages are related to one another historically. This type of historical linguistic research is particularly useful in tracing the migration routes of various societies through time by offering multiple lines of evidence—archaeological, paleoanthropological, and linguistic. For example, through historical linguistic research, anthropologists have corroborated the Asian origins of the Native American populations.

Cultural Anthropology

Cultural anthropology is the subfield of anthropology that examines contemporary societies and cultures throughout the world. Cultural anthropologists do research the world over, from tropical rainforests to the Arctic, from remote farming villages to urban centers. The first professional cultural anthropologists focused on non-Western cultures in Africa, Asia, the Middle East, Latin America, and the Pacific Islands and on the Native American populations in the United States. Today, however, many cultural anthropologists have turned to research on their own societies in order to gain a better understanding of their institutions and cultural values.

Cultural anthropologists (sometimes the terms *sociocultural anthropologist* and *ethnographer* are used interchangeably with *cultural anthropologist*) use a unique research strategy in conducting their fieldwork in different settings. This research strategy is

ANTHROPOLOGISTS AT WORK

SCOTT ATRAN, CULTURAL ANTHROPOLOGIST



Courtesy Scott Atran

Scott Atran

Born in 1952 in New York City, Scott Atran went to Columbia University as a Westinghouse mathematics scholar. At a student demonstration against the Vietnam War in 1970, he met the famous anthropologist Margaret Mead, and she invited him to work as her assistant at the American Museum of Natural History. In 1970, Atran also traveled to the Middle East for the first time, conducting fieldwork in Palestinian villages. As a graduate student in 1974, Atran organized a famous debate at the Abbaye de Royaumont in France on the nature of universals in human thought and society, with the participation of some well-known scholars such as the linguist Noam Chomsky, the psychologist Jean Piaget, the anthropologists Claude Lévi-Strauss and Gregory Bateson, and the biologists François Jacob and Jacques Monod, a conference that many consider a milestone in the development of the field known as cognitive science.

Atran continued observing societies as he traveled overland from Portugal to China, via Afghanistan and Pakistan. Landing again in the Middle East, he conducted ethnographic research on kinship and social ties, land tenure, and political economy among the Druze, a religious group in Israel and Lebanon. Later, Atran became a pioneer in the study of the foundations of biological thinking in Western science and other Native Americans such as the Itzá Maya in Mexico. This research became the basis of his well-known books *Cognitive Foundations of Natural History: Towards an Anthropology of Science* (Cambridge University Press, 1990), *The Native Mind and the Cultural Construction of Nature* (MIT Press, 2008), and *Plants of the Petén Itzá Maya* (University of Michigan Museum of Anthropological Archaeology, 2004), which illustrate how people throughout the world classified biological species of plants and animals in very similar ways.

Later, Atran began an investigation of the cognitive and evolutionary foundations of religion, which resulted in his widely acclaimed book *In Gods We Trust: The Evolutionary Landscape of Religion* (Oxford University Press, 2002). In this book, Atran explores the psychological foundations of religion and how it has become a universal feature of all human societies. He has also contributed toward an understanding of the characteristics associated with suicide bombers and political and religious terrorism in different areas of the world. Atran has been funded by the National Science Foundation and other agencies

to study the phenomena of terrorism; this has included fieldwork and interviews with al-Qaeda associates and other militant groups, as well as with political leaders in conflict zones in Europe, the Middle East, Central and Southeast Asia, and North Africa. His book *Talking to the Enemy: Faith, Brotherhood and the (Un)Making of Terrorists* (HarperCollins, 2010) is based on this long-term research.

More recently in 2015, Atran and a team of anthropologists went to Iraq to interview combatants fighting against the Islamic State (ISIS, ISIL) as well as captured ISIS fighters to investigate the spiritual and cognitive motivations that led them to become militant insurgents. There were feature stories of this research on the spiritual dimension of these human conflicts in the *Chronicle of Higher Education*, *Science*, and *Nature*. Also, in that year Atran was the first anthropologist to formally address the United Nations Security Council discussing how young people can promote peace and security in those conflict zones.

Atran has taught at Cambridge University, Hebrew University in Jerusalem, and the *École des hautes études en sciences sociales* (School for the Advanced Studies of the Social Sciences) in Paris. He is currently a research director in anthropology at the *Centre national de la recherche scientifique* (French National Center for Scientific Research, CNRS) based in Paris and is a member of the Jean Nicod Institute at the *École normale supérieure*. He is also visiting professor of psychology and public policy at the University of Michigan and cofounder of ARTIS Research and Risk Modeling. Most recently, Atran has become Senior Fellow and cofounder of the Centre for the Resolution of Intractable Conflicts, at Harris Manchester College and the Department of Social Anthropology, Oxford University.

Atran's broadly interdisciplinary scientific studies on human reasoning processes and cultural management of the environment, and on religion and terrorism, have been featured around the world in science publications, such as *Science*, *Nature*, *Proceedings of the National Academy of Sciences USA*, and *Brain and Behavioral Sciences*, as well as the popular press, including feature stories with BBC television and radio, NPR, *the Wall Street Journal*, and *Newsweek*. He has been the subject of a cover story in *the New York Times Magazine* ("Darwin's God," 2007) and has written numerous op-eds for the *New York Times* and the magazine *Foreign Policy*.

Atran has teamed up with psychologists and political scientists, including Douglas Medin and Robert Axelrod, to experiment extensively on the ways scientists and lay people categorize and reason about nature, on the cognitive and evolutionary psychology of religion, and on the role of sacred values in political and cultural conflict. Based on recent fieldwork, he has testified before the U.S. Congress and has repeatedly briefed National Security Council staff at the White House on paths to violent extremism among youth in Southeast and South Asia, the Middle East, North Africa, and Europe. Atran has utilized his knowledge and research as a cultural anthropologist to help understand some of the basic questions of human life and also to contribute to solving some of our current problems with globally sponsored political and religious terrorism.

referred to as **participant observation** because cultural anthropologists learn the language and culture of the group being studied by participating in the group's daily activities. Through this intensive participation, they become deeply familiar with the group and can understand and explain the society and culture of the group as insiders. We discuss the methods and techniques of cultural anthropologists at greater length in Chapter 7.

The results of the fieldwork of the cultural anthropologist are written up as an **ethnography**, a description of a society. A typical ethnography reports on the environmental setting, economic patterns, social organization, political system, and religious rituals and beliefs of the society under study. This description is based on what anthropologists call *ethnographic data*. The gathering of ethnographic data in a systematic manner is the specific research goal of the cultural anthropologist. Technically, **ethnology** refers to anthropologists who focus on the cross-cultural aspects of the various ethnographic studies done by the cultural anthropologists. Ethnologists analyze the data that are produced by the individual ethnographic studies to produce cross-cultural generalizations about humanity and cultures. Many cultural anthropologists use ethnological methods to compare their research from their own ethnographic fieldwork with the research findings from other societies throughout the world.

Applied Anthropology

The four subfields of anthropology (biological anthropology, archaeology, linguistic anthropology, and cultural anthropology) are well established. However, anthropologists also recognize a fifth subfield. **Applied anthropology** is the use of anthropological data from the other subfields to address modern problems and concerns, ranging from interventions in the treatment of disease to the management of cultural resources, and assisting the police in murder investigations. Anthropologists have played an increasing role in creating government policies and legislation, the planning of development projects, and the implementation of marketing strategies. Although anthropologists are typically trained in one of the major subfields, an increasing number find employment outside of universities and museums. Although many anthropologists see at least some aspects of their work as applied, it is the application of anthropological data that is the central part of some researchers' careers. Indeed, approximately half of the people with doctorates in anthropology currently find careers outside of academic institutions.

Each of the four major subfields of anthropology has applied aspects. Biological anthropologists, for example, sometimes play

ANTHROPOLOGISTS AT WORK

A. PETER CASTRO, APPLIED ANTHROPOLOGIST



Courtesy A. Peter Castro

A. Peter Castro with olive growers in Jordan.

Conflict over use of the environment is a theme that unites A. Peter Castro's work as an applied cultural anthropologist, including his service as a consultant for the Near East Foundation, the Food and Agriculture Organization of the United Nations (FAO), the United States Agency for International Development (USAID), the United Nations Development Programme (UNDP), CARE International, and other

organizations. Conflict is a ubiquitous aspect of human existence. Disputes offer an important means for people to assert their rights, interests, and needs, yet conflicts can escalate into violence that threatens both lives and livelihoods. Castro has used his perspective, skills, and knowledge as a cultural anthropologist to address environmental conflicts in participatory and peaceful ways. Besides his ongoing work as a consultant, he incorporates conflict issues into his classes in the anthropology department of the Maxwell School of Citizenship and Public Affairs at Syracuse University, where he is an associate professor. He is also a Robert D. McClure Professor of Teaching Excellence.

Castro's interest in environmental conflicts reflects his rural California upbringing, where farmworker unionization struggles, debates about offshore oil development, and conflicts over housing and commercial expansion were everyday occurrences. He credits his professors at the University of California–Santa Barbara, where he obtained his undergraduate and graduate degrees, with giving him the inspiration and training to use cultural anthropology to address pressing social and environmental issues. As an

undergraduate, Castro was a research assistant on a number of applied anthropology projects. In classes and through long discussions outside of class, he learned invaluable lessons about the importance of linking local, national, and global dimensions of human and environmental crises. Castro's PhD advisor, David Brokensha, a distinguished applied anthropologist, was instrumental in providing opportunities for Castro to develop contacts in international agencies. Brokensha was a founder of the Institute for Development Anthropology, a nonprofit research and educational organization dedicated to applying anthropological theories and methods to improve the condition of the world's poor (A. P. Castro and Chaiken 2018).

Castro's early applied work for international organizations focused on social aspects of planning, managing, and evaluating community forestry programs and projects. Although disputes between rural people and forest agencies often propelled the rise of community-oriented programs and projects, conflict itself was not initially seen by officials and technical officers as a topic of concern. Nonetheless, Castro found that, whether carrying out applied fieldwork on deforestation in Kenya for USAID or preparing a literature-based review of indigenous forest management practices for the FAO, one needed to take conflict into account. For example, Castro discovered through ethnographic interviews and archival research that numerous, sometimes violent, conflicts had existed over forest resources in Central Kenya, yet the contending parties sometimes in the past had negotiated agreements calling for their co-management of local resources that still had relevance today (for example, see Castro's book *Facing Kirinyaga: A Social History of Forest Commons in Southern Mount Kenya*, 1995). Castro's concern with integrating historical analysis, as well as conflict analysis, into international development planning is illustrated in his edited collection of articles on the theme "Historical Consciousness and Development Planning" in the interdisciplinary journal *World Development* (1998).

The importance of dealing with environmental conflicts became starkly clear when Castro was asked by UNDP in 1992 to serve as team leader for the midterm evaluation of Bangladesh's Social Forestry Project, a countrywide effort being implemented at a cost of \$46 million. The UNDP's decision to select an anthropologist, rather than forester, to head the mission underscored its commitment to participatory development. The project was supposed to create the capacity for Bangladesh's Forest Department to engage in

community-oriented training, tree planting, and resource protection. The project had many accomplishments but also widespread problems due to its lack of public participation (see A. P. Castro and Nielsen 2001, 2003). Sadly, a project meant to address long-standing conflicts between the Forest Department and the public sometimes served to intensify them.

Castro worked as a consultant for the FAO, writing and editing a number of publications aimed at providing information and practical training on natural resource conflict management. He coedited a useful book with Antonio Engel called *Negotiation and Mediation Techniques for Natural Resource Management* in 2007. He also coedited a book on *Climate Change and Threatened Communities: Vulnerability, Capacity and Action* with Brokensha and anthropologist Dan Taylor (A. P. Castro et al. 2012). Among its fifteen case studies is one written by Castro based on his fieldwork in the north-central Ethiopian highlands, a drought- and hunger-prone area, with the BASIS-CRSP Horn of Africa Program. Another case study is by Castro and Sudanese scholar Yassir Hassan Satti on agricultural change in Zalingei, Central Darfur State, Sudan.

Recently, Castro has been a consultant for the Near East Foundation. He served as lead trainer for workshops on collaborative natural resource conflict management in Zalingei in 2012 and 2014; in Sévaré, Mopti Region, Mali, in 2013; and in Amman, Jordan, in 2017. These areas have suffered from prolonged conflicts. For more than a decade, Darfur, an area the size of France, has suffered from large-scale violence and instability. National political instability and violence in Mali's North and West have had a severe impact on Mopti, including its world-renowned tourist areas at Djenné and in the Dogon area. The Amman training brought together Jordanians and Palestinians as part of its Olive Oil Without Borders project that also involves Israelis. These Near East Foundation projects seek to foster livelihood restoration and peace building. Trainees at the workshop included local members of the Near East Foundation staff, as well as members from local partner organizations and other nongovernmental organizations. Castro (2018) recently published a study of the impacts of the Darfur projects, recording its accomplishments, especially regarding local conflict resolution and reconciliation activities, but also highlighting the limitations of working in a conflict-prone and illiberal setting.

a crucial role in police investigations, using their knowledge of the human body to reconstruct the appearance of murder victims on the basis of fragmentary skeletal remains or helping police determine the cause of death. Archaeologists deal with the impact of development on the archaeological record, working to document or preserve archaeological sites threatened by the construction of housing, roads, and dams. Some linguistic

anthropologists work with government agencies and indigenous peoples to document disappearing languages or work in business to help develop marketing strategies. Cultural anthropologists have played key roles in planning of government programs so that they take people's cultural beliefs and needs into consideration. These applied aspects of anthropological research are highlighted in Chapter 17.

HOLISTIC ANTHROPOLOGY, INTERDISCIPLINARY RESEARCH, AND THE GLOBAL PERSPECTIVE

1.2 Describe how the field of anthropology is holistic, interdisciplinary, and global.

Anthropology is an interdisciplinary, holistic field. Most anthropologists receive some training in each of four subfields of anthropology. However, because of the wide-ranging scope of these different subfields—more than 300 journals and hundreds of books are published every year—no one individual can keep abreast of all the developments across the entire discipline. Consequently, anthropologists usually specialize in one of the four subfields. Nevertheless, most anthropologists are firmly committed to a **holistic** approach to understanding humankind—a broad, comprehensive vantage that draws on all four subfields under the umbrella of anthropology. This holistic approach integrates the analyses of biological, environmental, psychological, economic, historical, social, and cultural conditions of humanity. In other words, anthropologists study the physical characteristics of humans, including their genetic makeup, as well as their prehistoric, historic, and social and cultural environments. Through collaborative studies across the four subfields, anthropologists can ask broadly framed questions about humanity.

Anthropology does not limit itself to its own four subfields to realize its research agenda. Although a distinct discipline, anthropology has strong links to other social sciences. Cultural anthropology, for instance, is closely related to sociology. The two fields explore many of the same societies using similar research approaches. For example, both rely on statistical and nonstatistical data whenever appropriate in their studies of different types of societies. Similarly, cultural anthropologists also draw on psychology when they assess the behavior of people in other societies. Psychological questions bearing on perception, learning, and motivation all figure in ethnographic fieldwork. As we shall discover in later chapters, cultural anthropology also overlaps the fields of psychology, economics, and political science. Anthropology dovetails especially closely with the field of history, which, like anthropology, investigates the human past. Every human event that has ever taken place in the world is a potential topic for both historians and anthropologists. Historians describe and explain human events that have occurred throughout the world; anthropologists place their biological, archaeological, linguistic, and ethnographic data in the context of these historical developments. An important area of anthropological research that overlaps with history is the field of ethnohistory. **Ethnohistory** is the study of the history of a particular ethnic group. Ethnohistory may be based on written historical documents, or more often oral narratives that are

recorded by ethnographers working in various regions of the world. Through the four subfields and the interdisciplinary approach, anthropologists have emphasized a *global perspective*. The global perspective enables anthropologists to consider the biological, environmental, psychological, economic, historical, social, and cultural conditions of humans at all times and in all places. Anthropologists do not limit themselves to understanding a particular society or set of societies, but attempt to go beyond specific or local conditions and demonstrate the interconnections among societies throughout the world. This global perspective is used throughout this text to show how anthropologists situate their findings in the interconnecting worldwide context.

ANTHROPOLOGICAL EXPLANATIONS

1.3 Explain how the scientific method is used in anthropological explanations.

A fundamental question faced by anthropologists is how to evaluate the particular social, cultural, or biological data they gather. Human knowledge is rooted in personal experience, as well as in the beliefs, traditions, and norms maintained by the societies in which people live. This includes such basic assumptions as putting on warm clothing in cold weather and bringing an umbrella if it is going to rain, for example. Yet, it also includes notions about how food should be prepared, what constitutes “appropriate” behavior, and what the correct social and cultural roles are for men and women.

Religion constitutes another source of human knowledge. Religious beliefs and faith are most often derived from sacred texts, such as the Bible, Qur’an, and Talmud, but they are also based on intuitions, dreams, visions, and extrasensory perceptions. Most religious beliefs are cast in highly personal terms and, like personal knowledge, span a wide and diverse range. People who do not accept these culturally coded assumptions may be perceived as different, abnormal, or nonconformist by other members of their society. Yet, ethnographic and cross-cultural research in anthropology demonstrates that such culturally constituted knowledge is not as general as we might think. This research indicates that as humans, we are not born with this knowledge. Rather, it is culturally coded, and learned through socialization. Such knowledge varies both among different societies and among different groups within the same society.

Popular perceptions about other cultures have often been based on ethnocentric attitudes. **Ethnocentrism** is the practice of judging another society by the values and standards of one’s own society. To some degree, ethnocentrism is a universal phenomenon. As humans learn the values, beliefs, and norms of their society, they tend to think of their own culture as

preferable, and as what is normal, while ranking other cultures as less desirable. Members of a society may be so committed to their own cultural traditions that they cannot conceive of any other way of life. They may view other cultural traditions as strange or alien, perhaps even inferior, crazy, or immoral.

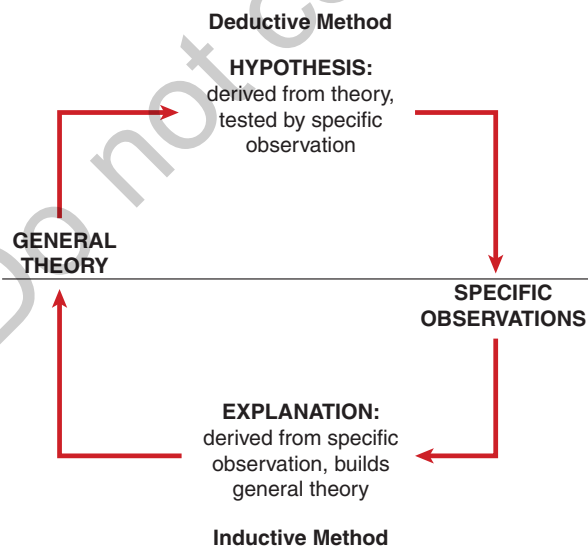
Such deeply ingrained perceptions are difficult to escape, even for anthropologists. Nineteenth-century anthropologists, for example, often reinforced ethnocentric beliefs about other societies. The twentieth century saw the co-opting of anthropological data to serve specific political and social ends. As the twentieth century progressed, however, anthropologists increasingly began to recognize the biases that prevented the interpretation of other cultures in more valid, systematic ways.

Evaluating Anthropological Data

Given the preceding concerns, it is critical to understand how anthropological interpretations are evaluated. In contrast to personal knowledge and religious faith, anthropological knowledge is not based on traditional wisdom or revelations. Rather, anthropologists employ the **scientific method**, a system of logic used to evaluate data derived from systematic observation. Through critical thinking and skeptical thought, scientists strive to suspend judgment about any claim for knowledge until it has been verified.

Testability and *verifiability* lie at the core of the scientific method. There are two ways of developing testable propositions: the inductive method and the deductive method. In the **inductive method**, the scientist first makes observations and collects data (see Figure 1.2).

FIGURE 1.2 ■ Deductive and Inductive Research Methods



The data collected are referred to as variables. A **variable** is any piece of data that changes from case to case. For example, a person's height, weight, age, and sex all constitute variables. Researchers use the observations about different variables to develop hypotheses about the data. A **hypothesis** is a testable proposition concerning the relationship between particular sets of variables in the collected data. The practice of testing hypotheses is the major focus of the scientific method, as scientists test one another's hypotheses to confirm or refute them. If a hypothesis is found to be valid, it may be woven together with other hypotheses into a more general theory.

Theories are statements that explain hypotheses and observations about natural or social phenomena. Because of their explanatory nature, theories often encompass a variety of hypotheses and observations. One of the most comprehensive theories in anthropology is the theory of evolution (see Chapter 2). This theory explains diverse hypotheses about biological and natural phenomena, as well as discoveries by paleoanthropologists and geneticists.

In contrast to the inductive method, the **deductive method** of scientific research begins with a general theory from which scientists develop testable hypotheses. Data are then collected to evaluate these hypotheses. Initial hypotheses are sometimes referred to as "guesstimates" because they may be based on guesswork by the scientist. These hypotheses are tested through experimentation and replication. As with the inductive method, scientists test and retest hypotheses and theories to ensure the reliability of observations made.

Theories always remain open to further testing and evaluation. They are assessed in light of new data and may be invalidated by contradictory observations. The systematic evaluation of hypotheses and theories enables scientists to state their conclusions with a certainty that cannot be applied to personal and culturally construed knowledge.

Despite the thoroughness and verification that characterize the research, anthropologists face challenges in offering explanations and interpretations. They must grapple with a myriad of complex, interwoven variables that influence human society and biological processes. The complexities of the phenomena being studied make it difficult to assess all of the potential variables, and disagreements about interpretations are common. Consequently, conclusions are frequently presented as tentative and hypothetical. The point here, however, is not that progress is impossible. Anthropological evidence can be verified or discarded by making assumptions explicit and weeding out contradictory, subjective knowledge. Inadequate hypotheses are rejected and replaced by better explanations. Explanations can be made stronger by drawing on independent lines of evidence to support and evaluate theories. This process makes the scientific method much more effective than other means of acquiring knowledge.

HUMANISTIC-INTERPRETIVE APPROACHES IN ANTHROPOLOGY

1.4 Discuss how the field of anthropology bridges both the sciences and the humanities.

The scientific method is not the only means used by anthropologists to study different societies and cultures. Anthropologists also employ a more humanistic-interpretive approach as they study cultures. Think of this analogy: When botanists examine a flower, they attempt to understand the different components of the plant within a scientific framework; they analyze the biochemical and physical aspects of the flower. However, when painters, poets, or novelists perceive a flower, they understand the plant from an aesthetic standpoint. They might interpret the flower as a symbolic phenomenon that represents nature. The scientist and the humanist use different approaches and perspectives when examining the natural world. Anthropologists employ a humanistic-interpretive approach in many circumstances.

James Peacock (1986) uses another type of analogy to discuss the difference between the scientific and the humanistic-interpretive approaches in anthropology. Peacock draws from the field of photography to construct his analogy. He discusses the “harsh light” of the rigor of scientific analysis, used to study the biological and material conditions of a society, versus the “soft focus” used when interpreting the symbols, art, literature, religion, or music of different societies. Peacock concludes that both the “harsh light” and the “soft focus” are vital ingredients of the anthropological perspective.

Cultural anthropologists utilize the humanistic-interpretive method as they conduct ethnographic research. However, all anthropologists employ similar methods whenever they examine different societies. In order to comprehend the different practices and institutions they observe, anthropologists often have to interpret them just as one might interpret a literary, poetic, or religious text. Cultural beliefs and practices may not be easily translatable from one society to another. Practices and institutions may have meaning only within a specific language and culture. Thus, anthropologists endeavor to understand cultural practices or institutions that may have rich, deep, localized meaning within the society being examined, but that are not easily converted into transcultural or cross-cultural meaning. We focus more thoroughly on this humanistic-interpretive approach in Chapter 6 on anthropological explanations.

Many anthropologists explore the creative cultural dimensions of humanity, such as myth, folklore, poetry, art, music, and mythology. **Ethnopoetics** is the study of poetry and how it relates to the experiences of people in different societies; for example, a provocative study of the poetry of a nomadic tribe of Bedouins in the Middle East has yielded new insights into the concepts of honor and shame in this society (Abu-Lughod 1987). Another related field, **ethnomusicology**, is devoted to the study of musical

traditions in various societies throughout the world. Ethnomusicologists record and analyze music and the traditions that give rise to musical expression, exploring similarities and differences in musical performance and composition. Ethnomusicologist Dale Olsen (2004) completed a fascinating study of Japanese music in South America. There are Japanese minority populations in the countries of Peru, Brazil, Argentina, Paraguay, and Bolivia. Olsen has studied the musical forms, both popular and classical, of these Japanese minorities and how they reflect the maintenance of ethnicity and culture in South America. Other anthropologists study the art of particular societies, such as pottery styles among Native American groups.

Studies of fine art conducted by anthropologists have contributed to a more richly hued, global portrait of humankind. Artistic traditions spring up in all societies, and anthropologists have shed light on the music, myths, poetry, literature, and art of non-Western and other remote peoples. As a result, we now have a keener appreciation of the diverse creative abilities exhibited by humans throughout the world. As anthropologists analyze these humanistic and artistic traditions, they broaden our understanding of the economic, social, political, and religious conditions that prevail within these societies.

Thus, in addition to its interconnections with the natural and social sciences, the discipline of anthropology is aligned with the humanistic fields of inquiry. One fundamental difference exists between the scientific and the humanistic-interpretive aspects of anthropology. This difference pertains to the amount of progress one can achieve within these two different but complementary enterprises. Science has produced a cumulative increase in its knowledge base through its methodology. Thus, in the fields of astronomy, physics, chemistry, biology, and anthropology, there has been significant progress in the accumulation of knowledge; we know much more about these fields of science than our ancestors knew in the fifteenth or even the nineteenth century.



Ethnomusicologists do research on the music of different societies. This photo shows Indian music students from the Veenalayam Temple of Music performing in Ontario, Canada.

As a result of scientific discoveries and developments, the scientific knowledge in these areas has definitely become more effective in offering explanations regarding the natural and social world. As we shall see in Chapter 6 on anthropological explanations, anthropologists today have a much better understanding of human behavior and culture than did anthropologists in the nineteenth century. Through the use of the scientific method, anthropology has been able to make great strides in assessing human behavior and cultural developments.

In contrast, one cannot discuss the progress in the humanities in the same manner. As we shall see, the various humanistic endeavors involving beliefs, myths, and artistic expression in small-scale and ancient civilizations are extremely sophisticated and symbolically complex, and one cannot assess modern societies as “superior” or more “progressive” in those domains.

The fundamentals of anthropology consist of understanding and explaining human behavior and culture with endeavors

monopolized by no single approach. Such an enlarged perspective within anthropology requires peaceful coexistence between scientism and humanism, despite their differences. In a recent discussion of this issue within anthropology, Augustin Fuentes and Polly Wiessner (2016) call for a reintegration of the scientific and humanistic approaches. Many anthropologists may not agree with one another’s assumptions from either a humanistic or a scientific perspective because of their philosophical commitments to one or the other area. Nevertheless, both perspectives have been extremely valuable in contributing to our knowledge of humanity. Anthropologists recognize the differences in perspectives among themselves, and this is helpful, to a great degree, in making progress in our field because we continue to criticize and challenge one another’s assumptions and orientations, which results in a better understanding of both the scientific explanations and the humanistic understandings within our field.

CRITICAL PERSPECTIVES

ESSENTIALISM

One term or phrase that will frequently be mentioned throughout this textbook is *essentialism* or *essentialist views*. **Essentialism** is the misguided idea that members of certain categories or classifications (e.g., animal and plant species, “races,” ethnic groups, genders, even cultures and some objects) share an underlying invisible “essence.”

Although biologists no longer believe that species have essences, lay people and especially children seem to have a strong willingness to believe in essences. Developmental psychologist Susan Gelman (2003) has studied young children and finds that by the age of two, they distinguish between males and females and expect them to behave differently. Her research indicates that children easily acquire an ability to think in essentialist ways regarding the classification of animals, plants, and inanimate objects. Children acquire this essentialist reasoning to form generalizations and cognitive habits in order to make sense of the world. Humans appear to be predisposed to become essentialists.

Gelman has collaborated with a number of anthropologists including Lawrence Hirschfeld to show how children by the age of four to six years old classify people into “races” and “ethnicities” as if these groups have an inner quality—an invisible essence—that explains why members of the group have so much in common (Hirschfeld and Gelman 1994; see also Hirschfeld 1996). This essentialist thinking results in people assuming that various groups share some invisible essence that is supposedly inherited and allow people to make inferences that go beyond their personal experience about how the members of those groups behave, what their inner dispositions might be, and how well they might perform particular kinds of tasks. The cognitive process involving essentialist thinking is universal, and anthropologists find it throughout the world (Atran 1990; Boyer 2018).

Like biologists, who have abandoned the idea of inner essences, anthropologists have also rejected essentialist explanations for social categories such as gender, so-called races, ethnic groups, religious groups, cultures, civilizations, and many other types of phenomena. Indeed, much research in paleoanthropology has shown that there is often more variation within a social (or biological) category than between them. Thus, in Chapter 2, we will find that early species of humans classified as Neandertals or archaic *Homo sapiens* exhibit a great deal of variation. In fact, modern humans have a small percentage of Neandertal genes, suggesting that interbreeding between the two species was not only possible but did occur. Paleoanthropologists have similarly found that essentialist classifications of the early species of modern humans are also erroneous (Athreya 2018). Biologists and biological anthropologists agree that species do not have an internal, unobservable “essence” that creates uniformity. Instead, diversity and variation are evident within these species.

We will also be discussing “race,” and the faulty essentialist views of “race” that have been perpetuated over the centuries and are still prevalent today. For example, in the United States, many believe that there are three or four different “races,” such as Whites, Blacks, and Asians, and that these different “races” have some inherited internal essential features that result in not only specific physical characteristics, but also mental or behavioral patterns. As we will see, anthropologists have been studying the concepts of race for over a century and have demonstrated through many lines of evidence that these essential views of so-called races are unfounded and invalid.

Archaeologists also find that past understandings of artifacts and other phenomena associated with various groups,

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cultures, or civilizations were based on faulty essentialist thinking. Thus, when discussing Maya, Aztec, Inca, Chinese, Japanese, African, or Middle Eastern groups or past civilizations, many archaeologists and historians in the past believed that these societies, cultures, and civilizations had an internal “essence” that provided uniform features and human behaviors. Contemporary archaeologists are careful not to categorize these societies as if they have an underlying reality or true “essence” that determines their characteristics and stereotypical behaviors.

Throughout this textbook, we will be discussing many different societies, tribes, cultures, ethnic groups, and civilizations. As we will see later, essentialist views of these societies are still prevalent today in some academic fields. For example, some political scientists have discussed Western, Asian, and Islamic societies, cultures, and civilizations as having uniformities and essentialist characteristics that make them incompatible and in conflict with one another. These views have influenced the media, government, and popular understandings of these societies. Contemporary cultural anthropologists have discovered through extensive ethnographic studies that these societies, tribes, ethnic groups, cultures, and civilizations have a great deal of diversity and hybridity (mixtures of cultural values, beliefs, and norms) and are tremendously varied and cannot be described in monolithic essentialist terms.

Later in this textbook, we will be discussing sex and gender as studied by anthropologists. Essentialist thinking about gender is widespread, leading to simplifications regarding how males and females are easily categorized biologically and result in universal generalizations such as “men are aggressive and women are gentle.” As we will see, anthropological research on gender has debunked these simplistic essentialist and stereotypical generalizations.

Additionally, we will be discussing religion and religious groups throughout the world. Cultural anthropologists have been studying the religious beliefs and practices within tribal and small-scale religions as well as Judaism, Christianity, Islam, Buddhism, Hinduism, Sikhism, and other traditions. In contrast to some essentialist views of these religions, ethnographic studies have shown there are many different kinds of Jews, Christians, Muslims, Buddhists, Hindus, or Sikhs based on socioeconomic or class background, sect, denomination, or region of the world. None of these religions has an internal essence that determines its specific beliefs and practices. Instead, within these traditions, ethnographers find a multiplicity of different religious beliefs and practices.

Although anthropologists find that essentialism is widespread and universal and it is easily learned by young children as a means to comprehend and classify the world around them, these cognitive habits are faulty and lead to many misperceptions. In addition, these essentialist views of peoples, cultures, ethnic groups, and societies are difficult to overcome and often lead to stereotypical perceptions that can be harmful. As we will discuss, contemporary anthropologists have revealed through careful study that these essentialist views are too simplistic to understand the peoples and societies around the world.

Questions to Ponder

1. Have you ever had essentialist beliefs about groups of people, including your own group?
2. In what ways can essentialist views be harmful?
3. Do you find it difficult to unlearn essentialist beliefs?

WHY STUDY ANTHROPOLOGY?

1.5 Describe why students should study anthropology.

Students sometimes question the practical benefits of their educational experience. Hence, you might ask, “Why study anthropology?” First, anthropology contributes to a general liberal arts education, which helps students develop intellectually and personally, as well as professionally. Studies indicate that a well-rounded education contributes to a person’s success in any chosen career, and because of its broad interdisciplinary nature, anthropology is especially well suited to this purpose (Briller and Goldmacher 2008). Because students of anthropology can see the “whole picture,” they may be able to generate creative solutions to the problems that face humanity today. Anthropology students have diverse and widely applicable skill sets that include research, critical thinking, speaking foreign languages, and an understanding of law, politics, history, biology, and economics, just to name a few. Further, anthropology students understand fundamental aspects of what it means to be human—an understanding that can be applied to multiple areas of life.

Critical Thinking and Global Awareness

In the context of a liberal arts education, anthropology and anthropological research cultivate critical thinking skills. As discussed, the scientific method relies on constant evaluation of, and critical thinking about, data collected in the field. By being exposed to the cultures and lifestyles of unfamiliar societies, students may adopt a more critical and analytical stance toward conditions in their own society. Critical thinking skills enhance the reasoning abilities of students wherever life takes them.

Anthropology also fosters global awareness and an appreciation for cultures other than our own. In this age of rapid communication, worldwide travel, and increasing economic interconnections, young people preparing for careers in the twenty-first century must recognize and show sensitivity toward the cultural differences among peoples, while understanding the fundamental similarities that make us all distinctly human. In this age of cultural diversity and increasing internationalization, sustaining this dual perception of underlying similar human characteristics and outward cultural differences has both practical

and moral benefits. Nationalistic, ethnic, and racial bigotry are rife today in many parts of the world, yet our continuing survival and happiness depend upon greater mutual understanding. Anthropology promotes a cross-cultural perspective that allows us to see ourselves as part of one human family in the midst of tremendous diversity. Our society needs not just citizens of some local region or group but also, and more importantly, world citizens who can work cooperatively in an inescapably multicultural and multinational world to solve our most pressing problems of bigotry, poverty, and violence.

In addition, anthropology gives students a chance to delve into a discipline whose roots lie in both the sciences and the humanities. As we have seen, anthropology brings to bear rigorous scientific methods and models in examining the causes of human evolution, behavior, and social relationships. But anthropologists also try to achieve a humanistic understanding of other societies in all their rich cultural complexity. Anthropology casts a wide net, seeking an understanding of ancient and contemporary peoples, biological and societal developments, and human diversity and similarities throughout the world.

Viewing life from the anthropological perspective, students will also gain a greater understanding of their personal lives in the context of the long period of human evolution and development. In learning about behavior patterns and cultural values in distant societies, students question and acquire new insights into their own behavior. Thus, anthropology nurtures

personal enlightenment and self-awareness, which are fundamental goals of education.

While these general goals are laudable, the study of anthropology also offers more pragmatic applications (Nolan 2017). As seen in the discussion of applied anthropology, all of the traditional subfields of anthropology have areas of study with direct relevance to modern life. Many students have found it useful to combine an anthropology minor or major with another major. For example, given the increasingly multicultural and international focus of today's world, students preparing for careers in business, management, marketing, or public service may find it advantageous to have some anthropology courses on their résumés. The concepts and knowledge gleaned from anthropology may enable students to find practical applications for dealing with issues of cultural and ethnic diversity and multiculturalism on a daily basis. Similarly, policymakers in federal, state, and local governments may find it useful to have an understanding of historic preservation issues and cultural resource management concerns. In education, various aspects of anthropology—including the study of evolution, the human past, and non-European cultures and the interpretation of cultural and social phenomena—are increasingly being integrated into elementary and secondary school curricula. Education majors preparing for the classroom can draw on their background in anthropology to provide a more insightful context for some of these issues.

SUMMARY AND REVIEW OF LEARNING OBJECTIVES

1.1 Compare and contrast the four major subfields of anthropology.

Anthropology consists of four subfields: biological anthropology, archaeology, linguistic anthropology, and cultural anthropology or ethnology. Each of these subfields uses distinctive methods to examine humanity in the past and in all areas of the world today. Biological anthropologists investigate human evolution and the physical variation of modern human populations throughout the world. Archaeologists study past societies by analyzing the artifacts (material remains) they left behind. Linguistic anthropologists focus their studies on languages, seeking out historical relationships among languages, pursuing clues to the evolution of particular languages, and comparing one language with another to determine differences and similarities. Cultural anthropologists conduct fieldwork in human societies to examine people's lifestyles. They describe these societies in written studies called ethnographies, which highlight behavior and thought patterns characteristic of the people studied. In examining societies, cultural anthropologists use systematic research methods and strategies, primarily participant observation,

which involves participating in the daily activities of the people they are studying.

1.2 Describe how the field of anthropology is holistic, interdisciplinary, and global.

Through the combination of the four subfields in anthropology, many different variables are investigated, ranging from biological factors such as genetics to material artifacts, language, and culture, to provide a holistic view of humankind. Anthropology is inherently interdisciplinary and connects with other fields of research such as biology, psychology, economics, history, political science, and sociology, as well as the fine arts and humanities. By its nature, anthropology takes a global approach with its studies of humanity everywhere throughout the world, both past and present.

1.3 Explain how the scientific method is used in anthropological explanations.

Central to anthropological inquiry is the systematic collection and evaluation of data. This includes employing both inductive and deductive methods to evaluate hypotheses and

develop theories. Theories explain natural or social phenomena. The conclusions reached are always open to reevaluation and further testing in light of new data. In this way, faulty interpretations and theories are discarded.

1.4 Discuss how the field of anthropology bridges both the sciences and the humanities.

Anthropologists draw on the scientific method to investigate humanity, while recognizing the limitations of science in grasping the subtleties of human affairs. Yet, anthropology is also a humanistic discipline that focuses on such cultural elements as art, music, and religion. By bridging the sciences and

the humanities, anthropology enables us to look at humanity's biological and cultural heritage with a broad perspective.

1.5 Describe why students should study anthropology.

For students, anthropology creates a global awareness and a deep appreciation of humanity past and present. By evaluating anthropological data, students develop critical thinking skills. And the process of anthropological inquiry—exploring other cultures and comparing them to one's own—sheds light on one's personal situation as a human being in a particular time and place.

KEY TERMS

anthropology, p. 2
 applied anthropology, p. 10
 archaeology, p. 4
 artifacts, p. 4
 biological anthropology, p. 3
 classical archaeologists, p. 5
 cultural anthropology, p. 8
 deductive method, p. 13
 essentialism, p. 15
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