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24 APPLIED ANTHROPOLOGY

LEARNING OBJECTIVES

After reading this chapter, you should be able to:

24.1 Describe the different roles of applied anthropologists.

24.2 Recall the applied aspects of biological anthropology.

24.3 Summarize some of the findings of medical anthropologists.

24.4 Define cultural resource management and discuss the role of archaeologists in the field.

24.5 Discuss the meaning of "cultural patrimony" and the role of NAGPRA legislation in the United States.

24.6 List the applied aspects of cultural anthropology.

24.7 Describe how applied anthropologists assist in climate change projects.

24.8 Explain how applied anthropologists are engaged in human rights research.

Applied anthropology, the focus of this chapter, uses anthropological data, theories, and methods to identify, assess, and solve problems in the modern world. As seen in preceding chapters, anthropologists undertake wide-ranging research in the discipline's four basic subfields: biological anthropology, archaeology, linguistics, and cultural anthropology. Applied anthropology embraces each of these fields to address problems faced by modern societies from the global to the local levels. Indeed, some anthropologists have suggested that all anthropological research has the potential for practical application: It may be "applied." This chapter examines the varied roles that applied anthropologists play and some of the areas of biological anthropology, archaeology, linguistics, and cultural anthropology that deal with the application of anthropological information in solving practical problems in the modern world.

THE ROLES OF THE APPLIED ANTHROPOLOGIST

24.1 Describe the different roles of applied anthropologists.

The popular, if not accurate, images of anthropologists vary from the adventurous explorer in search of lost treasure to the absent-minded professor working away in the dusty halls of a museum. These perspectives, however entertaining, do not represent contemporary anthropologists. Anthropologists are increasingly engaged in activities that have direct relevance to the modern world. Rather than being confined to the halls of the university, many anthropologists are practitioners of anthropology. Some are actively collaborating with the communities that they study in problem solving. Others are working within international agencies, including the United Nations, governments, nongovernmental organizations (NGOs), and businesses. Their activities range from assisting in murder investigations and protecting cultural resources, to examining development projects and medical treatment in varied cultural settings.

In many respects, distinguishing applied anthropology from the other subdisciplines of anthropology presents a false dichotomy. All anthropologists share methodological, as well as theoretical, concerns; the difference lies in perceptions of the anthropologists' objectives, an arbitrary division based on the practicality of the intended outcomes. As the renowned cultural anthropologist Bronislaw Malinowski (1945, 5) observed more than seventy years ago: "Unfortunately, there is still a strong but erroneous opinion in some circles that practical anthropology is fundamentally different from theoretical or academic anthropology. The truth is that science begins with application. What is application in science and when does 'theory' become practical? When it first allows us a definite grip on empirical reality."

Applied anthropologists can serve in many roles (adapted from Chambers 1985; D. Lewis and Mosse 2006). One of the most commonplace is as analyst, providing information and recommendations about specific topics or settings. Examples can range from assessments of archaeological sites discovered on land slated for development, to evaluations of school meal programs, to skeletal analysis by a forensic anthropologist in a criminal investigation. The U.S. government, for example, has long employed anthropologists as onsite researchers to provide data on how local-level service clients and delivery agencies respond to official policy. Informally, many archaeologists and anthropologists become involved in local activities and educational programs that present anthropological findings to the public. Applied analysts usually must work under tighter deadlines and with more explicit reporting requirements than are typical for academic studies, with these parameters set by the communities, organizations, or public agencies sponsoring the research. In addition, the findings of the applied analysts

often face the scrutiny not only of fellow anthropologists but of practitioners in other fields, policymakers, and the public as a whole. Thus, the importance of professional competency is highlighted in applied settings. At the same time, addressing multiple audiences of these different practitioners and the public offers important opportunities for analysts to highlight the holistic nature of anthropological research, making connections that may not have been apparent to the people involved. Furthermore, in presenting their findings, anthropologists may be serving as translators and brokers between different groups, helping to promote mutual understanding between them.

At times, anthropologists may serve as policy and program advisors or managers, helping to formulate, evaluate, or direct the activities of public agencies, international institutions, NGOs, and other entities. Therefore, rather than just providing data, anthropologists help formulate policy. In the United States, this became an important focus for archaeologists with the passage of the National Historic Preservation Act in 1966, the Native American Graves Protection and Repatriation Act of 1990, and other related cultural resources legislation. These laws provide increased protection for some archaeological resources by mandating the consideration of these resources in planning development, and also ensuring the recognition of Native American concerns. In another vein, cultural anthropologists working within the World Bank were instrumental in formulating its initial guidelines dealing with populations displaced by development projects. They sought to address the needs of the estimated 2 million people a year who were adversely affected by World Bank–financed interventions (Cernea 1991). Unfortunately, resistance within the World Bank to addressing social commitments, such as resettlement, limited the impact of the original guidelines (Scudder 2018). This example underscores a major point regarding applying anthropology in policy settings: Such engagement can be highly contentious, with the involvement of anthropologists by no means guaranteeing a successful outcome for interests or issues that they promote.

Anthropologists have long served as advocates for marginalized and disempowered groups. They have participated in organizations such as Survival International, Minority Rights Group International, the International Work Group for Indigenous Affairs, and Rainforest Alliance, promoting the rights and empowerment of ethnic and indigenous populations worldwide. These activists engage in a range of activities, from running informational campaigns, to lobbying policymakers, to supporting protests. Individual anthropologists have served as advocates for cultural groups or communities, including taking on the role of spokesperson. In recent years, some indigenous scholars and political leaders have raised concerns about anthropologists and other outsiders acting in such roles, contending that their actions, however well intended, may end up muting local voices. Such concerns are part of a wider dialogue exploring the nature, including the power dynamics, of collaboration between anthropologists and the people they study (Sillitoe 2016).

BIOLOGICAL ANTHROPOLOGY

24.2 Recall the applied aspects of biological anthropology.

As seen in the preceding chapters, biological anthropologists study humanity's physical aspects, researching humans in both the past and the present. Some of the basic information they gather focuses on human variation and includes the measurement, observation, and explanation of various physical characteristics. Anthropometry, for example, concerns the measurement of human body parts, while osteometry is the measurement of skeletal elements. This information is basic to the interpretation of fossil hominins, as well as human remains recovered from archaeological sites. However, some of this information also has immediate relevance to the present. Such knowledge may be used in combination with engineering data to design ergonomically efficient airplane cockpits, work environments, or equipment. Such data may also provide crucial assistance to the police in murder investigations or the identification of disaster victims. Physical anthropological study of the causes of diseases, when combined with knowledge of cultural anthropology, offers important insight into perceptions of medical treatment in different cultural settings. Some examples of anthropologists' practices are considered in this section.

Forensic Anthropology

A fragmentary skeleton is accidentally found in a desolate part of the desert. Through a series of twists and turns, an enterprising detective pieces together clues to a twenty-year-old murder and brings a fugitive to justice. Such a scenario is the stuff of mystery novels, but real-life criminal investigations often do depend on the identification of fragmentary skeletal remains. **Forensic anthropology** can be defined as the application of biological anthropological data to law (Byers 2008). Biological anthropologists in this area of specialization are often called to assist police when unidentified human remains are found. Whereas human biologists and medical doctors focus on the body's soft tissues, forensic anthropologists study the hard tissues—the skeletal remains (Reichs 1998; Steadman 2009). Analysis of such material begins by reconstructing the skeleton and joining the often fragmentary and broken remains. Missing pieces may be reconstructed or estimated. The materials are then carefully measured and compared to anthropological data. This information may yield clues regarding the sex, approximate age, height, and physical characteristics of an individual.

Skeletal remains also provide a record of medical problems, illnesses, and an individual's overall health. The bones may preserve information about a person's physical state at the time

of death, as well as the living conditions and health problems the person faced during his or her lifetime. For example, broken bones, although healed, still leave traces on the skeleton. Arthritis, certain infections, dietary stress, and nutritional deficiencies may also be in evidence. This kind of information provides insight into living conditions in the distant human past, as, for example, when considering the consequences of domestication (see Chapter 8), but it also provides details that may be very helpful to the police in identifying victims. Unidentified skeletal remains from a white female, five-foot-four to five-foot-six and forty to forty-five years of age, with a healed fracture of the left leg and traces of arthritis in the hands, would dramatically reduce the number of potential fits with reported missing person files.

Forensic Facial Reconstruction

A very specialized area within forensic anthropology deals with facial reconstruction (Evison, Iwamura, Guimarães, and Schofield 2016; Stephan et al. 2018). Using average skin depths, muscle patterns, and knowledge derived from the skull, the researcher creates an image of what a person looked like when alive. This interdisciplinary work draws on information from anatomy, facial surgery, pathology, dentistry, and biological anthropology, as well as the skills of the artist.

A variety of different approaches have been used, including two-dimensional sketches by artists, computer reconstructions, and even detailed models based on reconstructed skulls. In the latter case, underlying muscles of clay are sculpted over the skull, or a model of it, and then covered with additional clay that represents the overlying tissues. The thickness of the skin is based on average thickness at different points of the skull, estimated for individuals of different ages, sexes, body builds, and ethnic groups—information that is inferred from the skeletal remains. A final model is prepared using plaster of Paris, which is colored, and given hair and eyes. More recently, three-dimensional computer imaging has made facial reconstruction both easier and more common.

Forensic facial reconstruction is not without its limitations. As discussed in Chapter 6, humans vary tremendously in terms of their physical attributes, even within populations. While average tissue thicknesses may be calculated, there is not unanimous agreement on the most appropriate methods to use, and the characteristics present in specific individuals may vary widely (Iscan and Helmer 1993). In many instances, researchers may have very limited information to infer individual attributes such as hair and skin color, or body weight. Interpretations can, therefore, be quite subjective. Nevertheless, techniques such as these, whether using a pen and ink, a computer, or plaster models, help police put flesh on the bones and can be invaluable in investigations. Although the final products may not always be exact portraits, in some instances the resemblance to the living individual has proven remarkable.

Determining the Cause of Death

Forensic anthropology may also offer important clues about the actual circumstances of a person's demise, as well as the treatment of the body after death (Byers 2008; Haglund and Sorg 1997; Steadman 2009). Damage or trauma to the bones may provide a primary indicator of the cause of death. For example, bullet wounds, stabbings, and blunt-force trauma may be identified in skeletal remains. Careful study of the skeleton may also indicate if an individual was murdered where the body was found, or whether the individual was killed at another location and then transported to the site where the body was discovered. Forensic anthropologists may also be able to determine whether the body was disturbed or moved after burial. Such information may be extremely important in determining the cause of death. However, it may be equally important in reconstructing the events surrounding it. As in the case of archaeological and paleontological investigations, the *context* of the findings is very important. Hence, biological anthropologists with archaeological training can help ensure that all of the remains are recovered.

Because the cause of death may be central to a murder investigation and trial, the forensic anthropologist is often called on to testify as an expert witness. In such cases, the researcher impartially presents his or her findings that may prove or disprove the identity or cause of death of the victim. The ultimate concern of the forensic anthropologist is not the outcome of the trial, but the evidence provided by the skeletal remains.

The amount of information extracted from skeletal remains can be surprising. For example, fractures of the hyoid bone, a small bone attached to the thyroid cartilage of the throat, may indicate strangulation. The location and kind of breaks may offer clues to the type of weapon used, as well as the position of the attacker relative to the victim. In the vein of a Sherlock Holmes novel, it may actually be possible to determine that a fatal blow was struck from behind by a right-handed assailant. Many illustrations from actual criminal cases can be recounted (Manhein 2013; N. Sauer et al. 2003; Steadman 2016).

The key roles of both archaeology and forensic anthropology in determining the cause of death are illustrated by the John McRae murder case (N. Sauer et al. 2003). In 1997, police in northern Michigan were called when a farmworker uncovered human skeletal remains while excavating a refuse pit with a backhoe. On the basis of dental records, the police identified the victim as Randy Laufer, a fifteen-year-old boy who had disappeared eleven years previously. The principal suspect in the case was John McRae, who had earlier owned the land where the bones were recovered. At the time of their discovery, the bones were fragmentary and devoid of flesh. More significantly, they had not been recovered under ideal conditions; structures formerly on the property had been removed and the remains disturbed by a backhoe. However, the archaeological and physical

anthropological evidence proved crucial in bringing McRae to justice. Archaeologists were able to recover the remaining bones, locate the original burial pit, and reconstruct the placement of structures on the property when McRae owned it. The archaeological information established that the body had likely been buried no more than fifteen feet from the front door of McRae's trailer, beneath a gravel driveway or just inside an adjacent barn. The skeletal evidence established Laufer's identity and also that he had been mutilated at the time of death. Study of the cut marks on the bones indicated that the boy had been stabbed or hacked in the left shoulder and his body cut in half.

Identifying Victims of War and Genocide

Forensic anthropologists have also played important roles in the identification of victims of natural disasters, airplane crashes, bombings, war, and genocide (Snow and Bihurriet 1992; Steadman 2016; T. Stewart 1970). Forensic anthropologists and archaeologists have assisted in the documentation of human rights abuses and the recovery of victims from mass graves in Argentina, Brazil, Croatia, El Salvador, Haiti, Iraq, Poland, Rwanda, and many other world areas. For example, the *Polish Genetic Base of Totalitarianism Victims* has undertaken the excavation of mass graves and burials of individuals executed in Poland during the country's authoritarian regime between 1944 and 1956. Researchers draw on DNA recovered from the remains, as well as material culture and forensic data, to identify the victims.

Many of the methods and techniques used by modern forensic anthropologists were needed during and after World War II to assist with the identification and repatriation of the remains of soldiers killed in battle. This remained an important role for forensic anthropologists during and after the Korean and Vietnam Wars (T. Stewart 1970). Identification of the remains has often been dependent on matching the physical remains recovered with life histories provided by medical and dental records. In such cases, positive identification may be dependent on relatively minor variation in bony structures.

Today, biological anthropologists and forensic archaeologists continue to play important roles in locating and identifying American soldiers killed or missing in past conflicts (Mann et al. 2003; Mather 1994; U.S. Department of Defense 2015). The Defense POW/MIA Accounting Agency, which encompasses the work of several different offices and laboratories, is a U.S. Department of Defense agency whose mission is to account for Americans listed as prisoners of war or missing in action from all past wars and conflicts. The agency's missions span the globe, and the recovery of a single individual's remains, involving documentary research, fieldwork, and forensic analyses, often takes years. Researchers are now able to bring much more sophisticated techniques to the identifying of human remains. These methods include the extraction of DNA from small fragments of bone, which may be matched with the DNA of the soldier's surviving relatives.

ANTHROPOLOGISTS AT WORK

CLYDE COLLINS SNOW

Martyn Aim/Corbis News/Getty

Many forensic anthropologists have followed in Clyde Collins Snow's footsteps in investigating crimes in different areas of the world.

Forensic Anthropologist

Clyde Collins Snow obtained a master's degree in zoology from Texas Tech University and planned to pursue a PhD in physiology, but his career plans were interrupted by military service. While stationed at Lackland Air Force Base near San Antonio, Texas, he was introduced to the field of archaeology and became fascinated with the ancient artifacts discovered in the surrounding area. After leaving the military, Snow attended the University of Arizona, where his zoological training and archaeology interests led him to a PhD in physical anthropology. He became skilled at identifying old bones, as well as artifacts. With his doctoral degree completed, he joined the Federal Aviation Administration as a consulting forensic anthropologist, providing technical assistance in the identification of victims of aircraft accidents. Snow also lent his expertise to the design of safety equipment to prevent injuries in aircraft accidents.

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As word of Snow's skills in forensic anthropology spread, he was called to consult on and provide expert testimony in many criminal cases. His testimony was crucial at the sensational murder trial of John Wayne Gacy, accused of murdering more than thirty teenagers in the Chicago area. Snow also collaborated with experts in the reinvestigation of President John F. Kennedy's assassination. These experts built a full-scale model of Kennedy's head to determine whether Lee Harvey Oswald alone could have inflicted all of Kennedy's wounds. They did not uncover any scientific evidence to contradict the Warren Commission's conclusion that Oswald was the sole assassin.

More recently, Snow and his team have been recognized for their contributions to human rights issues. Snow served as a consultant to the Argentine government's National Commission on the Disappearance of Persons in its efforts to determine the fate of thousands of Argentineans who were abducted and murdered by military death squads between 1976 and 1983, when the country was under the rule of a military dictatorship. As a result of his investigations, Snow was asked to testify as an expert witness in the trial of the nine junta members who ruled Argentina during the period of military repression. He also assisted people in locating their dead relatives.

Snow stressed that in his human rights investigative work he is functioning as an expert, not necessarily as an advocate. He must maintain an objective viewpoint in interpreting his findings. The evidence he finds may then be presented by lawyers (as advocates) in the interests of justice. Snow's and others' forensic anthropological human rights work was supported by various agencies, such as the American Association for the Advancement of science, the Ford Foundation, the J. Roderick MacArthur Foundation, Amnesty International, Physicians for Human Rights, and Human Rights Watch.

Clyde Collins Snow died on May 16, 2014. His applied research in forensic anthropology has been foundational in this field.

MEDICAL ANTHROPOLOGY

24.3 Summarize some of the findings of medical anthropologists.

Another subfield of applied anthropology, medical anthropology, represents the intersection of cultural anthropology and the other three fields of anthropology, including biological anthropology (P. Brown and Barrett 2010; McElroy and Townsend 2015). **Medical anthropology** is the study of disease, health care systems, medical practices, curing, and mental illness with a cross-cultural perspective. Medical anthropologists work with physicians, nurses, and other public health care workers to apply their knowledge about cultural practices in different settings to provide more effective treatment. One of the key issues that medical anthropologists focus on is the comparison between Western-based biomedical science and other, nonscientific beliefs and models of disease, illness, and medicine. Sometimes these nonscientific beliefs are referred to as folk illnesses (Baer, Clark, and Peterson 1998). From a Western biomedical perspective, disease is the result of natural causes, including genetic disabilities, autoimmune factors, and external sources such as infectious microbes, injuries, or syndromes that impair the normal function of the body. Illness is the feeling of pain or sickness by individuals or populations. Health care provided by the Western biomedical model to diagnose and treat disease or illness involves physicians and nurses equipped with advanced technologies such as X-rays, MRIs, CT scans, surgery, and pharmaceutical medicines that are tested and developed through scientific methods.

Ethnomedicine

In other cultural settings, disease, illness, or injury may be attributed to a variety of other factors, including religious or spiritual beliefs. The beliefs may dramatically influence how medical treatment is viewed. Medical anthropologists developed the field of **ethnomedicine**, the study and comparison of traditional, spiritually based medical practices by different ethnic groups. Ethnomedicine reveals that concepts of disease and illness are not universally defined. The local culture deeply influences the understanding and meaning of physical impairment and the techniques used for healing. In some cases, people may believe illnesses or diseases are caused by a human being (a sorcerer or a witch) or a supernatural being (a god or an evil spirit, ghost, or ancestor). Medical anthropologists often find people attribute the cause of their illnesses to a purposeful agent. Individuals may believe that they are being punished or harmed by these human or supernatural agents (Baer, Clark, and Peterson 1998). In other cases, explaining illnesses is more impersonal or naturalistic. For example, medical anthropologists investigate the practices of acupuncture as developed in traditional Chinese medicine and the Ayurvedic beliefs about disease, illness, and healing maintained in the Hindu religious tradition. Both the Chinese and Ayurvedic Hindu medical beliefs are based on restoring balance and equilibrium within the body that might be lost as a result of injuries or illnesses,

induced by the ingestion of inappropriate foods or exposure to climate changes or diseases.

Ethnomedicine in Thailand

A classic example of medical anthropology and ethnomedicine is the work of Louis Golomb (1985), who conducted ethnographic research on curing practices in Thailand. Golomb did research on Buddhist and Muslim medical practitioners who rely on native spiritualistic beliefs to diagnose and cure diseases. These practices are based on earlier Hindu, magical, and animistic beliefs that had been syncretized with Buddhist and Muslim traditions. Practitioners draw on astrology, faith healing, massage, folk psychotherapy, exorcism, herbs, and charms and amulets to treat patients. The most traditional practitioners are curer-magicians, or shamans, who diagnose and treat every illness as an instance of spirit possession or spirit attack. Other practitioners are more skeptical of the supernatural causation of illness and diagnose health problems in reference to natural or organic causes. They frequently use herbal medicines to treat illnesses.

Golomb discovered that although Western-based scientific forms of medicine may be available, many Thais still relied on traditional practitioners. He found that even urban-educated elite, including those who had studied in the United States and other Western countries, adhered to both supernatural and scientific views. Golomb referred to this as *therapeutic pluralism*. He observed that patients did not rely on any single therapeutic approach, but rather used a combination of therapies that include elements of ritual, magic, and modern scientific medications. Parasites or germs were rarely seen as the only explanations of disease; a sick person may consult a clinic to receive medication to relieve symptoms, but may then seek out a traditional curer for a more complete treatment. Golomb emphasized that the multiplicity of alternative therapies encouraged people to play an active role in preserving their health, something that has therapeutic benefits.

In Thailand, as in many other countries undergoing modernization and globalization, up-to-date medical facilities have been established, based on the scientific treatment of disease. Golomb found that personnel in these facilities are critical of traditional medical practices. He also discovered that while the people in the villages often respected the modern doctor's ability to diagnose diseases and prescribe medications to relieve symptoms, in most cases they do not accept the scientific explanation of the disease. In addition, villagers felt that modern medical methods are brusque and impersonal because doctors did not offer any psychological or spiritual consolation. Doctors also did not make house calls and rarely spent much time with patients. This impersonality in the doctor–patient relationship was also due to social status differences based on wealth, education, and power. Golomb found that many public health personnel expected deference from their rural clientele. For these reasons, many people preferred to rely on traditional curers.

Through his study of traditional medical techniques and beliefs, Golomb isolated some of the strengths and weaknesses of modern medical treatment in Thailand. His work contributed to a better understanding of how to deliver health care services to rural and urban Thais. For example, the Thai Ministry of Public Health began to experiment with ways of coordinating the efforts of modern and traditional medical practitioners. Village midwives and traditional herbalists were called on to dispense modern medications and distribute information about nutrition and hygiene. Some Thai hospitals have established training sessions for traditional practitioners to learn modern medical techniques. Golomb's studies in medical anthropology offer a model for practical applications in the health field for other developing societies to follow.

Ethnomedicine in East Africa

More recently, David Parkin (2013) has dealt with similar aspects of medical anthropology based on decades of ethnographic research in East Africa. He discusses a case he encountered among the Giriama ethnic group in Kenya where a twelve-year-old boy's face swelled up in what appeared to be an allergic reaction. The father of the boy talked to family, neighbors, and elders who advised him to see a diviner. A number of people including the diviner concluded that the case involved witchcraft. The boy was treated by an herbal doctor whose medicine reduced the swelling. Following this recovery, the community did not proceed with any witchcraft investigations.

Another case studied by Parkin involved a two-year-old boy who caught the measles. The child was given aspirin, herbal medicines, and devoted care by his mother. The child responded well. But then the child's grandfather, who lived fifty miles away, died. The mother felt obligated to go to her father's funeral, and she took the child with her. During the difficult journey, the child became dehydrated, developed a severe fever, and died a few days after the mother reached her father's home. The child's family and neighbors believed that witchcraft was the cause of the boy's death. Accusations of witchcraft were directed at members of the group, including the family of the child. Diviners and shamans were sought out for advice. The family and the immediate neighborhood became the site of intense fear, suspicion, and hatred along with the possibility of local witchcraft.

Parkin indicates that in many cases of sickness, Christians or Muslims with some school education may be advised to go to a modern biomedical clinic or hospital, as well as, or sometimes instead of, a diviner or shaman. One key factor is "trust talk" between patient and healer. This trust talk may be based on cooperation in the community when they are searching for a remedy for an illness. Parkin describes a triangle of the biomedical practitioner, the indigenous local healer, and

the healer-prophets (common in Africa), sometimes called witchfinders, who preside over many cases of disease and illness. Sometimes "trust talk" breaks down in the community regarding whether the patient ought to see a local healer, a healer-prophet, or a modern medical clinic or hospital. Trust or mistrust of any practitioner within this triangle can develop within these communities depending on whether patients are cured or not.

Like Golomb found in Thailand, Parkin describes a plurality of medical traditions in Africa that people draw on when faced with the uncertainties of illness and disease. Sometimes an exclusive focus on the physical causes of the illness is not sufficient for the patient. Mutual trust and "trust talk" develop as a result of reciprocal dialogue and emotional support from the practitioners for the patients.

Chinese Acupuncture

Another example of the intersection of local cultural knowledge and Western medical practices is provided by Chinese medicine and the practice of acupuncture, which are based on cosmological beliefs derived from Taoist, Confucianist, and Buddhist beliefs. According to these beliefs, spiritual forces and energy known as *qi*, usually translated as "air" or "breath," inhabit all living things. As in other living things, *qi* flows through the human body along various channels or meridians. Injury, illness, and disease are claimed to obstruct the flow of *qi*, creating dysfunctions within the body. The acupuncturist attempts to control the flow of *qi* that might be obstructed by inserting needles to harmonize and restore equilibrium to bodily functions.

The Western model of biomedicine does not recognize the spiritual energy force *qi* or meridian channels within a scientific framework. However, Chinese acupuncture treatment has been accepted by many patients with illnesses as an alternative therapy within the United States and elsewhere. Medical anthropologist Linda Barnes (2005) has been studying Chinese acupuncture as it exists in the very cosmopolitan city of Boston, Massachusetts. Through extensive interviewing of acupuncturists and patients as well as observing acupuncture treatment sessions for over two years, Barnes examined how patients and practitioners understand the effectiveness of acupuncture treatment. She notes that acupuncture derived from traditional Chinese medicine has been the basis of licensure and government regulations of the practice in the United States. Barnes describes five different forms of acupuncture traditions in the Boston area: the Worsley Five-Element school, Japanese acupuncture, and limited instances of the Korean, Vietnamese, and French schools. Some practitioners within different schools have trained with Chinese Taoist priests to learn how to harmonize the flow of *qi*. Some of the practitioners are Chinese Americans or Asian Americans, but many are Americans of European descent.

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Chinese acupuncture is widely available as a form of ethnomedicine in the United States and elsewhere.

Barnes describes the variation of practices and beliefs about the efficacy of acupuncture within the different schools. Many patients select acupuncture as only one of many nonscientific therapies in tandem with other, Western biomedical scientific therapies. Some of the practitioners view their acupuncture treatments as a form of religious healing, whereas others, mainly European American practitioners, view it as embedded with "spirit." Some of the practitioners view the efficacy of acupuncture as "empowerment" for the individual. Barnes discusses how acupuncture has crossed the boundaries of Western biomedical practices, as it is accepted and regulated by the National Institutes of Health (NIH) as a Complementary and Alternative Medicine (CAM). Since 1997, NIH has accepted the efficacy of acupuncture as an adjunct treatment for postoperative and chemotherapy-induced nausea and vomiting, stroke rehabilitation, headache, low-back pain, asthma, and other injuries or illnesses. Barnes describes how some practitioners agree that a patient's symptoms of illness may not always change, but nevertheless healing does occur. Some patients who use acupuncture for drug addiction withdrawal or chronic pain feel that it reduces their anxiety. Barnes concludes her essay by discussing therapeutic pluralism and the multiple meanings of the effectiveness of acupuncture by practitioners and patients and how this is embedded within the culture and values of U.S. society.

Cultural Patterns and Epidemiology

Other medical anthropologists focus specifically on **epidemiology**, which examines the spread and distribution of diseases and how they are influenced by cultural patterns. For example, these anthropologists may be able to determine whether coronary (heart) disease or cancer is related to particular cultural or social dietary habits, such as the consumption of foods high in sodium or saturated fats. These studies can often help health providers design more effective means for delivering health care and formulating health care policies (Schell and Denham 2003). Thus, applied medical anthropology deals

with intervention, prevention, and policy issues in public health care. In addition, medical anthropologists also demonstrate the linkages between socioeconomic status, illness, and access to health care.

Medical anthropologist Caroline Wilson (2010) has been doing research on cardiac disease in the state of Kerala in South India. Globalization has increased heart disease in India with diets richer in fats and sugar, reduced physical activity, increases in smoking, alcohol use, stress, and inequality. Kerala has high rates of cardiac disease, type 2 diabetes, high blood pressure, cholesterol, and obesity for both men and women from their late twenties onward. Thus, these medical problems are not due to aging. Wilson studied consumer practices, specifically eating and feasting, levels of physical activity, and the lifestyle, among Hindus and Muslims in the city of Malabar in Kerala. She observed medical practices in outpatient clinics that were staffed by cardiologists and general physicians where patients were treated for hypertension, high cholesterol, and diabetes. Wilson participated in the social and cultural practices in various settings, in particular those practices that involved feasting and eating such as weddings, cooking classes, and many other rituals and events. As in many other societies, food becomes a means of establishing and maintaining social networks among these Hindu and Muslim families in Kerala, where a "good appetite" indicates both emotional and physical health, vitality, and well-being.

Wilson found that in the middle-class Hindu households, home cooking used less meat and oil. Affluent Muslim households served meat-based curries three times a day, while some households added fish on a regular basis. However, outside of the home, both Hindu and Muslim men and women consumed more meat and fried foods. Fast-food restaurants and bakeries that serve fried chicken or biscuits, sweet cakes, and milkshakes have developed with increasing globalization in Kerala. At ritual functions such as wedding feasts, both Hindus and Muslims serve abundant portions of a spicy chicken cooked with oil and rice, *biriyani*. In these communities, concerns are expressed regarding the increase of heart attacks and its relationship to nutrition. Yet, pressures to consume large amounts of food at feasting rituals are prevalent. Refusing to accept food is a sign of anger or annoyance. As Wilson (2010, 270) says, "Breaking out of the culture of eating and feasting requires cognitive intent, to resist the flow of food and love in everyday life." Dietary restrictions that inhibit participation in new forms of consumption among the affluent people of Kerala are signs of emotional ill-being. Wilson has identified this culture of overeating and feasting that relates to increases in cardiac disease to assist public health authorities in preventing these problems in Kerala.

Ethnographic studies such as these that combine knowledge of the scientific understanding of disease and medicine with in-depth local cultural knowledge have proven to be an effective combination in many other settings. They provide an excellent illustration of the relevance of anthropological research in solving important social and medical problems.

Medical Anthropology and Mental Illness

Another area of interest for medical anthropology is the study of mental illness in different societies. The major concerns of these studies revolve around two questions: Is there a universal concept of "normal" and "abnormal" behavior? Do mental illnesses differ in their symptoms or patterns in different societies? These questions serve as the basis for many medical anthropology projects in different societies.

What Is Abnormal?

In the early twentieth century, one of the assumptions in the fields of psychiatry and psychology was that mental illness and abnormal behavior are universal. In other words, depression, schizophrenia, psychoses, and other mental disorders are essentially the same for all humans. For example, in the field of psychiatry, particular types of mental disorders were classified by specific symptoms. Thus, a *psychosis* was classified as a type of mental disturbance characterized by personality disorganization, disturbed emotional responses, and a loss of contact with reality. A *neurosis* was characterized as a nonpsychotic disorder marked by considerable anxiety for individuals, especially when they are involved in social interaction.

Anthropologists such as Ruth Benedict challenged these classifications of mental illness in the 1930s. Benedict argued that all criteria of abnormality reflect the particular culture of the individual and must be understood within the context of that culture. In her classic book *Patterns of Culture* (1934, 263), Benedict remarked:

> *It does not matter what kind of "abnormality" we choose for illustration, those which indicate extreme instability, or those which are more in the nature of character traits like sadism or delusions of grandeur or of persecution, there are well-described cultures in which these abnormals function with ease and with honor and apparently without danger or difficulty to the society.*

In other words, Benedict questioned whether any absolute standards of "normalcy" as defined by Western preoccupations and categories were satisfactory criteria for mental health. Benedict described a situation in which an individual heard very loud voices, was plagued by dreams of falling off cliffs, and feared being devoured by swarms of yellow jackets. This individual went into a trance state, lay rigid on the ground, and shortly thereafter recovered and danced for three nights in a row. Although in Western society this individual would be treated as "abnormal," Benedict suggested that this behavior

and thought were not unusual in some societies. The individual described was a type of medicine man or woman and not only was accorded respect, but also enjoyed tremendous prestige within the particular Native American tribe to which he or she belonged.

Ethnographic descriptions such as these demonstrate the difficulties of classifying mental illness across cultural boundaries. When the concept of abnormality is applied cross-culturally, it becomes an extremely vague concept. Behavior that is considered deviant in one society may represent a culturally acceptable form of behavior in another. The fields of modern psychiatry and psychology have been attempting to revise their classification of mental illnesses and often work with anthropologists on joint research projects to refine understandings of psychological disorders.

Culture-Specific Disorders

A number of ethnographic studies have focused on mental disorders that are unique to certain cultural settings. Many of the culture-bound syndromes or culture-specific syndromes were added as recognized mental illnesses in the fourth version of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) by the American Psychiatric Association in 1994. These culture-specific disorders include *latah*, *amok*, *windigo*, and *pibloktoq*. *Latah* has been described as a mental disorder in areas of Southeast and East Asia. In Southeast Asia, *latah* appears as a type of hysteria or fear reaction that afflicts women. They become easily startled and compulsively imitate behaviors or shout repetitive phrases that they have heard (echolalia). Sometimes, this disorder is triggered by the woman hearing the word *snake* or being tickled (Winzeler 1995). In Mongolia, however, David Aberle (1961) described a form of *latah* that affects men. These men may be startled suddenly and put their hands into a fire, jump into a river, or begin to scream obscenities wildly.

Amok is a culture-specific disorder described in Malaysia, Indonesia, and parts of the Philippines. It is a disorder of middle-aged males that follows a period of withdrawal marked by brooding over a perceived insult. During this time, in which the individual loses contact with reality, he may suffer from stress and sleep deprivation and consume large quantities of alcohol. Then, a wild outburst marked by rage occurs, with the individual attempting a violent series of murderous attacks. The man may pick up a weapon such as a machete and attack any person or animal in his path. These aggressive, homicidal attacks will be followed by prolonged exhaustion and amnesia (Bourguignon 1979). *Amok* appears to be a culturally sanctioned form of violent behavior viewed as an appropriate response to a specific situation in these regions of Southeast Asia. (The Malay term *amok* has entered the English language, referring to wild, aggressive behavior, as in someone running *amok*.)

Another culture-specific disorder, formerly found among the males of the Ojibway, Chippewa, East Cree, Innu, and Montagnais-Naskapi Indians in Canada, is referred to as the *windigo* psychosis. It is described as a disorder in which the affected individual becomes deeply depressed and begins to believe that he has been possessed or bewitched by the spirit of a *windigo*, a cannibal giant with a heart or entrails of ice. The individual afflicted may have symptoms of nausea, anorexia, and insomnia and may see other humans being transformed into beavers or other animals. As these hallucinations occur, the individual begins to have an overwhelming desire to kill and eat these humans (Barnouw 1985). This insatiable craving for human flesh has resulted in documented cases of homicide and cannibalism among some of these people (Barnouw 1985; Marino 1982).

The disorder *pibloktoq*, also referred to as Arctic hysteria, was found among Inuit adults in Greenland and other Arctic regions. It may affect both men and women, but it has been described more frequently among women. The subject is initially irritable or withdrawn and then becomes violently emotional. The victim may scream as if terrified, tear off her clothes, run out into the snow, jump into fire, throw things around, and begin to "speak in tongues." After this period of excitement, the woman sometimes has convulsive seizures and then might fall asleep. On awakening, she might be perfectly calm and have no memory of the incident. *Pibloktoq* usually had a high frequency in the winter, and a number of persons living in a small community may have been afflicted with it during the cold months (Wallace 1972). Thus, it may be a more extreme form of what Americans sometimes call "cabin fever."

A number of explanations have been put forth for these culture-specific mental disorders. For example, the *windigo* disorder has been attributed to the experience of starvation and famine conditions that can occur in the wintertime. Anthropologist Anthony Wallace (1972) suggested that a lack of calcium in the diet of Inuits may partially explain the occurrence of *pibloktoq*. In these areas, the drastic annual variation in daylight may also be a cause of these behavioral and emotional disturbances (Bourguignon 1979).

Some critics believe that these culture-specific disorders may just be different expressions of certain illnesses such as paranoid schizophrenia or other types of psychoses. Persecution ideas, hysteria, panic disorders, and other bizarre behaviors occur in all societies to one degree or another. There is a substantial body of evidence from various sources that certain types of depression and schizophrenia are caused by biochemical disorders that are genetically inherited (Myers and DeWall 2017). International surveys by the World Health Organization have examined disorders such as schizophrenia around the world and have found some basic similarities in the symptom profiles (Marsella 1979). Medical anthropologists have found,

however, that the cultural beliefs and worldviews, family communication patterns, early childhood training, and particular life stresses of certain societies influence the content of these mental disorders (A. Goodman and Leatherman 1986). Conditions resulting in stress—including homelessness, war, living in refugee camps, and other anxiety-producing or depression-inducing conditions—can influence biological tendencies that may not appear in normal circumstances (Dressler 1991).

A study revealed that Nepalese children who had been child soldiers in the recent civil wars had higher levels of depression and (for females) posttraumatic stress disorder (PTSD) than did other children (Kuwert et al. 2008). In some cases, symptoms of psychological disorders such as depression may be diagnosed differently within various societies. For example, medical anthropologist and psychiatrist Arthur Kleinman (2004) describes how the Chinese report the symptoms of depression differently than Americans. Depression is a complex group of symptoms, including negative cognitions, psychomotor retardation, sleep disturbance, fatigue, and loss of energy. However, when Chinese report their symptoms of depression, they tend to focus on the physiological and bodily factors, rather than any psychological or mental disturbance. These differences in how symptoms are diagnosed and reported may be due to how the Chinese culture has been influenced by their traditional religious beliefs from Taoism and the concept of *yin* and *yang*, which claims a complementary and interpenetrating equilibrium between these two forces or energies of the universe. The Chinese are socialized to maintain a dynamic balance between these *yin* and *yang* spiritual forces. This phenomenon involves beliefs about the inextricable linkage between body and mind. This cultural and religious tradition may influence why the Chinese emphasize the external causes of their depression, attributing their mental illness to somatic disorders or a loss of equilibrium.

Globalization and Mental Illness

Globalization has influenced the prevalence of mental illness in different countries throughout the world. In a book titled *Crazy Like Us: The Globalization of the American Psyche*, anthropologist Ethan Watters (2010) uses case studies from various regions such as Hong Kong in China, Sri Lanka, Zanzibar, and Japan to demonstrate how America and the Western biomedical models have dominated the understandings of mental problems such as anorexia and bulimia, PTSD, schizophrenia, and depression. He indicates how there are multiple interpretations and constructions of these mental illnesses in these regions of the world. However, as American and Western biomedical, individualistic psychological care and pharmaceutical-based models have penetrated these areas, the indigenous interpretations of mental illnesses are challenged and repressed. At times, this results in dysfunctional psychological problems that interfere with the delivery of more communal mental health care.

CULTURAL RESOURCE MANAGEMENT: APPLIED ARCHAEOLOGY

24.4 Define cultural resource management and discuss the role of archaeologists in the field.

Is the past worth preserving? One of the problems that we face is how to safeguard the cultural heritage preserved in the archaeological record. While archaeology addresses many questions of general interest to all of humanity, it is also important in promoting national heritage, cultural identity, and ethnic pride. Museums the world over offer displays documenting diverse local populations, regional histories, significant events, and cultural traditions. The number of specialized museums focusing on particular peoples, regions, or historic periods has become increasingly important. Archaeologists must be concerned with the preservation of archaeological sites and the recovery of information from sites threatened with destruction, in addition to the interpretation and presentation of their findings to the more general public (Jameson and Eogan 2013; Little 2007; Sebastian and Lipe 2009).

As a result of these concerns, an increasingly important area of specialization within archaeology is **cultural resource management**. Cultural resource management (often referred to as CRM) focuses on the evaluation, protection, and administration of cultural resources, including the archaeological record, as well as the arts, historic sites, and cultural property. Many archaeologists now find employment as applied archaeologists doing CRM, evaluating, salvaging, and protecting archaeological resources that are threatened with destruction.

Preservation of the past and effective cultural resource management are challenges to archaeologists, government officials, and the concerned public alike, as archaeological sites are being destroyed at an alarming rate. Archaeological materials naturally decay in the ground, and sites are constantly destroyed through geological processes, erosion, and animal burrowing. Yet, while natural processes contribute to the disappearance of archaeological sites, by far the greatest threat to the archaeological record is human activity. Construction projects such as dams, roads, buildings, and pipelines all disturb the ground and can destroy archaeological sites in the process. In many instances, archaeologists work only a few feet ahead of construction equipment, trying to salvage any information they can before a site disappears forever.

Some archaeological sites are intentionally destroyed by collectors searching for artifacts that have value in the antiquities market, such as arrowheads and pottery. Statues from ancient Egypt, Mayan terracotta figurines, and Native American pottery may be worth thousands of dollars to antique dealers. To fulfill the demands, archaeological sites in many world areas are looted by pot hunters, who dig to retrieve artifacts for

collectors, ignoring the traces of ancient housing, burials, and cooking hearths. Removed from their context, with no record of where they came from, such artifacts are of limited value to archaeologists. The rate of destruction of North American archaeological sites is such that some researchers have estimated that 98 percent of sites predating the year 2000 will be destroyed by the middle of the twenty-first century (Herscher 1989; Knudson 1989).

The rate at which archaeological sites are being destroyed is particularly distressing because the archaeological record is an irreplaceable, *nonrenewable* resource. That is, after sites are destroyed, they are gone forever, along with the unique information about the past that they contained. In many parts of the world, recognition of this fact has led to legislation aimed at protecting archaeological sites (see Table 24.1). The rationale for this legislation is that the past has value to the present; hence, it should be protected and interpreted for the benefit of the public.

Preserving the Past

Recognition of the value and nonrenewable nature of archaeological resources is the first step in the planning process. Archaeological resources can then be systematically identified and evaluated. Steps can be taken to preserve them by limiting development or designing projects in ways that will preserve the resource. For example, the projected path of a new road might be moved to avoid an archaeological site, or a building designed so that the foundations do not extend into a historic burial ground. Alternatively, if a site must be destroyed, effective planning can ensure that information about the site is recovered by archaeologists prior to its destruction.

One of the most spectacular examples of salvage archaeology arose as a result of the construction of a dam across the Nile River at Aswan, Egypt, in the 1960s (Abu-Zeid and El-Shibini 1997; Stock 1993). The project offered many benefits, including water for irrigation and the generation of electricity. However, the rising water behind the dam threatened thousands of archaeological sites that had lain undisturbed and safely buried by desert sand for thousands of years. The Egyptian government appealed to the international community and archaeologists from around the world to mount projects to locate and excavate the threatened sites.

Among the sites that were to be flooded by the dam was the temple of Pharaoh Ramses II at Abu Simbel, a huge

TABLE 24.1 ■ Major Federal Legislation for the Protection of Archaeological Resources in the United States

Antiquities Act of 1906	Obligates federal agencies to protect and preserve archaeological and historic sites and structures on federal lands Authorizes the president to protect landmarks and structures by designating them as National Monuments
Historic Sites Act of 1935	Declares that preserving historic sites, buildings, and objects of national significance for public use is a national policy Authorizes National Park Service to conduct archaeological surveys
National Historic Preservation Act of 1966 (as amended)	Strengthens protection of sites via the National Register and integrates state and local agencies into a national program for site preservation
National Environmental Policy Act of 1969	Requires federal agencies to specify the impact of all federal actions on cultural and natural resources
Archaeological Resources Protection Act of 1979	Strengthens permitting procedures required for conducting archaeological fieldwork on federal lands Provides criminal and civil liberties for looting or damaging sites on public and Native American lands Requires preservation of objects and associated records in a suitable institution
Convention on Cultural Property Implementation Act of 1983	Authorizes U.S. participation in the 1970 UNESCO conventions to prevent illegal import, export, and transfer of ownership of cultural property
Native American Graves Protection and Repatriation Act (NAGPRA) of 1990	Requires federal agencies and institutions that receive federal funding to return Native American cultural items to lineal descendants and culturally affiliated Indian tribes and Native Hawaiian organizations

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The restoration of Abu Simbel in Egypt. Preserving artifacts from past civilizations will present a major challenge for anthropologists in the coming decades.

monument consisting of four colossal figures carved from a cliff face on the banks of the Nile River. With help from the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the Egyptian government was able to cut the monument into more than a thousand pieces, some weighing as much as thirty-three tons, and reassemble them above the floodwaters. Today, the temple of Ramses can be seen completely restored only a few hundred feet from its original location. Numerous other archaeological sites threatened by the flooding of the Nile were partly salvaged or recorded. Unfortunately, countless other sites could not be recorded or even identified before they were flooded.

Cultural Resource Management in the United States

The first legislation in the United States designed to protect historic sites was the Antiquities Act of 1906, which safeguarded archaeological sites on federal lands (see Table 24.1). Other, more recent legislation, such as the National Historic Preservation Act passed in 1966, has extended protection to sites threatened by projects that are funded or regulated by the government. The federal Abandoned Shipwreck Act of 1988 gives states jurisdiction over shipwreck sites (King 2000, 2007, 2013). This legislation mandates the evaluation and protection of the nation's cultural heritage. It has had a dramatic impact on the number of archaeologists in the United States. Whereas most archaeologists had traditionally found employment teaching or working in museums, today a large proportion find employment in cultural resource management and are employed by federal, state, and local agencies and private companies. Applied archaeologists conduct surveys before construction begins to determine if any sites will be affected. The U.S. armed forces, federal agencies such as the National Park Service and the U.S. Forest Service, and state historic preservation offices have developed comprehensive programs to discover, record, protect, and interpret archaeological resources on their lands.

Unfortunately, current legislation in the United States leaves many archaeological resources unprotected. In many countries, excavated artifacts, even those located on privately owned land, become the property of the government. This is not the case in the United States. One example of the limitations of the existing legislation is provided by the case of Slack Farm, located near Uniontown, Kentucky (Arden 1989). Archaeologists had long known that an undisturbed Native American site of the Late Mississippian period was located on the property. Dating roughly to between 1450 and 1650, the site was particularly important because it was the only surviving Mississippian site from the period of first contact with Europeans. The Slack family, who had owned the land for many years, protected the site and prevented people from digging (Arden 1989). When the property was sold in 1988, however, conditions changed. Anthropologist Brian Fagan (1988, 15) described the results:

> *Ten pot hunters from Kentucky, Indiana, and Illinois paid the new owner of the land $10,000 for the right to "excavate" the site. They rented a tractor and began bulldozing their way through the village midden to reach graves. They pushed heaps of bones aside and dug through dwellings and potsherds, hearths, and stone tools associated with them. Along the way, they left detritus of their own—empty pop-top beer and soda cans—scattered on the ground alongside Late Mississippian pottery fragments. Today Slack Farm looks like a battlefield—a morass of crude shovel holes and gaping trenches. Broken human bones litter the ground, and fractured artifacts crunch underfoot.*

The looting at the site was eventually stopped by the Kentucky State Police, using a state law that prohibits the desecration of human graves. Archaeologists attempted to salvage what information was left, but there is no way of knowing how many artifacts were removed. The record of America's prehistoric past was irrevocably damaged.

Regrettably, the events at Slack Farm are not unique. Many states lack adequate legislation to protect archaeological sites on private land. For example, Arkansas had no laws protecting unmarked burial sites until 1991. As a result, Native American burial grounds were systematically mined for artifacts. In fact, one article written about the problem was titled "The Looting of Arkansas" (Harrington 1991). Although Arkansas now has legislation prohibiting the unauthorized excavation of burial grounds, the professional archaeologists of the Arkansas Archaeological Survey face the impossible job of trying to locate and monitor all of the state's archaeological sites. This problem is not unique. On federal lands, the protection of sites is dependent on a relatively small number of park rangers and personnel to police large areas. Even in national parks, such as Mesa Verde or Yellowstone, archaeological sites are sometimes vandalized or looted for artifacts. Much of the success in

protecting sites is largely due to the active involvement of amateur archaeologists and concerned citizens who bring archaeological remains to the attention of professionals.

The preservation of the past needs to be everyone's concern. Unfortunately, however well intentioned the legislation and efforts to provide protection for archaeological sites may be, they are rarely integrated into comprehensive management plans. For example, a particular county or city area might have a variety of sites and resources of historic significance identified using a variety of different criteria and presented in various lists and directories. These might include National Historic Sites designated through the National Historic Preservation Office; state files of archaeological sites; data held by avocational archaeological organizations and clubs; and a variety of locations of historical importance identified by county or city historical societies. Other sites of potential historical significance might be identified through documentary research or oral traditions. Ideally, all of these sources of information should be integrated and used to plan development. Unfortunately, such comprehensive approaches to cultural resource management plans are rare rather than the norm.

Important strides have been taken in planning and coordinating efforts to identify and manage archaeological resources. Government agencies, including the National Park Service, the military, and various state agencies, have initiated plans to systematically identify and report sites on their properties. There have also been notable efforts to compile information at the county, state, and district levels. Such efforts are faced with imposing logistical concerns. For example, by the mid-1990s, over 180,000 historic and prehistoric archaeological sites had been identified in the American Southeast (including the states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee). In addition, an estimated 10,000 new sites are discovered each year (D. Anderson and Horak 1995). A map of these resources reveals a great deal of variation in their concentration. On one hand, this diversity reflects the actual distribution of sites; on the other, it reflects the areas where archaeological research has and has not been undertaken. Incorporating the thousands of new site reports into the database requires substantial commitment of staff resources. What information should be recorded for each site? What computer resources are needed? The volume of information is difficult to process with available staff, and massive backlogs of reports waiting to be incorporated into the files often exist. Nevertheless, this kind of holistic perspective is needed to ensure effective site management and the compliance of developers with laws protecting archaeological sites. It also provides a holistic view of past land use that is of great use to archaeologists.

Cultural Resource Management in Global Perspective

Cultural resource management is a worldwide concern, particularly in developing countries that often lack legislation and resources to protect archaeological sites, but industrialized countries are faced with similar problems (Kankpeyeng and DeCorse 2004; P. Schmidt and McIntosh 1996; Sebastian and Lipe 2009; Serageldin and Taboroff 1994). On one hand, archaeological sites are looted for artifacts to be sold on the antiquities market. On the other hand, the priority given to development—including the construction of new housing, roads, and dams—often results in the destruction of archaeological sites. These facts are all the more troubling because some countries lack well-developed archaeological traditions, and the archaeological past will be gone before anyone has the opportunity to study it. To address these concerns, UNESCO launched the "World Decade for Cultural Development" in 1988, which emphasized the need to consider cultural resources planning in development (Serageldin and Taboroff 1994).

Development and the management of archaeological resources can go hand in hand. While the material traces of the past—including archaeological resources, historic buildings, and cultural sites—may be important in promoting cultural heritage and national identity, many governments have also started to realize the potential economic worth of effective cultural resource management. Cultural tourism, arising out of the human fascination with the past, has become a major revenue source for some nations. The treatment of cultural heritage as a commodity is most obvious in Western Europe and the United States, but many countries in Asia, South America, Mesoamerica, and Africa have also capitalized on their cultural patrimony (Bruner 1996a, 1996b; Ekechukwu 1990; Layton 1989).

Archaeologists throughout the world are increasingly using their skills to both preserve archaeological sites and improve the lives of modern inhabitants of the communities where the sites are located (Sabloff 2008). A broad holistic perspective involving teams of archaeologists and other scientists is needed to ensure effective site management and the compliance of developers with laws protecting archaeological sites. Such interdisciplinary perspective also provides a holistic view of past land use that is of great use to archaeologists. Called "community" or "action" archaeology by some, engagement with local people's needs has become an increasing concern of archaeologists worldwide.

In countries such as Guatemala, the location of a number of spectacular Mayan ruins, archaeologists are increasingly integrating economic development and environmental preservation into their research programs. The ancient Mayan sites pose special conservation concerns because of their size. For example, Chocolá, the focus of research by American archaeologist Jonathan Kaplan, has more than sixty mounds, large irrigation systems, and numerous monuments (Bawaya 2005). Information from the site has shed insight into the origins of Mayan civilization. Yet the farmers of modern Chocolá, descendants of the ancient Maya, face poverty and disease. In the face

of such modern needs, the preservation of ancient monuments and the surrounding environment is of limited concern. The past cannot be preserved without addressing the concerns of the present. Kaplan, therefore, worked with the local government officials on a plan that would allow farmers to swap land that includes important Mayan ruins for agricultural lands with no archaeological value. Kaplan also established a trash removal service, worked with an environmental scientist to improve drinking water, and developed plans for museums that might attract tourists and so stimulate economic development. At El Pilar, another Mayan site, archaeologist Anabel Ford (2001) not only undertakes archaeological excavations, but also directs efforts to help conserve the archaeological sites and the surrounding forest. Straddling the Belize and Guatemalan border, the site of El Pilar is also one of the richest forest areas in the world. Ford hopes the archaeological field research and the data recorded on the tropical forest will heighten the awareness of local officials, tourism directors, and others in the region to improve conservation methods.

The archaeological record provides useful insight into long-term environmental change, human impact on the environment, and the sustainability of agricultural practices (Sabloff 2008: 47–58). For example, archaeologists and other researchers discovered that the early Native American societies in the Amazon Basin in South America not only had very large settlements—overturning earlier archaeological assessments that the Amazon did not support large civilizations—but also contributed new methods that may help conserve this fragile environment (C. Mann 2002; Levis et al. 2017). These early civilizations had extensive agricultural systems that were crippled with the advent of European colonialism. Research provides insight into how to restore the productivity of the land and enable more efficient land use in the future. Thus, applied archaeology affords new knowledge that will enhance the conservation and the preservation of varied environments throughout the world.

Studying Garbage

The majority of archaeological research deals with the interpretation of past societies, hundreds if not thousands of years old. Whether the focus is on the Stone Age inhabitants of Australia or the archaeology of nineteenth-century mining communities in the American West, the people being examined lived at a time somewhat removed from the present. Some archaeologists, however, have turned their attention to the refuse of modern society and the application of archaeological methods and techniques to concerns of the present—and the future. The focus for these researchers is not the interpretation of past societies, but the immediate application of archaeological methods and techniques to the modern world. The topics examined range from the use of archaeological data in marketing strategies to the best methods for marking nuclear waste sites. Archaeologists who routinely examine artifacts thousands of years old can, for example, provide important perspectives of the suitability of different materials and strategies that can be used to bury nuclear waste (Joyce 2016).

One of the more interesting examples of this kind of applied archaeology is *Le Projet du Garbage*, or the Tucson Garbage Project, that grew out of an archaeological method and theory class at the University of Arizona in 1971 (Rathje and Murphy 2001; Rathje and Ritenbaugh 1984). Archaeologist William L. Rathje was so intrigued by the results of the student projects that they established the Garbage Project the following year. The researchers gathered trash from households with the help of the City of Tucson Environmental Services Department, who identified the waste with numbers that allowed the trash bags to be identified with specific census tracts within the city. The trash bags are not associated with particular households, and personal items and photographs are not examined. Over the years, the Garbage Project broadened to the study of trash from other communities, including Milwaukee, Marin County, and Mexico City, and also to the excavation of modern landfills in Chicago, San Francisco, and Phoenix, using archaeological methods.

The Garbage Project provided a surprising amount of information on a diversity of topics. On one hand, the studies provided data that are extremely useful in monitoring trash disposal programs. The study of waste allows the effective evaluation of current conditions, the anticipation of changing directions in waste disposal, and, therefore, more effective planning and policymaking. Reviewing data on the project, Rathje noted a number of areas in which this archaeological research dispelled some prevailing notions about trash disposal and landfills. Despite common perceptions, items such as fast-food packaging, polystyrene foam, and disposable diapers do not account for a substantial percentage of the content of landfills. Rathje and Murphy (2001, 115) observed:

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Archaeological study of modern garbage has provided important insights into waste management procedures, marketing, food wastage, and recycling.

Of the 14 tons of garbage from nine municipal landfills that the Garbage Project has excavated and sorted in the past five years, there was less than a hundred pounds of fast-food packaging—that is, containers or wrappers for hamburgers, pizzas, chicken, fish and convenience-store sandwiches, as well as the accessories most of us deplore, such as cups, lids, straws, sauce containers, and so on.

Hence, fast-food packaging makes up less than one-half of 1 percent of the weight of landfills. The percentage by volume is even lower. Rathje further noted that despite the burgeoning of materials made from plastic, the amount of plastic in landfills has remained fairly constant since the 1960s, or even decreased. The reason for this, he believes, is that while more things are made of plastic, many objects are now made with less plastic. A plastic milk bottle that weighed 120 grams in the 1960s weighs 65 grams today.

Rathje found that the real culprit in landfills remains plain old paper. A year's subscription to *The New York Times* is roughly equivalent to the volume of 18,660 crushed aluminum cans or 14,969 flattened Big Mac containers. While some predicted that computers would bring about a paperless office, the photocopier and millions of personal printers ensure that millions of pounds of paper are discarded each year: "Where the creation of paper waste is concerned, technology is proving to be not so much a contraceptive as a fertility drug" (Rathje 1992, 116). Rathje also observed that despite popular perception, much of the paper in landfills is not biodegrading. Because of the limited amount of moisture, air, and biological activity in the middle of a landfill, much of the nation's newsprint is being needlessly preserved for posterity. Recycling paper products is a simple and cost-effective alternative.

The Garbage Project has also provided information on a diversity of issues connected with food waste, marketing, and the disposal of hazardous materials. In these studies, archaeology has provided a unique perspective. Much of the available data on such topics has typically been provided by questionnaires, interviews, and data collection methods that rely on the cooperation of informants. The problem is that informants often present biased responses, consistently providing lower estimates of the alcohol, snack food, or hazardous waste that they dispose of than is actually the case. Archaeology, on the other hand, presents a fairly impartial material record. While there are sampling problems in archaeological data—some material may be sent down the garbage disposal and not preserved in a landfill—the material record can provide a fairly unambiguous record of some activities.

The Garbage Project has examined the discarding of food and food waste for the U.S. Department of Agriculture; the recycling of paper and aluminum cans for the Environmental Protection Agency; studies of candy and snack food consumption for dental associations and manufacturers; and the impact of a new liquor store on alcohol consumption in a Los Angeles neighborhood. In the latter case, researchers conducted both interviews and garbage analysis before and after the liquor store opened. The interview data suggested no change in consumption patterns before and after the store's opening. Study of the trash, however, showed a marked increase in the discard of beer, wine, and liquor cans and bottles. Studies such as these have wide applications for both marketers and policymakers.

Other applied archaeologists have built on Rathje's "garbology project." Archaeologist Anthony Graesch and his students have been doing research on modern illegal garbage dumps in southeastern Connecticut (Graesch, Maynard, and Thomas 2020). They find furniture, old tires, old appliances, mattresses, baby strollers, clothing, and hazardous materials including toxic insecticides, paint, varnish, engine oil, and other discards that have been dumped illegally in various spaces including roads and lots in residential neighborhoods, near major retail stores, highway underpasses, bridges, and utility easements. Investigating broad questions regarding consumption, emotions and attitudes about resource use, and the complex social, economic, and cultural implications of the handling, removal, and treatment of waste disposal, these archaeologists provide analyses of their data that have extended Rathje's pioneering "garbology project." This innovative applied archaeological research offers a unique look at patterns of waste management, consumption, and the tension between individuals and the law in contemporary U.S. society.

WHO OWNS THE PAST?

24.5 Discuss the meaning of "cultural patrimony" and the role of the NAGPRA legislation in the United States.

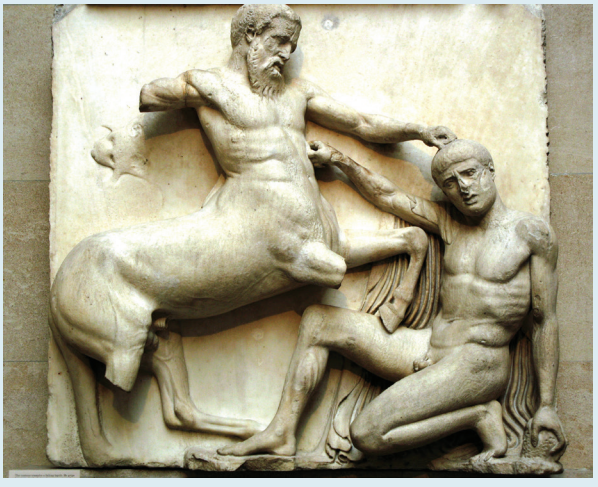
A critical issue for modern archaeologists and physical anthropologists alike is **cultural patrimony**—that is, who owns the human remains, artifacts, and associated cultural materials that are recovered in the course of research projects. Are they the property of the scientists who collected or excavated them? The descendants of the peoples discovered archaeologically? The owners of the land on which the materials were recovered? Or the public as a whole? Resolution of this issue has at times been contentious, and the positions taken by anthropologists have not always been the best. Prior to the twentieth century, laws governing the deposition of antiquities were nonexistent or unclear at best, and the "owner" often became the person, institution, or country with the most money or the strongest political clout. Colonial governments amassed tremendous collections from their territories throughout the world; the spoils of war belonged to the victors. Such a position remained the norm until after the turn of the century. Rights of conquest were only outlawed by the Hague Convention of 1907 (Keane 2004).

Prior to the twentieth century, there was also little or no legislation governing human remains. Researchers appropriated excavated skeletal material, medical samples, and even cadavers of the recently deceased (Blakely and Harrington 1997; Redman 2016). African, Asian, Native American, and the remains of other colonized populations recovered from archaeological sites were displayed to the public, despite the fact that many descendant communities found such displays inappropriate or sacrilegious. Scientific value was the underlying rationale for ownership, though until the latter half of the twentieth century there was little discussion of this issue. As in the case of antiquities, value and ownership were vested in the politically stronger, whether a colonial government or the politically enfranchised within a country. Such remains had scientific value, and this was viewed as more important than the interests of other groups or cultural values.

Such views fly in the face of the basic tenets of modern anthropology, which underscore sensitivity and openness to other cultural perspectives and beliefs. Archaeological resources and human remains at times do provide unique, irreplaceable information that cannot be obtained through any other source. Many studies undertaken have been extremely important in documenting the past of Native Americans and indigenous peoples throughout the world, at times serving to underscore their ties to the land and revealing forgotten cultural practices. But what is the cost of such information if the treatment and methods of obtaining the artifacts and remains are abhorrent to the populations whose history is represented? Researchers of the present cannot afford to ignore the views and concerns of the populations that are the focus of their research.

Recognition of varied interests and perspectives of cultural patrimony has not made resolution of debate easier. Artifacts now in museums were, in some instances, obtained hundreds of years ago in ways that were consistent with the moral and legal norms of that time (see the Critical Perspectives box on the "Elgin marbles"). Many antiquities have legitimately changed ownership numerous times. Not infrequently, information about the original origins may be unclear, and there are differences of opinion or uncertainty about the cultural associations of some artifacts. These issues aside, there remain fundamentally different perspectives about the roles of the descendant populations.

CRITICAL PERSPECTIVES
THE SCULPTURES OF THE PARTHENON



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The Parthenon Marbles were taken from Greece in the early nineteenth century and are now on display in the British Museum, London.

The story of the Parthenon sculptures—or Elgin marbles as they came to be called—is a twisted tale of the nineteenth-century quest for antiquities, international politics, and the complexities of cultural heritage. The Parthenon, perched on a hilltop overlooking Athens, is a striking symbol of both ancient Greece and the modern Greek nation-state. It was built by the Greek ruler Pericles to commemorate the Greek victory over the Persians at Plataea in 479 B.C. A temple to Athena, the patron goddess of Athens, the Parthenon was deemed by Pericles to be one of the most striking edifices in the city. The Parthenon is clearly the most impressive of the buildings in the Acropolis, the cluster of classical structures that cover Mount Athena. It is regarded by some to be one of the world's most perfect buildings. The Parthenon was distinguished by a full surrounding colonnade, and the exterior walls were decorated with a processional frieze. The pediments, or peaked eaves, in the east and west also had exquisitely detailed sculptures.

The structure has endured for millennia, and it has come to embody classical Greek civilization to the world. In recent years, the Parthenon has been the focus of several restoration efforts that have stabilized the structure, removed more recent additions, and replaced some of the fallen masonry. The Parthenon still overlooks Athens, and hopefully it will for years to come. But while the Parthenon is an architectural treasure, today only traces of the magnificent art that once adorned it remain. Fragments of its frieze and sculptures are scattered in museums around the world. The largest collection is in the British Museum in London, where large portions of the Parthenon's frieze are displayed in a specially designed room. To understand why statuary of such clear cultural

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significance to Greece is to be found in England, one has to go back to the early nineteenth century and the exploits of Thomas Bruce, the seventh earl of Elgin (D. Jackson 1992).

By the early nineteenth century, Britain was in the midst of a classical revival. The country's well-to-do traveled to Europe to visit the historic ruins of ancient Greece and Rome. The wealthier purchased statuary and antiquities for their estates. Patterns and illustrations from classical Greek and Roman motifs were reproduced and incorporated into architectural features, jewelry, and ceramic designs. Within this setting, Lord Elgin, a Scottish nobleman, set out to obtain sketches and casts of classical sculptures that might be used at his estate, then being built near the Firth of Forth.

In 1799, Elgin was appointed British ambassador to the Ottoman Empire, which extended over much of the eastern Mediterranean from Western Europe to Egypt. By the late eighteenth century, the Ottomans had ruled Greece for 350 years. A major military power and onetime master of the Mediterranean, the Ottomans have been viewed by historians in a variety of ways, but one thing is certain: They were not overly concerned with the glories of ancient Greece. During their rule, the Parthenon was used as a mosque, then as an ammunition dump; also, various Turkish structures were built on the site. Much of the north colonnade was destroyed in the Venetian bombardment of 1687. Some of the Parthenon's marble was ground to make lime, and bits of statuary were broken off (D. Jackson 1992). In 1800, one of the world's most perfect buildings was in a sorry state.

Elgin initially proposed that the British government finance a survey of the Acropolis as a resource for British art. When this initiative was turned down, Elgin made his own plans and contracted laborers. Initially, his workers were to make copies of the Parthenon sculptures. In 1801, however, Britain defeated Napoleon's forces in Egypt, saving the Ottoman Empire. At this point, Elgin supposedly obtained a permit from the Ottomans not only to copy and make molds of the Parthenon art, but also to "take away any pieces of stone with old inscriptions or sculptures thereon (D. Jackson 1992, 137). The existence of this permit has been disputed. Nevertheless, during 1801 and 1802, scaffolding was erected, and hundreds of laborers went to work on the Parthenon with blocks and tackles and marble saws. Some sculptures broke or crashed to the ground. Twenty-two ships conveyed the marbles, loaded in hundreds of crates, back to England.

The marbles hardly proved to be good fortune for Elgin. The expense of obtaining them ruined his credit, and he discarded the idea of installing them at his estate. Totaling all of his expenses, Elgin estimated that he had spent over £60,000. To recoup his costs, he began negotiations for sale of the marbles to the government for display in the British Museum. After long parliamentary debate, they were sold for £35,000 in 1816. More than half of this amount went to clear Elgin's debt.

Elgin's treatment of the Parthenon's marbles had its contemporary critics. Among the most vocal opponents was none other than the Romantic poet and celebrator of Greek art and culture, Lord Byron, who immortalized the story of the Elgin marbles in the poems "Childe Harold's Pilgrimage" and "The Curse of Minerva." Disgusted by what he saw as the desecration of the Parthenon, Byron asked by what right Elgin had removed these treasures of national cultural significance.

Greece gained independence from Turkey in 1830, and the Parthenon became integrally tied to the new nation's identity. The first restoration efforts began soon after independence. In the years since their installation in the British Museum, the ownership of the Parthenon's marbles and demands for their return have periodically been raised by Greeks and Britons alike, but to no avail. In 2018, the Greek culture minister Lydia Koniordou invited British officials to meet to discuss the statues' return. Although substantial support for their return has been garnered from around the world, defenders of keeping the sculptures have been equally adamant, and British Museum officials have stated the treasures of the Acropolis will never be returned.

In his defense of his actions, Elgin pointed to the poor conditions of the Parthenon and the ill treatment that the sculptures had received. If left in place, they would surely have continued to deteriorate. Why not remove them and have them cared for and appreciated by those who could afford to preserve them? Despite criticism, Elgin believed he was saving the sculptures from the ravages of time and neglect. Time has proven Elgin at least somewhat correct. The Parthenon continues to present a complex and continuous preservation problem. Time has ravaged the remains of the sculptures that were not removed, and deterioration of the monument accelerated rather than diminished throughout the twentieth century. stonework and architectural detail have been eaten away by erosion, pollution, and acid rain, as well as by early and poorly conceived restoration efforts. In 1971, a UNESCO report stated that the building itself was so weakened that it was in danger of collapse. More recently, however, extensive and ongoing restoration work has stabilized structure, repaired damage, and maintained continuing conservation efforts. The Acropolis Museum, an archaeological museum specifically constructed to house artifacts from the Acropolis—including the Parthenon sculptures—opened in 2009.

Recent supporters of retaining the Elgin marbles argue that the marbles were obtained honestly with the permission of the government then in power. Other ancient Greek treasures, such as the Venus de Milo (currently on display in the Louvre in Paris), have also been removed from the country. Are these to be returned as well? For the time being, it seems unlikely that these treasures of ancient Greece will be heading home soon.

Points to Ponder

1. Do you feel Lord Elgin was right or wrong to remove the marbles?
2. Should the Elgin marbles be returned to Greece? On what basis did you make your decision?
3. The conservation of the Parthenon and the preservation of the sculptures are valid concerns. How can these concerns be reconciled with the question of ownership?

Native American Graves Protection and Repatriation Act

The most important legislation affecting the treatment and protection of archaeological and physical anthropological resources in the United States is the Native American Graves Protection and Repatriation Act (NAGPRA), passed on November 16, 1990 (McKeown 2012). This legislation is the most comprehensive of a series of recent laws dealing with the deposition of Native American burials and cultural properties. NAGPRA and related legislation require that federal institutions consult with the lineal descendants of Native American groups and Native Hawaiians prior to the initial excavation of Native American human remains and associated artifacts on federal or tribal lands. Under this legislation, federal agencies and institutions receiving federal funding are also required for **repatriation**—or the return of human remains and cultural items in their collections at the request of the descendant populations of the relevant Native American group. NAGPRA also dictates criminal penalties for trade in Native American human remains and cultural properties.

The impact of NAGPRA has been profound, not only on the way many archaeological projects are conducted, but also on the way in which museums and institutions inventory, curate, and manage their collections. The law has, at times, placed very different worldviews in opposition. For many Native Americans, the past is intricately connected to the present, and the natural world—animals, rocks, and trees, as well as cultural objects—may have spiritual meaning (Bataille, Gradwohl, and Silet 2000). This perspective is fundamentally different from that of most museums, where both human remains and cultural artifacts are treated as nonliving entities, and the continuing spiritual links with the present are often unrecognized. Museums are traditionally concerned with the collection and exhibition of objects. Reburial or repatriation of collections is the antithesis of their mission. As one scholar noted: "No museum curator will gladly and happily relinquish anything which he has enjoyed having in his museum, of which he is proud, which he has developed an affection for, and which is one of the principal attractions of his museum" (Shaw 1986, 46). In a similar vein, reburial and repatriation may conflict with researchers' desire for complete analysis and study. The intersection of these varied interests is highlighted by ongoing debate about the treatment of skeletal remains (Chari and Lavallee 2013; Fine-Dare 2002; McKeown 2012).

NAGPRA and repatriation also raise pragmatic concerns. Return of objects or remains is dependent on a complete and accurate inventory of all of a museum's holdings. Yet, often museums have amassed collections over many decades, and detailed information on all of their collections may not exist or be readily accessible. A case in point is the collection of the Peabody Museum of Archaeology and Ethnology at Harvard University. Founded in 1866, the Peabody has a massive collection from all over the world, including substantial Native American and ancient Mesoamerican holdings. In the 1970s and 1980s, before the passage of NAGPRA, the museum repatriated several burials, collections, and objects at the request of various constituencies. NAGPRA spurred the museum to complete a detailed inventory. The museum found that the estimated 7,000 human remains in the collections grew to an inventory of about 10,000, while the number of archaeological objects grew from 800,000 to 8 million (B. Isaac 1995). Following NAGPRA guidelines, the Peabody sent out summaries of collections to the 756 recognized tribal groups in the United States. Determining the cultural affiliations, the relevant descendant communities, and the need for repatriation of all of these items is a daunting task.

Many museums have undertaken major inventories, revamped storage facilities, and hired additional staff specifically to deal with the issue of repatriation. Impending repatriation of collections and human remains has also spurred many institutions and researchers to reexamine old collections. Such study is necessary to ensure that the presumed age and cultural attribution of individual remains are correct. Of course, all of these concerns have serious budgetary considerations.

While NAGPRA has produced conflicts, it has also both vastly increased the tempo of work on skeletal collections and provided new avenues of cooperation between Native Americans and researchers. Many of the collections now analyzed would not have been examined if not for NAGPRA. Native claims will, in some instances, necessitate additional research on poorly documented groups. Indeed, anthropological or archaeological research may be critical to assessing the association and ownership of cultural materials and human remains. On the other hand, anthropologists are given the opportunity to share their discoveries with those populations for whom the knowledge is most relevant.

APPLIED CULTURAL ANTHROPOLOGY

24.5 List the applied aspects of cultural anthropology.

Over the years, many applied cultural anthropologists have worked in helping to improve societies through planned change in the form of projects and programs. To assist governments, private developers, or other agencies, applied anthropologists are often hired because of their methodological expertise in studying human populations and knowledge of particular societies. Government and private agencies often employ applied anthropologists to prepare **social impact studies**, research on the possible consequences that change will have for a community. Social impact studies involve in-depth interviews and

The Kariba Dam in Zambia. Development projects such as this have major impacts on the people living in the area, who are often forced to relocate.

ethnographic observations in local communities to determine how various policies and developments will affect social life in those communities. Anthropologists also may engage in studies that monitor and evaluate the impacts of projects and programs once they have been implemented.

One classic social impact study was initiated by Thayer Scudder and Elizabeth Colson (1979) in the African country of Zambia. Scudder and Colson had conducted long-term ethnographic research for about thirty years in the Gwembe Valley in Zambia. In the mid-1950s, the Zambian government subsidized the development of a large-scale dam, the Kariba Dam, which provided for more efficient agricultural activities and electrification. Because of the location of the Kariba Dam, however, some 57,000 people in the Gwembe Valley were forced to relocate. Scudder and Colson used their knowledge from their long-term research and subsequent interviews to study the potential impact of this project on the community.

From their social impact study, Scudder and Colson concluded that the forced relocation of this rural community would create extreme stresses that would result in people clinging to familiar traditions and institutions during the period of relocation. Their research led to the first model of involuntary resettlement and demonstrated how resettlement programs should be implemented (Scudder and Colson 1982). They identified four major stages in this model: recruitment, transition, potential development, and incorporation. In the recruitment phase, the policymakers and developers formulate the plans. In the transition phase, the people learn about their future displacement, which leads to increased stress. Potential development comes after the relocation in which the people rebuild their economies and social networks. Incorporation involves handing over the economy and community leadership to the second generation of residents in these new locations.

Subsequent research by Colson, Scudder, and others over the past six decades have documented the complex and often detrimental impacts of resettlement on many communities (Scudder 2018). Scudder did social impact studies of other societies worldwide experiencing forced relocation due to dams, highways, and other developments. These studies enabled Scudder and Colson to offer advice to the various national government officials and international technical and financial agencies, who could then assess the costs and benefits of resettling these populations and could plan their development projects, taking into consideration the impact on the people involved. In a recent study, Scudder (2018) concluded that the severe social and environmental consequences of large dams, as well as their very high financial costs, generally outweigh their benefits.

Applied anthropologists work in government organizations such as the United States Agency for International Development (USAID), which manages American foreign aid. For example, anthropologist Patrick Fleuret (1988), a full-time employee of USAID, studied the problems of farmers in Uganda after the downfall of dictator Idi Amin in 1979. Fleuret and other USAID anthropologists discovered that on the heels of the political turmoil in Uganda, many of the peasants had retreated into subsistence production, rather than participating in the market economy. They also found that subsistence production was affected by a technological problem—a scarcity of hoes for preparing the land for cultivation. In response, USAID anthropologists helped design and implement a system to distribute hoes through local cooperative organizations. Fleuret rose up the administrative ranks within USAID, becoming its country director for Nigeria and Sudan. In the latter country, he was responsible for managing a budget totaling $700 million in fiscal year 2006, the largest USAID program in Sub-Saharan Africa.

A challenge for applied anthropologists is that international development agencies and national governments have each experienced major shifts in how they seek to promote planned change. Neoliberal ideology, which sought the solution to societal problems through markets rather than governmental interventions, increasingly gained popularity. This approach called for reducing governmental budgets, including support for social services, as well as deregulation and privatization. Some countries undertook these reforms voluntarily as a means to stimulate economic growth, while others were compelled to do so as a condition for receiving development aid or financial assistance. Development programs generally shifted away from governments toward NGOs, civil society groups, and the private sector. As a result, employment opportunities increased for applied anthropologists working with global, national, and local NGOs. Major beneficiaries included the growing number of anthropologists in developing countries. Many of them were deeply interested in using their anthropological skills and knowledge to address the substantial issues facing their countries. At the same time, consultancies and other work offered important financial

support, particularly given the low level of salaries often prevalent in their countries' institutions of higher learning.

Globalization has also greatly altered the context in which applied anthropology is practiced. In Chapter 21, we discussed the tragic consequences of globalization for many indigenous societies. In 1972, the late David Maybury-Lewis established an advocacy organization called Cultural Survival, which is actively engaged in trying to reduce the costs imposed by globalization on small-scale societies. Driven by trade deficits and gigantic foreign debts, many governments in developing countries want to extract as much wealth as possible from their national territories. Highway expansion, mining operations, giant hydroelectric projects, lumbering, mechanized agriculture, and other industrial developments all intrude on the traditional lifestyle and territory of small-scale societies. Applied anthropologists connected with groups such as Cultural Survival try to obtain input from the people themselves and help them represent their interests to the government or private developers.

Maybury-Lewis (1985) admitted that the advocacy role in anthropology is very challenging, requiring great sensitivity in making complex moral and political judgments. Most recently, many small-scale societies and minority groups in developing countries are organizing themselves to represent their own interests. Generally, anthropologists are pleased when their role as advocate or representative is diminished because this role is called for only when native people are dominated by forces from globalization that are beyond their control.

In a volume titled *Toward Engaged Anthropology*, a number of anthropologists advocate applied approaches that involve using anthropological theories and methods to partner with the people studied to reduce inequities and other injustices (Beck and Maida 2013). The authors of this book promote "a kind of anthropology in which partnerships, collaborations, and mutuality are central to the work, and local stakeholders co-produce knowledge by providing their wisdom and expertise, even in co-authorship" (S. Beck and Maida 2013, 8). In the volume, Thomas Hylland Eriksen (2013b) illustrates how collaborative work by Norwegian anthropologists with the Saami, an ethnic minority of nomadic reindeer herders, has resulted in an indigenous rights movement, revised legislation on land tenure, and the formation of a Saami parliament with some political autonomy in their regions. Partnerships among the anthropologists and the people studied to improve environmental, economic, social, and political conditions is the major goal of applied anthropology.

In an essay titled "Three Wishes for the World," anthropologist Harvey Whitehouse (2013) puts forth an advocacy role for anthropologists. He states that if he had three wishes for the world, they would be (1) to predict, prevent, and resolve civil wars; (2) to channel social cohesion to produce social glue in conflict zones; and (3) to mobilize a global response to economic inequality and environmental threats. Whitehouse describes how many social developments such as the Communist utopian movements in the twentieth century experimented with rituals to bind humans together to solve world problems. However, those experiments have largely failed. Whitehouse describes how contemporary anthropological research (along with research in other disciplines such as history, economics, politics, and other social science fields) on what factors enable and build social cohesion in different societies can provide solutions for collective action and coordination for humanity to consensually improve the world.

APPLIED ANTHROPOLOGY, CLIMATE CHANGE, AND SUSTAINABILITY

24.5 Describe how applied anthropologists assist in climate change projects.

In an essay titled "Anthropology and Global Warming," Simon Batterbury (2008) indicated that many anthropologists are becoming more engaged in local research on rainfall patterns and other related phenomena regarding climate change. He noted that anthropologists have organized international sessions on using indigenous knowledge from different areas of the world to account for patterns of climate change. Anthropologists such as A. Peter Castro (introduced in Chapter 1 as an applied anthropologist), Dan Taylor, and David Brokensha (2012) have conducted ethnographic research on climate change in fifteen different areas of the world. Climate change is acknowledged as a major threat to the economic, political, and cultural life of people throughout the world. Anthropological research is necessary to help develop solutions for peoples in vulnerable communities who are impacted by climate variation. Anthropologists study the indigenous knowledge that local people maintain within their culture; this information often assists local and national governments in providing solutions for problems resulting from global climatic change.

In a recent article, "A Changing Climate for Anthropological and Archaeological Research? Improving the Climate-Change Models," Paul Roscoe (2014) suggests that anthropologists can go beyond assisting local and national governments regarding climate change. He indicates that archaeological and anthropological research can assist the modeling and predictions made by the Intergovernmental Panel on Climate Change (IPCC) in providing details on past and current sociocultural evolution and development. The IPCC produces the international reports on climate change. Normally, the IPCC relies on "explorative" scenarios that combine economic, statistical, and quantitative models along with qualitative narratives to forecast the future of greenhouse gas emissions (GGEs) and global temperatures.

The archaeological and anthropological data have demonstrated that since the end of the Pleistocene about 10,000 years ago, thousands of small egalitarian foraging societies have since consolidated into about 200 politically centralized nations (P. Roscoe 2014). Although there have been collapses of agricultural civilizations in the past, overall sociocultural evolution has exhibited global technological, economic, and political convergence with higher GGEs. In addition, cross-cultural research by anthropologists has demonstrated that patterns of status competition and the conspicuous consumption that has emerged in the highly industrialized and postindustrial societies are responsible for higher rates of GGEs. As Roscoe emphasizes, absent a global catastrophe such as an asteroid strike, a thermonuclear war, or abrupt climatic change, these patterns of consumerism with higher rates of GGEs are likely to become widely influential throughout the world.

To reduce some of the uncertainties regarding climate change, Roscoe suggests that the integrative, cross-cultural, and trans-temporal approaches of anthropological studies need to be incorporated into future IPCC reports. Anthropologists and archaeologists can specify long-term urbanization, population, technological, economic, and evolutionary trends that contribute to higher rates of GGEs. In addition, anthropologists may be able to mitigate some of these trends by promoting alternative models of global sustainability.

Other anthropologists are exploring climate change and its consequences for other problems in various societies. For example, Carol Ember and her colleagues (2015) who do cross-cultural research investigated how climate change related to violent conflict in East Africa. Along with an interdisciplinary team of political scientists and computer scientists, they examined rainfall patterns over a ten-year period as it correlated with interethnic violence and cattle raiding among nomadic and seminomadic pastoralist communities in northern Kenya, southern Ethiopia, and northeastern Uganda. They discovered that the occurrence of interethnic violent conflict and raiding was much greater during drier years when availability of pastureland and water was unpredictable. Another study focusing on five different ethnic groups in East Africa demonstrated that unpredictable weather patterns influenced how subsistence activities and mobility patterns for pastoralists were transformed by climate conditions (Skoggard 2019). These types of studies of climate change have demonstrated how extreme weather conditions cause resource stress and have consequences for social and cultural change.

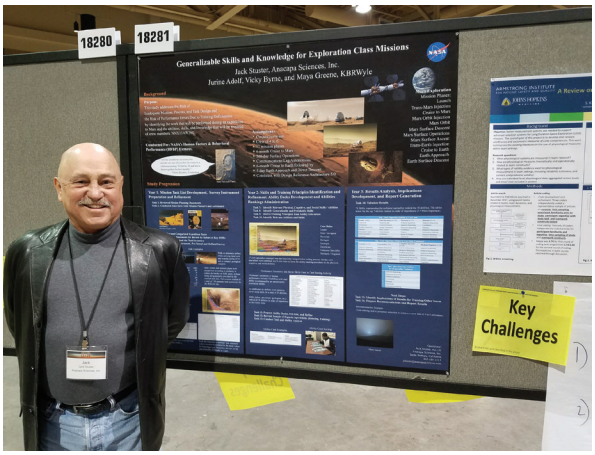
Anthropological research in countries throughout the world has resulted in a perspective sometimes known as the sustainability model. The **sustainability model** suggests that societies need environments and technologies that provide sustenance not only for the present generation, but also for future generations. This model encourages resource management that does not degrade the environment for future generations. The sustainability model is realistic and empirically based in assessing environmental and technological change and recommends policy changes to inhibit problems that are induced by climate change and globalization. Anthropologists find that some countries are beginning to adopt this sustainability model of development by limiting their emissions, curbing population growth, and cleaning up pollution.

Anthropologists find that the expansion of global multinational capitalism is not the only source of environmental problems in the world. The former Union of Soviet Socialist Republics and Eastern European socialist countries had far worse environmental pollution than the advanced capitalist industrialized societies of Europe, the United States, and elsewhere. However, anthropologists fully understand that these global problems cannot be solved with country-by-country solutions. The challenge for this generation is to provide a global, internationally based organizational context and sound scientific research for the resolution of these problems. Neglecting these global problems is bound to result in massive difficulties for the future of humanity. Anthropological research can help in assessing these problems and thereby promoting the model of sustainability.

ANTHROPOLOGISTS AT WORK

JACK STUSTER, APPLYING ANTHROPOLOGY FOR SPACE TRAVEL

Jack Stuster completed his PhD in anthropology at the University of California–Santa Barbara with a study of commercial fishermen. After his graduate studies, he organized and managed a collectively owned wholesale and retail seafood business for the local fishermen's association. Later, he joined a San Francisco research firm that had a contract with the National Marine Fisheries Service to study socioeconomic issues. The owners of the company were impressed with Stuster's ability to bring together information from different sources and make sense of it. This is exactly what anthropologists are trained to do, but apparently it was a skill lacking in the MBAs the company usually hired.



Courtesy of Jack Stuster

Jack Stuster

Stuster began working at Anacapa Sciences Inc. in 1981. He is currently the president and principal scientist at Anacapa, an applied behavioral sciences and human factors research firm that took its name from the Chumash Indian word for an island off the coast of Santa Barbara. It means "visible through the fog." Stuster developed three specialties: (1) human performance in extreme environments, (2) habitability during long-duration isolation and confinement, and (3) traffic safety. Most of his colleagues are experimental and engineering psychologists, but he always approached his work as an applied anthropologist. For example, Stuster developed ethnographic methods for studying military and industrial jobs, and even applied the technique in a marketing study for Porsche.

However, Stuster's anthropology background is most evident in his space-related research. Rockwell International asked Anacapa Sciences to examine space shuttle turnaround procedures soon after he joined the firm. It was taking months to refurbish the orbiter between missions, instead of weeks as had been planned, and a series of accidents, culminating in the deaths of two technicians, prompted Rockwell to seek an objective, outside opinion concerning the problems. Stuster and his colleagues reviewed procedures and incident reports and interviewed dozens of workers at the Kennedy Space Center, from the director of launch operations to the folks who swept the floor of the Vehicle Assembly Building. They discovered many systemic procedural and cultural problems that contributed to errors and delays. The institutional and "cultural" barriers to communication that they discovered appeared similar to those identified in subsequent years as contributing factors to the losses of both the *Challenger* and *Columbia* space shuttles.

After identifying so many problems during their shuttle turnaround study, Stuster wondered if anyone had considered the behavioral issues that might be involved in long-duration isolation and confinement. He submitted a proposal to NASA and within a few months embarked on a study of conditions analogous to a space station. He described thirteen conditions characterized by various degrees of isolation and confinement in terms of fourteen dimensions. The descriptions then were rated by seventy-six behavioral scientists and spacecraft designers to identify the conditions most similar to the anticipated 90- to 120-day tours onboard a low-Earth orbit space station. The study was documented in a technical report that addressed fourteen behavioral issues associated with isolation and confinement and presented more than 100 specific design and procedural recommendations, some of which actually made it to the design of the current International Space Station.

Later, Stuster approached NASA with a plan to study the behavioral requirements for a lunar base or expedition to Mars, using similar techniques as during the study of space station habitability. A focus on the durations of the missions restricted the analogues to the experiences of Antarctic winter-over personnel and the accounts of previous explorers. He reviewed personal journals and expedition logs, unpublished and published accounts of expeditions, and the scientific literature concerning isolation and confinement.

NASA has been criticized for failing to pay attention to behavioral issues because, until recently, astronauts resisted studies that involved the evaluation of performance of any type, especially social or psychological performance. That attitude changed as a consequence of NASA's experience onboard the Russian *Mir* space station. NASA astronauts who lived onboard *Mir* convinced their colleagues that an expedition of three months or more on a space station is qualitatively different from ten-day space shuttle missions. This led to an invitation for Stuster to present the results of his research to a large group of astronauts and managers, and to contribute to the preparation of a training program for the Expedition Corps, which is composed of astronauts who have been assigned to space station tours and, many hope, to future planetary expeditions.

Stuster is currently conducting a study to evaluate the use of audio/video journals to help assess crew behavioral health remotely during long-duration space missions, as a component of the Behavioral Core Measures (BCM) program. BCM was implemented during four 30-day high-fidelity simulations of asteroid rendezvous missions and during a one-year expedition to the German Antarctic station. These measures were used by two astronauts on the International Space Station in December 2018.

Stuster is involved in studies for the first human expedition to Mars. His study began by developing a comprehensive inventory of 1,130 tasks that are likely to be performed during the twelve phases of the Mars expedition from launch to landing thirty months later. Stuster is studying the physical, cognitive, and social abilities necessary for performance of the tasks to make the Mars expedition successful. Stuster's applied anthropological approach to research has facilitated studies of social, cultural, and technological issues in a broad range of areas, including the future human exploration of other planets in our solar system.

ANTHROPOLOGISTS AT WORK

GENEVIEVE BELL, APPLYING ANTHROPOLOGY IN THE HIGH-TECH INDUSTRY

Courtesy of Genevieve Bell

Genevieve Bell

Genevieve Bell is the daughter of a well-known Australian anthropologist and political activist and was raised on field sites in Central and Northern Australia where her mother did fieldwork among the Aboriginal people. Her mother, Diane Bell, wrote books about religion, women, and indigenous land rights of the Aboriginal peoples. Genevieve Bell learned survival skills from the Aborigines such as how to squeeze a drink out of Australian water-holding frogs. Bell spent much of her childhood around anthropology departments in Australia and in the United States where her mother taught. Initially, she did not plan to become an anthropologist herself and was more interested in law, politics, and history. But when doing her undergraduate degree at Bryn Mawr College, she fell in love with anthropology. At Bryn Mawr, Bell completed her BA and wrote a master's thesis on Native American identity issues. Eventually, Bell received her PhD in anthropology at Stanford University with a dissertation about the Carlisle Indian Industrial School.

During her graduate studies at Stanford, Bell was hired as a lecturer to teach courses in both cultural anthropology (gender, critical theory and methods, and social organization) and Native American studies. As Stanford was located in California's Silicon Valley, Bell met with some people interested in her anthropological skills for application in the high-tech industry. She became more aware of how her skills could assist Silicon Valley in building the future. Bell decided to leave academe and use her skills at Intel, the world's largest producer of semiconductors, where she rose to vice president and directed some 100 social scientists and designers who did fieldwork throughout the world on how people used technology in their homes and the public. For example, Bell's team interviewed parents in China about how their children used home computers. She created and led Intel's first user experience research and development lab. Later, Bell cofounded Intel's first strategy office that shaped research on user technology and marketing activities across the company. As a cultural anthropologist, as well as a technologist and futurist, Bell studies the intersection of cultural practices and technology developments. Her skills help guide Intel's product development and enhance the company's research on wearable gadgets, synching personal devices to cars, lower-powered ultra-small chips, wireless technology, and personal robots.

While continuing her work at Intel, Bell returned to Australia in 2008 where she was appointed as an internationally recognized "Thinker in Residence" for the South Australian government. She conducted ethnographic research and developed innovative research methods in the government's projects regarding the introduction of broadband technology.

Currently, Bell is the director of the Autonomy, Agency and Assurance (3A) Innovation Institute, the Florence Violet McKenzie Chair, and a distinguished professor at the Australian National University (ANU) in the College of Engineering and Computer Science, as well as continuing her work as vice president and senior fellow at Intel. She established the 3A Institute at ANU to build the applied sciences around the management of artificial intelligence (AI), data, technology, and their impact on humanity.

Bell's research into AI and its applications for deep learning and its future utility for humans has led to many insights. She compares AI of the twenty-first century with the steam engine of the past that will inevitably transform the future. AI is a game changer that will have definitive influences on how humans and their jobs will develop. AI will usher in the fourth industrial revolution that is more automated and data driven. However, Bell warns that humans must develop sets of rules for AI and robots to provide safety and security in the future.

In 2018, Bell was appointed nonexecutive director of the Commonwealth Bank of Australia Board, and she became a member of the Prime Minister's National Science and Technology Council and a fellow of the Australian Academy of Technology and Engineering (ATSE). Bell was named by *Fast Company* as among "25 of the Smartest Women on Twitter" in 2013 and the 100 "Most Creative People in Business" in 2009, as well as one of AlwaysOn's "Top 25 Women in Technology to Watch." Newspaper articles about her have headlines such as "Technology's Foremost Fortune Teller." Her anthropological skills in ethnographic research and methods has enabled Genevieve Bell to help build a path to the future for all of humanity.

APPLIED ANTHROPOLOGY AND HUMAN RIGHTS

24.6 Explain how applied anthropologists are engaged in human rights research.

Cultural Relativism and Human Rights

A recent development that has had wide-ranging consequences for applied anthropology and ethnographic research involves the ways in which anthropologists assess and respond to the values and norms of other societies. Recall from Chapter 10 our discussion of *cultural relativism*, the method used by anthropologists to understand other societies through their own cultural values, beliefs, norms, and behaviors. To understand an indigenous culture, the anthropologist must strive to temporarily suspend judgment of that culture's practices (Maybury-Lewis 2002). Anthropologists refer to this as *methodological relativism* (M. Brown 2008). While difficult, this procedure helps the anthropologist gain insights into that culture. However, some critics have charged that anthropologists (and other people) who adopt this position cannot (or will not) make value judgments concerning the values, norms, and practices of any society. If this is the case, then how can anthropologists encourage any conception of human rights that would be valid for all of humanity? Must anthropologists accept such practices as infanticide, caste and class inequalities, slavery, torture, and female subordination out of fear of forcing their own values on other people?

Relativism Reconsidered

These criticisms have led some anthropologists to reevaluate the basic assumptions regarding cultural relativism. In his 1983 book *Culture and Morality: The Relativity of Values in Anthropology*, Elvin Hatch recounted the historical acceptance of the cultural-relativist view. As we saw in Chapter 13, this was the approach of Franz Boas, who challenged the unilineal-evolutionary models of nineteenth-century anthropologists like E. B. Tylor, with their underlying assumptions of Western cultural superiority. Boas's approach, with its emphasis on tolerance and equality, appealed to many liberal-minded Western scholars. For example, the earlier nineteenth-century ethnocentric and racist assumptions held within anthropology were used at the 1904 World's Fair in St. Louis, Missouri, to display other peoples as barbaric, uncivilized, and savage to the "civilized" citizens who viewed them. These "pygmies" from Central Africa were given machetes to show how they "beheaded" one another in their local regions, and the Igorot tribal people of the Philippines were given a dog to cook and eat daily in front of the "civilized" citizens of the United States to portray them as inferior races and cultures (Breitbart 1997). Such displays

Missouri History Museum

A very ethnocentric photo of pygmies from Central Africa showing a supposed method of execution at the St. Louis World's Fair in 1904. Of course, these people did not really practice beheadings in their society.

of these peoples during that period both distorted their cultural practices and allowed *anthropologists* of the time to treat them in an inhumane and unethical manner; they also resulted in harmful practices toward these native peoples in different regions. Thus, the criticisms of these racist and ethnocentric views and the endorsement of cultural relativism were important human rights innovations by twentieth-century anthropologists. In addition, many Westerners were stunned by the horrific events of World War I and the devastation and massive casualties for people within Western societies that were supposedly morally and culturally superior to other, non-Western societies. Cultural relativism appealed to many people in the West as a corrective to the earlier racist and ethnocentric views (M. Brown 2008; Hatch 1983).

Ethical Relativism

However, belief in cultural relativism led to the acceptance by some early-twentieth-century anthropologists of moral or **ethical relativism**, the notion that we cannot impose the values or morality of one society on other societies. Ethical relativists argued that because anthropologists had not discovered any universal moral values, each society's values were valid with respect to that society's circumstances and conditions. No society could claim any superior position over another regarding ethics and morality.

As many philosophers and anthropologists have noted, the argument of ethical relativism is a circular one that itself assumes a particular moral position. It is, in fact, a moral theory that encourages people to be tolerant toward all cultural values, norms, and practices. Hatch notes that in the history of anthropology many who accepted the premises of ethical relativism could not maintain these assumptions in light of their

data. Ethical relativists would have to tolerate practices such as homicide, child abuse, human sacrifice, torture, warfare, racial discrimination, and even genocide. In fact, even anthropologists who held the ethical relativist position in the early period of the twentieth century condemned many cultural practices. For example, Ruth Benedict condemned the practice of the Plains Indians to cut off the nose of an adulterous wife. Boas himself condemned racism, anti-Semitism, and other forms of bigotry. Thus, these anthropologists did not consistently adhere to the ethical relativist paradigm.

The horrors associated with World War II eventually led most scholars to reject ethical relativism. The argument that Nazi Germany could not be condemned because of its unique moral and ethical standards appeared ludicrous to most people. In the 1950s, some anthropologists such as Robert Redfield (1953) suggested that general standards of judgment could be applied to most societies. However, these anthropologists were reluctant to impose Western standards on prestate indigenous societies. In essence, they suggested a *double standard* in which they could criticize large-scale, industrial state societies but not prestate indigenous societies.

This double standard of morality poses problems, however. Can anthropologists make value judgments about homicide, child abuse, warfare, torture, rape, and other acts of violence in a small-scale society? Why should they adopt different standards in evaluating such behaviors in prestate indigenous societies as compared with industrial state societies? In both types of societies, human beings are harmed. Do all humans in all societies not have equal value?

A Resolution to the Problem of Relativism

Is there a resolution to these philosophical and moral dilemmas? First, we need to distinguish between *cultural relativism* (or *methodological relativism*) and *ethical relativism*. In other words, to understand the values, the reasoning and logic, and the worldviews of another people does not mean to accept all of their practices and standards (Salmon 1997). Second, we need to realize that the culture of a society is not completely homogeneous or unified. In Chapter 10, we noted how culture was distributed differentially within any society. All people do not share the same culture within any society. For example, men and women do not share exactly the same "culture" in a society. Ethnographic experience tells anthropologists that there are always people who may not agree with the content of the moral and ethical values of a society. Treating cultures as "uniform united wholes" is a conceptual mistake. For one thing, it ignores *power relationships* within a society. Elites within a society can maintain cultural hegemony or dominance and can use harmful practices against their own members to produce conformity. In some cases, governments use the concept of relativism to justify their repressive policies and deflect criticism of these practices by the international community. In Asia, many political leaders argue that their specific culture does not have the same notion of human rights that is accepted in Western society. Therefore, in China or Singapore, human rights may be restricted by political rulers who draw on their cultural tradition to maintain repressive and totalitarian political policies (M. Brown 2008; Ong 2006). Those who impose these harmful practices on others may be the beneficiaries of those practices.

To get beyond the problem of ethical relativism, we ought to adopt a humanitarian standard that would be recognized by all people throughout the world. This standard would not be derived from any particular cultural values—such as the U.S. Declaration of Independence—but rather would involve the basic principle that every individual is entitled to a certain standard of "well-being." No individual ought to be subjected to bodily harm through violence or starvation. The avoidance of harm is the key concept in the anthropological perspective on developing and improving human rights.

Of course, we recognize certain problems with this solution. Perhaps, the key problem is that people in many societies accept—or at least appear to accept—behaviors that Westerners would condemn as inhumane. For example, what about the Aztec practice of human sacrifice? The Aztecs firmly believed that they would be destroyed if they did not sacrifice victims to the Sun deity. Would an outside group have been justified in condemning and abolishing this practice? A case involves the West Irian tribe known as the Dani, who engaged in constant warfare with neighboring tribes. They believed that through revenge they had to placate the ghosts of their kin who had been killed in warfare because unavenged ghosts bring sickness and disaster to the tribe. Another way of placating the ghosts was to bring two or three young girls related to the deceased victim to the funeral site and chop two fingers off their hands. Until recently, all Dani women lost from two to six fingers in this way (Bagish 1981; Heider 1979). Apparently, these practices were accepted by many Dani males and females.

In some Islamic countries, women have been accused of sexual misconduct and then executed by male members in what are called "honor killings." The practice of honor killings, which victimizes women, has been defended in some of these groups as a means to restore harmony to the society. The males argue that the shedding of blood washes away the shame of sexual dishonor. There have been a number of "honor killings" among immigrant Middle Eastern families within the United States. In both Africa and the Middle East, young girls are subjected to female circumcision, a polite term for the removal of the clitoris and other areas of the vagina. These practices, referred to by most human rights advocates as female genital mutilation or cutting (FGM or FGC), range from the cutting out of the clitoris to a more severe practice known as pharaonic

infibulation, which involves stitching the cut labia to cover the vagina of the woman. One of the purposes of these procedures is to reduce the pleasure related to sexual intercourse and thereby induce more fidelity from women in marriage. Chronic infections are a common result of this practice. Sexual intercourse is painful, and childbirth is much more difficult for many of these women. Over 200 million of the world's female population live with FGM practices (M. Gibson et al. 2018). The cultural ideology and beliefs in many of these areas may maintain that an uncircumcised woman is not respectable, and few families want to risk their daughter's chances of marriage by not having her circumcised (Fluehr-Lobban 2003, 2013; M. Gibson et al. 2018).

The right of males to discipline, hit, or beat their wives is often maintained in a male-dominated culture (Tapper and Tapper 1992–1993). Other examples of these types of practices, such as head-hunting, slavery, female subordination, torture, and unnecessarily dangerous child labor, also fall into this category. According to a universal humanitarian standard suggested here, all of these practices could be condemned as harmful behaviors.

The Problem of Intervention

The condemnation of harmful cultural practices with reference to a universal standard is fairly easy. The abolition of such practices, however, is not. Anthropologists recommend that one should take a pragmatic approach in reducing these practices. Sometimes intervention in the cultures in which practices such as genocide are occurring would be a moral imperative. This intervention would proceed not from the standpoint of specific Western values, but from the commonly recognized universal standards of humanitarianism.

Such intervention, however, must proceed cautiously and be based on a thorough knowledge of the society. Ethnographers must gather empirical knowledge, studying the history, local conditions, social life, and various institutions, and assess carefully whether the cultural practice is shown to clearly create pain and suffering for people. For example, in Thailand, many young women are incorporated into the prostitution and sex tourist industry to help increase their parents' income (Barmé 2002). This prostitution and sex tourist industry must be thoroughly understood within the historical, economic, and cultural context of Thai society prior to endorsing a human rights intervention that would abolish these practices. When such understanding is present, intervention should take place by engaging in a form of dialogue, rather than by preaching human rights in a monolithic manner to various people in the community.

In an ethnographic study of the attempt to abolish FGM in the Darfur region of Sudan, anthropologist Ellen Gruenbaum (2004) focused on seven different communities to investigate how the United Nations agencies, the NGOs, and other human rights agencies are influencing these practices. Gruenbaum found that at times women were participating in the FGM practices such as the pharaonic infibulation because they "perceived" them as a means of protection against rape and illicit premarital intercourse within their communities. Rape is often used in these communities as a means of warfare.

Anthropologist Saida Hodžić (2016) did research on FGM in the country of Ghana in West Africa. She was studying how women in various rural areas were actively engaged in ending FGM. Middle-class women in urban areas who were educated ended the practice of FGM in the 1940s and 1950s. In Ghanaian rural villages, Hodžić found that public-health films sponsored by NGOs were important in showing the harmful consequences of FGM. Yet, most of the villagers were watching popular entertainment films rather than the public-health films. Instead, Hodžić discovered that women viewed the ending of FGM through indigenous beliefs regarding blood loss and the extraction of vital life forces. Losing blood through menstruation, childbirth, and FGM was viewed as a major problem. The "blood narrative" was central to the rural women's account of ending FGM. Hodžić's ethnographic studies in Ghanaian villages have assisted in recognizing how indigenous beliefs as well as NGOs and other public health policies enable the prohibition of FGM.

The historical and cultural context of these FGM practices needs to be investigated cautiously by anthropologists prior to advocating a rapid enforcement of human rights that may result in outright rejection of the dedicated human rights workers (Shweder 2003, 2013).

As is obvious, these suggestions are based on the highly idealistic standards of a universal humanitarianism. In many cases, intervention to stamp out a particular cultural practice may not be possible, and in some cases, it may cause even greater problems. In Chapter 21, we saw how outside global intervention adversely affected such peoples as the Ju/'hoansi, Mbuti, Yanomamö, and Native Hawaiians. Communal riots, group violence, or social chaos may result from the dislocation of certain cultural practices. Thus, caution, understanding, and dialogue are critical to successful intervention. Anthropologists need to be sensitive to cultural differences but not allow them to produce severe harm to individuals within a society.

Universal Human Rights

The espousal of universally recognized standards to eradicate harmful practices is a worthwhile, albeit idealistic, goal. Since the time of the Enlightenment, Western societies have prided themselves on extending human rights. Many Western theorists emphasize that human rights have spread to other parts

of the world through globalization, thus providing the catalyst for social change, reform, and political liberation. At the same time, as people from non-Western societies can testify, the West has also promoted intolerance, racism, and genocide. Western society has not always lived up to the ideals of its own tradition.

The Role of Applied Anthropology in Human Rights

Cultural anthropologists and applied anthropologists have a role in helping to define the universal standards for human rights in all societies. By systematically studying community standards, applied anthropologists can determine whether practices are harmful and then help provide solutions for reducing these practices. This may involve consultation with local government officials and dialogue with members of the community to resolve the complex issues surrounding the identified harmful customs. The exchange of ideas across cultures through anthropological research is beginning to foster acceptance of the universal nature of some human rights regardless of cultural differences.

A good classical illustration of this type of research and effort by applied anthropologists is the work of John Van Willigen and V. C. Channa (1991), who have done research on the harmful consequences of the dowry in India. As discussed in Chapter 17, India, like some other primarily agricultural societies, has the cultural institution known as the *dowry*, in which the bride's family gives a certain amount of cash or other goods to the groom's family on marriage. The dowry, involving large transfers of money and assets by the bride's family to the groom's family, has created many problems for women. Recently, the traditions of the dowry led to increasing cases of what has been referred to as "dowry death" or "bride burning." Some husbands or their families have been dissatisfied with the amount of the dowry that the new wife brings into the family. Following marriage, the family of the groom begins to make additional demands for more money and goods from the wife's family. These demands result in harassment and abuse of the wife, culminating in her murder. The woman is typically doused with kerosene and burned to death, hence the use of the term *bride burning*.

Dowry deaths have increased during the 1980s and 1990s and into the twenty-first century. In 1986, 1,319 cases were reported nationally in India. In 2010, according to the National Crime Records Bureau in India, there were over 8,618 reported cases, but the Asian Women's Human Rights Council estimates that dowry disputes are implicated in 25,000 deaths and maimings of women between the ages of fifteen and thirty-four every year (Banerjee 2013). There were many other cases in which the evidence is more ambiguous, however, and the deaths of these women might be reported as kitchen accidents or suicides (Van Willigen and Channa 1991). In addition, the burdens imposed by the dowry tradition have led many pregnant women to pay for amniocentesis (a medical procedure to determine the health status of the fetus) as a means to determine the sex of the fetus. If the fetus is female, in many cases Indians have an abortion, partly because of the increasing burden and expense of raising a daughter and developing a substantial dowry for her marriage. Thus, male children are preferred, and female fetuses are selectively aborted (Bhalotra, Chakravarty, and Gulesci 2018).

Van Willigen, an American anthropologist, and Channa, an Indian anthropologist, studied the dowry problem together. They found that the national law established against the institution of the dowry (the Dowry Prohibition Act of 1961, amended in 1984, 1986, and 2014) is very tough. The law makes it illegal to give or take a dowry, but the law is ineffective in restraining the practice. In addition, a number of public education groups have been organized in India. Using slogans such as "Say No to Dowry," they have been advertising and campaigning against the dowry practices. Yet, the problem continues to plague India.

After carefully studying the dowry practices of different regions and local areas of India, Van Willigen and Channa concluded that the increase in dowry deaths was partially the result of the rapid inflationary pressures of the Indian economy, as well as the demands of a consumer-oriented economy. Consumer price increases have resulted in increasing demands for more dowry money to buy consumer goods. It has become more and more difficult to save resources for a dowry for a daughter or sister that is substantial enough to satisfy the groom's family. Van Willigen and Channa found that aside from wealth, family "prestige" that comes with wealth expenditures is sought by the groom's family.

From the perspective of the bride's family, dowry payments provide for present consumption and future earning power for their daughter through acquiring a husband with better connections and future earning potential. In a developing society such as India, with extremely high unemployment rates and rapid inflation, the importance of investing in a husband with high future earning potential is emphasized. When asked why they give a dowry when their daughters are being married, people respond, "Because we love them." The decision by the groom's family to forgo the dowry would also be very difficult.

There appears to be a very positive commitment to the institution of the dowry in India. Most people have given and received a dowry. Thus, declaring dowry a crime technically makes many people criminals. Van Willigen and Channa recommend that, to be effective, the antidowry practices must be displaced by other, less problematic practices and that the apparent causes of the practice must be

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Rural East Indian women face many challenges.

attacked. Women's property rights must be examined so as to increase their economic access. Traditional Hindu cultural norms regarding inheritance, which give sons the right from birth to claim the so-called ancestral properties, must be reformed. At present, male descendants inherit property, but females must pay for marriage expenses and dowry gifts. Van Willigen and Channa assert that a gender-neutral inheritance law in which women and men receive equal shares ought to be established to help reduce the discrepancy between males and females in India.

In addition, Van Willigen and Channa recommend the establishment of universal marriage registration and licensing throughout India. This may enable the government to monitor dowry abuses so that antidowry legislation is more effective. These anthropologists concluded that a broad program to increase the social and economic status of women, along with more rigorous control of marriage registration and licensing, would be more effective in solving the dowry death problem in Indian society.

The use of applied anthropology, based on collaboration among Western and non-Western anthropologists, government and military officials, economic consultants and advisors, and local and national government leaders, to help solve fundamental human rights issues represents a commendable strategy for applied anthropologists in the future. It is hoped that through better cross-cultural understanding aided by ethnographic research, and through applied anthropology, universally recognized humanitarian standards will be widely adopted throughout the world. Many anthropologists are promoting advocacy anthropology, the use of anthropological knowledge to further human rights. Universal human rights would include the right to life and freedom from physical and psychological abuse, including torture; freedom from arbitrary arrest and imprisonment; freedom from slavery and genocide; the right to nationality; freedom of movement and departure from one's country; the right to seek asylum in other countries because of persecution in one's own country; the rights to privacy, ownership of property, and freedom of speech, religion, and assembly; the right of self-determination; and the right to adequate food, shelter, health care, and education (Sponsel 1996). Obviously, not all these rights exist in any society at present. However, most people will probably agree that these rights ought to be part of any society's obligations to its people.

The American Anthropological Association (AAA) is a member of the American Association for the Advancement of Science (AAAS) Science and Human Rights Coalition. This AAAS coalition consists of a network of scientists, engineers, and health membership organizations that recognize the role of science and scientists in the promotion and protection of human rights. The coalition helps with bridge-building and coordination within the scientific community and across disciplines, including anthropology. The AAA membership in the AAAS coalition facilitates education and engagement in support for human rights reform throughout the world.

As the expansion of the global village brings people everywhere together, different societies experience greater pressures to treat one another in sensitive and humane ways. We live in a world in which our destinies are intertwined more closely than they have ever been. Yet, it is a world containing many different societies with varied norms and practices. Sometimes, this leads to mutual distrust and dangerous confrontations, such as the 9/11 tragedy in the United States. Anthropologists may be able to play a role in bringing about mutual understanding of others' rights to existence. Perhaps through this understanding, we may be able to develop a worldwide, pluralistic **metaculture**, a global system emphasizing fundamental human rights, with a sense of political and global responsibility. This cross-cultural understanding and mutual respect for human rights may be the most important aspect of anthropological research today.

ANTHROPOLOGISTS AT WORK

GILLIAN TETT, APPLYING ANTHROPOLOGY IN THE GLOBAL FINANCIAL WORLD

Courtesy of Gillian Tett

Gillian Tett

Gillian Tett earned her BA and eventually her PhD in anthropology at Cambridge University. However, she was already a global traveler. At the age of seventeen, she went to Pakistan to work for a nonprofit organization. This experience stimulated her interest in anthropology and the study of different cultures.

For her PhD dissertation, Tett did ethnographic fieldwork in Tajikistan, a former part of the Soviet Union, with a focus on marriage and wedding rituals. However, while pursuing her PhD, she freelanced for the well-known *Financial Times* and the BBC. Tett decided to utilize her ethnographic and research skills in understanding and explaining the complexities of the global financial world. She joined the *Financial Times* and served as a reporter and editor, including a stint as Tokyo bureau chief correspondent; as a reporter in Russia, Brussels, and London; and then as U.S. managing editor. While in Japan, Tett used her ethnographic approach in the study of the financial collapse there. Her research resulted in the book *Saving the Sun: A Wall Street Gamble to Rescue Japan From Its Trillion Dollar Meltdown* (HarperBusiness, 2003).

Later, during the financial crisis beginning in 2007, while working as a columnist for the *Financial Times*, Tett studied the "tribe" of JPMorgan (a global financial services corporation) in her own London community. She analyzed the complexities of obscure financial instruments such as credit default swaps and collateralized debt obligations that were the root of the global meltdown and severe recession of 2007–2008. Tett authored her ethnographic study of the recession in *Fool's Gold: How Unrestrained Greed Corrupted a Dream, Shattered Global Markets and Unleashed a Catastrophe* (Little, Brown, 2009). The book became a *New York Times* best seller and won Financial Book of the Year at the Spear's Book Awards in 2009.

Tett's most recent ethnography-based book *The Silo Effect: Why Every Organization Needs to Disrupt Itself to Survive* (Simon & Schuster, 2015) is an exploration of what happens when financial managers become entrenched in their own specialized silos or closed networks and rely on their own self-referential constructed truths and ways of working that stifle adaptiveness and innovation, leading to organizational failure. With her anthropological approach, she argues that these financial managers' loyalties are very "tribal" and they work in separate silos of specialization that compete with one another. Information is not shared between silos, and only top managers can see what is going on, but they usually do nothing to facilitate sharing information and financial knowledge widely.

In a series of YouTube videos including a lecture for Princeton University's Woodrow Wilson School and Anthropology Department, Tett acknowledges her profound intellectual debt to her anthropology background (www.youtube.com/watch?v=dzYIytY44iI). Anthropology's insider–outsider perspective offered a means of comprehending and unpacking the nuances of the financial world. Participant observation and close engagement with people and places were starting points in her research in various countries and companies. Listening to people and narrating their stories with an open mind from a holistic perspective that draws on a multiplicity of factors along with critical and analytic lenses were important for Tett's research, as was paying attention to what people say and also to "silences," to what people do, and to the divergence between what they say and what they do.

Because of her communication and anthropological skills coupled with her financial knowledge, Tett became a well-known "talking head" on the BBC, PBS, and many other television news outlets. She also played a leading role as an actor-analyst in *Inside Job* (2010), the first film that was a comprehensive overview of the financial meltdown of 2007–2008. Tett has received honorary degrees from the University of Exeter and the University of Miami, and an honorary doctorate from Lancaster University in the United Kingdom. She was named "Columnist of the Year" by the British Press Awards in 2014. The judges for this award described Tett's columns as "provocative, revealing, often counter-intuitive" and commended her for covering an eclectic range of themes. In the same year, she received the Royal Anthropological Institute Marsh Award, which recognizes an individual who works outside academia utilizing anthropology to contribute to a better understanding of the world's problems. Her other awards include a President's Medal by the British Academy, Journalist of the Year (2009), Business Journalist of the Year (2008), and Senior Financial Journalist of the Year (2007). Tett's contributions demonstrate how applying anthropological skills has had a significant role in understanding the global financial world. Her research has stimulated other anthropologists to conduct research in the world of finance.

SUMMARY AND REVIEW OF LEARNING OBJECTIVES

24.1 Describe the different roles of applied anthropologists.

Rather than being confined to the halls of a university, an increasing number of anthropologists have become practitioners of anthropology, actively engaging with the communities that they study and solving problems in the modern world. One role of an applied anthropologist is that of an *analyst*. Rather than being just a provider of data, the practicing anthropologist sometimes becomes engaged in the actual formulation of policy. Applied anthropologists may also be in an advisory role in which they transfer cultural knowledge obtained from anthropological research to the government or other agency that wants to promote change in a particular area. Applied anthropologists may be in an advocacy or *activist* role in which they become the spokesperson for the particular group being studied. They can also be seen as *facilitators*. In this capacity, anthropologists actively help bring about change or development in the community being researched. Applied anthropologists may serve as *translators or brokers* as well, which involves the anthropologist as an intermediary among different interest groups that are participating in a development project.

24.2 Recall the applied aspects of biological anthropology.

Biological anthropologists study the biological aspects of humans in the past and the present. This includes the measurement, observation, and explanation of various physical characteristics. Anthropometry, for example, concerns the measurement of human body parts, while osteometry is the measurement of skeletal elements. This information is important in studying human evolution and modern human variation. However, this research also has immediate relevance to the present. For example, biological anthropological data may be used by engineers to design ergonomically efficient work environments, airplane cockpits, or equipment. A specialized field within biological anthropology is forensic anthropology, which can be defined as the application of biological anthropological data to law. Researchers in this area of specialization assist police when unidentified human remains are found, including murder investigations and the identification of disaster victims. Biological anthropological study of the causes of diseases, when combined with knowledge of cultural anthropology, offers important insight into perceptions of medical treatment in different cultural settings.

24.3 Summarize some of the findings of medical anthropologists.

Medical anthropologists study ethnomedicine and compare traditionally based medical practices of different ethnic groups. They find that beliefs about disease and illness and medical treatments vary in different societies throughout the world. The study of these beliefs and medical treatments can enable medical anthropologists to help deliver more effective health care. Medical anthropologists also do epidemiological studies to determine the links between social and cultural factors and specific diseases such as cardiovascular problems, diabetes, AIDS, and other illnesses. In addition, medical anthropologists study mental illnesses around the world. Though certain forms of mental illness such as schizophrenia and depression are universal, the cultural understandings and treatments of these mental illnesses vary.

24.4 Define cultural resource management and discuss the role of archaeologists in the field.

Cultural resource management (often referred to as CRM) focuses on the evaluation, protection, and supervision of cultural resources, including the archaeological record, as well as the arts, historic sites, and cultural property. One of the problems that humanity faces is how to safeguard the cultural heritage preserved in the archaeological record. Although archaeology may address questions of general interest to all of humanity, it is also important in promoting national heritage, cultural identity, and ethnic pride. Museums the world over offer displays documenting diverse local populations, regional histories, important events, and cultural traditions. The number of specialized museums focusing on particular peoples, regions, or historic periods has become increasingly important. Yet, the archaeological record is being destroyed at an alarming rate. In many parts of the world, recognition of this fact has led to legislation aimed at protecting archaeological sites. Archaeologists must be concerned with the preservation of archaeological sites and the recovery of information from sites threatened with destruction, as well as the interpretation and presentation of their findings to the more general public. Many archaeologists now find employment as applied archaeologists, doing CRM evaluating, salvaging, and protecting archaeological resources that are threatened with destruction.

24.5 Discuss the meaning of "cultural patrimony" and the role of NAGPRA legislation in the United States.

The most important legislation affecting the treatment and protection of archaeological and physical anthropological resources in the United States is the Native American Graves Protection and Repatriation Act (NAGPRA), passed on November 16, 1990. This legislation is the most comprehensive of a series of laws dealing with the deposition of Native American burials and

cultural properties. NAGPRA and related legislation require that federal institutions consult with the lineal descendants of Native American groups and Native Hawaiians prior to the initial excavation of Native American human remains and associated artifacts on federal or tribal lands. Under this legislation, federal agencies and institutions receiving federal funding are also required to repatriate—or return—human remains and cultural items in their collections at the request of the descendant populations of the relevant Native American group. NAGPRA also dictates criminal penalties for trade in Native American human remains and cultural properties.

24.6 List the applied aspects of cultural anthropology.

Over the years, many applied cultural anthropologists have worked in helping to improve societies through planned change in the form of projects and programs. To assist governments, private developers, or other agencies, applied anthropologists are often hired because of their methodological expertise in studying human populations and knowledge of particular societies. Government and private agencies often employ applied anthropologists to prepare social impact studies, research on the possible consequences that change will have for a community. Social impact studies involve in-depth interviews and ethnographic observations in local communities to determine how various policies and developments will affect social life in those communities. Anthropologists also may engage in studies that monitor and evaluate the impacts of projects and programs once they have been implemented.

Some applied anthropologists work in government organizations such as the U.S. Agency for International Development (USAID), which manages American foreign aid. Globalization has also greatly altered the context in which applied anthropology is practiced. Organizations such as Cultural Survival have described the circumstances of many indigenous societies that have been impacted by globalization. Applied anthropologists are involved in assisting these societies.

24.7 Describe how applied anthropologists assist in climate change projects.

Climate change is acknowledged as a major threat to the economic, political, and cultural life of people throughout the world. Anthropological research is necessary to help develop solutions for peoples in vulnerable communities who are impacted by climate variation. Anthropologists study the indigenous knowledge that local people maintain within their culture; this information often assists local and national governments in providing solutions for problems resulting from global climatic change. Archaeological and anthropological research can also assist the modeling and predictions made by the Intergovernmental Panel on Climate Change (IPCC) in providing details on past and current sociocultural evolution and development. The IPCC produces the international reports on climate change. Some anthropologists also explore how climate change is having an impact on violent conflict or patterns of subsistence and mobility in different societies.

24.8 Explain how applied anthropologists are engaged in human rights research.

Early cultural anthropologists who accepted the tenets of cultural relativism sometimes also embraced ethical relativism, the idea that a person could not make value judgments about other societies. Although most anthropologists reject ethical relativism, the issue of universal standards to evaluate values and harmful cultural practices is still problematic. Many applied anthropologists are engaged in research on harmful practices to help promote their prevention. Proposing universal standards by which to make value judgments and help reduce harmful cultural practices remains one of the most important tasks for applied anthropology and future ethnographic research.

KEY TERMS

cultural patrimony, p.570
cultural resource management, p. 565
epidemiology, p. 562
ethical relativism, p. 579
ethnomedicine, p. 560
forensic anthropology, p. 557
medical anthropology, p. 560
metaculture, p. 583
repatriation, p. 573
social impact studies, p. 573
sustainability model, p. 576