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BIOLOGICAL ANTHROPOLOGY OF THE HUMAN SKELETON

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Ch. 1

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CHAPTER 1

BIOARCHAEOLOGICAL ETHICS: A HISTORICAL PERSPECTIVE ON THE VALUE OF HUMAN REMAINS

PHILLIP L. WALKER

INTRODUCTION

The rapidity of technological and cultural change in current times is forcing us to confront a myriad of moral dilemmas over issues as wide ranging as the ethics of cloning humans, the ownership of our genetic material, and the rights of animals relative to those of humans. These ethical issues concern the very nature of what it means to be human and our relationships, not only to other people, but also to the plants and animals that sustain us.

The enormous strides we have taken toward human equality during this century mean that formerly disenfranchised and enslaved members of minority groups are beginning to gain power and control over their lives. In many countries there has been a decline in the political dominance and moral authority of organized religions. Notions of multiculturalism and a growing acceptance of the moral principle of not discriminating against people based on gender, ethnicity, or religious beliefs mean that there is no longer a shared set of cultural values we can use for guidance in dealing with moral issues (Cottingham, 1994).

This increased tolerance of cultural diversity poses ethical dilemmas because, as the

range of value systems and religious beliefs that are considered socially acceptable increases, so does the probability of social conflict. To deal with these issues, many scientific associations are beginning to reconsider ethical principles that underlie their research activities. The field of bioarchaeology is especially problematic in this respect, positioned as it is between medicine, with its ethical focus on generating scientific knowledge for use in helping individual patients, and anthropology, with its ethical principles that stem from deep belief in the power of cultural relativism to overcome ethnocentrism and encourage tolerance.

It is in this context that skeletal biologists are increasingly being forced to adapt their activities to the value systems of the descendants of the people they study. Human skeletal remains are more than utilitarian objects of value for scientific research. For many people, they also are objects of religious veneration of great symbolic and cultural significance. Over the past thirty years, formerly disenfranchised groups such as Native Americans and Australian Aborigines have increasingly been able to assert their claims of moral authority to control the disposition of both the remains of their ancestors and the land their ancestors occupied (Howitt, 1998; Scott, 1996). This trend toward repatriating museum collections and granting land rights to indigenous people can only be

understood within a broader social and historical context.

To provide this historical perspective, I will describe the evolution of religious beliefs about the proper treatment of the dead and conflicts that have arisen over the centuries between these beliefs and the value scientists place on the empirical information that can be gained through research on human remains. This is followed by a discussion of the generally accepted ethical principles that are beginning to emerge in the field of bioarchaeology. Finally, some practical suggestions are offered for dealing with conflicts that arise when these ethical principles conflict with those of descendant groups.

THE HISTORY OF BELIEFS ABOUT THE DEAD

Early in our evolutionary history people began to develop a keen interest in the remains of their dead comrades. At first this was undoubtedly simply a response to the practical considerations of removing the decaying remains of a dead relative from one's domicile or preventing scavengers from consuming the body. More elaborate patterns of mortuary behavior soon began to develop. Cut marks on the crania of some of the earliest members of our species show that as early as 600,000 years ago people living at the Bodo site in Ethiopia were defleshing the heads of the dead (White, 1986). It has been suggested that such practices reflect a widespread belief among our ancestors concerning the role of the brain in reproduction (La Barre, 1984).

By 50,000 to 100,000 years ago mortuary practices had evolved into elaborate rituals that involved painting bodies with red ochre and including food or animal remains with the body as offerings. Through time these cultural practices became associated with increasingly complex religious beliefs that helped people cope with the uncertainties of death. Depositing utilitarian items and valuables such as ornaments in graves became commonplace in the Upper

Paleolithic period. Such practices suggest continued use of these items was anticipated in the afterlife. Expressions of such beliefs can be found in some of the earliest surviving religious texts. The Egyptian Book of the Dead, for instance, provides spells and elaborate directions for use by the souls of the deceased during their journeys in the land of the dead (Allen, 1960; Ellis N, 1996).

The belief that the soul persists in an afterworld has deep roots in Western religious traditions. The ancient Greeks held elaborate funeral rituals to help a dead person's soul find its way across the River Styx to a community of souls in the underworld. Once in the underworld, there was continued communion between the living and the dead. For example, the soul of a dead person could be reborn in a new body if their living family members continued to attend to their needs by bringing them honey cakes and other special foods on ceremonial occasions (Barber, 1988). By medieval times most people continued to view death as a semi-permanent state in which the living and the spirit of the dead person could maintain contact with each other. Folktales about ghosts and corpses coming to life were widespread and contributed to the idea of the dead functioning in society with the living (Barber, 1988; Caciola, 1996). The issue of integrity of the corpse and the relationship of this to the afterlife dominated medieval discussions of the body: salvation became equated with wholeness, and hell with decay and partition of the body (Bynum, 1995:114).

After the Reformation, conservative Protestant groups continued to emphasize the profound significance of a person's physical remains after death. In fact, one of the more troublesome issues facing Protestant reformers after the abolition of purgatory in the early sixteenth century was the need to provide a rational explanation for the status of body and soul in the period intervening between death and resurrection (Spellman, 1994). One strategy for dealing with this vexing problem is provided by the constitution for the Old School Presbyterian Church, published in 1822, which

asserts that the bodies of deceased members of the church "even in death continue united in Christ, and rest in the graves as in their beds, till at the last day they be again united with their souls . . . the self same bodies of the dead which were laid in the grave, being then again raised up by the power of Christ" (Laderman, 1996:54).

Such beliefs in the continuance of life after death remain prevalent in modern Western societies (Cohen, 1992). Recent surveys show that 25% of European adults report having contact with the dead (Haraldsson and Houtkooper, 1991), and a significant number of Americans believe in reincarnation (Donahue, 1993; Walter, 1993). About half of the people in the United States believe that hell is a real place in which people suffer eternal damnation (Marty, 1997). In another survey, 80% of the North American population believes in some kind of an afterlife (Goldhaber, 1996; Tonne, 1996). Among Canadians, 40% believe in the Devil and 43% in hell (Belief in the Devil, 1995).

Surveys also show that, in spite of speculation about the secularizing effects of education and academia, most highly educated people, including professors and scientists, are about as religious as other Americans. Anthropologists are one of the few groups that deviate significantly from the majority view that individual human beings continue to exist in some kind of an afterlife. Compared to faculty in the physical sciences, anthropologists are almost twice as likely to be irreligious, to never attend church, and one in five actually declare themselves "opposed" to religion (Iannaccone et al., 1998). This is significant in the context of the ethical issues considered in this paper because it means that the values of the anthropologists who do skeletal research will often differ dramatically from those of descendants of the people they study.

Although the prevalence of conviction in an afterlife appears to have changed relatively little during the twentieth century, the cultural context in which it occurs has been dramatically transformed. The familiarity with death

that characterized earlier societies in which people were forced to confront the dead directly on a daily basis has been replaced by avoidance of the dead. With the commercialization of the burial process by the "death-care" industry in wealthy countries, traditions such as wakes and ritual preparation of the dead for burial by family members have been replaced by the processing of the dead in remote settings (Badone, 1987; Horn, 1998; Rundblad, 1995). This cultural trend toward lack of contact with the dead has greatly increased the cultural gulf between a public that has little familiarity with death and skeletal researchers, such as bioarchaeologists, who confront the dead on a daily basis.

THE HISTORY OF RESEARCH ON HUMAN REMAINS

Ambivalence toward scientific research on human remains has deep roots in Western societies. From its onset, scientific research on the dead has been the domain of physicians who were often forced to work under clandestine conditions on the bodies of social outcasts. The earliest recorded systematic dissections of a human body were conducted in the first half of the third century B.C., by two Greeks, Herophilus of Chalcedon and Erasistratus of Chios. These studies were performed in Alexandria, a city where traditional Greek values were weakened by Ptolemaic influences, and probably involved vivisection and the use of condemned criminals (Von Staden, 1989: 52–53, 1992). In the ancient world, scientific research of this kind was extremely problematic because it violated Greco-Roman, Arabic, and early Judeo-Christian beliefs about the afterlife, impurity, and pollution (Bynum, 1994; Eknoyan, 1994; Von Staden, 1992). In the Christian world, anatomical studies of the dead were especially troublesome because many people feared resurrection would be impossible if their body had been dissected. This belief derived from the conviction that at resurrection the actual body is reconnected with the soul. People thus feared that

dissection would somehow interfere with this process and leave the soul eternally wandering around in search of lost parts (Bynum, 1994).

During the Renaissance the strength of religious sanctions against dissection began to weaken and, by the sixteenth century, surgeons in Protestant countries such as England were officially given the authority to take the bodies of hanged criminals for use in their anatomical studies. This practice had the dual purpose of furthering the healing arts and serving as a deterrent to criminals who feared the desecration of their bodies (Humphrey, 1973; Wilf, 1989). The repugnance of being dissected was so great that riots sometimes erupted after executions over the disposition of the bodies. Samuel Richardson observed one of these spectacles: "As soon as the poor creatures were half-dead, I was much surprised, before such a number of peace-officers, to see the populace fall to hauling and pulling the carcasses with so much earnestness, as to occasion several warm encounters, and broken heads. These, I was told, were the friends of the person executed, or such as, for the sake of tumult, chose to appear so, and some persons sent by private surgeons to obtain bodies for dissection. The contests between these were fierce and bloody, and frightful to look at" (Richardson, 1987).

As appreciation for the medical value of the information that could be gained through dissection increased, so did the need for anatomical specimens. Soon the demand for bodies for use in teaching and research outstripped the legal supply of executed criminals, and physicians increasingly began to obtain cadavers through robbing graves and hiring body-snatchers who were referred to as "resurrectionists" (Hutchens, 1997; Millican, 1992; Schultz, 1992). This practice was widespread and persisted well into the twentieth century in some parts of the United States. The desire for bodies even led to the series of infamous murders committed by William Burke and William Hare in Edinburgh in the 1820s, with the aim of supplying dissection subjects to Dr. Robert Knox, the anatomist. Hare turned king's evidence, Burke was hanged for his crimes, and

the incident led to controlling legislation in Britain.

Grave-robbing activities sometimes met with violent public resistance. In 1788, for example, New Yorkers rioted for three days after some children peered through windows of the Society of the Hospital of the City of New York and discovered medical students dissecting human cadavers, one of whom turned out to be their recently deceased mother. A mob of five thousand eventually stormed the hospital and the jail where several doctors had taken refuge. The militia had to be called in and finally dispersed the crowd by firing muskets into it.

To avoid problems such as this, the professional body snatchers hired by medical schools concentrated on robbing the graves of the poor and powerless. The cemeteries of almshouses were favorite targets and, in the United States, African-American graveyards were favored as places to plunder. Upon visiting Baltimore in 1835, Harriet Martineau commented that the bodies used for dissection were exclusively those of African Americans "because the whites do not like it, and the coloured people cannot resist" (Martineau, 1838:140).

Although much of the early anatomical research focused on resolving issues concerning physiology and surgical anatomy, from the beginning skeletal studies with a decidedly anthropological flavor were done to answer questions related to human variation and adaptation. As early as 440 B.C., Herodotus (484–425 B.C.) reported on an investigation into the effect of the environment on the strength of the skull:

On the field where this battle was fought I saw a very wonderful thing which the natives pointed out to me. The bones of the slain lie scattered upon the field in two lots, those of the Persians in one place by themselves, as the bodies lay at the first—those of the Egyptians in another place apart from them. If, then, you strike the Persian skulls, even with a pebble, they are so weak, that you break a hole in them; but the Egyptian skulls are so strong, that you may smite them with a stone and you will scarcely break them in. They gave me the following reason for this

difference, which seemed to me likely enough: The Egyptians (they said) from early childhood have the head shaved, and so by the action of the sun the skull becomes thick and hard. (Herodotus, 1990)

Much of the early anatomical work on human variation had its roots in the belief of Aristotle and his contemporaries that Nature was organized hierarchically as a continuous chain. He was certain that all other animals existed for the sake of Man. This view of the world provided a useful framework for comprehending the enormous complexity of the natural world and also had the appeal of rationalizing the stratified nature of Greek society with powerful rulers and a social elite at the top and the slaves at the bottom (Clutton-Brock, 1995).

By the Middle Ages this hierarchical view of the world had been transformed into the Christian doctrine in which the world was seen as a perfect expression of God's will that descended in continuous succession through a "Great Chain of Being" from the perfection of the creator to the dregs of things at the very bottom of creation. This perspective permeated much of the work of early natural historians such as John Ray, who developed the doctrine of "natural theology," in which he argued that the power of God could be understood through the study of his creation, the natural world (Ray, 1692). In this context, the description of biological variation, including that found among humans, was a frankly religious activity in which the exploration of the fabric of the natural world at both its macroscopic and microscopic levels was seen as a way of revealing the "divine architect's" plan for the universe.

The expanded view of biological diversity provided by the specimens brought back by Columbus and other early European explorers stimulated a frenzy of species description and the first detailed anatomical studies of the differences between apes and humans. Through his careful dissections of a chimpanzee, Edward Tyson (1650–1708) was able to debunk myths based on the reports of classical authors such as Homer, Herodotus, and Aris-

totle that humankind contained several species including "satyrs," "sphinxes," and "pygmies," and in 1779 Charles Bonnet (1720–1793) wrote a detailed account of the orangutan in which he noted a close relationship to us, albeit with the "lowest races" of our species (Bonnet, 1779; Clutton-Brock, 1995; Tyson, 1966).

After resolving the issue of whether humans and apes are members of the same species, Enlightenment scholars were still faced with the problem of interpreting the previously unsuspected extent of human biological and cultural diversity revealed by European colonial expansion into remote areas of the world. Linnaeus, for example, recognized five divisions of our genus, which included "Homo monstrosus," a catchall category for a variety of mythical creatures reported by early explorers. The debate soon took on a strong religious flavor and began to focus upon how the empirical facts of human variation could be made congruent with biblical accounts of Adam and Eve and the Tower of Babel. Interpretations of human diversity became sharply divided between the adherents of the theory of monogenesis, which traced all humans to a single origin in the Garden of Eden, and the adherents of polygenesis, who rejected the criteria of inter-fertility as the basis for the identification of biological species and took the unorthodox position that Europeans, Africans, Asians, and Native Americans were derived from different ancestral forms.

By the end of the eighteenth century, evidence obtained from human skeletal remains began to assume an increasingly important role in these debates over the origins and significance of human biological and cultural differences. Cranial evidence (a total of 82 skulls), for instance, figured prominently in the famous doctoral thesis of Johann Friedrich Blumenbach (1752–1840) in which he argued that modern human diversity had arisen as a consequence of the degeneration of a primordial type (*varietas primigenia*) whose closest living approximation could be found in the people of the Caucasus Mountains (Blumenbach et al., 1865). Such studies generated considerable

interest in human cranial variation, and soon systematic efforts were begun to assemble research collections of human skeletal material from throughout the world.

In the United States, research on population differences in cranial morphology was dominated by Samuel George Morton (1799–1851), a physician from Philadelphia. Morton studied medicine at the University of Edinburgh where he was influenced by theories of polygenism and the hereditarian views of phrenologists that were in vogue at the time (Spencer, 1983). Underlying Morton's careful craniometric research was the basic theoretical assumption of phrenology: differences in skull shape corresponded to differences in the shape of the brain and consequent differences in brain function. To test these theories, Morton amassed a large collection of human crania from all over the world that he compared using cranial measurements. From this he derived a hierarchy of racial types with blacks at the bottom, American Indians intermediate, and whites at the top (Morton, 1839).

Morton's craniometric approach to understanding human variation set the stage for much of the osteological research done by physical anthropologists during the rest of the nineteenth century. Most of this work was typological in orientation and focused upon the classification of people into broad categories such as brachycephalic (round-headed) or dolichocephalic (long-headed) based on ratios of measurements. Although acceptance of the monogeneticists' theory that all humans trace their ancestry to a single origin gradually increased, especially after the publication of Darwin's theory of natural selection, a typological, craniometrically oriented approach emphasizing taxonomic description and definition over functional interpretation persisted well into the middle of the twentieth century in the work of influential skeletal biologists such as Aleš Hrdlička (1869–1943) and Ernest Hooton (1887–1954).

There are several reasons for the remarkable tenacity of the typological emphasis in research on human skeletal remains. First, there is the

idea that human variation can be adequately accommodated by a few fundamentally different racial types, which conveniently coincides with beliefs in racial inferiority and superiority that continue to persist in modern societies. The idea of a straightforward relationship between the shape of a person's skull and their genetic makeup also was seductive to physical anthropologists because it meant that cranial differences could be used as a powerful tool to further one of anthropology's principle goals: producing detailed reconstructions of population movements and historical relationships. Finally, there is a practical consideration behind the persistence of the typological orientation of skeletal research. Until recently, the computational problems of someone attempting to statistically compare quantitative observations made on skeletal collections of any meaningful size were practically insurmountable. The typological approach, with all of its simplifying assumptions and loss of information on within-group heterogeneity, offered a cost-effective alternative to this practical dilemma.

The last point is nicely illustrated by the anthropometric work of Franz Boas (1858–1942), the founder of American anthropology and a strong opponent of simplistic hereditarian interpretations of human variation. Through his anthropometric studies of Europeans who immigrated to the United States, Boas showed that the shape of the cranial vault, a trait nineteenth-century racial typologists had fixated upon, is highly responsive to environmental influences and thus of limited value in taxonomic analysis (Boas, 1912). Boas realized the potential of anthropometric research for elucidating the cultural and biological history of our species and from 1888 to 1903 worked to assemble anthropometric data on 15,000 Native Americans and 2,000 Siberians (Jantz et al., 1992). In contrast to Hrdlička and many of his other contemporaries, Boas realized the necessity of statistical analysis for understanding the variability within these samples. Unfortunately, the computational capabilities of the data processing tools that were available at the beginning of the nineteenth century (i.e., pencil and

paper) made meaningful analysis of the information on human variation contained within this monumental collection of anthropometric observations impossible (Jantz, 1995). Consequently, almost nothing was done with these data until a few years ago when availability of computers with adequate data storage and processing capability made their analysis possible (see Pietrusewsky, Chapter 14).

During the past thirty years, physical anthropology has finally escaped from the methodological and conceptual shackles of nineteenth-century racial typology. Research on the skeletal remains of earlier human populations has entered a vibrant new phase in which the great potential Boas saw in studies of human variation as a source of insights into the biological and cultural evolution of humankind is beginning to be realized. This paradigm shift has involved replacing the futile nineteenth-century preoccupation with drawing stable boundaries around populations, whose biological and cultural makeup is constantly in flux, with new evolutionary ecological approaches that recognize the complexity and adaptive significance of interactions between genetic variability and developmental plasticity. This theoretical reorientation has resulted in a new bioarchaeological approach to the analysis of skeletal remains from earlier human populations that uses cultural, biological, and paleoenvironmental evidence to illuminate the processes of human adaptation (Larsen, 1997). With this new approach has come an increasing appreciation for the many ways the remains of our ancestors can help us to both better understand and devise solutions to the many seemingly intractable problems of violence, disease, and social inequity that we currently face.

THE SOURCES OF SKELETAL COLLECTIONS

To fully appreciate the concerns that modern indigenous people have about collections of human skeletons, it is necessary to understand the historical and social context in which skele-

tal collections have been made throughout history. The practice of collecting human skeletal remains as war trophies and for religious purposes has deep historical roots. It has been argued that taking the heads of the dead to obtain their power is among the earliest of ritual practices (La Barre, 1984). In the past, the taking of heads, scalps, and other body parts during warfare was a widespread practice, especially among Native Americans and Melanesians, and can nearly be considered a cultural universal (Driver, 1969; Harner, 1972; Olsen and Shipman, 1994; Owsley et al., 1994; White and Toth, 1991; Willey and Emerson, 1993). Although suppressed in modern societies, such practices continue in the form of the collection of "trophy skulls" from battlefields by modern soldiers (McCarthy, 1994; Sledzik and Owsley, 1991).

Among Christians, the belief that proximity to the bones and other body parts of saints could bring miracles was common as early as the fourth century A.D. This use of human remains as objects of religious veneration gradually resulted in the accumulation of substantial skeletal collections. By the ninth century the remains of martyrs had become so valuable that competition between religious centers created a regular commerce that sometimes degenerated to the point of melees between monks attempting to seize the bodies of martyrs by force of arms (Gauthier, 1986; Geary, 1978; Thurston, 1913). The belief that the miraculous powers of important religious figures could be accessed through their bones stimulated a lively market in human remains. At one point 19 churches claimed to possess the mandible of John the Baptist (Collin de Plancy, 1821). Philip II (1556–1598) of Spain, a zealous Catholic, commissioned an envoy to collect the remains of as many saints and martyrs as he could, and assembled a collection of 11 complete skeletons along with thousands of skulls, long bones, and other miscellaneous skeletal elements at his residence, the Escorial near Madrid (Wittlin, 1949). Belief in the magical powers of human remains was not limited to those of Catholic saints. When an Egyptian mummy was obtained by Leipzig,

Germany, in 1693 it soon became a tourist attraction owing to the common belief "that it pierceth all parts, restores wasted limbs, consumption, hec ticks, and cures all ulcers and corruption" (Wittlin, 1949).

Until the middle of the eighteenth century, Europe had no museum collections in the modern sense. Instead, there were vast collections held by monarchs and the Catholic Church that functioned as reliquaries, storehouses, and treasuries. During the Enlightenment, a strong belief in the power of empirical investigations of the natural world as a method for the discovery of God's laws brought with it a need for museums whose purpose was the preservation of historical artifacts and natural objects for scientific scrutiny. At first these collections took the form of "curio cabinets" maintained by wealthy aristocrats for their personal research and the edification of their friends. Many of these early collectors were physicians and, owing to their professional interest in human anatomy, they naturally included human skeletons and preserved anatomical specimens in their cabinets. For example, the large collection amassed by Sir Hans Sloane (1660–1753), the personal physician to Queen Anne and King George II, included a number of human skeletons. Upon Sloane's death, these skeletons and the rest of his collection were bequeathed to the British Parliament at a nominal sum and served as the nucleus of the British Museum's natural history collection. In America, scholarly associations such as The Library Company of Philadelphia, which was formed in 1731 by Benjamin Franklin and his colleagues, began to maintain collections that included anatomical specimens and, around the same time, the Pennsylvania Hospital in Philadelphia established its teaching cabinet with the acquisition of a human skeleton and a series of anatomical models (Orosz, 1990:16–17).

These collections of skeletons and anatomical specimens were of great value because they made it possible to provide instruction in surgical anatomy without offending Christians who had religious objections to the dissection of cadavers. During the last half of the eighteenth

century, the inadequacies of the old system of learning anatomy by studying models and occasionally observing a demonstrator dissect a criminal's body became increasingly apparent. With the growth of medical knowledge, aspiring surgeons began clamoring for more hands-on experience so they could avoid the horrifying prospect of learning their trade through the butchery of their first living patients. This desire was reinforced by a growing public recognition of the value of being operated upon by someone with practical experience in dissection.

These social pressures resulted in an exponential increase in the demand for cadavers. To meet this need, "anatomical acts" were eventually passed that expanded the legal sources of cadavers to include the victims of duels, suicides, and, most importantly, unclaimed bodies. The demand was so great that this new legal supply of bodies was often inadequate and, throughout the nineteenth century, medical schools were still enlisting the services of body snatchers to obtain their instructional materials (Blake, 1955; Blakely et al., 1997; Newman, 1957).

Although the increase in dissections opened the possibility of increasing the scope of skeletal collections, this potential was not fully realized. Collections were made of specimens with interesting anomalies and pathological conditions but, as a rule, the rest of the dissected person's skeleton was disposed of in what often seems to have been a cavalier fashion (Blakely, 1997:167). From what can be discerned from the remnants of nineteenth-century medical school collections that survive today, little effort was made to create carefully documented skeletal collections of known age and sex for use in assessing the normal range of human variation. The failure to create such systematic collections probably stems in part from the prevalence of racist views that minimized the importance of variation within groups and exaggerated the significance of population differences.

The immensity of the carnage brought by the Civil War profoundly affected attitudes toward the dead in the United States (Laderman,

1996). The war desensitized people to death and this made it possible to view corpses with increasing detachment. At the same time, the logistic problems the military faced in preserving the bodies of so many dead soldiers for transportation back to their families turned corpses into commodities that needed to be processed by professionals such as doctors and undertakers. In this context of mass slaughter, rising professionalism, and growing rejection of religious beliefs in the resurrection of the body, surgeons struggling to devise standardized treatments for the sometimes horrifying injuries they faced began to view autopsies and other medical research on dead soldiers as an ethical imperative. To accommodate this research the Army Medical Museum was founded in 1862 as a repository for thousands of skeletal specimens, preserved organs, photographs, and other medical records obtained during the treatment and autopsy of military casualties (Barnes et al., 1870; Otis and Woodward, 1865).

At the close of the Civil War, army doctors shifted the focus of their collecting activities toward medical concerns arising from the Indian wars in the western United States, such as the treatment of arrow wounds (Bill, 1862; Parker, 1883; Wilson, 1901). One aspect of this work involved the collection of Native American crania and artifacts from battlefields and cemeteries. This was implemented through a letter from the Surgeon General's Office, dated January 13, 1868, that stated: "Will you allow me to ask your kind interposition in urging upon the medical officers in your departments the importance of collecting for the Army Medical Museum specimens of Indian Crania and of Indian Weapons and Utensils, so far as they may be able to procure them." Other documents make it clear that these collections were made under the protest of the Indians whose graves were being raided and that such activities could even result in further hostilities with the Indians (Bieder, 1992). Although government sanctioned grave robbing of this kind eventually stopped, it understandably continues to provoke outrage among the descendants of

the people whose bodies were stolen (Riding In, 1992).

Beginning in the middle of the nineteenth century, large public natural history museums began to be established whose goals were both popular education and scholarly research (Orosz, 1990). These museums provided an institutional framework within which the large skeletal collections could be consolidated from the smaller private collections of physicians and wealthy amateur archaeologists. These new museums had the resources necessary to maintain staffs of professional research scientists and to augment their osteological collections through purchases from private collectors and the sponsorship of archaeological expeditions throughout the world.

In the United States, the most important natural history museums from the perspective of collections of human skeletal remains are the Smithsonian Institution, founded in 1846, the Peabody Museum of Archaeology and Ethnology, founded 1866, the American Museum of Natural History, founded in 1869, the Harvard Peabody Museum of Archaeology and Ethnology, founded in 1866, the Columbian Museum of Chicago (now the Chicago Field Museum), founded in 1893, the Lowie Museum of Anthropology (now the Phoebe Hearst Museum), founded in 1901, and the San Diego Museum of Man, founded in 1915. During the twentieth century the number of museums with significant holdings of human skeletal remains rapidly increased and by 1998 about 700 federal and private institutions possessed skeletal remains from an estimated 110,000 individuals.

The research value of these collections varies enormously depending upon the conditions under which they were collected. Owing to the cranial typology orientation of nineteenth-century physicians, most of the material collected before the beginning of the twentieth century consists of isolated crania, lacking associated mandibles or infracranial remains. Because of the predisposition of these researchers to interpret human variation within a framework of stable types that were comparatively immune to environmental influences,

most of them lack adequate provenience information and are simply labeled in terms of preconceived racial categories or broad geographical regions. All of these factors greatly reduce the value of such collections for research purposes. Fortunately, most of the skeletal material in museums derives from the work of professional archaeologists and is associated with at least some contextual information that allows the individual to be placed in a meaningful historical, environmental, and cultural context. This type of information is essential for modern bioarchaeological research, which relies heavily on contextual information to reconstruct the cultural ecology of earlier human populations.

During the first half of the twentieth century, several visionary anatomists realized the value of having skeletons from individuals of known age, sex, and ethnic background for use in anthropological and forensic research on the effects that environmental and genetic factors have on health, disease, and morphological variation. Working in conjunction with the teaching programs of medical schools, these researchers carefully recorded anthropometric data, vital statistics, health histories, and other relevant information on the people scheduled for dissection. Afterwards they prepared their skeletons for curation in research collections. Three of the largest of these dissection room collections were established in the United States, at the Washington University School of Medicine in St. Louis, the Western Reserve University in Cleveland, and Howard University in Washington, D.C.

A central figure in the creation of these collections is William Montague Cobb (1904–1990). Cobb, an African-American, who was an acknowledged activist leader in the African American community, realized the value that empirical data on human variation has as an antidote to racism (see also Ubelaker, Chapter 2). After receiving his medical degree at Howard University, he did postgraduate studies at the Western Reserve University where he helped T. Wingate Todd (1885–1938) assemble that university's skeletal collection.

After writing a doctoral dissertation on anthropological materials, which included information on the geographic and ethnic origins of the people who contributed their skeletons to the Western Reserve collection, Cobb returned to Washington where he created a similar collection at Howard University (Cobb, 1936). A prolific author and dedicated teacher of anatomy, Cobb used his understanding of human biology, which in part was derived from dissections and skeletal research, to improve the health and reinforce the civil rights of African Americans (Cobb, 1939; Cobb, 1948; Rankin-Hill and Blakey, 1994).

In Great Britain and Europe, a different approach has been taken to the creation of known age and sex skeletal collections for use in anthropological research. The crypts outside Saint Bride's Church, London, were disturbed through bombing during World War II. Restoration of the church has resulted in a documented collection of skeletal remains dating from the mid-eighteenth century (Huda and Bowman, 1995; Scheuer and Bowman, 1995). Similar collections of people of known age and sex from historic cemeteries have been established in Coimbra, Portugal (Cunha, 1995), Lisbon, Portugal, Geneva, Switzerland (Gemberich, 1997) and Hallstatt, Austria (Sjøvold, 1990, 1993). However, a great many anatomical collections of skeletons of nineteenth- and twentieth-century individuals exist in anatomy departments and medical schools throughout Europe, Britain, and other countries.

THE VALUE OF HUMAN SKELETAL REMAINS

In the ongoing debate over the disposition and scientific analysis of ancient human remains in museum collections, there is a tendency for the ethical issues surrounding skeletal research and the maintenance of skeletal collections to be reduced to simplistic oppositions: science versus religion, right versus wrong, and so on. Although framing the complex social issues underlying the debate in this way may be polit-

ically expedient, it is counterproductive for anyone seeking a solution that balances the concerns of descendants against those of the scientific community.

From my brief discussion of the evolution of beliefs about human remains, it is obvious that the details of the rituals people have devised for the treatment of the dead have varied enormously among the cultures of the world through time. The practice of funeral rites by friends and relatives and the use of a method of disposing of the body appear to be human universals but, beyond that, there is little uniformity (Brown, 1991; Murdock, 1945). This diversity of beliefs about how the dead should be treated poses ethical dilemmas for bioarchaeologists when their scientific work conflicts with the beliefs of the descendants of the people whose remains they study.

One approach to resolving disputes over research on ancient skeletal remains is to view such disagreements as cultural issues arising from competing value systems (Goldstein and Kintigh, 1990). Conceiving of disputes over the treatment of the dead as products of conflicting value systems avoids polemics and self-righteous posturing in which each side battles for moral superiority and instead promotes communication and mutual understanding. This can eventually result in the discovery of solutions that are consistent with the value systems of both parties in the dispute.

The only justification for the study of skeletal remains from earlier human populations is that such research yields information that is useful to modern people. Although the value of skeletal research seems self-evident to the people who conduct it, there are many indigenous people who feel that such work is not only useless, but also extremely harmful owing to the damage it does to them and the spirits of their ancestors. This conflict between the values scientists and descendant groups attach to human remains is central to the most important ethical dilemmas bioarchaeologists face. Since mutual understanding is a prerequisite for finding a common ground between these apparently incommensurable world views, it is useful to

briefly describe the values scientists and descendant groups attach to ancient human remains.

Bioarchaeologists focus their research on ancient human skeletal remains, not out of idle scientific curiosity, but instead because they believe that the information contained within the remains of our ancestors is of great value to modern people. Human skeletal remains are a unique source of information on the genetic and physiological responses our ancestors made to the challenges posed by past natural and sociocultural environments. Consequently, they provide an extremely valuable adaptive perspective on the history of our species.

Most of what we know about our recent history is based on inferences derived through analysis of artifacts, documents, oral histories, and other products of human cultural activity. Owing to their symbolic content, such cultural artifacts are difficult to interpret and often consistent with multiple, sometimes contradictory views of the past. The subjective aspects of attempting to interpret cultural artifacts from the perspective of our current cultural milieu are well recognized: Historical works often reveal more about the cultural values and political biases of the historian than they do about the reality of the historical event being described. All historians are products of the culture in which they live, and they are always selective in what they report.

Because of its biological basis in the physiological processes of growth, development, and acclimatization to environmental change, the information about interactions with past environments encoded in human remains provides an extremely valuable comparative basis for evaluating interpretations of the past based on artifacts, documents, and other culture-based sources. The historical data provided by skeletal studies are of such great value because the methodological problems inherent in extracting evidence from a skeleton are completely different from those historians face when they attempt to interpret the historical significance of the cultural products with which they work. The only way we can reduce

the cultural biases that distort our understanding of past events is through collecting a diversity of evidence from sources that are susceptible to different types of interpretative error. The greater the diversity of the evidence we have about the past, the easier it is to rule out alternative interpretations that are unlikely to reflect actual events. By using a series of data sources that, standing alone, would be open to many different interpretations, it is in this way possible to triangulate on what really happened in the past.

The unique perspective that skeletal evidence provides on the history of our species makes it a potent weapon against cultural relativists and historical revisionists who view the past as a source of raw materials they can exploit to refashion history into whatever narrative is currently considered *au courant* or politically expedient. In some schools of post-modernist thought, history is viewed as a symbolic construct devoid of any objective truth: all we are left with is an endless process of constructing conflicting narratives about the past that are all of equal merit or are only of merit because they are different. In some rarified corners of the humanities, the possibility of knowing with certainty that voluminously documented historical events such as the Holocaust actually occurred is actively debated (Braun, 1994; Friedman, 1998; Jordan, 1995; Kellner, 1994). In the world of these theorists, people interested in discovering what happened in the Holocaust are doomed to an academic life of continuously revisualizing and recontextualizing subjective impressions of subjective descriptions of the slaughter of millions of people into new, contradictory, and, from their perspectives, more meaningful imaginations of the past.

In contrast to the symbolic problems inherent in historical reconstructions based upon written records and oral histories, human skeletal remains provide a direct source of evidence about the lives and deaths of ancient and modern people that is, at a fundamental level, free from cultural bias (Walker, 1997). The skeletons of the people buried row upon row at

concentration camps such as Terezin, the racks of skulls from the Cambodian killing fields at Tuol Sleng Prison, and the cut marks on the skeletons of the hundreds of massacred prehistoric Native Americans unceremoniously buried at the Crow Creek site in South Dakota speak volumes about real historical events that ended the lives of real people.

In certain respects, bones do not lie. To give a specific example from my own research, the presence of lesions indicative of severe, repeated physical abuse in the skeletons of children murdered by their parents says something very specific about a history of traumatic experiences that a child suffered during its short life (Walker, 2000; Walker et al., 1997). Although multiple "narratives" can be constructed based on the presence of such lesions (the child was extraordinarily clumsy or accident prone, the child's parents repeatedly beat him over a prolonged period until he died, and so on), at a fundamental level such skeletal evidence says something indisputable about a physical interaction that took place between the dead child and his or her physical environment. Unlike written records or oral histories, human remains are not culture-dependent symbolic constructs. Instead they provide an extraordinarily detailed material record of actual physical interactions that occurred between our ancestors and their natural and sociocultural environments. As such, human remains are extremely valuable sources of evidence for reconstructing what actually happened in the past.

This esoteric view that bioarchaeologists hold concerning the central role that collections of human skeletal remains play in helping us to obtain an objective view of history is not widespread. The vast majority of the world's population views human remains with a mixture of morbid fascination and dread because they serve as such vivid reminders of one's own mortality and impending death. The symbolic saliency of directly confronting a dead person has been deftly exploited for a diversity of religious, political, and economic purposes. Throughout the world, in many different settings, human remains are placed on public dis-

play and used in ways designed to foster group cohesion and legitimize religious or political authority. During times of social instability, it is common for these same remains to be destroyed or humiliated to weaken and disrupt the group solidarity they once fostered (Cantwell, 1990). The controversy over the continued display of Lenin's remains in Red Square and the disposition of the recently discovered remains of Czar Nicholas II and his family provide good examples of how human remains can be used as tools to advance or suppress political ideas and facilitate or disrupt social cohesion (Caryl, 1998; Fenyvesi, 1997).

The strong symbolic power of human remains has encouraged people to devise an amazing number of uses for them. Throughout the world, displays of human remains are among the most effective tools for luring people into museums. At the British Museum, for example, postcards of mummies rival the Rosetta Stone in public popularity (Beard, 1992). In many places displays of human remains are such popular tourist attractions that they have become the mainstays of local economies. The Museo de los Momias in Mexico, where the naturally mummified bodies of poor people who could not afford to purchase permanent graves are on display, is touted as Mexico's second most popular museum, bested only by the anthropological museum in Mexico City (Osmond, 1998). Two similar examples are the awe-inspiring creativity of displays of thousands of disinterred human bones in the All Saints Cemetery Chapel near Kutna Hora in the Czech Republic and in the Church of the Capuchins in Rome (Fig. 1.1).

In some cases the symbolic value of retaining human remains for display is sufficient to override religious sanctions against it. Medieval Chinese Ch'an Buddhists practiced mummification of eminent priests as demonstrations of the relationship between spiritual attainment and the incorruptibility of the body even though they espoused a religious doctrine that accorded little value to the corpse. A similar example is the recent decision that the value of the display of bones from Khmer Rouge victims at the Tuol

Sleng Prison Museum as evidence of the Cambodian genocide outweighed Buddhist religious beliefs that mandate cremation (Erlanger, 1988; Peters, 1995). The denial of burial in Christian countries as a form of posthumous punishment and object lesson for the living has already been mentioned. In England, the heads of people such as Oliver Cromwell were displayed on poles erected on the roof of the Great Stone Gate of London Bridge, and gibbets containing the rotting bodies of famous pirates such as Captain Kidd were strategically placed along the banks of the Thames to greet sailors as they returned from the sea. During the nineteenth century, the heads of Miguel Hidalgo and three other leaders of the Mexican war of independence met a similar fate when they hung on public display in cages for ten years as grim reminders of the folly of revolution. Ironically, these same skulls of Mexico's founding fathers have recently been resurrected and again put on public display for the opposite purpose: they rest next to each other under glass on red velvet in a dimly lit crypt where they remind school children of the heroism of the country's founders (Osmond, 1998).

As is illustrated by the case of Hidalgo's skull, the strong symbolic value of human remains endow those who control them with a powerful tool that can be used to vividly express multiple, sometimes contradictory, meanings. Owing to this great symbolic power, it is not surprising that issues surrounding the control, treatment, and disposition of human remains pose some of the most vexing ethical dilemmas skeletal biologists face. Bioarchaeologists do not view human remains primarily as symbols. Instead they value them as sources of historical evidence that are key to understanding what really happened during the biological and cultural evolution of our species. This lack of concern with symbolic issues is in stark contrast to the richness of the symbolic connotations human skeletons have for most people. This conflict in worldviews is especially acute in areas of the world that were subjected to European colonization. In North America, Hawaii, and Australia, where the

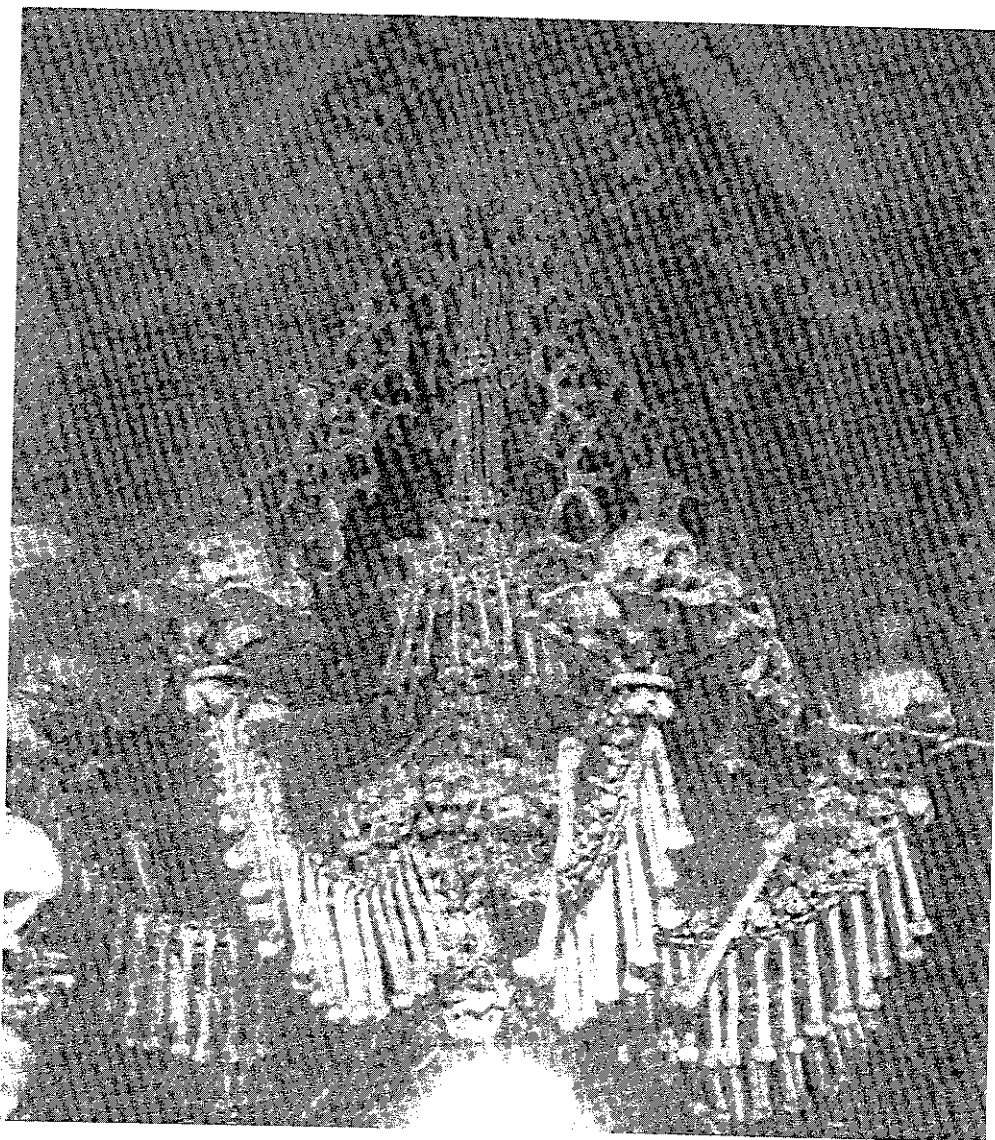


Figure 1.1 The interior of the All Saints Cemetery Chapel in Sedlec, a suburb of Kutna Hora in the Czech Republic. The chapel is decorated with the bones of some 40,000 people whose remains were excavated by from a nearby graveyard by Monks of the Cistercian order.

indigenous people suffered the greatest devastation at the hands of European colonists, ancient human remains have assumed great significance as symbols of cultural integrity and colonial oppression. In this postcolonial world, gaining control over ancestral remains is increasingly considered essential to the survival and revitalization of indigenous cultures.

That the views of indigenous people concerning this issue have changed dramatically during the past forty years is amply illustrated by archaeological reports that describe the enthusiastic participation of Native Americans in the excavation of burials, some of whose study by bioarchaeologists are currently under dispute (Benson and Bowers, 1997; Brew, 1941;

Fewkes, 1898; Hewett, 1953; Hrdlička, 1930a, 1930b, 1931; Hurt et al., 1962; Judd, 1968; Neuman, 1975; Roberts, 1931; Smith, 1971; Smith et al., 1966). As late as the 1960s, Inuit people in the Northwest Territory of Canada who I worked with seemed little concerned about the excavation of ancient skeletal remains. In fact, they were extremely cordial to the members of the expedition I was on and assisted us in any way they could. Although they expressed mild concerns about carrying human skeletons in their boats, they otherwise were supportive of and expressed considerable interest in our bioarchaeological work.

To comprehend the urgency of the current concerns Native Americans have about the treatment of their ancestral remains it is necessary to understand the magnitude of the recent disruptions of their cultures. Beginning at the end of the nineteenth century, systematic attempts began to be made to separate Native American children from their families, suppress their Native identities, and inculcate them with Christian values (Ellis C, 1996; Lomawaima, 1993). Simultaneously, the isolation that formerly characterized life on the remote reservations in marginal areas that the government relegated them to began to break down owing to the development of interstate highways, radio, television, and the intrusions of tourists. These developments have had such a devastating effect on the transmission of traditional beliefs and practices that the remnants of earlier times preserved in museums have increasingly become a cultural focus. Control over these collections is an important political issue for Native Americans because, by gaining control over the biological and cultural remains of their ancestors, they can begin to reassert their cultural identity within the dominant Euro-American culture.

When viewed within this context of cultural marginalization and repression, it is easy to see why many indigenous people see little value in what to them are the very nebulous goals of bioarchaeologists. Zimmerman (Ubelaker and Grant, 1989) presents evidence supporting the depth of Indian concern about the retention of

museum collections. He cites an unpublished survey that John S. Sigstad conducted in 1972 of Indian tribes in the BIA Aberdeen region. All respondents agreed that human remains in museums should be reburied, 95% indicated bones should not be displayed in museums, and only 35% of the respondents believed that human remains should be excavated for scientific research (Ubelaker and Grant, 1989).

Some indigenous people have the erroneous belief that only the remains of their ancestors are studied and cite this as a reflection of the racist attitudes of the European colonists who robbed them of their land (Tobias, 1991; Vizenor, 1986). They feel that such research degrades them by singling them out to be "made fun of and looked at as novelties" (Mihesuah, 1996; Walters, 1989). Bioarchaeologists respond to this charge by pointing out the vast collections of non-Native American skeletal remains in European museums and arguing that it would be racist not to have collections of Native American remains in New World museums, since this would imply that knowledge of the history of the indigenous people of the New World had nothing to contribute to the understanding of our common past (Ubelaker and Grant, 1989).

Some indigenous people reject the epistemology of science, at least as it applies to their history and cultural affairs, and instead prefer to view the past as it is revealed through traditional ways of knowing, such as oral history, legend, myth, and appeal to the authority of revered leaders. For people with this perspective, scientific research directed toward documenting the past is not only superfluous, but also potentially culturally subversive owing to the capacity of scientific evidence to conflict with traditional beliefs about the past and, in this way, undermine the authority of traditional religious leaders. From this perspective, scientific investigations into the history of indigenous cultures are simply another manifestation of the attempts of an oppressive imperialist colonial power to control and weaken the belief systems of indigenous people so that they will be easier to exploit (Bray, 1995; Dirlik, 1996; Riding In, 1996).

In academia, this position clearly resonates with radical postmodernist theorists of the humanities who believe that reconstructing history as an objective reality is a hopeless endeavor and instead argue that history is a symbolic weapon that ethical people should use to help the marginal political and cultural constituencies of the world in their struggles against the holders of power (Hodder et al., 1995).

This tension between traditional and scientific views of the past has recently been brought into sharp focus through the controversy over the disposition of the 9,300-year-old human remains found at the Kennewick site on the banks of the Columbia River in Washington State (Hastings and Sampson, 1997; Lemonick, 1996; Morell, 1998; Petit, 1998; Preston, 1997; Slayman, 1997). Scientists who have examined these remains say they possess characteristics unlike those of modern Native Americans. They believe that research into reasons for this difference has the potential to make an important contribution to our understanding of the history of humankind. Members of the five Native American tribes that have claimed the skeleton, on the other hand, believe that the question of the cultural affiliation of this individual has already been resolved by their elders who tell them that they have lived in the area where the skeleton was found since the beginning of creation. The complexity of this dispute increased further when members of the Asutru Folk Assembly, a traditional European pagan religion, sued for the right to use scientific research to decide if this individual is one of their ancestors. They claim that "It's not an accident that he came to us at this time and place . . . Our job is to listen to (the bones) and hear what they have to say" (Lee, 1997).

Modern indigenous people often frame such disputes over the power to control the interpretation of tribal history in spiritual terms. It is a common pan-Indian religious belief that all modern Native Americans are spiritually linked to all other Indian people living and dead (Walters, 1989). Another widely held belief is that space is spherical and time is cycli-

cal (Clark, 1997). All living Indians thus have a responsibility for the spiritual well-being of their ancestors that requires them to assure that their ancestors are buried in the ground where they can be reintegrated into the earth and complete the circle of life and death (Bray, 1995; Halfe, 1989). Contemporary Native Americans who hold these beliefs argue that, so long as ancestral spirits are suffering because their bones are not buried in the earth, living people will continue to suffer a myriad of adverse consequences. Thus, any activity inconsistent with reburial, such as excavation, study, museum curation, and storage, is considered an act of desecration and disrespect. For indigenous people with such views, there is no middle ground upon which scientific research can be conducted on human skeletal remains and associated artifacts. These remains are of great spiritual and psychological importance and their reburial is required to heal the wounds of colonial oppression (Emspak, 1995; Murray and Allen, 1995)

ETHICAL RESPONSIBILITIES OF SKELETAL BIOLOGISTS

Given these sharply polarized views concerning the value of scientific research on human remains, what are the ethical responsibilities of skeletal biologists? On one hand, we have bioarchaeologists who believe that the historical evidence obtained from human remains is critical for defending humankind against the historical revisionist tendencies of repressive, genocidal political systems, and, on the other, we have indigenous people who believe that the spirits of their ancestors are being tortured on the shelves of museums by racist, genocidal, colonial oppressors. If we can accept the relativist perspective that both of these views have some validity, then it is possible to envisage a compromise that gives due recognition to both value systems.

Although there is still a broad spectrum of perceptions of what is right and what is wrong among modern people, with the precipitous

decline in cultural diversity that has occurred owing to the expansion of modern communication systems, we are seeing a worldwide convergence of values, at least concerning certain areas of human affairs (Donaldson, 1992). These shared values are developing as part of the evolution of the transnational political and economic systems that are beginning to unite the world's disparate cultures. The Declaration of Human Rights of the United Nations, for example, provides a generally accepted set of rules for ethical human behavior that most people can accept in principle, if not in practice. They include recognition of the right to equality, freedom from discrimination, freedom from torture and degrading treatment, freedom from interference with privacy, and freedom of belief and religion (UN, 1948). Other attempts to devise a set of ethical rules that encompass what some people believe is emerging as a culturally universal system of moral principles include widespread humanistic values such as the recognition that it is wrong to be indifferent to suffering, that tolerance of the beliefs of others is good, and that people ought to be free to live as they choose without having their affairs deliberately interfered with by others (Hatch, 1983).

The cultural values expressed by the assertion of basic human rights and universal moral principles such as these can be criticized as hegemonic attempts to use Western cultural ideas as tools for gaining power and political control for transnational business interests. For example, the Chinese government has recently criticized allegations concerning its suppression of the rights of political dissidents as insensitive to unique Chinese cultural values such as obedience to authority, collectivism, family, and other dispositions (Li, 1998).

This issue of developing universal, government-sponsored standards of ethical behavior is of more than theoretical interest to bioarchaeologists since it is commonly asserted that the maintenance of skeletal collections for use in scientific research is a violation of a fundamental human right. For example, Article X of the draft of the "Inter-American Declaration on

the Rights of Indigenous Peoples" approved by the Inter-American Commission on Human Rights of the Organization of American States in a section entitled "Spiritual and Religious Freedom" specifically states that when "sacred graves and relics have been appropriated by state institutions, they shall be returned" to indigenous people (IACHR, 1995).

At the opposite end of the spectrum of political inclusiveness and governmental authority from the UN and OAS statements on human rights are the ethics statements that professional associations develop for their members to use as guides for the decisions they make during their everyday activities. The decline in the capacity of organized religions and other traditional social institutions to impose a unifying set of ethical principles acceptable to modern multicultural societies, and the constant stream of ethical challenges posed by new technological developments has stimulated enormous interest in the formulation of standards for ethical conduct in many areas of professional activity (Behi and Nolan, 1995; Bulger, 1994; Fluehr-Lobban, 1991; Kruckeberg, 1996; Kuhse et al., 1997; Kunstadter, 1980; Lynott, 1997; Muller and Desmond, 1992; Navran, 1997; Parker, 1994; Pellegrino, 1995; Pyne, 1994; Salmon, 1997; Scanlon and Glover, 1995; Schick, 1998).

Many professional associations and governmental agencies have developed ethical guidelines for use by researchers in the biomedical and social sciences that contain information directly relevant to resolving the ethical dilemmas bioarchaeologists face when they work with ancient human remains (AAA, 1986, 1997; AIA, 1991, 1994; CAPA, 1979; MRCC, 1998; NAPA, 1988; NAS, 1995; SAA, 1996; SAP, 1983; SPA, 1976; UNESCO, 1995).

Although only a few of these statements deal specifically with issues surrounding the study of human remains, a comparison of the principles for ethical behavior they espouse suggests considerable agreement on a few fundamental rules that can be used to guide researchers who work with ancient human remains: (1) human remains should be treated

with dignity and respect, (2) descendants should have the authority to control the disposition of the remains of their relatives, and (3) owing to their importance for understanding the history of our species, the preservation of collections of archaeological collections of human remains is an ethical imperative.

Each of these principles is based upon a complicated set of value judgments whose implications for the real-world practices of skeletal biologists depend in many ways upon the cultural lens through which they are viewed. For example, what is considered the dignified treatment of human remains varies widely depending on a person's cultural background. These ethical principles also contain an inherent contradiction since recognizing the rights of descendants may at times conflict with the preservation ethic.

Respect for Human Dignity

The ethical principle that human remains should be treated with respect and dignity is consistent with, and can be seen as an extension of, respect for human dignity, which is the cardinal ethical principle for modern research on human subjects in the biomedical and social sciences (Margareta, 1996; MRCC, 1998; UNESCO, 1995). This ethical principle is based upon the belief that it is unacceptable to treat human remains solely as a means (mere objects or things), because doing so fails to respect the intrinsic human dignity of the person they represent and thus impoverishes all of humanity. An argument can be made that since the remains of dead people are just "decaying organic matter" that "feels nothing, conceptualizes nothing, has no interests, and cannot suffer," in other words, that there is no person here to respect or disrespect, the respect is not for the body, but the antemortem person from whom the remains are derived (Lynch, 1990). Although it is true that, for most skeletal biologists, human remains are viewed as depersonalized and desanctified, there is still general agreement that they are nevertheless highly meaningful and should be treated with dignity

and respect (Buikstra, 1981; Ubelaker and Grant, 1989).

A skeptic might question the wisdom of extending the concept of human dignity to the dead: What does the treatment of human remains have to do with human rights or human dignity? In view of the atrocities currently being perpetrated on helpless people by repressive governments throughout the world, would it not be more productive to focus the fight for human rights on living people who could actually benefit from the results? In my view, a convincing argument can be made that, although the human being that skeletal remains are derived from no longer exists, their former intimate association with a living person is more than sufficient to earn them respectful treatment. The logic of this argument is similar to that used by animal rights activists who admit that, although animals by definition do not have human rights, their ill-treatment does demean humans and thus has implications for human behavior (McShea, 1994; *Man's Mirror*, 1991). In the same way it can be argued that disrespectful treatment of human remains is morally repugnant because of its potential to desensitize people in a way that is likely to encourage a lack of respect for and consequent ill-treatment of the living (Grey, 1983:105–153).

If we accept the premise that it is unethical to treat human remains with disrespect, we are still faced with the problem that respectful treatment is a highly subjective concept. The cultures of the world have devised an enormous variety ways of respecting the dead that include hanging the skulls of close relatives from the rafters of huts, using skulls of parents as pillows, and letting vultures feed upon dead relatives. Some modern people believe that pumping dead relatives full of chemicals, dressing them up, and burying them in the ground is respectful. Others believe that incinerating them, grinding up what's left in a mill, and putting the resulting bone meal in a cardboard box is respectful. In the cultural context of scientific research, respect for human remains derives not only from their association with a person who was once alive, but also