CHAPTER 1

BIOARCHAEOLOGICAL ETHICS: PERSPECTIVES ON THE USE AND VALUE OF HUMAN REMAINS IN SCIENTIFIC RESEARCH

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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 human tissue donation (Hamdy 2016), the ownership of our genetic material, the meaning and limits of “informed consent” in relation to stored biological samples (Radin 2015; Smith-Morris 2007), the ethical use of social media (Gray 2017), 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. In bioarchaeology, we confront many of the same ethical issues found in medicine and other fields involving human subjects because we work with the remains of once-living people, and with their living descendants. Added to these are ethical issues associated with the collection, handling, and curation of the remains of the dead, primarily emerging from differing value systems concerning concepts of death and the afterlife, appropriate treatment of the dead, and the nature of the relationship between the living and the dead. These are the ethical dilemmas we must be mindful of and prepared to deal with as we pursue our studies of human skeletal remains.

The enormous strides we have taken toward human equality in the last century mean that formerly disenfranchised and enslaved members of minority groups have begun 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 predominant set of cultural values we can use to guide us in dealing with
moral issues (Cottingham 1994). In this context, the growing recognition of differing belief systems about the dead has raised important questions concerning the treatment of human skeletal remains, especially those from archaeological contexts.

The 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 have begun to reevaluate the ethical principles that underlie their research activities. Ethics in bioarchaeology are especially problematic because the field is positioned between medicine, with its ethical focus on the generation of scientific knowledge that is helpful to individual patients, and anthropology, with its ethical principles shaped both by a deep belief in the power of cultural relativism to overcome ethnocentrism, and profound commitment to the preservation of our collective human past.

It is in this context that skeletal biologists are increasingly required to adapt their activities to the value systems of the descendants of the people they study. Human skeletal remains are more than biological materials of value for scientific research. For many people, they also are the subject matter of religious veneration of great symbolic and cultural significance (Sadongei and Cash Cash 2007). 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; Lambert 2012; Scott 1996; Walker 2004). This trend toward repatriating museum collections and granting land rights to indigenous peoples is most readily understood within a broader social and historical context.

To provide this historical perspective, we describe the evolution of religious beliefs about the proper treatment of the dead and the 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 have emerged in recent years in the field of bioarchaeology. Finally, some practical suggestions are offered for dealing with conflicts that arise when these ethical principles are at odds with those of descendant groups.

THE HISTORY OF BELIEFS ABOUT THE DEAD

Early in the history of our lineage, ancestral humans began to develop a keen interest in the remains of their dead kinsmen. At first this was likely 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 their 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, for example, 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 50,000–100,000 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 (Mayer et al. 2009). 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 (Giocabini 2007). 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 the integrity of the corpse and its importance 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 the 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 of 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).”

Although religiosity appears to be declining in modern Western societies as a whole (Eurobarometer 2005; Franck and Iannaccone 2014; Lipka 2015), such beliefs in the continuance of life after death nonetheless remain prevalent. For example, about 72% of American adults believe in heaven and some 58% believe in hell (Pew Research Center 2014). These numbers are lower but still substantial among Canadians, with 53.5% expressing belief in an afterlife, though less than 30% express belief in a fiery hell (Johnson 2010). Other surveys show that 24% of American Christians believe in reincarnation (Ryan 2015) and 25% of European adults report having contact with the dead (Haraldsson and Houtkooper 1991).

Belief in God also varies considerably in Western countries, from a reported high of 95% in Malta to a low of 16% in Estonia (Eurobarometer 2005). In the U.S., 89% of the general population say “yes” to a belief in God or a universal spirit (Lipka 2015). In spite of speculation about the secularizing effects of education and academia, about 88% of highly educated people in the U.S. believe in God and 70% are members of a religious congregation (Winseman 2003). While it is true that scientists tend to be less religious than the general population, this pattern varies globally. Over 50% of scientists in countries as diverse as India, Italy, Taiwan, and Turkey identify as religious, and in places such as Hong Kong and Taiwan scientists are actually more likely to identify as religious than members of the general public (McCaig 2015, citing the work of E.H. Ecklund). Anthropologists are one of the few groups that deviate significantly from the majority in degree of religious adherence and extent to which they subscribe to the 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 other scientists and academics, the general public and, more importantly, the 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 of death and the period of transition have been dramatically transformed. The familiarity with death that characterized earlier societies in which people were forced to directly confront the dead 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 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 primarily 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 human bodies were conducted in the first half of the third century BCE, by two Greeks, Herophilus of Chalcedon and Erasistratus of Ceos. These studies were performed in Alexandria, a city where traditional Greek values were weakened by Ptolemic 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 1928:219).”

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 still persists at medical schools in some economically disadvantaged countries (Ochani et al. 2004). 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 the anatomist Dr. Robert Knox. Hare turned king’s evidence and Burke was hanged for his crimes, but the incident did lead to controlling legislation in Britain (Richardson 2001).

In the U.S., grave-robbing activities also 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 (de Costa and Miller 2011). A mob of 5,000 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 (de Costa and Miller 2011). 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).

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 and the depersonalization and desacralization of the body in science (Bieder 1992), 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 the dissection of human bodies.

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 even this new legal supply of bodies was often inadequate and, throughout much of the nineteenth century, medical schools in the U.S. and Britain were still enlisting the services of body-snatchers to obtain their instructional materials (Blake 1955; Blakely et al. 1997; Newman 1957).

Although much of the early anatomical research focused on resolving issues concerning physiology and surgical anatomy, from the beginning skeletal studies with an anthropological leaning were conducted to answer questions related to human variation and adaptation. As early as 440 BCE, Herodotus (484–425 BCE) 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, in Rawlinson 1875:410).

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. This view of the world provided a useful framework for comprehending the enormous complexity of the natural world and 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 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 at the top to mere dust 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 Aristotle that human-kind contained several species including “satyrs,” “sphinxes,” and “pygmies.” 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 still faced 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. Carolus Linnaeus (1758), for example, recognized five divisions of our genus, which included “Homo monstrous,” 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 on 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 adherents of the theory of monogenesis, who believed in a single origin for humans in the Garden of Eden, and adherents of polygenesis, who rejected the criteria of interfertility as the basis for defining biological species and took the unorthodox position that Europeans, Africans, Asians, and Native Americans derive from different ancestral forms (Bernasconi 2008; Bieder 1992; Knapman 2016).

By the end of the eighteenth century, evidence obtained from human skeletal remains began to assume an increasingly important role in 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 M.D. thesis of Johann Friedrich Blumenbach (1752–1840). Blumenbach 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 (Bieder 1992).

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 hereditary views of phrenologists that were in vogue at the time (Bieder 1992; 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 influenced by the predominant scientific views of the time, 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 Charles Darwin’s (1859) 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 longstanding, essentialist 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 was 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 virtually 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 challenges of these technological limitations is well 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 the availability of computers with adequate data storage and processing capability made their analysis possible.

During the past forty 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 methods and 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 (morphometric, paleopathological, and biochemical), and paleoenvironmental evidence to illuminate the processes of human adaptation (Larsen 2015). With this new, integrative approach has come an increasing appreciation for the many ways the remains of our ancestors can help us to 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 many indigenous people of North America, Hawaii and Australia, among others, have about the collection of human skeletons, it is necessary to understand the historical and social context in which skeletal collections have been made throughout history (Walker 2004). 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 (Chacon and Dye 2007; 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; Quigley 2008:162; Sledzik and Ousley 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 CE. 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 nineteen 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 eleven complete skeletons along with thousands of skulls, long bones, and other miscellaneous skeletal elements at his residence, the Escorial near Madrid. 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, hecticks, and cures all ulcers and corruption” (Wittlin 1949).

Until the middle of the eighteenth century, Europe had no museum collections, human osteological or otherwise, 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 who, owing to their professional interest in human anatomy, 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, 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.

Although the increase in human dissections in the nineteenth century opened the possibility of increasing the scope of skeletal collections, this potential was not fully realized because cadavers were viewed as a resource for medical training rather than as research materials for the nascent field of physical anthropology. Collections were made of specimens with interesting anomalies and pathological conditions but, as a rule, the rest of the dissected person’s skeleton was often disposed of in a cavalier fashion (Blakely and Harrington 1997:167). Based on what we can discern 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 may in part stem from the prevalence of racist views at the time that minimized the importance of variation within groups and exaggerated the significance of population differences, though it may also simply reflect the nature of scientific collecting more generally in the nineteenth century, with its focus on interspecific variation and emphasis on the cranium and brain (Bieder 1992).

The immensity of the carnage brought about by the Civil War profoundly affected attitudes toward the dead in the United States (Laderman 1996). The war desensitized people to death and changed the way they viewed the remains of the dead. 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, which 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” (Memorandum for Information of Medical Officers, 1 September, 1868; Bieder 1992: 33, note 26). 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, the practice 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 oriented towards popular education and scholarly research began to be established (Orosz 1990). These museums provided an institutional framework within which 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 Harvard Peabody Museum of Archaeology and Ethnology founded 1866, the American Museum of Natural History founded in 1869, 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 (Redman 2016) and recent estimates place the total number of Native American remains in U.S. repositories at around 192,000 (http://www.nps.gov/nagra/ONLINEDB/).

The research value of these collections varies enormously, depending on the conditions under which they were collected. Owing to the cranial typological orientation of nineteenth-century physicians, most of the skeletal material collected before the beginning of the twentieth century consists of isolated crania, lacking associated mandibles or postcranial remains. Because of the predisposition of these researchers to interpret human variation within a framework of stable types immune to environmental influences or temporal change, most of them lack adequate provenience information and are simply labeled in terms of broadly
defined racial categories or geographical regions. All of these factors greatly reduce the value of such collections for research purposes. However, 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, geographical, 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.

Another type of human skeletal collections also began to be assembled in the first half of the twentieth century, as 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 concerning the effects of environmental and genetic factors 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 for the people whose bodies were scheduled for dissection. Afterwards they prepared the skeletons for curation in research collections (Quigley 2008). 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 collection efforts was William Montague Cobb (1904–1990). Cobb, an African-American physician and acknowledged activist leader in the African-American community, realized the value of empirical data on human variation as an antidote to racism. After completing his M.D. training at Howard University, he did postgraduate studies at the Western Reserve University where he helped T. Wingate Todd (1885–1938) assemble what would become the Hamman–Todd Human Osteological Collection. After writing a Ph.D. 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 (The Cobb Collection) at Howard University (Cobb 1936). A prolific author and dedicated teacher of anatomy, Cobb used his understanding of human biology, which in part derived from dissections and skeletal research, to improve the health and reinforce the civil rights of African Americans (Cobb 1939, 1948; Quigley 2008; Rankin-Hill and Blakey 1994).

In Great Britain and Europe, a different approach has led 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 resulted in a documented collection of skeletal remains dating from the mid-eighteenth century (Huda and Bowman 1995; Scheuer and Bowman 1995), which is now housed at the Museum of London. Similar collections of people of known age and sex from historic cemeteries have also been established in Coimbra, Portugal (Cunha 1995), Lisbon, Portugal (Cardosa 2006), Spain, Geneva, Switzerland (Gemmerich 1997) and Hallstatt, Austria (Sjøvold 1990, 1993). A great many other anatomical collections of skeletons of nineteenth- and twentieth-century individuals exist in anatomy departments and medical schools throughout Europe, Britain, and other countries (Quigley 2008).

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 dichotomies: science vs. religion, right vs. wrong, and so on. Although framing the complex social issues underlying the debate in this way may be politically expedient, it is counterproductive for anyone seeking a solution that balances the concerns of descendants when these differ from those of the scientific community.

From the previous discussion of the evolution of beliefs about human remains, it is clear that the rituals people have devised for the treatment of the dead have varied enormously among the cultures of the world through time. While 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, there is otherwise 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 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 and of interest to modern people. Although the value of skeletal research seems self-evident to the people who conduct it, there are many indigenous people in North America and Australia in particular 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 (Sadongei and Cash Cash 2007; Turnbull 2002). The conflict that may exist between the values that 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 differences in the values scientists and descendant groups may 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 (Larsen and Walker 2004). Human skeletal remains are a unique source of information on the genetic, physiological, and biocultural 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 derives from the analysis of artifacts, documents, oral histories, and other products of human cultural activity. Owing to their symbolic content, such cultural artifacts can be difficult to interpret and therefore may appear to support multiple, sometimes contradictory views of the past. The subjective aspects of interpreting cultural artifacts according to 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 (McCullagh 2000). All historians are products of the culture in which they live, and they are always selective in what they report.

Because the skeletal system is impacted by interactions with the environment throughout the life course through the physiological processes of growth, development, and acclimatization, skeletal data provide an independent line of evidence with which to evaluate interpretations of past adaptations based on artifacts, documents, and other cultural resources. The data provided by skeletal
studies are particularly valuable because the methods used to extract evidence from a skeleton are completely different from those used by historians to interpret the validity and historical significance of the cultural materials they work with. The only way scholars can minimize the cultural biases that distort understanding of past events is by collecting evidence from different sources that are not susceptible to the same types of interpretative errors. The greater the diversity of evidence we have about the past, the easier it is to rule out interpretations unlikely to reflect actual events and processes. Using a series of data sources that each on its own might be open to a different interpretation, offers the greatest potential for accurately reconstructing the past.

The unique perspective that skeletal evidence provides on the history of our species also 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, more “radical” schools of postmodernist thought, history is viewed as a symbolic construct devoid of any objective truth: in essence, a limitless array of possible narratives about the past that are all of equal merit or meritorious only in their difference (Evans 2002a,b). In some rarified corners of the humanities, for example, the possibility of knowing with certainty that even voluminously documented historical events such as the Holocaust actually occurred is actively debated (Braun 1994; Evans 2002a; Friedman 1998; Jordan 1995; Kellner 1994; Martin 1984; Schermer and Grobman 2000). In the world of such theorists, what happened in the past will always be the subject of re-visualizing and re-contextualizing “subjective” impressions of “subjective” descriptions.

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. 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 (Lambert 2007; Schmitt 2002; Walker 1996; Walker 1997).

In certain respects, bones do not lie. To give a specific example from our 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 2001; Walker et al. 1997). Although multiple “narratives” can be constructed to explain the presence of such lesions (the child was extraordinarily clumsy or accident prone, the child’s parents repeatedly beat him, and so on) at a fundamental level such skeletal evidence says something indisputable about a trauma-inducing 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, skeletal remains are extremely valuable sources of evidence for reconstructing human biocultural history.

The 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, however. 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 display and used in ways designed to foster group cohesion and legitimize religious or political authority (Chacon and Dye 2007). 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 of the continued display of Lenin’s remains in Red Square and the disposition of the more recently discovered remains of Czar Nicholas II and his family are 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; Yurchak 2015).

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 (Brooks and Rumsey 2007). 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 Guanajuato, Mexico, which displays over 100 naturally mummified bodies exhumed from a local cemetery between 1865 and 1889, 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 human bones disinterred from a cemetery near Kutna Hora in the Czech Republic and in the Church of the Capuchins in Rome. 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 (Sharf 1992). A similar example is the recent decision that the value of displaying bones from Khmer Rouge victims at the Tuol Sleng Prison Museum as evidence of the Cambodian genocide outweighs Buddhist religious beliefs that mandate cremation (Erlanger 1988; Peters 1995). Similarly, the display of bones and mummified bodies at specially designated sites in Rwanda is not a traditional way of memorializing the dead, but now serves to honor the hundreds of thousands killed in the 1994 genocide and to educate people about the devastating consequences of genocide (http://www.kgm.rw/).

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 disinterred 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 displaying 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
ethic. dilemmas skeletal biologists face. Bioarchaeologists do not view human remains primarily as symbols. Instead they value them as sources of historical and biomedical evidence that are key to understanding the course of human biological and cultural evolution. This lack of concern with symbolic issues is in stark contrast to the richness of the symbolic connotations human skeletons have for many 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 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 (Sadongei and Cash Cash 2007:98). In this post-colonial world, gaining control over ancestral remains is increasingly considered essential to the survival, revitalization, and empowerment of indigenous cultures.

The views of some Native Americans concerning this issue have changed dramatically during the past fifty years, as illustrated by archaeological reports that describe the enthusiastic participation of local Native peoples in the excavation of burials during the early- to mid-twentieth century (Benson and Bowers 1997; Brew 1941; Fewkes 1898; Hewett 1953; Hrdlička 1930a, b, 1931; Hurt et al. 1962; Judd 1968; Neuman 1975; Roberts 1931; Smith 1971; Smith et al. 1966). Walker (2008) noted that “as late as the 1960’s Inuit people in the Northwest Territory of Canada with whom I worked seemed little concerned about the excavation of ancient skeletal remains. In fact, they were extremely cordial to the members of the expedition and assisted 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 the 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 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 Euro-American, Christian values (Ellis C. 1996; Lomawaima 1993). Simultaneously, the isolation that formerly characterized life on the remote reservations that the government relegated to indigenous peoples began to break down owing to the development of interstate highways, radio, television, and the intrusions of tourists. These developments had a devastating effect on the transmission of indigenous languages and traditional beliefs and practices. In consequence, the remnants of earlier times preserved in museums have increasingly become a focus of cultural revitalization efforts. 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 authority over their cultural identity within the dominant Euro-American culture.

However, the relationship between tribal groups and cultural materials housed in museums is also much deeper than the political motivations many Euro-Americans perceive. Lambert still recalls the words of a Tlingit elder at a NAGPRA1 meeting in Juneau, sharing the deeply emotional experience of visiting a large eastern museum to view its collection of Tlingit clan items. He talked of speaking Tlingit in the presence of these venerated objects, of how they were “hearing” the language for the first time in perhaps 100 years. He spoke of bringing them home so that their young people could come to know the ancestral stories and spiritual power of these objects. This was a powerful awakening as to how differently Native Americans might feel about and relate to such materials, human remains or otherwise, held in museums, how crucial they might be to the existence, identity, and continuity of a people.

1 Native American Graves Protection and Repatriation Act
When viewed within the context of cultural marginalization and repression, it is easy to see why many indigenous people may not share or see much value in the goals of bioarchaeologists. Indeed, in an unpublished 1972 survey of Indian tribes in the Bureau of Indian Affairs [BIA] Aberdeen region conducted by John S. Sigstad 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 Native Americans believe, albeit incorrectly, 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 (Quigley 2008). They argue 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 peoples of the New World has nothing to contribute to our understanding of the broader history of humankind (Ubelaker and Grant 1989).

It is also the case that 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).

This tension between traditional and scientific views of the past was recently brought into sharp focus through the controversy over the disposition of the 8400-year-old human remains found in 1996 at the Kennewick site on the banks of the Columbia River in Washington (Hastings and Sampson 1997; Lemonick 1996; Morell 1998; Owsley and Jantz 2014; Petit 1998; Preston 1997; Slayman 1997; Watkins 2004). Scientists who examined these remains found that they possessed morphological characteristics unlike those of modern Native Americans and argued that research into reasons for this difference has the potential to make an important contribution to our understanding of the history of humankind (Chatters 2001; Owsley and Jantz 2001, 2014). Members of five Native American tribes that claimed the skeleton, on the other hand, believed that the question of the cultural affiliation of this individual had already been resolved by their elders, who told them that they have lived in the area in which 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 claimed 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). Ironically, it was a new line of scientific evidence (aDNA) that ultimately resolved the question of his Native American ancestry by demonstrating a genetic link between Kennewick Man and modern Native Americans in general, and an even closer link with one of the five claimant tribes (Rasmussen, M. et al. 2015). Interestingly, the DNA evidence provided support for both oral...
traditions and science as valid lines of evidence to aid in establishing cultural affiliation.

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 cyclical (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; Sadongei and Cash Cash 2007).

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 mistreated on the shelves of museums by racist genocidal, colonial oppressors. If we can accept the relativist perspective that both of these views have 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 within as well as between world regions of what is right and what is wrong (Bauer 2003), the precipitous decline in cultural diversity that has occurred with the expansion of modern communication systems has led to a worldwide convergence of values in certain areas of human affairs (Donaldson 1992; Seita 1997). These shared values are developing as part of the evolution of the transnational political and economic systems that on some level 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 and freedom of belief and religion, as well as freedom from discrimination, torture and degrading treatment, and interference with privacy (UN 1948). Other ethical rules that encompass what some people believe is an emerging, universal system of moral principles include: 1) widespread humanistic values such as the recognition that it is wrong to be indifferent to suffering; 2) tolerance of the beliefs of others; and 3) the belief that people should be free to live as they choose without having their affairs deliberately interfered with by others (Hatch 1983).

That said, the cultural values expressed by the assertion of basic human rights and universal moral principles such as these have been criticized in some world regions as hegemonic attempts to use Western cultural ideas as tools for gaining power and political control for transnational business interests (Bauer 2003). For example, the Chinese government has 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 the maintenance of skeletal collections for use in scientific research could be construed as a violation of a fundamental human right. For example, Article XVI.3 of the “American Declaration on the Rights of Indigenous Peoples,” prepared by the Inter-American Commission on Human Rights and adopted by the Organization of States (35 independent states of the Americas) in 2016, states that “indigenous Peoples have the right to preserve, protect, and access their sacred sites, including their burial grounds; to use and control their sacred objects and relics, and to recover their human remains” (Inter-American Commission on Human Rights [IACHR] 2016:149).

Professional associations and governmental agencies have also moved to develop standards of ethical behavior to guide researchers in their daily decision-making. 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, as well as 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). A number of guidelines in the biomedical and social sciences contain information directly relevant to resolving the ethical dilemmas bioarchaeologists face when they work with ancient human remains (American Anthropological Association [AAA] 2012; American Association of Physical Anthropologists [AAPA] 2003; American Institute of Archaeology [AIA] 2014, 2015; Canadian Association for Physical Anthropology [CAPA] 2015; Medical Research Council of Canada [MRCC] 2005; National Association for the Practice of Anthropology [NAPA] 2014, see Brody and Pester 2014; National Academy of Science [NAS] 1995; Register of Professional Archaeologists [RPA] 2017; Society for American Archaeology [SAA] 1996; United Nations Educational, Scientific and Cultural Organization [UNESCO] 1997). 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 archaeological collections of human remains is an ethical imperative.

Each of these principles is based on a complicated set of value judgements with real-world implications for the practices of skeletal biologists that in many ways depend 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 (AAPA 2003; Andersson 1996;
This ethical principle is based upon the belief that it is unacceptable to treat human remains solely as a means to an end (mere objects or things to be used for scientific inquiry), because doing so fails to respect the intrinsic human dignity of the person they represent and thus impoverishes all of humanity. Although an argument can be made that the remains of dead people are just that, “decaying organic matter” that “feels nothing, conceptualizes nothing, has no interests, and cannot suffer,” the principle stands in recognition that the respect is not for the body, but the antemortem person from whom the remains are derived (Lynch 1990:1017). Although it is true that, for many skeletal biologists, human remains are viewed as depersonalized and desanctified, there is still general agreement that they are nevertheless highly meaningful remains of once living people and should be treated with dignity and respect (Buikstra 1981; Lambert 2012; 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? However, a convincing argument can be made that skeletal remains are the physical embodiment of a once-living person and therefore deserving of respectful treatment. The logic of this argument is similar in some respects to that used by animal rights activists who admit that, although animals by definition do not have human rights, their ill treatment demeans humans and thus has implications for human behavior (McShea 1994; Mans Mirror 1991). In the same way it can be argued that the disrespectful treatment of human remains is morally repugnant because it fosters 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 of ways of respecting the dead that include hanging the skulls of close relatives from the rafters of huts, using skulls of parents as pillows, letting vultures feed upon dead relatives, and even consuming the tissues of their dead (Alfonso and Powell 2007; Conklin 2001). 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 (Roach 2003). For scientists who study the dead, respect for human remains derives not only from their association with a once living person, but also from an appreciation of the information they can yield. For these scientists, respectful treatment of human remains includes taking measures to insure the physical integrity of the remains and the documentation associated with them, avoiding treatments that will contaminate or degrade their organic and inorganic constituents, and so forth (Alfonso and Powell 2007).

These academic arguments about the definition of and justification for treating human remains with respect can seem a bit misdirected to indigenous people who view ancestral remains not as inanimate objects devoid of life, but instead as living entities that are imbued with ancestral spirits. From the perspective of some Native Americans, for example, ancient human skeletons are “not just remains, they’re not bone to be studied, you’re dealing with spirits as you touch those remains” (Augustine 1994). As Rachel Craig, a Native Alaskan put it, “I feel an obligation to give back to them, to speak for them. Our grandmothers have told us the importance of the spirit world. The spirits of those people cannot rest and make their progress in the spirit world unless they know that those bones are put back
in the earth where they belong. That is our teaching” (Craig 1994). This same view that the retention of skeletons in museums interferes with the afterlife and separates the spirits of the dead from the community of the living has been forcefully expressed by William Tallbull, a member of the Northern Cheyenne tribe: “We talk about people coming home. When the people came home from the museum and are buried at home, they all go and visit every house. This is where the joy comes in. They are home. They are here. They walk around through the village and become part of us again. That’s all we are asking” (Tallbull 1994).

Elsewhere in the world these profoundly felt sentiments about the impropriety of studying the dead are not always shared and in many locations where bioarchaeologists now conduct their research human remains are excavated, curated, and sometimes displayed with the support of local communities and governmental entities. During the excavation of an early Christian graveyard (ca. CE 1000) in the Mosfell Valley of Iceland (Byock et al. 2003), for example, local community members and dignitaries who in all probability share ancestry with the excavated remains would often come out to visit the site to find out what we had discovered, and they provided services and support for the excavations. In Guanajuato, Mexico, the inhabitants consider mummies excavated from the local cemetery and displayed in a “mummy” museum to be an important part of their cultural heritage.2 In these contexts, respect for human dignity does not preclude the collection, study, and/or display of human remains.

**Descendant Rights**

Since disputes over who should have the right to control the disposition of ancient human remains are central to many of the ethical dilemmas bioarchaeologists face, especially in Australia, Canada, and the United States, as well as in countries such as Israel (Nagar 2004) and Great Britain (Sayer 2009) with close links to these countries (Lambert 2012), it is useful to consider this issue in a broader perspective. Giving close relatives authority to make decisions about the disposition of the remains of the recent dead appears to be a cultural universal. Only in exceptional circumstances, such as the special dispositions mandated for the bodies of executed criminals as part of their punishment, and the control that coroners are given over bodies that might yield evidence relevant to legal proceedings, is the right of close relatives to decide the disposition of a body denied. It is therefore not surprising that this issue is one upon which presumably all bioarchaeologists can agree: if skeletal remains can be identified as those of a known individual for whom specific biological descendants can be traced, the disposition of those remains, including possible reburial, should be decided by the closest living relatives.

Many of the ethical dilemmas that skeletal biologists face arise not out of a disagreement over this fundamental principle of the rights of relatives to their dead, but instead, over how the rights of descendants should be recognized in real-world situations. The first problematic area concerns how the rights of relatives with different relationships to the dead person should be balanced against each other. In modern legal systems authority over the dead is judged using a rigid hierarchy of rights. For example, the Uniform Anatomical Gift Act (1987, 2006) establishes the following order of priority for people authorized to make decisions about the authorization of removal of body parts: 1) the spouse, 2) an adult son or daughter, 2) either parent, 4) adult brother or sister, 5) the person’s legal guardian at the time of death, 6) any other person authorized to dispose of the body. However, there is considerable room for cultural variation in rules governing control over the dead. In China, for example, because of its pervasive patriarchal family structure, authority of the wife regarding funeral arrangements is likely to be less than that of the male members of his patriline (Cooper 1998).

2 www.momiasdeguanajuato.gob.mx/ Accessed February 1, 2018
In contrast with the agreement about giving lineal descendants control over the disposition of the remains or close relatives, there is little consensus concerning the question of the appropriate way to decide the disposition of human remains that are distantly related to living people. What is the ethical way to decide the disposition of the remains of people who are many generations removed from any living person? How do we weigh the many attenuated genetic and cultural ties that link large numbers of living people to ancestors who lived thousands, hundreds of thousands, or even millions of years ago? Which living individuals should be granted the moral authority to decide the disposition of our ancient ancestors?

The basic elements of the dilemma can be better understood from a scientific perspective by considering how the genetic and cultural connections that link modern people and earlier generations vary as a function of time. The first problem is that the more distant an ancestor is from a descendant, the more descendants there are sharing the same genetic relationship to that ancestor. The variables that influence the number of shared ancestors that living people have are complex. However, one fact is indisputable: as we probe more deeply into our family tree, the probability of discovering an ancestor we share with a large number of other living people increases dramatically. A lineage of people who each had four children and did not marry relatives would produce about 1.4 million direct descendants over ten generations, or about 250 years. People, of course, tend to marry relatives and not everyone has the same number of children. Even accounting for these complicating variables, however, the fact remains that many living people are likely to be related to any individual who lived many generations ago.

If we believe that relatives should decide the disposition of ancestral remains, how can we identify all those descendants and allow them to make a collective decision about the proper treatment of their relative’s bones? The problem of linking modern people to our hunter-gatherer ancestors is complicated by the highly mobile lifestyle of such populations. This decreases the likelihood that the ancestral remains of a modern group will be found in the territory in which that modern group currently resides. In situations of population replacement, it may even be that the modern people who now live in an area were directly responsible for the displacement or even extermination of the ancient people who formerly occupied that same territory.

Even in cases where it is clear that descendants continue to occupy the land of their ancestors, there is still the problem posed by the expansion of living descendants with increasing genealogical remoteness. In an area such as Europe, with a relatively stable gene pool, someone who died more than a few hundred years ago is likely to be related to hundreds of thousands, if not millions of living people. For instance, DNA studies conducted on the 5000-year-old mummified body recently found in the Tyrolean Alps suggest a genetic relationship between this person and 300 million or so contemporary people living in central and northern Europe (Handt et al. 1994). This, of course, does not include many millions of additional people living in North America and elsewhere with ancestral ties to northern Europe.

In the western hemisphere the problem of assigning rights for the control of ancestral remains to living descendants is complicated by gene flow between and among indigenous Americans and the peoples of Europe, Africa, and Asia. For example, geneticists estimate that 31% of the contemporary gene pool of people identified as Hispanic or Mexican Americans is derived from their Native American ancestors (Gardner et al. 1984; Hanis et al. 1991). Adding further complexity, in Mexico alone there are 65 distinct indigenous ethnicities (Moreno-Estrada et al. 2014). These diverse Native American descendants are numerically a very significant component of the New World population and, if demographic trends continue, are likely to replace non-Hispanic Euro-Americans as the ethnic

http://familyrecordfinder.com/ancestors.html
majority in the United States in less than one life-span (Edmondson 1996; Nicklin 1997). If we believe that descendants should have a right to decide the disposition of the remains of their ancestors, then we need to find a way to incorporate the views of Latin Americans into the process through which the disposition of ancient American remains is decided. Consider, for example, that Paleoamericans such as the Anzick-1 child and Kennewick Man have been shown to have genetic links with indigenous peoples of Central and South America (Rasmussen M. et al. 2014).

That said, some people see focusing on genetic relationships in this way as a myopic and misguided biological reductionism, and that a person’s cultural background is more important than the genetic links that tie them to earlier generations. From this perspective, there are two types of ancestors: genetic and cultural, and it is the cultural link with the people who lived in the past that counts. While the idea of limiting authority to make decisions about the disposition of ancient human remains to people who share the deceased person’s cultural identity makes some sense, applying this ethical principle is extremely problematic in real-world situations. If the strength of a modern person’s belief in their cultural link to an earlier person’s remains is to be the measure of moral authority, how are we to evaluate the relative validity of such beliefs? To give a specific example, many Native Americans see the intrusions of the “New Age” movement into their cultural identity as the appropriation of Native American spiritual traditions by outsiders who are destroying Indian spirituality and contributing to white racism and genocide (Geertz 1996; Hernandez-Avila 1996; Jocks 1996; Johnson, W. 1996; Kehoe 1996; Meyer 2001). Is it ethically acceptable then to give the same authority to people who have adopted the identity or belief system of a particular tribe or group through participation in New Age ceremonies. This is where the rejection of scientific evidence and the unconditional acceptance of cultural relativism can become problematic (Goldstein and Kintigh 1990:587–588).

It is also reasonable, from a scientific perspective at least, to ask at what point a living person’s cultural connection to a dead person becomes so attenuated that it merges into the common cultural heritage of all people, and thus no longer provides a moral basis for special rights and control. Several cultural variables could be considered relevant here: a shared language, common religious practices, and so on. The difficulty is weighing the significance of such disparate cultural traits, especially in the context of ancient remains and cultural evolution.

This issue of cultural continuity can be particularly contentious when indigenous cultures are marginalized, disrupted, and driven to the brink of extinction, because remnants of the past, including ancestral human remains, become increasingly important as symbols of cultural oppression, survival, and identity. This inverse relationship between concern over ancestral remains and cultural continuity is illustrated by the differences between Latin America and North America in concern over ancestral remains and repatriation issues. In Latin American countries where a strong sense of “Indianness” has been integrated into the national identity, human remains are excavated and displayed without opposition in museums (Cardin 2015). In this context, they serve as symbols of a national past that is shared by and important to all citizens (Ubelaker and Grant 1989). The government of the United States, in contrast, has historically considered Native Americans as outsiders to be dealt with by isolating them on reservations and suppressing their indigenous languages and beliefs to facilitate converting them into functional members of the dominant Euro-American culture (e.g., Indian Removal Act of 1830, Indian Appropriations Act of 1852, The Dawes Act of 1887; see Pevar 2012; Rosen 2007). These government policies have had devastating effects on Native American cultures and contributed enormously to the hostility indigenous North American peoples feel over issues related to the control of ancestral remains.
In the United States, a legislative effort was made in 1990 to use a combination of biological and cultural continuity as the basis for giving modern indigenous groups the rights over ancient skeletal remains. NAGPRA, the Native American Graves Protection and Repatriation Act, gives federally recognized tribes that can demonstrate a “cultural affiliation” to ancestral remains the authority to control their disposition (Bruning 2006; Lambert 2012; Lovis et al. 2004; McLaughlin 2004; Ousley et al. 2005; Richman 2004). In this legal context, cultural affiliation means “a relationship of shared group identity which can be reasonably traced historically or prehistorically between a present day group and an identifiable earlier group.” In this statute, cultural affiliation is established when “the preponderance of the evidence – based on geographical, kinship, biological, archeological, linguistic, folklore, oral tradition, historical evidence, or other information or expert opinion – reasonably leads” to the conclusion that a federally recognized tribe is culturally affiliated with an “earlier group.” Although NAGPRA has benefited many federally recognized tribes and has had the positive effect of increasing communication between Native Americans and scientists who study archaeological human remains, its exclusion of Native American groups that lack federal recognition continues to raise serious ethical issues. The Act is derided by some Native Americans who see it as another step in the long history of attempts to define “Native American groups” in ways that facilitate their control and manipulation by oppressive governmental agencies. In California, for instance, many groups that by any even-handed definition are authentic “tribes” have failed to receive official recognition by the federal government, or have had their federal recognition removed, and thus are denied full access to the provision of NAGPRA (Goldberg 1997; Walker 1995). While this issue was recognized in the recent formulation of regulations for the disposition of culturally unidentifiable human remains (43CFR 10.11, as amended in 78 FR 27083, May 9, 2013), which include human remains from tribes without federal recognition, the unequal status of these tribes under NAGPRA remains.

These legalistic considerations and academic concerns over how to establish a connection between the living and the dead seem irrelevant to those indigenous people whose religious beliefs resolve such issues for them. Many indigenous people are creationists who reject the idea that all modern people share a common ancestor. Instead, some believe that their tribe is the result of a special creation and that they have lived in the area currently occupied by their tribe since the beginning of time. Such beliefs remove any uncertainties regarding ancestral relationships and can result in acrimonious disputes between scientists and tribal members, such as those that occurred over the Kennewick skeleton (Hastings and Sampson 1997; Johnson 2002; Lemonick 1996; Lovis et al. 2004; Morell 1998; Petit 1998; Preston 1997; Slayman 1997).

**The Preservation Ethic**

The final universally accepted principle for bioarchaeologists is the preservation ethic, which for archaeological resources in the United States has been codified in two pieces of legislation: The Antiquities Act of 1906, which mandates the protection of archaeological resources and validates their significance for research and education; and the Archaeological Resources Protection Act of 1979 (ARPA), which specifically mentions “human remains” and “graves” as archaeological resources warranting protection (Lambert 2012). Such archaeological preservation laws are not unique to the United States, and can be found in various forms in Europe and other world regions (Marquez-Grant and Fibiger, 2011).

Bioarchaeologists are, of course, particularly focused on the preservation of the human remains component of the archaeological record as a source of unique insights into the history of our species. These are seen to constitute the “material memory” of the people who preceded us and thus provide a direct means
through which we may come to know our ancestors. Because we believe that the lessons that the remains of our ancestors can teach us about our common heritage have great value to modern people, and because we know from the history of science that new methods will continue to emerge to elicit new types of information about our biological past, it is seen as an ethical imperative to study these remains and to work to preserve as much as possible of the bioarchaeological record for future generations. This position is championed by governments throughout the world who support archaeological research, encourage the conservation and preservation of archaeological resources, and discourage unnecessary destruction of archaeological sites (Knudson 1986:397; Richman and Forsyth 2004).

The preservation ethic is based on the scientific premise that aspects of our shared human experience have the potential to be brought into sharper focus through the examination of ancient human skeletal remains. As caretakers of this fundamental source of information on the biological history of our species, we need to promote the long-term preservation of skeletal collections to ensure that future generations will have the opportunity to learn from them and in this way, know about and understand that history (Turner 1986). Archaeological research, including osteological study, is one way that our common heritage can be fully revealed (White and Folkens 1991:418–423). The goal of creating a more accurate view of humanity is an important justification for the preservation of skeletal collections. Most scientists recognize the cultural influences that focus their observations on certain aspects of reality and color the inferences they make based on those observations (Glock 1995; Tomaskova 1995; Wylie 1989). Although we know that our conclusions are to some extent distorted by our cultural biases, we take comfort in the fact that these distortions will be detected and corrected through future research by others, with different cultural perspectives. For this self-correcting aspect of the scientific method to be operative, the evidence upon which our conclusions are based must be available for scrutiny by future researchers. In experimental fields such as physics, this is accomplished through repeating experiments. In historical sciences such as bioarchaeology, our reconstructions of what happened in the past are refined and corrected through the reexamination of collections using new analytical techniques and theoretical perspectives.

During the past twenty years, the rate at which this self-correcting process operates has increased markedly as a result of the re-study of skeletal collections in museums using newly developed analytical techniques that have greatly expanded the types of information we can retrieve from ancient human remains. Especially exciting are new techniques that use pathogen-specific bone proteins to reconstruct the disease histories of human populations (Bos et al. 2011; Fernandes et al. 2008; Hoffman 1998; Rasmussen S. et al. 2015), new methods in stable isotope analysis that provide precise information on the types of food people ate (Froehle et al. 2012; Stott and Evershed 1996), and new procedures for reconstructing ancestral relationships through DNA analysis (Mulligan 2006; O’Rourke et al. 2000). Kennewick Man is an important case in point on the corrective nature of our reconstructions through the application of newly emerging techniques in aDNA analysis (Rasmussen M., et al. 2015).

The development of these new and enormously informative analytical techniques underscores how valuable human remains are as a source of insights into the history of our species. The information content of a cultural product such as stone tool is very meager in comparison to the wealth of biological and cultural information that can be extracted from a human skeleton. The historical information an artifact yields is limited to data on the manufacturing processes, activity patterns and mental processes discernible from its physical properties, form, and archaeological context. The information contained within the structure of the human skeleton, in contrast, is of a different sort. It is not a culture-dependent, symbolic
construct. Skeletal remains instead have their basis in adaptive physiological and demographic processes operating at the individual, population, and species levels. Preserved within the molecular and histological structure of skeletal tissues is a detailed record of the person’s childhood development and adult history of metabolic and biocultural responses to the challenges encountered in his or her natural and sociocultural environment. This information can be supplemented by an equally rich record of ancestral relationships and the evolutionary history of our species encoded in the structure of DNA molecules preserved within a skeleton. The information about historical events revealed through the study of the skeletons of our ancestors can be thought of as a complex of messages from the past that we can decode through bioarchaeological research. Each skeleton has a unique story to tell about that individual’s life and, collectively, about the population of which the individual was a member as well as the evolutionary events that constitute the history of our species. By working to preserve ancient skeletal remains, we ensure that future generations will be able to obtain the important information these remains may yet reveal as scientists develop new methods and techniques for data acquisition.

**SOURCES OF CONFLICT OVER QUESTIONS OF DESCENDANT RIGHTS**

The ethical principles described above have an inherent potential for conflict, at least in some cultural contexts. The preservation ethic, with its basis in the belief that the information that skeletal studies can yield is of great value to all people, can easily conflict with the ethical principle of the rights of descendants to decide the disposition of their ancestor’s remains. If we recognize the validity of the interests of both descendants and scientists in human skeletal remains, how do we resolve the ethical issues that arise when the preservation ethic conflicts with the desires of descendants?

When the remains of close relatives are involved, there is unanimity among bioarchaeologists that the concerns of descendants should override any scientific interests in those remains. Ethical dilemmas, however, frequently do arise when the ancestor–descendant relationship is less clear-cut. How do we balance the scientific value of very ancient skeletal remains against the concerns of modern people who are remotely related to those same individuals?

Most scientists see the strength of the ancestor–descendant relationship as a continuum that becomes attenuated with succeeding generations. At one end of this continuum we have remains of people with living children and grandchildren who have an undisputed right to determine the disposition of their close relative’s remains. At the other we have the remains of very distant relatives, such as the earliest members of our species, to which all modern people are equally related. From this evolutionary perspective, descendant rights are seen as decreasing as the number of generations separating the living and the dead increases. At some point, claims by one modern group of descendants to decide the disposition of ancient human remains is counterbalanced by the right of all people to have access to the unique source of evidence on the history of our species that human skeletal remains provide. How do we decide when, or if, the scientific value of skeletal evidence is sufficient to override the concerns of remotely related descendants?

There is no easy answer to the question of how to balance descendant rights against the right of all people to know about the past when the values skeletal biologists and descendants attach to human remains are incommensurable. A major point of contention arises from the fact that many modern indigenous people in the Western world do not agree with the idea that the ancestor–descendant relationship becomes attenuated with time. Instead they see the spirits of their ancestors, no matter how distant, as an integral part of the modern community of the living (Isaacs 2005; Sadongei and Cash Cash 2007). Nor do they
see themselves as closely related to the rest of humanity. Instead they believe that they are the products of a unique creation that occurred in the area their tribe currently occupies and is an issue of faith about which scientific evidence is irrelevant (Johnson, G. 1996). For instance, Armand Minthorn, a member of the Umatilla tribe, one of the claimants of the Kennewick skeleton, made this point when he stated: “We know how time began and how Indian people were created. They can say whatever they want, the scientists” (The Economist 1996). The implication of this belief is that all human remains from the area in which the group was created, no matter how ancient, are those of their direct ancestors. Although many scientists see such creationist interpretations of the history of our species as factually unsupported, they are shared by a substantial number of non-indigenous people. For example, a recent survey found that about 20% of the people in the United States believe in the literal interpretation of the Bible that says God created the cosmos about 5,000 to 10,000 years ago (Goldhaber 1996).

We probably all agree that we will never find a culture-free metric for weighing the value of knowing what actually happened in the past against the concerns descendants have about ancestral remains. Unfortunately, even if we agree that the benefit of giving control over ancestral remains to people who identify themselves as descendants always outweighs their value as a source of scientific information, we still face the problem of determining who should be able to claim standing as a descendant and what is the ethical thing to do when there are competing claims.

When dealing with close relatives, where the genealogical link between ancestor and descendant is known, allocating descendant rights over the remains of their relatives is fairly straightforward. For example, we might establish a hierarchy that gives a person’s spouse, children, parents, and siblings the authority to control the disposition of their remains. However, even such an apparently simple scheme as this is open to charges of ethnocentrism because it reifies a Western kinship system that emphasizes the importance of genetic relatedness as a criterion for moral authority and invests the rights to make such decisions in a person’s nuclear family. Other societies might give greater authority to elder members of a person’s patriline or matriline, or disregard the modern Western preoccupation with genetic relatedness altogether in favor of another culture-dependent conception of relatedness.

Even where we recognize the validity of such claims and agree that the moral authority of belief in a close ancestor–descendant relationship always outweighs any scientific value skeletal collections might have, we are still faced with the dilemma of deciding what to do when there are conflicting claims for the same skeletal collections. This problem can be illustrated by couple of cases in the United States in which people with different beliefs about the past have disputed each other’s assertions of moral authority to control archaeological collections. In Hawaii, soon after the passage of NAGPRA in 1990, fifteen federally recognized native groups became involved in a dispute over the disposition of ancestral remains from Mokapu on the island of Oahu (NAGPRA 1994). One of these groups insisted that scientific research be conducted on the remains of these ancient individuals to determine their ancestral relationships, while other groups viewed such work as a deep insult to the spirits of their ancestors. Another acrimonious fight over descendant rights is ongoing in the American Southwest between the Navajo and Zuni Indians as a result of a government-instigated land deal that prohibits the Navajo from burying their dead in certain traditional burial areas and requires them to renounce claims on sacred sites (Benedek 1992; Cockburn 1997; Minard 2015). Both tribes have publicly asserted their ancestral rights to the remains of what archaeologists call the Anasazi culture.

One option for dealing with the conflicts that arise when several groups of people assert the moral authority that comes with belief in descent from distant ancestors is to take refuge
in the legal system where lawyers, politicians, government functionaries, and politically astute special interest groups can wrestle with each other to find a solution to the vexing question of who should have legal standing as a descendant. For those who view our legal systems as distillations of the moral principles of the people that laws govern, turning the ethical problem of defining “real” descendants over to the courts is very appealing. The moral problem of relying on laws to decide which groups have the right to determine the disposition of human remains has its basis in the faulty assumption that we all live in just societies. However, as we know, laws in the recent past have been used as mechanisms through which democratically elected governments have defined groups for purposes of apartheid, slavery, and genocide.

In the United States, for example, the Native American Graves Protection and Repatriation Act is legislation meant to redress past wrongs against Native Americans, and yet it also institutionalizes long-standing inequities in the treatment of federally recognized and non-federally recognized descendants (Walker 1998). Particularly troubling from an ethical standpoint is its failure to acknowledge the existence of authentic descendant groups that, for one reason or another, have either failed to receive or rejected federal tribal recognition. This omission is especially unfortunate for the many federally unrecognized descendants in California and the eastern United States where the vagaries of the colonial process allowed the government to avoid giving Indian tribes the rights of self-determination that go along with federal recognition. Even if such federally unrecognized groups were given legal standing as descendants, the law would still present ethical problems because, with the minor exception of granting rights to people who can show a direct genealogical connection to the remains of a known individual, it fails to recognize the rights of the many people of Native American descent who lack any tribal affiliation.

The difficulties associated with legislative solutions to the ethical dilemma of determining the disposition of skeletal collections are similarly illustrated by the problems that have arisen in Israel through legislative attempts to resolve disputes over the control of skeletal collections. Ultra-orthodox Jewish organizations in Israel, such as the Atra Kadisha, who regard all academic study involving human remains as a violation of Jewish law, have long been at loggerheads with physical anthropologists over the excavation and the handling of human remains, including skeletons of extreme antiquity such as those of Neanderthals (Watzman 1996a, b, c). Owing to the compromises necessary for coalitions of political parties to maintain control of the Israeli government, court rulings have been issued that make the study of unearthed human remains difficult if not impossible (Nagar 2004).

RESOLVING CONFLICTS AND FINDING MUTUALLY BENEFICIAL OUTCOMES

It is important to recognize that there is no inherent conflict between the study of human skeletal remains and respect for the dead. In many countries research on and the public display of ancestral remains are matters of national pride. In other situations, arrangements can often be made that satisfy the religious and symbolic concerns of modern descendants while allowing scientific research on ancestral remains to continue, albeit not always indefinitely. At St Bride’s Church, London, for example, the skeletons of people with known descendants whose burials were disturbed during the German bombings of World War II are respectfully maintained in a special room where they are available for scientific research (Huda and Bowman 1995; Scheuer and Bowman 1995). In this way, the religious and symbolic concerns of descendants are respected, while at the same time making it possible for these remains to continue to yield important insights into the lives of eighteenth- and nineteenth-century Londoners that are not adequately documented in written records (Walker 1997, 2004).
In the United States, most of the bioarchaeological research in the post-NAGPRA era now occurs through a process of consultation and sometimes participation with culturally affiliated individuals and tribes, with reburial a common part of the process (e.g., Billman et al. 2000; Dongoske 1996; Greenwald et al. 2016; Henebry-DeLeon 2016). New collections of human skeletal remains of both ancient and modern individuals also continue to be assembled in the United States and abroad. These are made in accordance with the standards and ethics of the twenty-first century, and in continued recognition of the value of human skeletal collections as reservoirs of information about human populations past and present (e.g., Ferreira et al. 2014; Salceda et al. 2012; Shirley et al. 2011).

In all societies, cultural understandings of sacredness and ethical behavior are constantly being reshaped in response to changing social realities. This is especially true for the issues surrounding the treatment of ancient human remains because the social context of bioarchaeological research is a modern one not confronted by earlier generations. For many societies the excavation, curation, and study of ancestral remains is a new phenomenon that presents practical problems requiring the development of new rituals, new conceptions of sacredness, and new beliefs concerning what is respectful and disrespectful behavior. However, in other societies, especially sedentary ones accustomed to maintaining large, intensively used cemeteries, a long history of facing the practical and symbolic problems posed by the disturbance and handling of ancestral remains has resulted in traditional solutions. For example, the Chumash Indians of southern California had specialists called liwimpshit, which means “custodian of the algebra,” who were familiar with the human skeleton and the art of arranging bones. These medical practitioners not only could set bones, but they could also arrange all the bones of the human skeleton properly, and determine whether those ancestral bones had once belonged to a man or a woman (Walker and Hudson 1993:46, 48). The need for someone qualified to deal with human bone derived from Chumash burial practices, emphasizes the importance of having the remains of the dead near to the living. Cemeteries were, therefore, located adjacent to or within villages. As the size of Chumash settlements grew, so did the size of their cemeteries and this frequently necessitated the excavation and disturbance of ancestral remains (King 1969).

Although the social context of the issues surrounding the treatment of the dead that the modern Chumash face are very different from those they confronted in the past, traditional beliefs about the treatment of the dead have served as a basis for creating a situation in which bioarchaeological research may continue, while ensuring that due respect is shown for their dead. Working with tribal members over the years, Walker and his colleagues developed a cooperative arrangement through which Chumash ancestral remains and associated burial objects housed at other universities and museums could be moved to a safer keeping place at the University of California campus. Descendants involved in these discussions saw this as a more desirable arrangement than the existing one because the university is located near the center of the area historically occupied by the tribe and thus ancestral remains would be returning to the homeland. A specially designed, subterranean ossuary was created to receive these remains as part of the construction of a new sciences and humanities building. This ossuary was designed through consultation with both federally and non-federally recognized tribal members to ensure that it met their spiritual needs, and also to solve the practical problem of providing security against future disturbance that would be unavailable in an unguarded reburial area. The ossuary also made it possible for scientific research to continue on these collections, where deemed appropriate and permissible by Chumash descendants.

Mutually acceptable solutions such as this that balance spiritual and practical concerns of
descendants against the important historical information skeletal research can provide, are the outcome of personal relationships, mutual trust and respect, and the recognition of common interests. Such relationships require time and effort to nurture. In this case, they developed in part through assisting descendants and local law-enforcement authorities in the apprehension and prosecution of grave robbers and looters, as well as actively working to minimize the threats of urban development to their sacred sites and archaeological resources. Seminars and workshops on archaeology, osteology, and the intricacies of the laws governing the management and protection of archaeological resources were also offered at the request of descendants, which helped to build knowledge and trust – as did the involvement of descendants in research projects whenever possible. Such collaborations can be enormously rewarding, both personally and professionally, because descendants provide important and otherwise unavailable insights into the history of their culture.

That said, not all groups have religious traditions that can be easily built upon to allow scientific research conducted on the remains of the dead. The strong objections ultra-orthodox Jewish organizations have to any skeletal studies have already been mentioned (Watzman 1996c). As the claims of Hopi and Navajo to archaeological remains from the ancient Anasazi culture show, it is easy for the control of bones and burial sites to become enmeshed in larger battles over economic and social issues concerning the control of land and natural resources, environmental preservation, and so on. This of course greatly complicates the problem of finding a basis for compromise. Sometimes collaboration with descendants may be difficult or impossible owing to antagonism toward Western science, and strong traditional beliefs about the retention of a person’s spirit within their bones. Some native Hawaiians, for example, believe that people possess mana, which after death resides in the bones, and have argued in court that the publication of information about skeletal collections is offensive and will steal the mana of their ancestors (Kanahele 1993). Many Plains Indian tribes also have strong beliefs about the residence of souls in their ancestral remains. This, along with lingering animosity stemming from racism, genocidal attacks by the U.S. military, cultural suppression in boarding schools, and economic marginalization on reservations makes the prospects for the preservation of skeletal collections from most of the Plains area slim (Ubelaker 1994:395).

In situations such as these it may be impossible to obtain a compromise that allows skeletal research to continue. However, once the shroud of mystery associated with what osteologists actually do is removed through direct contacts between people, it is often possible to find a foundation upon which mutual understanding and cooperation can be built. One pathway to the development of such collaborations is in the identification and analysis of ancient human remains that are inadvertently disturbed through erosion, for example, or during construction projects. In such situations, the value of close collaboration between osteologists and descendants is obvious. After it has been decided that remains are indeed human, the issue of whether or not they are modern (and thus possibly relevant to a forensic investigation) needs to be resolved. If they are ancient, the question of which modern group of people they are affiliated with needs to be considered. This issue is especially important to some indigenous people in the United States who have expressed strong religious sanctions against the burial of non-group members in their cemeteries.

The value of osteological research is also self-evident in forensic investigations relating to the prosecution of grave robbers. As noted above, Walker (2008) collaborated with local Chumash tribal representatives on several important cases. In one, the team was able to match a fragment of a mandible confiscated from a suspect’s home with another piece of the same mandible that tribal members had recovered from the area of an ancient grave disturbed by looters. This incontrovertible
evidence connecting the defendant with the crime scene resulted in a guilty plea. In another, he worked with tribal members to successfully refute a grave robber’s attempt to exonerate himself by claiming that the Native American remains he excavated were from a person of European ancestry, and thus not protected by the state’s Native American graves protection law. Through the process of working on such cases, the views of people who once saw little value in skeletal research can change dramatically as they increasingly become aware of many important insights skeletal studies can give us into the lives of those who have gone before us.

When skeletal collections are lost and the capacity to study skeletal material halted owing to the scientific community’s inability to find equitable solutions that balance the concerns of modern descendants against the need to preserve collections for future generations, it is perhaps of some solace to remember that we live in an entropic world in which the natural processes of decay and disintegration, and the economic and social realities of modern life, continuously conspire to destroy the faint traces our ancestors have left for us in the archaeological record. We cannot turn this tide. All we can do is work to preserve as much of the physical evidence of our common heritage as possible in consultation and collaboration with descendant communities throughout the world.

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