



Bioarchaeology and the Ethics of Research Using Human Skeletal Remains

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Abstract

In a recent article, Pobst¹ refers to bioarchaeologists as “grave-robbing scientists,” a phrase that negatively and inaccurately describes such researchers. This paper provides an overview of the history of the collection of human skeletal remains by anthropologists and others, which has resulted in misconceptions about current practices in the field, and of the important changes that have been made in recent decades to ensure that bioarchaeological research is done ethically. Recent Black Death research is emphasized as an example of bioarchaeology that conforms to the ethical standards of numerous organizations and avoids the exploitative use of human remains against the wishes of descendant populations.

Introduction

In a recent article in *History Compass*, Pobst² refers to researchers who have analyzed the skeletal remains of medieval Black Death (c. 1347–1351) victims as “grave-robbing scientists.” This includes bioarchaeologists who analyze skeletal material and geneticists who isolate ancient biomolecules from excavated Black Death victims. Pobst urges historians to be skeptical of “modern diagnoses” of plague based on scientific evidence and to avoid both privileging scientific findings and treating historical material “with contempt.” She might not have meant “grave robber” to be taken literally, but the portrayal of these researchers as such is inaccurate and pejorative. Bioarchaeology does have a history that unfortunately includes grave robbing, which is the removal of grave goods or human remains from burials without the permission of the decedent’s relatives, with the intent to sell or otherwise profit from the materials. However, professional anthropologists no longer engage in such practices and have made efforts to make reparations for past ethical violations perpetrated against indigenous peoples and others. The remains of Black Death victims referred to by Pobst were not obtained in an illegal or unethical manner, and their excavation and treatment post-excavation has adhered to the standards established by anthropological associations, museums, the Church of England, English Heritage, and governmental agencies of England. Bioarchaeological research on the Black Death does not represent “grave robbing,” and characterization of it as such is uninformed and does a disservice to the field and the general public.

Bioarchaeology

Bioarchaeology is a subfield of anthropology that is dedicated to the study of human skeletal remains excavated from archaeological sites with the aim of furthering our understanding of the demography (i.e. mortality, fertility, and migration), disease and health characteristics, and other aspects of the ways of life of people in past populations. The bioarchaeological analysis of skeletal remains is vital for a complete understanding of life in the past because it can yield data that are often missing from historical documents, archaeological materials, and other sources.

For most of human existence there are no written records from which we can reconstruct life in the past. Further, some prehistoric populations have no living descendant populations with an oral tradition that is informative about past life ways. Therefore archaeological data often represent the only information available. For those past populations with written records, the records are often biased and thus not representative of the experiences of everyone in that population. In the case of populations affected by the Black Death, for example, there are written records from some regions, such as the inquisitions postmortem and manorial court records from England, that provide limited details about mortality patterns during the epidemic.³ However, these records provide information about a very narrow range of experiences. There are, for example, very few documentary data on women and children at the time of the Black Death, particularly the kind of detailed data on age-at-death that are necessary for complete demographic reconstructions. The skeletal remains of Black Death victims allow for insights that are not possible using existing historical documents. With such information, bioarchaeologists are able not only to reveal what is missing from documentary sources but also potentially to challenge accepted historical-based narratives about the past.⁴

Grave Robbing and Its Modern Vestiges in Bioarchaeology

Unfortunately, the recognition that skeletal remains provide valuable information motivated grave robbing by and for anthropologists, medical doctors, and others in the not too distant past. Scholars in the 19th century, such as Samuel G. Morton, wanted to amass collections of Native American skulls in order to further their research interests in explaining physical, intellectual, and cultural differences between populations and in establishing a racial hierarchy.⁵ Nineteenth-century scientific theories of the inferiority of non-Whites lent support to views of Native Americans and their remains as materials appropriate for scientific study rather than as individuals deserving of dignity and respect.⁶ The Chicago Field Museum, the Army Medical Museum,⁷ and other institutions funded expeditions to procure Native American skeletal remains,⁷ and this led to grave robbing and even the theft of recently dead individuals from battlefields by military personnel, anthropologists, and others against the protests of Native populations.⁸ Even Franz Boas, an opponent of scientific racism and considered by many to be the Father of American Anthropology, robbed Kwakwaka'wakw graves himself to sell to the Chicago Field Museum and other institutions in order to fund his ethnographic research.⁹

Hight¹⁰ draws parallels between the grave robbing done by anthropologists and that associated with anatomical instruction in 18th–19th century medical schools. In the United States and Europe, the increasing number of medical schools in the 18th–19th centuries, and the consequent need for (and thus profit to be made by providing) more cadavers for anatomical instruction, coupled with laws restricting the use of human bodies in such a manner, led to grave robbing by medical students, physicians, and professional “body snatchers” or “resurrectionists.”¹¹ Grave robbing was considered distasteful but necessary given the need to improve the anatomical knowledge of physicians, which would arguably benefit those in their care. Grave robbing disproportionately targeted the bodies of disenfranchised people with the least power to protest and the fewest means to protect their burials, i.e. African Americans, the poor, and criminals.¹² Similarly, grave robbing of Native Americans prioritized scientific inquiry over the wishes of descendant populations who were typically powerless to prevent such activities and reflected major differences in the respect shown toward the bodies of indigenous peoples *versus* those of Whites.

There are more recent examples of the grossly unfair treatment of Native Americans. For example, in 1971, the remains of White individuals and those of a Native American woman were uncovered in a site in Iowa; the former were immediately reburied, but the Native American

woman was retained for study.¹³ Today, Native Americans are a minority in the US, but they make up an overwhelming majority of the skeletons held by museums and other institutions for scientific study, which is done primarily by non-Native scientists and, some have argued, does little or nothing to benefit Native peoples themselves.¹⁴ By the mid-1990s, Native Americans comprised less than one percent of the US population but over 50 percent of the Smithsonian's collection of human remains.¹⁵ These and other discrepancies in the treatment of remains led to protests by Native Americans in the US that gained momentum in the 1960s.¹⁶

The field of archaeology was slow to respond in a manner satisfactory to Native American groups and others concerned with the unfair treatment of indigenous people.¹⁷ Many researchers continued to emphasize the scientific value of Native American skeletal remains for all of humankind as justification for their excavation or retention in research facilities. However, in 1988, the American Association of Museums issued a statement recommending that the wishes of living descendants be privileged and that the remains of those individuals obtained illegally be repatriated if requested by descendants (even if those remains had been acquired in ways that were legal at the time).¹⁸ This was soon followed by the passage of the Native American Graves Protection and Repatriation Act (NAGPRA) in 1990; the purpose of which is to protect Native American graves and repatriate skeletal remains and cultural items. Ownership of remains and cultural items is given to descendants or to the tribe in the aboriginal area or on whose territory the remains were found or that with the closest cultural affiliation.¹⁹ NAGPRA requires that federal agencies and federally funded museums (but not private individuals or institutions that are not federally funded) catalogue materials and determine if they are Native American, and if so they must identify the appropriate individuals or tribe to whom they belong so that remains and cultural items can be repatriated.²⁰ Tribes are supposed to be notified when remains and cultural items are identified as Native American so that they can participate in the process of determining cultural affiliation and have the opportunity to make repatriation requests. However, some have questioned whether the required consultations with Native Americans have been sufficient.²¹

NAGPRA represents the first substantial legal protection of Native American remains in the US.²² Daehnke and Lonetree characterize NAGPRA as important human rights legislation that was designed to address the inequities associated with the acquisition and treatment of Native American remains and the continued disregard for their beliefs and practices. NAGPRA has been responsible in at least some cases for motivating clearer communication and closer collaboration between anthropologists and Native Americans.²³ However, NAGPRA did not provide a complete solution to all problems resulting from past collecting practices. There is, for example, a provision under NAGPRA, which has been criticized, that only federally recognized tribes are allowed to request repatriation.²⁴ Further, some groups are concerned that only a small percentage of Native American remains held by the government have been returned.²⁵ Historically, there was a failure to repatriate many remains because they are classified as culturally unidentifiable – i.e. no affiliation with any present-day Native American or Native Hawaiian group can be determined.²⁶ By 2007, approximately 80 percent of the human remains in museums and federal agencies were classified as culturally unidentifiable, and by 2011, only 27 percent of remains in collections had been affiliated.²⁷ Some viewed this as a “reflection of continued colonialism and racism in the repatriation process.”²⁸ In 2010, the US Department of Interior published a new final rule that allows Native American or Native Hawaiian groups, on whose tribal lands or aboriginal occupancy areas the culturally unidentifiable remains were found, to request disposition of the remains and for museums and federal agencies to transfer control of

the remains to these groups.²⁹ The full effect of this rule, particularly with respect to repatriation to non-federally recognized groups, remains to be seen.

The need to redress issues with skeletal collection or curatorial practices is not unique to the US. The UK, for example, has a long history of skeletal collection both at home and abroad in regions that belonged to the former British Empire,³⁰ and notably there have been efforts to repatriate the remains of Tasmanian and Australian aboriginal peoples.³¹ Further information about the legislation surrounding the excavation, analysis, and curation of human skeletal remains in various countries can be found in Marquez-Grant and Fibiger's volume.³²

The history of ethical violations in anthropology should not be ignored or minimized. Nonetheless, current research should not be uncritically and universally characterized as "grave robbing" given that most bioarchaeologists today strive to avoid committing such violations and do work that is consistent with the ethics statements of professional organizations such as the American Anthropological Association (AAA), the American Association of Physical Anthropologists (AAPA), the Society for American Archaeology (SAA), or the British Association of Biological Anthropology and Osteoarchaeology (BABAO). The AAPA ethics statement, for example, recommends working "for the long-term conservation of the archaeological, fossil, and historical records," working to "consult actively with the affected individuals or group(s), with the goal of establishing a working relationship that can be beneficial to all parties involved," and avoiding doing harm to the "safety, dignity, or privacy" of the people associated with the research.³³ The BABAO recommends that its members avoid working with human remains that have been acquired illegally.³⁴

Walker³⁵ describes three fundamental ethical guidelines for working with human skeletal remains: (1) remains should be treated with dignity and respect, (2) descendants should be given the authority to determine what is done with their ancestors' remains, and (3) remains should be preserved for scientific research given that they provide a rich source of information about human history. In some cases, it might not be possible to adhere to all three guidelines simultaneously, as in cases when descendants oppose scientific research on their ancestors' remains. Though some might still argue, in such cases, that the highest priority should be placed on advancing scientific knowledge, Klesert and Powell³⁶ argue that "the rights of individuals being studied take precedence over the rights of anthropologists who study them" and that in the case of bioarchaeology, where those being studied are dead, we should be guided by the wishes of their descendants. For example, excavation of the Jewish cemetery at Jewbury, York, was planned and conducted in consultation with the Chief Rabbi. The remains were ultimately reburied without being completely analyzed, despite their arguable scientific value, in deference to the recommendations of the Chief Rabbi.³⁷

It is critical to note, however, that not all bioarchaeological research represents a conflict between anthropologists and descendant populations. As mentioned above, there are collaborations between bioarchaeologists and Native Americans, such as that between the Chumash and the late Phillip Walker³⁸, which is noteworthy in part given his contributions to the bioarchaeological ethics literature and his role as former president of the AAPA. It is certainly possible for research programs to be consistent with the wishes of descendant populations. Furthermore, not all bioarchaeological research today involves scientists examining the remains of individuals belonging to another group or one that was or continues to be marginalized or exploited. The Black Death bioarchaeological research referred to by Pobst¹ provides an example of work that does not reflect historical or current power differentials between researchers and subjects and does not represent ethical violations including, but not limited to, grave robbing.

The East Smithfield Black Death Cemetery

The Black Death research that Pobst describes was primarily done using human remains buried in the East Smithfield cemetery near the Tower of London. East Smithfield was established in late 1348 or early 1349 as an emergency burial ground to be used during the coming plague.³⁹ The cemetery was used only during the Black Death, which lasted in London until the spring of 1350.⁴⁰ The exact dimensions, location, and purpose of the cemetery are provided by the Cartulary of Holy Trinity.⁴¹ Given that the cemetery was established for and only used during the Black Death, most, if not all, individuals interred in East Smithfield were victims of the epidemic. East Smithfield is one of a very small number of archaeological sites that has clear evidence linking it to the first outbreak of medieval plague, and thus represents an invaluable resource for learning more about one of the most important diseases in human history.

East Smithfield was part of the larger Royal Mint Site, which was partially excavated in the 1980s as a planned component of a redevelopment project.⁴² Disturbance of and damage to the remains from East Smithfield were perhaps inevitable given the rate and nature of construction and redevelopment in London.⁴³ Excavation of East Smithfield revealed hundreds of individuals buried in both individual graves and in mass burial trenches. Over 600 human remains were ultimately disinterred from East Smithfield and are currently held by the Museum of London's London Archaeological Archive and Research Centre (LAARC), as part of a huge repository of over 17,000 human remains dating from the prehistoric to the postmedieval period.⁴⁴ None of the human remains curated by LAARC have been recommended for repatriation, nor have any repatriation claims by descendants been made.

Excavation of East Smithfield was done ethically and legally, covered by a Home Office (now Ministry of Justice) burial license and following the guidelines regarding human remains provided by the Church of England, English Heritage, and the UK Department for Culture, Media, and Sport (DCMS).⁴⁵ The Church of England and English Heritage's remit (which pertains to human remains from Christian contexts dating from the 7th–19th centuries AD in England) states that human remains should not be disturbed without good reason, such as protecting the remains from potential damage that would occur during development projects. Human remains over 100 years old may also be excavated solely for the purposes of research or retained in suitable institutions if they have significant research potential. Further, decisions about excavation and research should be made in the public interest, and any research involving human remains should be clearly and adequately justified. Though explicitly recognizing that human remains are important sources of scientific information, the Church of England and English Heritage prioritize the wishes of living family members, if they can be identified, and specify that remains should remain unexcavated or be reburied if family members request it. In cases where living relatives cannot be identified, decisions should be made based on Christian and secular concepts of ethics. The Church of England and English Heritage note that from a Christian theological perspective, the human body has no significance for a resurrected spiritual life. Thus, there is no Church doctrine that would, in general, prohibit the excavation and study of human remains. The DCMS guide similarly encourages researchers to treat remains with dignity and respect and states that treatment of remains should balance the wishes of descendants and the need for scientific research.

Research on East Smithfield skeletons adheres to professional codes of ethics and to the guidelines provided by the Church of England and English Heritage and the DCMS.⁴⁶ Given that archaeologists cannot identify individuals from East Smithfield nor their descendants, there is no way to consult descendants about treatment of the remains. However, this also means that research on the remains does not represent potential harm to any living person, as might occur, for example, if an individual in the cemetery was identified as having suffered from a disease or

trauma, information that might cause distress or embarrassment to living people. Further, the East Smithfield site was a Christian burial ground and thus under the auspices of the Church of England. Given current Church doctrine, research on the East Smithfield remains does not represent a violation of spiritual beliefs or practices, as might occur in other contexts. Given the absence of objections to excavation of and research on remains (including those from East Smithfield) at LAARC and their high scientific value, the remains are being held for safekeeping and research at the Museum of London. They are carefully curated in appropriate, dedicated facilities, ensuring their continued preservation for future studies, and research projects must be thoroughly justified and approved by LAARC. LAARC must consider both the scientific merits of proposed projects and the potential damage that may occur to skeletal remains.

Given that the excavation and retention of individuals from East Smithfield is uncontentious and that no repatriation claims have been made, this research is not analogous to the grave robbing of the past or the continued controversial curation of the remains of indigenous peoples in North America and other regions. The East Smithfield skeletons were not obtained under circumstances in which there was a power differential between those acquiring or studying the remains and the descendants of the dead individuals, as was typically the case with Native American remains in the US or with Australian aboriginal remains held in some UK institutions.⁴⁷

Research on East Smithfield has produced information that would not otherwise be known and that has potentially changed our way of thinking about the Black Death and about how epidemic diseases can affect human populations in general. For example, bioarchaeological analysis indicates that the Black Death was not an indiscriminant killer, as many people have assumed, but rather that it targeted people who were already in poor health.⁴⁸ The very high and selective mortality of the Black Death or improvements in standards of living that followed the epidemic (or a combination of the two) appear to have resulted in a population that was, at least temporarily, in better shape in terms of survivorship than the pre-Black Death population.⁴⁹ Ancient DNA analyses have yielded a complete draft genome of the bacterium that caused the epidemic, *Yersinia pestis*⁵⁰; this bacterium also causes modern bubonic plague, and the historic and modern strains are surprisingly similar. This finding might motivate further research into why the Black Death behaved differently from modern bubonic plague. This work has relevance far beyond understanding the details of an epidemic that occurred over 600 years ago. It improves our understanding of the variable ways in which this particular disease has behaved for the last few centuries and how it can shape humans at the individuals and population level; this research thus has the potential to inform our expectations about future disease outbreaks in ways that might help living people.

Conclusion

It cannot be denied that there is a history of unethical collection practices in archaeology. As argued by Daehnke and Lonetree,⁵¹ this history of the field of bioarchaeology bears repeating, at the very least, so that we understand the context of the objections made in some cases by living descendants to the retention of and research on human remains. However, these problems do not characterize bioarchaeology as a whole, and the field has, like the larger field of anthropology, made efforts in the last few decades to ensure that research is done ethically. In the case of the East Smithfield Black Death cemetery, the excavation of and continued research using human remains from the site are not contentious or unethical. The use of the phrase “grave-robbing” by Pobst to describe this research perpetuates misconceptions about bioarchaeology, in this case and more generally, among those outside the field and implies that

the activities of bioarchaeologists are elicit, ghoulish, unethical, or immoral. These misconceptions might interfere with public support for future research or with people's willingness to learn from the work that is done by bioarchaeologists. Given that in many cases bioarchaeological research provides some of the best information about past populations, this would unfortunately greatly hinder our understanding of life in the past and potentially prevent insights that can benefit living populations.

Short Biography

Sharon N. DeWitte is a biological anthropologist with interests in bioarchaeology, paleodemography, and paleoepidemiology. For over a decade, she has been investigating the mortality patterns, demographic context, and consequences of medieval plague epidemics, including the Black Death of 1347–1351. By applying hazard analysis to large skeletal samples from Europe, DeWitte is able to examine population-level phenomena associated with past crisis mortality events, including the effects of biological factors such as age and sex on risks of death during epidemics as devastating as the Black Death and how epidemics shape demography and health. Her current project, which examines the context of the emergence of the Black Death and its effects on the medieval population of London, is supported by the National Science Foundation, the Wenner-Gren Foundation, and the American Association of Physical Anthropologists. DeWitte holds a PhD in Anthropology from the Pennsylvania State University and is currently an Associate Professor at the University of South Carolina.

Notes

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¹ Pobst, 'Should We Teach That the Cause of the Black Death Was Bubonic Plague?'

² *Ibid.*, 809–815

³ Razi, *Life, marriage, and death in a medieval parish*; Russell, *British medieval population*

⁴ Perry, 'Is bioarchaeology a handmaiden to history?'

⁵ Daehnke and Lonetree, 'Repatriation in the United States'; Buikstra, 'Repatriation and Bioarchaeology'; Jones and Harris, 'Archeological Human Remains'; Walker, 'Bioarchaeological Ethics'

⁶ Gulliford, 'Bones of Contention'; Riding In, 'Graves Protection and Repatriation'

⁷ Jones and Harris, 'Archeological Human Remains'

⁸ Gulliford, 'Bones of Contention'; Riding In, 'Graves Protection and Repatriation'; Atalay, 'Indigenous Archaeology as Decolonizing Practice'; Cryne, 'NAGPRA Revisited'

⁹ Daehnke and Lonetree, 'Repatriation in the United States'; Gulliford, 'Bones of Contention'; Mithlo, 'Red Man's Burden'

¹⁰ Hight, 'Body Snatching & Grave Robbing'

¹¹ Black, 'The development of American anatomy acts'; Rosner, *The Anatomy Murders*; Sappol, *A Traffic of Dead Bodies*; Warner and Edmonson, *Dissection*

¹² Hight, 'Body Snatching & Grave Robbing'; Rosner, *The Anatomy Murders*; Sappol, *A Traffic of Dead Bodies*; Warner and Edmonson, *Dissection*; Halperin, 'The poor, the Black, and the marginalized as the source of cadavers in United States anatomical education'; Humphrey, 'Dissection and discrimination'; Harrington and Blakely, 'Rich Man, Poor Man, Beggar Man, Thief';

¹³ Buikstra, 'Repatriation and Bioarchaeology: Challenges and Opportunities'; Atalay, 'Indigenous Archaeology as Decolonizing Practice'

¹⁴ Buikstra, 'Repatriation and Bioarchaeology: Challenges and Opportunities'; Atalay, 'Indigenous Archaeology as Decolonizing Practice'; Lambert, 'Ethics and Issues in the Use of Human Skeletal Remains in Paleopathology'

¹⁵ Gulliford, 'Bones of Contention'

- ¹⁶ Daehnke and Lonetree, 'Repatriation in the United States'; Atalay, 'Indigenous Archaeology as Decolonizing Practice'
- ¹⁷ Buikstra, 'Repatriation and Bioarchaeology: Challenges and Opportunities'
- ¹⁸ Ibid.
- ¹⁹ Ibid.; Cryne, 'NAGPRA Revisited: A Twenty-year Review of Repatriation Efforts'
- ²⁰ Daehnke and Lonetree, 'Repatriation in the United States'; Cryne, 'NAGPRA Revisited'
- ²¹ Daehnke and Lonetree, 'Repatriation in the United'
- ²² Cryne, 'NAGPRA Revisited: A Twenty-year Review of Repatriation Efforts'
- ²³ Larsen and Walker, 'The Ethics of Bioarchaeology'
- ²⁴ Buikstra, 'Repatriation and Bioarchaeology'; Cryne 'NAGPRA Revisited'
- ²⁵ see no. 22
- ²⁶ see no. 21
- ²⁷ Riding In, 'Graves Protection and Repatriation'; Colwell-Chanthaphonh, et al., 'The repatriation of culturally unidentifiable human remains'
- ²⁸ see no 21, 94
- ²⁹ Strickland, 'Native American graves protection and repatriation act regulations disposition of culturally unidentifiable human remains'
- ³⁰ White, 'The United Kingdom'
- ³¹ Jones and Harris, 'Archeological Human Remains: Scientific, Cultural, and Ethical Considerations'; Department for Culture, Media, And Sport, *Guidance for the Care of Human Remains in Museums*
- ³² Marquez-Grant and Fibiger, *The Routledge Handbook of Archaeological Human Remains and Legislation*
- ³³ American Association of Physical Anthropologists, 'Code of Ethics of the American Association of Physical Anthropologists'
- ³⁴ BABAQ Working-Group for Ethics And Practice, 'British Association of Biological Anthropology and Osteoarchaeology Code of Ethics'
- ³⁵ Walker, 'Bioarchaeological Ethics', 20–21
- ³⁶ Klesert and Powell, 'A Perspective on Ethics and the Reburial Controversy', 349
- ³⁷ Lilley et al., *The Jewish burial ground at Jewbury*
- ³⁸ see no. 35
- ³⁹ Hawkins, 'Black Death and the new London cemeteries of 1348'; Grainger, et al., *The Black Death cemetery, East Smithfield, London*
- ⁴⁰ Grainger, Ian et al., *The Black Death cemetery, East Smithfield, London*; Benedictow, *The Black Death, 1346–1353*
- ⁴¹ see no. 39
- ⁴² Hawkins, 'Black Death and the new London cemeteries of 1348'
- ⁴³ Swain, 'The ethics of displaying human remains from British archaeological sites'
- ⁴⁴ Redfern and Bekvalac 'The Museum of London'
- ⁴⁵ Department for Culture, Media, And Sport, *Guidance for the Care of Human Remains in Museums*; English Heritage/Church Of England, *Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England*
- ⁴⁶ Ibid.; see no. 44
- ⁴⁷ Department for Culture, Media, And Sport, *Guidance for the Care of Human Remains in Museums*
- ⁴⁸ DeWitte and Hughes-Morey, 'Stature and frailty during the Black Death'; DeWitte, and Wood, 'Selectivity of Black Death mortality with respect to preexisting health'
- ⁴⁹ DeWitte, 'Mortality Risk and Survival in the Aftermath of the Medieval Black Death'
- ⁵⁰ Bos et al., 'A draft genome of *Yersinia pestis* from victims of the Black Death'
- ⁵¹ see no. 21

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