Chapter 5: Ethical and practical challenges of working with archaeological human remains, with a focus on the UK

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Abstract

This chapter focuses on the ethical and practical considerations concerning archaeological human remains in the UK. It first contextualizes the chapter by including a personal perspective of the author's experience as a bioarchaeologist over the last 35 years in the UK. It then reflects upon the development of bioarchaeology in the UK, and its value in informing us about our past, and its rise from a "cottage industry" to a thriving area of archaeology. It then considers the guidance available for excavation, analysis, curation, and display of archaeological human remains in the UK, and makes recommendations for the future. These include having more open dialogue amongst all stakeholders, treating human remains with dignity and respect and not objectifying them, and educating the public and students alike, especially in the case of destructive analyses, and debating who has the right to decide the "fate" of human remains. It further highlights areas of concern and emphasizes the responsibility of all stakeholders to ensure appropriate care for our ancestors' remains. Bioarchaeologists in particular have a duty to do their best for all human remains that have been, and will be, excavated and analyzed in the future, and then curated, right across the world. We also have a duty to engage all stakeholders in debates, including the public and indigenous people

5.1 Introduction and background

It is almost 40 years ago since I entered the field of bioarchaeology. I recall that no discussions took place regarding the ethical considerations that might, or should be, addressed regarding the excavation and analysis of human remains from

archaeological sites, or indeed their curation and display in museums, and their use in teaching in educational establishments. This was in stark contrast to my first profession, nursing. Perhaps that was/is because bioarchaeologists work with the remains of dead humans and in nursing patients are usually alive.

I personally received no mentorship on this subject matter during my undergraduate and postgraduate degrees, and there were few "qualified and authoritative" bioarchaeologists at that time who could have provided that mentorship. Furthermore, there were no guidance documents for practitioners like myself, or for professionals in commercial archaeology units or museums. This was also a time prior to the North American Native American Graves Protection and Repatriation (NAGPRA) Act (United States of America 1990) and other "protective" legislation for indigenous peoples around the world (also see Rose, Green and Green 1996). I should say though that I was party to (and keen to see) the repatriation of two skulls to Australia and New Zealand from the University of Bradford, UK's inherited Calvin Wells Collection. There was limited media coverage for these events but not the amount that would be expected today due to the rapid development in communication systems, such as social media.

The Institute of Field Archaeologists had been founded in 1982 (now the Chartered Institute for Archaeologists, or CIfA), but there was no dedicated support for bioarchaeologists and we were "classed" as environmental archaeologists for membership purposes. I joined, but quickly realized that my expensive membership fee did not bring me any value as a bioarchaeologist. The British Association of Biological Anthropology and Osteoarchaeology (BABAO), was not founded until 1998, but did start to provide an infrastructure for practitioners that continues today. Structured training for bioarchaeologists did not commence in earnest until 1990. Indeed, when I entered bioarchaeology, most people working in this area had not had specific training, including myself. There were extremely few bioarchaeologists in the UK working in the museum, commercial archaeology, or academic spheres, and most people were medically trained, working both in medicine and, in their "spare time", in bioarchaeology. During the 1980s museums

freely opened up their doors to enable me to analyze skeletons in their collections, for a large project on leprosy and tuberculosis in British skeletal remains I was involved in, and on no occasion did I complete an official "access for analysis" form. This was also a time when the destructive analysis of skeletons was not very common (a little histological analysis was done), and biomolecular analysis (stable isotope and DNA, in particular) was not really even a twinkle in a bioarchaeologist's eye. Facilities for such analyses in archaeology were also generally unavailable and funding for bioarchaeology overall was not abundant. When visiting said museums, I was given free access and there were no rules and regulations to follow, and certainly no advice on their dos and dont's related to working with human remains under their care.

Times have changed considerably since the 1980s, and bioarchaeologists today are much better placed in terms of infrastructure. Fortunately, we have moved on, not least due to the efforts of a number of key people and organizations, including: BABAO and the working group (Margaret Clegg, Myra Giesen, Louise Loe, Rebecca Redfern (chair), and Charlotte Roberts) who produced the BABAO Ethics and Practice guidance documents (BABAO 2010a; 2010b), Simon Mays of Historic England who has been instrumental in the production of many guidance documents, especially those coming from APABE and English Heritage (now Historic England), the Department for Culture, Media and Sport (guidance for museums), the working group headed up by Megan Brickley and Jacqueline McKinley that produced the first edition of the recording standards for human remains (2005; and Piers Mitchell and Megan Brickley for the second edition in 2017), the Church of England (Church of England and English Heritage 2005), Historic Scotland (2006), the Museums Galleries Scotland (2011), and the Institute of Archaeology of Ireland (2006).

We now have:

- more inclusion of bioarchaeology in the university undergraduate curricula (archaeology and anthropology);
- bioarchaeology training available in many institutions at masters level, which now include teaching on ethics;

- many bioarchaeology graduates who (should) have an awareness of ethical considerations and archaeological human remains;
- dissertation proposals focusing on human remains that normally have to be approved (and should be) in departments in universities from an ethical point of view;
- a few museums where there are specialist bioarchaeology curators, and official access forms to complete for both non-destructive and destructive analyses;
- a national organization representing archaeology, and particularly commercial archaeologists (CIfA);
- a national organization representing bioarchaeologists (BABAO) that has produced ethics and practice guidance documents (BABAO 2010a; 2010b);
- better facilities for bioarchaeological research, particularly in universities, and related funding streams, and
- a plethora of guidance documents for practitioners (archaeologists, bioarchaeologists, and museum curators) to help them with "doing the right thing" for human remains, from excavation through to analysis, including destructive analyses, along with display in museums, and their curation for future work.

This is all very well, good, and progressive, but because of the success of bioarchaeology there has become one very large "elephant in the room", the elephant being the very important issue of the ethics related to human remains that come in all "shapes and sizes". I have become increasingly concerned over the last 15 years or so about the ethics of using archaeological human remains for whatever purpose, and the need to "do the right thing".

As living people we are all individuals and have varying opinions about how human remains should be treated in archaeological contexts. On the one hand there are bioarchaeologists who feel that excavated human remains should all be curated for future research using whatever methods are chosen. On the other hand, there are

those who might feel that, once analyzed, the remains should be reburied. In between these extremes, there are those who believe a balance has to be struck between paying due respect to those we study while giving these once living people a voice through our analyses, but also accepting that there are times and places when their remains should be reburied or restricted from destructive analyses – and, of course, there are many opinions in between those extremes.

This chapter focuses on ethical considerations in relation to bioarchaeology in the UK. It first describes how UK bioarchaeology has "risen from the ashes" over the last 40 years and its value to archaeology. It then proceeds to discuss the good, the bad, and the ugly of the treatment of archaeological human remains, including the guidance available in relation to dealing with human remains in an ethical manner, and some of the remaining challenges. It finally makes some recommendations for the future.

5.2. Bioarchaeology in the UK: a phoenix that has risen from the ashes of the pre-1980s

5.2.1 The value of bioarchaeology to archaeology and anthropology

It is not hard to justify the study of archaeological human remains. They are the closest we can get to our ancestors, and understanding how they lived and died is essential to understanding our past and who we are today (Roberts 2016; 2018). Bioarchaeology gives a voice to the dead; it enables the dead to tell their stories. Globally, bioarchaeology is an immensely successful sub-discipline of archaeology and of physical/biological anthropology, particularly in the UK (Roberts 2012a). It has developed into one that incorporates multidisciplinary and multi-method led contextually driven approaches to answering questions about the past. However, it is only the last two to three decades that there has been increasing recognition of its value in archaeology in the UK, and there are now many more people working in this field. In the 1980s there were probably about a dozen people (at most) working in bioarchaeology; if BABAO membership today is anything to go by (currently between

400-500 members in total), where the majority of members work in bioarchaeology, the increase is staggering.

The analytical methods available to bioarchaeologists are broad and some have their origin in other disciplines, such as earth sciences and genetics. Working from a macroscopic to a biomolecular approach we have the tools to advance knowledge about our past through contextually driven approaches. However, no one method has or should take precedence over another. As highlighted by Killick (2015), we have never had as many methods at our disposal as we currently have, although these techniques are not necessarily accessible to all. Furthermore, the extent to which practitioners (and curators) really understand what these methods can and cannot do is variable. There are also questions regarding whether all laboratory practices are of the highest quality and, ultimately, how robust the resultant data and research publications are (and the latter obviously relies on the quality of the review process).

The mainstay of bioarchaeological information that is collected from human remains is achieved using a "macroscopic" approach. This means recording what is observed without using more sophisticated methods of analysis. Knowledge about the various facets of bioarchaeological study, a good pair of eyes, and a magnifying glass or binocular microscope, enable us to give our ancestors a voice to be heard. We can develop biographies that tell us about their sex (biological) and gender (social construct) – see Walker and Cook (1998), their age at death, whether the shape and dimensions of their bones and teeth "fit" with what would be expected for the geographic location of their burial, and their "state" of health and well-being. Macroscopic methods of recording are relatively cheap, requiring little more than what has been described above, but also an appropriate space to do this work, relevant equipment to take measurements, "materials" to age the skeleton, and perhaps access to radiographic facilities, where needed. Macroscopic analytical methods will remain the mainstay of bioarchaeology; they are relatively cheap when compared to biomolecular analyses, but more importantly they provide the underlying biographical data that are essential for interpreting data that emanates

from destructive analyses such as those related to isotope and DNA analyses. Of course, and a "given", contextual data from the archaeological site is essential to understand and interpret the information gathered from the skeleton (see Roberts 2018).

Anybody working as an archaeologist, but particularly as a bioarchaeologist, or people in different disciplines where archaeological human remains is their focus of research, understand the immense value of bioarchaeology. Human remains provide a window into what it was to be human in past eras, and how our ancestors lived and died. Linking what we can see in the human remains, and relating this to funerary context to understand how people managed their dead, and to archaeological data that might tell us something about how people were living (e.g. housing, their diet, and work practices) we can learn much about our ancestors' world. Furthermore, contemporary documentary and iconographic evidence (if available) may also provide additional information that adds to our interpretations (e.g. key causes of death and which diseases were more prevalent at specific times). For example: the impact of various risk factors on health (morbidity) and death (mortality), such as the 14th century Black Death (deWitte 2009), whether men or women were more likely to be subject to interpersonal violence (Smith 1996) or accidental injury (Grauer and Roberts 1996), if children who were stressed due to undernutrition or disease did not grow as well as those who were not (Roberts et al 2016), whether people with leprosy were stigmatized or not (Lunt 2013), and if height or shape as reflected in skeletal measurements (Ruff et al 2012 Zakrzewski 2007) or variation in features of the skeleton, such as teeth (Irish and Konigsberg 2007), varied across time and space.

Using complementary perspectives and methods from history (e.g. Rawcliffe 2013), evolutionary medicine (Nesse and Williams 1994), medical anthropology (Manderson 2016), geography (Brown et al 2010), and biomolecular and earth sciences (see Brown and Brown 2011), amongst other disciplines, can add to our understanding of the macroscopic data we record. Of course, there are now what many would call, "more advanced cutting-edge techniques" available to

archaeologists and bioarchaeologists. These can make us think more deeply about the potential questions we could answer using such analytical methods, questions that perhaps cannot be answered any other way. For example, we can apply microscopic analysis to a sample of bone or tooth to achieve a more accurate age at death for adult skeletons (e.g. Thomas et al 2000; Robbins Schug, Brandt and Lukacs 2012), and we can use DNA analysis of a bone or tooth sample to assess the sex of a non-adult or poorly preserved adult skeleton (Cunha et al 2000; Tierney et al 2015). We can also use more sophisticated non-destructive imaging techniques, such as computed tomography (CT) scanning to explore shape variation in bones (Ruff 2008) and (destructive) stable isotope analysis to answer questions about diet (Alexander et al 2015), diet in relation to weaning (Tsutaya and Yoneda 2015) and stress (Beaumont et al 2015), while DNA analysis (also destructive) enables us to detect diseases that do or do not affect the skeleton, or were not affecting the bones or teeth at the time of death. This work is beginning to give us detailed information about the origin, evolution, and history of infectious diseases, such as tuberculosis (Wilbur and Stone 2012; Bos et al 2014; Müller, Roberts and Brown 2014). Indeed, the value of DNA analysis is quite rightly increasingly recognized by archaeologists, bioarchaeologists, and biomolecular scientists for its worth as a piece of the jigsaw puzzle that ultimately opens a window on our past (Fernández et al 2014; Harkins and Stone 2015; Weyrich, Dobney and Cooper 2015; Marciniak and Perry 2017).

5.2.2 Bioarchaeology in the 1980s and 1990s

Bioarchaeology in the early 1980s was heavily dominated by scholars from other disciplines, primarily anatomy, dentistry, and the medical profession. However, archaeology had yet to appreciate its contribution to reconstructing the lives of our ancestors. At that time, a masters course, run by the late Don Brothwell at the Institute of Archaeology, University College London, covered human remains every alternate year (Dobney 2012), and the University of Sheffield ran a course for a few years, which was managed by the retired surgeon, Judson Chesterman (Royal College of Surgeons 2015). In its wisdom, and driven and developed by Keith Manchester and Charlotte Roberts (Roberts 2012b), the University of Bradford co-ran an MSc in Osteology, Palaeopathology and Funerary Archaeology with the

University of Sheffield; this ran from 1990 to 1999. This set the stage for the development of bioarchaeology, employment of more bioarchaeologists in UK higher education and commercial archaeology, and many more masters courses in similar and related subject areas. While welcome, it has to be said that there are too many bioarchaeologists in the "system" for the jobs available, although major building projects can temporarily employ these graduates, such as the recent High Speed 2 scheme (High Speed 2 Ltd. 2018) and the Crossrail development (Crossrail 2018).

Bioarchaeological research and commercial archaeology have also developed pace, alongside bioarchaeology as a discipline. In commercial archaeology, of great relevance to bioarchaeology and its success, was the implementation of the Planning Policy Guidance 16 (PPG16) (Great Britain 1990). This was developed to advise local councils in England and Wales on the treatment of archaeology in the planning process (Roberts 2018). The availability of funding pre-1990 meant that the payment for completing skeletal reports was often be poor. However, since 1990, funding has greatly improved, and is usually available to conduct detailed skeletal reports. Data quality has also improved (trained people and standards for recording: Brickley and McKinley 2004; Mitchell and Brickley 2017) and the resulting data are proving more useful to other bioarchaeologists for research and other commercial work. While data publication remains a challenge and much can remain in "grey literature", there are outlets where data may be made available, such as the Archaeology Data Service (n.d.), Oasis (2016), Historic Environment Records (Heritage Gateway 2012), and relevant museums (usually the closest to the excavated site). In terms of bioarchaeological research, it has only been since the 1990s that major bioarchaeological research projects have been funded by the main UK funding bodies. These include the Arts and Humanities Research Council, the Natural Environmental Research Council, and the Wellcome and Leverhulme Trusts. This welcome development has probably partly occurred because of the increasing recognition of the discipline as worthy of funding. This has occurred alongside the numbers of people increasingly applying for that funding with ambitious projects (because of more bioarchaeologists in the UK). Those little steps over the last 30-40

years have led to bigger things!

5.2.3 Working with human remains from archaeological sites

As the key component of bioarchaeology, its practitioners variously and inherently excavate, analyse, curate, and actively work with human remains. Following excavation in the commercial archaeology arena and initial analysis by a commercial bioarchaeologist, human remains may be reburied, (though this is relatively rarely and applied to more recent remains). They are also used in teaching and learning situations by undergraduate and postgraduate students in universities where they may handle them in laboratory situations, and use them for their dissertation research (Roberts 2013). Remains may further be used in a laboratory situation for open days and other public engagement events in universities (hopefully all contained within that university environment). They can also be utilized in museum environments for outreach events and displays (see chapter 7 of this volume for further discussion on this subject). It goes without saying that qualified practitioners use human remains for their personal research within a higher education, museum, or commercial context where the remains may be curated, and they include them in grant application proposals.

During the course of their work, bioarchaeologists in all three main fields (higher education, commercial archaeology, and museums) also take images of the remains they study in the form of photographs, X-ray produced images, or histological images, and they may engage in sampling for destructive analysis. In addition, 3D imaging is increasingly becoming “popular” for educational uses and in research (Errickson and Thompson 2017). Television programmes are also portraying archaeological skeletons for the public consumer and have been for many decades (e.g. Meet the Ancestors, To the Ends of the Earth, Secrets of the Dead, Timewatch, and Time Team). Images, whether 2D or 3D, are being rapidly transported around the world in this digital age. I do feel that we must ask ourselves whether transmitting images of human remains across the internet superhighway and on social media is acceptable (including 3D images that can be printed out at the other side of the world). Indeed, who gives us permission to do that? We could argue that

as these people are dead, anything we choose to do with them is acceptable, but is it right that their images are shared (see below for further discussion)?

All these "uses" have ethical implications. While the author hugely advocates public engagement and practices it in her research, and we know that archaeological human remains are very popular with the public, as seen in museum exhibitions and public surveys (e.g. Mills and Tranter 2010: 864 adults aged 18+ years in England telephone surveyed over two days in June 2009), we must still be cautious about how we, as professionals, operate. While some public surveys can be self-selective (museum displays are visited by those who choose to do so and not by those who do not), we as bioarchaeologists do need to continue to provide a mechanism whereby the public are able to appreciate the value of bioarchaeology, but we also need to show more consideration to the remains we "use". Bioarchaeologists should also discuss issues of "consent", our inability to obtain consent from the dead for their excavation, study, publication of their biographies, curation, and display, and how we can "resolve" this inability morally and ethically.

"Consideration" also extends to other "stakeholders", or people outside of the world of bioarchaeology who work in other fields of study and interest. These may include different artists (writers, sculptors, photographers, playwrights, film directors), the media, politicians, geneticists, museologists, museum professionals, anthropologists, native peoples, historians of specific periods and medical, social, and art historians, all of whom make decisions about whether and how they engage with actual human remains. This includes samples of remains and remains that may be "contested" or have troubling histories; it also includes creating images and displays of the remains themselves. For example, whether and how any of us choose to image human remains, and then display those images, is an area that is increasingly but only recently receiving attention; this should be a key focus in terms of ethics in general for the future (see Harries et al 2018 for an excellent thought provoking overview). Finally, while it is hoped that bioarchaeology practitioners, or indeed anybody else who engages with archaeological human remains would not misuse human remains to the extent of putting them up for sale, it is clear that there are offline and online

outlets that are increasingly selling both ancient and modern human remains, within and outside of the UK, and enhanced by social media (Rossington 2015; The Bone Room 2016; Human Skulls 2018).

Taken together, there should be more opportunities created for dialogue about ethical issues and human remains in their broadest sense, and particularly to discuss the uses of human remains from archaeological sites by any interested "stakeholder" (for example a recent event at The University of Edinburgh (2018). If we work together on this, we will ultimately be better placed to care for the "archaeological" and more recent dead. The next section considers examples of these uses and how guidance documents have helped to mitigate inappropriate use of human remains. It also considers recent developments. Nevertheless, there remain concerns about the inappropriate use of human remains in general.

3. The treatment of archaeological human remains: the good, the bad, and the ugly

5.3.1 Background, competition for "resources, the law, and some guiding principles

In the UK the practice of bioarchaeology is, on the whole, accessible to all who wish to be involved, whether that is at a higher education level or at public outreach events. Nevertheless, not all people want to, or have the resources, to study at university, and may not come across bioarchaeology at all in their life experiences. Personally speaking, I "came across" bioarchaeology only by chance as an undergraduate student, but was never taken to museums or archaeological sites where I might have viewed human remains and, to be honest, had never heard of "archaeology" before I looked for university courses! Indeed, the public today confuse archaeology with palaeontology and with anthropology, and may call bioarchaeologists forensic scientists! Providing public engagement opportunities is thus essential so that what bioarchaeologists "do" can be accurately reflected.

In other regions of the world, where excavation of human remains and the availability of necessary training to do those excavations, and then analyse the resulting human remains, may not be as readily available as in the UK, and access to

education may be even less possible for a majority of people (see, for example Márquez Grant and Fibiger 2011; Buikstra and Roberts 2012), and public engagement may be negligible. Furthermore, access to skeletal remains in those regions may not be easy, for whatever reason (e.g. poor infrastructure, and also "ownership" disputes). However, in recent years, competition for "resources" has increased between qualified bioarchaeologists and their students in universities, in particular. This has been due to pressure on staff (and their students) to do high profile research with cutting edge techniques, acquire large grants from various research councils to do so, publish in reputable journals with high profiles, such as *Nature* and *Science*, and attract the media to their research. This has inevitably been driven by, amongst other factors, national and international league tables, for example The Complete University Guide (2018), in the UK and the Research Excellence Framework (2018). Even within university departments, competition between staff is "fierce" for acquiring the "appropriate" resources and funding for their research. Notwithstanding this development, we should re-acquaint ourselves with laws pertaining to archaeological human remains in the UK, bearing in mind that one of the first documents produced on the law and burial archaeology for England, Wales, and Scotland was by Garrett-Frost in 1992 for the Institute of Field Archaeologists. More recently, James Logie has described the laws for Scotland in more detail (Historic Scotland 2006, Annexe A), as have Museums Galleries Scotland (2011).

In England and Wales, Scotland, and Northern Ireland, laws relating to the excavation of human remains can differ (Roberts 2018, chapter 2). Relevant guidance documents available concern:

- human remains buried in Christian burial grounds in England since AD597 (APABE 2017);
- human remains curated in museums and other institutions in England and Wales (DCMS 2005);
- human remains buried in Scotland (Historic Scotland 2006); and

- human remains buried in Northern Ireland (Buckley, Murphy and Ó Donnabháin 2004; Institute of Archaeologists of Ireland 2006).

Also relevant are the Human Rights Act (Great Britain 1988), and the Human Tissue Act that covers England, Wales and Northern Ireland (Great Britain (England, Wales and Northern Ireland) 2004) and Scotland (Great Britain (Scotland) 2006), and the Human Tissue Authority (n.d.), which was a development out of the 2004 Act. The latter regulates human tissues and organs, and the former regulates activities related to the removal, storage, use, and disposal of human bodies, organs, and tissues from the living and deceased less than 100 years old in museums and other institutions. This all emanates from the Alder Hey Children's Hospital organs scandal (1988-1995) that involved the illegal removal, retention, and disposal of human tissues. Human rights abuse today is usually applied to the living, but archaeological human remains could be covered by Common Law regarding respectful treatment of the dead.

It is important to remember that nobody can legally own a dead body in England, Wales, and Scotland, furthermore it should be noted, that there is no property in a corpse. This begs the question when "stakeholders" wish to analyze skeletal remains in curated, or even "personal", collections, and/or request skeletal samples for destructive analyses. Who owns the past, who decides, and are they in a position to decide the "fate" of human remains? APABE (2013; 2017, 1) usefully outlines some principles that are recommended: "Human remains should always be treated with dignity and respect; burials should not be disturbed without good reason (but the demands of the modern world are such that it may be necessary to disturb burials in advance of development); human remains, and the archaeological evidence for the rites, which accompanied and commemorate their burial, are important sources of scientific information; there is a need to give particular weight to the feelings and views of living family members when known; and there is a need for decisions to be made in the public interest, and in an accountable way". Respect for the dead is a theme that runs through other disciplines beyond bioarchaeology. For example, De Baets (2004) argues that historians should respect the dignity of the living and the

dead in their studies.

While principles are recommended in this APABE 2013 and 2017 guidance (note ***guidance***), and there are clear legal implications relating to human remains in the UK, there are also, "practice" guidance documents. These documents began to appear in the early 1990s, and are divided into excavation, analysis, curation, and display sections.

5.3.2 Guidance on excavation

In considering that human remains have been excavated for centuries and remains a common finding in the UK, it is surprising that so very little is written about the excavation of human remains from archaeological funerary contexts, both in archaeological texts and now in online resources; at times the guidance is also quite short (e.g. Skills Passport 2018). While not being exhaustive, a scan of some of the available published literature includes Greene and Moore (2010), Mays (2010), Martin, Harrod and Pérez (2013), and Roberts (2018). One could argue that while the basic principles of excavation apply in all archaeological contexts, dealing with human remains needs specific knowledge and skills that would not necessarily apply to archaeological finds such as pottery or plant remains. It is not even a routine inclusion in undergraduate or even specialist masters course curricula. However, the value of excavated human remains very much relies on how they are excavated and "processed" before analysis. Perhaps a landmark publication, although in desperate need of updating was that of McKinley and Roberts (1993), alongside Anderson (1993), and sections of Buckley, Murphy and Ó Donnabháin (2004 – see also Institute of Archaeologists of Ireland 2006). More extensive writings have become available in the last 10 or so years (e.g. BABAO 2010b; OSSAFreelance 2005; 2012), and specific documents have appeared related to sampling: sampling strategies for large burial grounds (APABE 2015), and sampling specific skeletons for destructive analyses (APABE 2013 – also see section 5.3.3 below). The appearance of many of these documents is in no large part due to APABE and BABAO's efforts, and they have often reflected urgent needs for guidance as bioarchaeology as a discipline and commercial archaeology as a very viable industry have developed.

5.3.3 Guidance on post-excavation treatment and analysis

Analysis of human remains has generally been driven by published texts (e.g. Brothwell 1981; Ubelaker 1989; Scheuer and Black 2000; Bass 2005; White and Folkens 2005; Lewis 2007; Mays 2010; Roberts 2018) and a plethora of published journal papers in both the bioarchaeological and forensic anthropological literature. Again, while there are many avenues for securing guidance on analyzing human remains, not all scholars will follow that guidance and will make decisions on how and what is recorded. The choices they make will also be dependent on the training they have or have not received.

Following NAGPRA (1990), and then the publication of Buikstra and Ubelaker (1994) and Roberts and Cox (2003), some of us in the UK were reminded that, firstly, we could not always rely on human remains being available for study, and secondly, and very importantly in relation to analysis, not all data that had been published on human remains was of good quality. This meant that our data was not necessarily comparable between sites and authors, and we needed some sort of guidance on standards for recording. Thus, in the early 2000s, a working party was set up by BABAO, and work started to create a guidance document for BABAO members. This was published in 2004 (Brickley and McKinley 2004) and updated in 2017 (Mitchell and Brickley 2017). It remains challenging to encourage anybody to use the same recording standards but it really is essential if we are to be able to reliably compare our data (as addressed by the Global history of Health Project: Steckel et al in press).

When considering analysis beyond the macroscopic, and the increasing emphasis placed on destructive analyses in bioarchaeological research using biomolecular (stable isotope and DNA analysis) and histological methods, the UK has also seen some guidance emerge, particularly from APABE (2013). Various other documents and publications also consider destructive analysis, recognizing the need to provide guidelines (e.g.; Richards 2004; 2017; DCMS 2005; Odegaard and Cassman 2006; BABAO 2010b; APABE 2017). Indeed, very specific guidance is clear: “All holding institutions should ensure that the scientific justification for the removal of samples

from human remains are made in advance and placed on file [and there should also be]……..reasons for approval given" (DCMS 2005, 21). The DCMS also addresses the need to justify where and how much of the sample is taken, and that everything related to the process much be documented, with bones and teeth being recorded fully before sampling, casts being made, and remnant samples being returned to the holding institution. Too many times people forget that the samples they analyze come from once living and breathing people like us, and this should be respected as such – the samples end up in freezers, detached from their owners, and they may or may not be analyzed. If they are, the remnant samples often stay in that freezer waiting for more analysis when the scientists decide, perhaps when they receive a grant– they may also get passed onto other laboratories (with no permission from the original curating institution), and remaining samples may not get returned. There are clearly ethical implications for destructive analysis for all three key sectors (commercial archaeology, museums, and universities), and the maintenance of integrity of the skeletal collections they curate. This is especially relevant for future work of a non-destructive nature (bioarchaeologists need "intact" skeletons), and scientists will need skeletons to sample when destructive methods develop, and sample sizes required will decrease again. Back to first principles, if this type of work is carried out, the human remains subject to sampling need to have their rights protected, assuming we can agree they have rights; I think they do and we have a duty of care towards them. We must also remember the guidance document (APABE 2013, and others), follow it, and spread its word beyond the UK to all sectors involved with receiving applications for analyses, and laboratories carrying out the analyses (further discussion regarding the ethics of destructive analyses can be found in chapter 9 of this volume).

These guidance documents on post-excavation treatment and analysis are, again, not necessarily heeded, and those leading the research may not be bioarchaeologists but rather biomolecular scientists; the research team may not even include a bioarchaeologist (see recent example: Kilgrove 2018). Ethical and practical guidance may thus "fall on stony ground". However, there is increasing excellent practice in biomolecular analysis where scholars are following guidelines and thinking about

ethics. Thankfully, in the last few years, there is also evidence of increasing dialogue about ethical concerns and destructive analyses from a variety of "stakeholders", and attempts to encourage scholars to attend to the very real issues related to such destructive analyses (Makarewicz and Marom 2017; Morris 2017). These include competition between laboratories, the tendency for geneticists being indifferent to (macroscopic) bioarchaeological research, and the incomparable nature of data from different laboratories (Morris 2017). It is clear that this kind of research has become much more common, partly because it is potentially "more fundable" than more routine bioarchaeological research using macroscopic methods. It is also encouraging the same sort of behavior for the younger generation developing their careers in biomolecular science.

Of relevance for DNA analysis is knowing whether and where DNA will survive for analysis. It is highly likely that in the early days of aDNA analysis many samples taken from human remains did not preserve DNA because nobody really knew which parts of the skeleton or parts of bones preserved DNA best –see Mundorff and Davoren (2014) on the survival of DNA in different bones, and also Hansen et al (2017) and Sirak et al (2017) on opposing views on the survival of DNA in the petrous portion of the temporal bone. There was also no knowledge about the possibility that X-rays might damage DNA (Frank, Mundorff and Daveren 2015; Immel et al 2016). We will never know how much destructive sampling and analysis has been conducted with no resulting data because negative results have not been, and are not usually, published. Perhaps editors of journals need to take heed of this and publish those negative results so that remains are not re-sampled. Reviewers of grant applications and editors could also do better in ensuring that ethical considerations in such work are accounted for in all grant applications, and in publications (see for example the application process for BABAO grant applications where considerations of ethical issues are a mandatory part of the process (BABAO 2018). After all, the data that are produced from such research becomes open access and there are serious ethical issues related to the genetic data for living people, but also for our ancestors and their descendants. How this can be ethically managed is a challenge in itself (Redfern and Clegg 2017).

Related to this are the very large well-funded projects that can involve, essentially, extensive global collecting expeditions to amass large numbers (thousands) of samples from human remains into freezers across the world "in the name of science", just like our colonial ancestors. Most samples come from human remains in museums, whose curators may not have the knowledge to assess the scientific worth (or not) of such projects, or have the resources and infrastructure to assess and implement applications for access, but with promises of co-authorship in prestigious outlets and media attention, they are likely to be persuaded to part with samples. Can we say that what is happening now is any different to the 19th and 20th centuries (see Gazi 2014 on museum ethics)?

5.3.4 Guidance on curation

"If human remains are removed from curation and passed for repatriation and/or reburial then new and informative data about the past would not be possible using these new techniques. If, as we believe, the world's population has a strong interest in its heritage, then this alone is a justification for the retention and study of human remains" (Roberts 2018, 22). I should add, however, that I do not believe that all excavated human remains should be retained for curation forever, and there can be a time and a place for reburial and repatriation. Nevertheless, if remains are curated, it has been shown that they can continue to produce new answers to questions about the past using new methods (Buikstra and Gordon 1981). Accepting that most human remains excavated in the UK are curated in museums, in commercial archaeology units, and in universities, rather than being reburied, the conditions of their curation have received much attention in recent years, and guidance has inevitably emerged. However, this was slow in coming, and started mainly in the 2000s in the UK.

A landmark finding was Caffell et al (2001) who highlighted the damage that could be done to human remains during curation and subsequent use in a teaching situation. Considering increasing student numbers on bioarchaeology courses, it may be viewed as an inevitable effect of success, unless practices are not put in place to

prevent such damage. Granted, the use of human remains in a university situation for intensive teaching is a little different to use of human remains in a museum environment. However, it did highlight a potential problem for the UK, where the increasing undergraduate and postgraduate courses (and students) during the 2000s that focused on bioarchaeology could compromise the integrity of skeletal collections in a university's care.

It is not possible to see whether this research (a masters dissertation published in a conference proceedings) had a specific impact on the development of curation guidance, but some publications have further considered standards for best practice for teaching environments (Roberts 2013). Work has further shown that bioarchaeologists have tended to focus on small numbers of skeletal collections in certain regions of the UK, thus potentially damaging these collections through overuse, creating datasets that tell us much about specific populations but nothing about others that are not studied, and ignoring collections that are not known about because information is unavailable (Roberts and Mays 2011). This is in no small part due to the lack of information on most museum and university websites about what skeletal collections they curate, something the DCMS (2005) recommended should occur.

In their publication, English Heritage and the Church of England (2005, Annexe S7) considered archiving, longer-term access, and storage of human remains. This is now superseded by APABE (2017, Annexes S6 and 7). In 2005, the DCMS also published their guidance for museums, including legal requirements and curatorial practices, including the care of human remains and management of their use, as did Museums Galleries Scotland in 2011 (see also Buckley, Murphy and Ó Donnabháin 2004, 14-16 for Ireland). It has, however, been shown through subsequent research that there has been an inability and/or will to implement this guidance in most museums due to the lack of staff and resources (White 2013), and this has not been helped by the recession in the UK starting in 2008 and cuts to museum funding.

Other publications consider the experiences of caring for human remains in specific

museums (Fletcher et al 2014: British Museum; Redfern and Bekvalac 2017: Museum of London), and provide guidance on accessioning human remains, curation and managing research on them (e.g. Cassman and Odegaard 2006; Cassman, Odegaard and Powell 2006; BABAO 2010b; Roberts 2018). Related to this and just as important, are the challenges of storage space for human remains in the UK (McKinley 2013) and some of the solutions (Mays 2013). Thus, there is much curation guidance available for universities, museums, and commercial archaeology units, but the wherewithal (staff and resources) to follow this guidance can be very limited, especially in provincial museums, thus compromising paying due respect to and caring for human remains they curate. It can however be argued that human remains are the most important part of any curated collections, but in the author's experience they can be the most poorly cared for.

5.3.5 Guidance on display

Alongside guidance on excavation, curation, and analysis of archaeological human remains has also come recommendations on how human remains should be displayed in museums and other venues. Opinions about whether human remains should be on display, and if so how they should be displayed vary, but surveys (many self-selected) indicate that the public do want to view human remains in museums (e.g. Mills and Tranter 2010). In recent feedback on a travelling exhibition co-produced by the author and a Durham University Museum colleague, "Skeleton science" (Skeleton Science n.d.), it is also clear that visitors wish to see real skeletons rather than 3D printed ones. Indeed, one visitor stated that "we feel cheated if it is not a real skeleton".

This work has implications for museum exhibitions and "doing the right thing", but if human remains are to be used for exhibitions then they should be clearly contributing to the education of visitors, and not placed on display purely so they can "gloat" at the dead. Accompanying text panels that contextualize the skeleton are essential, and the clear signposting to give the opportunity for visitors not to view the skeleton/skeletons. The display of skeletons may provide both information about the value of studying human remains, but it is also important to show how

they provide a voice to the past and contribute to our understanding of local, national, and international histories. Some of the first such guidance on display was published by the DCMS (2005) but there are also more recent statements on how to display human remains in museums (e.g. Brooks and Rumsey 2006; Museums Galleries Scotland 2011; Antoine 2014; APABE 2017).

Clearly, the majority of exhibitions using real human remains for display in the UK do so to educate the interested public, but we should be mindful that display is not purely to generate money and visitor figures. There must be a real purpose, going forward, and guidance should be heeded and considered.

5.4. The future of bioarchaeology in relation to practice

This chapter has discussed the author's personal experience of ethics in relation to bioarchaeology, the development of bioarchaeology in the UK, and its value for understanding the past, and explored guidance on excavation, analysis, curation and display in the UK. We now come to its future.

There is a future, and a strong and bright one! We can as bioarchaeologists give voices back to our ancestors' remains, and provide stories about their past, but sometimes those voices may tell us stories that we do not necessarily want to hear. Many bioarchaeologists have strongly promoted the need to have human remains retained and curated for further research in the UK, and ethical treatment of such remains has been addressed in guidance documents in more recent times. In going forward, the following recommendations are highlighted for bioarchaeology:

- ensure that ethical considerations are uppermost in the minds of everybody who comes into contact with human remains, from excavators to curators and all "stakeholders" in between;
- promote much more open dialogue about human remains of whatever period of time in any part of our world to give us a chance to confront, appraise, and mediate any tensions;

- reflect more on collections of human remains that are often invisible to the public when curated, including those inappropriately collected by our ancestors often of indigenous peoples in other parts of the world, why they exist, and on the 'power' that institutions that curate human remains can be seen to have;
- be mindful that because we cannot gain permission from the dead to excavate, analyse, curate, and display them, we must treat them with all the dignity and respect we can apply, and train our students (and engage the public) to do the same, think seriously about whether referring to the remains of once living humans as "samples", "materials", "specimens", and "cases" is appropriate, which can objectify the dead. Is that acceptable and would we as dead bioarchaeologists welcome being named as such?
- consider who has the right to decide the fate of any human remains – whether they are excavated, analyzed, reburied, or retained for future research, or displayed, and if collections of human remains are made accessible for study, and by whom? What is proper and right?

As 40 years in bioarchaeology approaches me, I raise these questions for the younger generations coming through who are working, and will work, with archaeological human remains. Please debate these issues more. I do think that the dead have rights and should be treated differently to other archaeological finds, but even today they may be treated just as another archaeological find, like pottery or animal bones – yes, this might seem strange, but thankfully times and opinions have and are changing, albeit slowly.

Clearly, bioarchaeologists all have a duty to do our best for all human remains that have been, and will be, excavated and analyzed in the future, and then curated, right across the world. We also have a duty to engage all stakeholders in debates, including the public and indigenous people.

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