Managing our past into the future

Archaeological heritage management in the Dutch Caribbean

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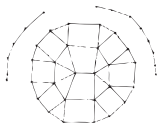

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Skeletons in the closet

Future avenues for the curation of archaeological human skeletal remains in the Dutch Caribbean and the rest of the region

Hayley L. Mickleburgh

Human skeletal remains from archaeological contexts in the Dutch Caribbean and the rest of the region are curated in a variety of facilities such as museums and the premises of heritage organizations, history and archaeology interest groups or in some cases private collections. These curating facilities deal with various challenges regarding the care for human remains, but in many cases a lack of sufficient resources affects the conservation of the human remains that have been under long-term curation. This chapter discusses some of the ways in which storage conditions and documentation of human skeletal remains in the region may cost-effectively be improved. Legislation and guidelines pertaining to the treatment of archaeological human remains in other parts of the world provide a potential framework for the development of conservation strategies for human skeletal remains under (long-term) curation in both the Dutch Caribbean, where legislation and guidelines for Dutch archaeology have recently been introduced, and the Caribbean region as a whole. While conservation of human remains is in the interest of all stakeholders, this chapter emphasizes the strengthening of ties between visiting researchers and curators in order to effectively make use of the available expertise and maintain conservation with very few resources. A model for the post-recovery treatment of archaeological human remains based on museum guidelines recently developed in Europe and shared responsibility between visiting researchers and curators is proposed.

Introduction

With rapid developments in cultural heritage management worldwide, there is increased awareness of the presence of human remains in collections, and questions have been raised regarding their continued curation (Cassman *et al.* 2007). Human remains have enormous scientific value, which continues to grow as new methods and techniques are developed for their study, and at the same time they

have immense social, cultural, religious, ritual, and emotional value for various stakeholders, making the ethics of their scientific study and (long-term) curation complex (Alfonso & Powell 2007).

Human skeletal remains from archaeological contexts in the Caribbean are curated in a variety of contexts, including museums as well as the premises of heritage organizations, history and archaeology interest groups, or in some cases private collections. As is the case in many parts of the world there is no (single) guiding protocol for the curation and continued protection of these remains, although the curating facilities throughout the region often contend with similar issues regarding the care for their collections. This chapter outlines future avenues for the conservation of archaeological human skeletal remains in the Caribbean through: (1) examining legislation and guidelines for the treatment of archaeological human remains in the region and in other parts of the world, and (2) emphasizing collaboration between researchers and curating organizations such as museums, heritage organizations, history and archaeology interest groups, as well as private collectors.

Legislation and guidelines have been developed in some other parts of the world that take into account the wishes and opinions of all potential stakeholders in the treatment of archaeological human remains, regarding optimal physical conditions for preservation and ethical concerns. Several examples are drawn upon in this chapter, demonstrating the degree of variation in laws and guidelines worldwide, and highlighting some that could in the future serve as models for the development of similar laws or guidelines in the Caribbean. At present they may be used to develop conservation strategies for skeletal collections.

Each individual curating organization in the region deals with its own challenges in the continued care for collections, but regarding human remains there are some shared experiences and potentially shared solutions that could contribute to the sustained protection of human remains. This chapter discusses some of the ways in which researchers and curating institutions may improve storage conditions and documentation of human skeletal remains are discussed, emphasizing the proactive role of researchers in their conservation. Lack of sufficient resources means that curating institutions in the Caribbean (and elsewhere in the world) often cannot afford to maintain conservation of human remains, which frequently form just a small part of their entire collection. It is posited here that by strengthening the relationship between curating institutions in the region and researchers wishing to study collections of human skeletal remains, and through shared responsibility for the conservation of the remains, their continued management and (scientific) value can be improved significantly and cost-effectively.

Although this volume deals with the Dutch Caribbean, this chapter includes issues of curation of human remains in other parts of the Caribbean because: (1) although geopolitically diverse due to its complex colonial history, the Caribbean region represents a socially and culturally integrated area, both in the past and at present; the archaeological and historical Caribbean heritage (including archaeological human skeletal remains) is similarly integrated and intertwined, and the management of collections of human skeletal remains stands to benefit from an approach that avoids separation according to current geopolitical divisions and

colonial histories, (2) although Dutch archaeology legislation and guidelines have been introduced variably to the Dutch Caribbean since 2010 (see also chapter 4 of this volume; van der Linde 2012), similar to other parts of the Caribbean there remains a lack of legislation and guidelines/best practices regarding the curation and conservation of archaeological human remains, because these are still meagre or as yet lacking in Dutch archaeology and museum practice (see discussion below), and (3) the physical environment of archaeological sites in the Dutch Caribbean as well as the histories of establishment and curation of collections in the region differ from those in Dutch archaeology and heritage management, and therefore call for an assessment of conservation needs that is tailored to local requirements.

This chapter is drawn from experience with the bioarchaeological study of collections in the Caribbean, and therefore deals predominantly with their scientific value. Although legal and ethical issues concerning the (long-term) curation and scientific study of human skeletal remains form an essential and integral part of any conservation strategy for collections, these are not the main focus here. The reader is referred to previous works (e.g., Cassman *et al.* 2007; Turner 2005) for more information on these issues.

Legislation and guidelines

Similar to the situation in the broader field of cultural heritage management, legislation and guidelines for the treatment of archaeological human (skeletal) remains vary considerably worldwide, both in their precise constitution and actual enforcement (Hutt & Riddle 2007; Márquez-Grant and Fibiger 2011). Some international legislation indirectly covers the treatment of archaeological and ethnological human remains: UNESCO's Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (1970), the Convention Concerning the Protection of the World Cultural and National Heritage (1972), and the UNIDROIT (the International Institute for the Unification of Private Law) Convention on Stolen or Illegally Exported Cultural Objects (1995). However, these conventions aim to protect cultural items in general from illicit trade, and are not aimed specifically at human remains or at the treatment of remains throughout the different stages of their recovery, analysis and documentation, and further curation or repatriation/reburial.

Next to these conventions, the only international agreement on the treatment of human remains between scientific researchers and indigenous communities is the Vermillion Accord on Human Remains (1989), created by the World Archaeological Congress (WAC). This agreement proclaims respect for human remains and local communities, and recognizes the scientific importance of human remains, but it doesn't provide guidelines for the precise treatment of remains throughout the process of recovery and curation. In practice, the recovery and scientific analysis of archaeological human remains are generally closely intertwined (Ubelaker 2011), but in existing national legislation and guidelines for best practices the stages of recovery of the remains, and their further analysis and curation (including storage and public display) tend to be regulated separately.

Legal status and recovery

The legal status of archaeological human remains varies widely across the globe (Márquez-Grant and Fibiger 2011). As a result, the manner in which collections of such remains are established and their long-term management strategies can also vary considerably. Often archaeological remains are not covered in general legislation on the treatment of human remains. For example, the Human Tissue Act (HTA 2004), which regulates the removal, storage and use of human tissue for among other things education, research, and public display in the United Kingdom, does not apply to remains of individuals who died over 100 years ago, or existing holdings of over 100 years old (Sections 1 and 9), excluding the majority of archaeological remains.

The recovery or excavation of archaeological human remains is often regulated by legislation concerning cultural heritage and patrimony. Such legislation, if specifically stated to cover archaeological human remains, tends to emphasize their scientific value and delineates who may excavate and/or transport such remains, as well as making statements concerning their legal status and ethical treatment (Márquez-Grant & Fibiger 2011). Post-recovery treatment largely falls under the auspices of guidelines for best practices for e.g. museum associations (see below).

In the United States, for example, the Archaeological Resources Protection Act (ARPA) protects archaeological resources (including graves and human skeletal materials) on public and Native American Indian land from being unlawfully excavated, removed, damaged, bought or sold, exchanged, or transported. In Germany, archaeological human remains are protected by the Denkmalgeschutzgesetz, legislation which protects all archaeological finds from being tampered with, damaged or destroyed, and custody of the remains is given to the State Offices for Historical Monuments (Orschiedt *et al.* 2011).

In some cases, the recovery of archaeological human remains is regulated through laws which were not specifically designed to cover archaeological cases. For example, in the United Kingdom, archaeological human remains are protected through a number of acts and laws, the foremost of which is the Burial Act 1857, which was designed to stop grave robbing that was prolific in the 19th century as medical schools were in need of bodies for dissection, and which states that 'it shall not be lawful to remove any body, or the remains of any body, which may have been interred in any place of burial, without licence'. Furthermore, there is the Common Law, which states that it is an offence to disinter a body without lawful authority, ecclesiastical law, which defines whether human remains may be excavated and regulates their post-excavation treatment on land under Church of England jurisdiction, and the Disused Burial Grounds (Amendment) Act 1981 and the Pastoral Measure 1983, which protect human remains from land development.

Legislation regarding the legal status and treatment of human remains that is legally applicable to archaeological remains is not always present. In the (European) Netherlands, human remains are protected by the *Wet op de Lijkbezorging* 1991, which regulates the manner of lawful disposal of bodies and parts of bodies, and articles 148-151 of the *Wetboek van Strafrecht*, which state that the excavation of or damage to a grave as well as the transport of remains from an unlawfully excavated

grave are unlawful and punishable. Archaeological burials are not protected by these laws, however, since archaeological graves are generally not buried in a cemetery as it is legally defined in these laws (Bok 2007). Since legislation regulating the treatment of archaeological finds, *i.e.* the *Monumentenwet* 1988 and the *Wet op de Archeologische Monumentenzorg* 2007, defines archaeological materials as any 'fabricated object that is important for its beauty, scientific value, or culture-historical value', and human remains cannot be argued to have been fabricated, human remains from archaeological contexts do not technically constitute archaeological finds. As such, their legal status is not specifically defined and their treatment is not regulated, but in practice they are treated as archaeological finds, dealt with by trained researchers and curated in museums or research facilities (Bok 2007; Smits 2011). In France, in legislation covering archaeological finds human remains are not explicitly mentioned, and as such their legal status is not separately defined. However, in practice archaeological human remains are considered to comprise archaeological finds, and therefore they are treated as other archaeological materials in excavation and storage (Michel & Charlier 2011).

In various parts of the Caribbean, such as The Bahamas (see also Pateman 2011), Barbados (see also Farmer 2011), Grenada, St. Vincent and the Grenadines (see also Callaghan 2011; Lewis 2011), and Trinidad and Tobago (see also Reid & Lewis 2011), archaeological human remains are not specified in legislation protecting the cultural heritage. In the British Virgin Islands, no legal framework is in place regarding the excavation of human remains (Harrison 2011).

In the Dominican Republic, ancient human remains are specifically defined in heritage protection legislation. Any archaeological human remains pertaining to the period before the 'discovery' (*i.e.*, before the first contact between the Amerindians of Hispaniola and the Europeans) are considered archaeological remains of national and cultural significance and constitute property of the state under *Ley 564 para la protección y conservación de los objetos Etnológicos y Arqueológicos Nacionales* (1973). Archaeological remains (including human remains) that are protected under this law must be registered with or transferred to the custody of the *Museo del Hombre Dominicano*. Archaeological remains that are not considered to pertain to the period before first contact would fall under the jurisdiction of the *Dirección Nacional de Patrimonio Monumental* (Prieto Vicioso 2011), but human remains are not specified in the relevant legislation (*Ley 318 sobre el Patrimonio Cultural de la Nación*, 1968). If found on Catholic Church land or adjoining property, ancient human remains are presided over by the Church (Pauline Kulstad, pers. commun. 2014).

In the U.S. Virgin Islands, the Antiquities and Cultural Properties Act (1998) establishes that the State Historic Preservation Office is responsible for the comprehensive survey and identification as well as the maintaining of a listing of all archaeological remains and the relevant collections keeping such remains. The latter are stated to include cemeteries, unmarked human burial sites, and ossuaries.

Legislation for post-recovery treatment

Post-recovery treatment of archaeological human remains consists of inventorying, analysis, storage, conservation, display (e.g., in museums), and sometimes repatriation and reburial. Post-recovery treatment is generally considered separately from excavation procedures, and as such the legislation that deals with the excavation or other removal of archaeological human remains discussed above generally does not cover their precise treatment afterward. The new conditions to licenses obtained under the Burial Act of 1857, issued by the United Kingdom Ministry of Justice in 2008, are a clear exception. They state that archaeological human remains must be reburied within two years of their exhumation, with extensions granted only in special cases. This legislation, intended to cater to modern views on the treatment of human remains, repatriation and reburial, has led to considerable debate and resistance from the archaeological and broader scientific community, due to the very limited time for scientific study of human remains and the lack of possibility for re-analysis at a later stage (Parker Pearson *et al.* 2013).

In the United States, the Code of Federal Regulations, title 36, part 79 (Curation of Federally-Owned and Administered Archaeological Collections) establishes standards, procedures and guidelines for Federal agencies for the post-excavation management and preservation of historic and prehistoric remains (including human remains) recovered under the authority of the Antiquities Act, the Reservoir Salvage Act, Section 110 of the National Historic Preservation Act, and the Archaeological Resources Protection Act. These regulations cover, among other things, storage conditions, inventorying, and any associated documentation of such remains.

Significant legislation pertaining to the post-excavation treatment of (archaeological) human remains came about due to years of lobbying by indigenous rights groups; in the United States and Australia there exists Federal, Commonwealth and State legislation pertaining to the post-recovery treatment of archaeological human remains of specific ethnic and cultural affiliations. In the United States, the Native American Graves Protection and Repatriation Act (NAGPRA) protects indigenous human remains from trafficking, and requires all curating organizations that receive federal funding to transfer remains that can be culturally ascribed to a particular indigenous tribe for appropriate ethical and cultural treatment. The slightly earlier National Museum of the American Indian Act (NMAIA) (Public Law 101-185; 1989) similarly requires the Smithsonian Institution in Washington D.C. to transfer the remains that could be culturally ascribed to a particular contemporary indigenous tribe. There are no repatriation laws at the Federal level for non-indigenous remains, although there are various State level laws in place, some of which also prohibit traffic of remains (Hutt & Riddle 2007; Ubelaker 2011).

In Australia, the Aboriginal and Torres Strait Islander Heritage Protection Act (1984) and various State level acts such as the Aboriginal Heritage Act (Victoria; 2006) and the Aboriginal Cultural Heritage Act (Queensland; 2003) decree that ownership of Aboriginal human remains is passed to the Aboriginal people who

have a traditional or familial link to the remains, allowing the Aboriginal people to request transfer of the remains into their custody.

Such legislation as described above has greatly impacted the way society at large and researchers in particular think about the treatment of human remains, despite the fact that many feel that e.g. NAGPRA has failed to achieve many of its objectives and has unintentionally complicated certain matters (Jacobs 2009; Murphy 2001).

Aside from the cases described above, there is a paucity of legislation that regulates the precise post-recovery treatment of human remains across the globe. The same is true for the Caribbean, although changing attitudes toward the treatment of the dead, and debates on repatriation and reburial among the scientific community and the general public may spur the development of such legislation in the near future.

Guidelines for post-recovery treatment

Alongside what is defined by law, recently some guidelines have been created for the post-recovery treatment of archaeological human remains, and since the chief premise for holding human remains under long-term curation in many museums and other institutes worldwide is their continued scientific significance, the bulk of these has been developed within the scientific or museum professional community. The International Council of Museums (ICOM) Code of Ethics for Museums (2004) is internationally recognized and subscribed to, and sets minimum standards for museums with regards to the ethical treatment of all materials in their custody, including human remains. However, in some countries more specific guidelines – concerning among other things storage conditions and conservation practices – have been created for the post-recovery treatment of archaeological human remains such as the Guidance for the Care of Human Remains in Museums (DCMS 2005; England, Wales and Northern Ireland), the Guidance for the Care of Human Remains in Scottish Museum Collections (MGS 2011; Scotland), and the Recommendations for the Care of Human Remains in Museums and Collections (GMA 2013; Germany). These guidelines state that curation facilities (often museums with research departments and experts in osteology) are responsible for documenting and inventorying the materials in their care, and making a full osteological report which includes per individual which parts of the skeleton are present, the preservation condition, contextual information (e.g., site location, dating, spatial distribution of human remains within the site, associated archaeological materials), and evidence for pathological conditions. This information will then be kept in a materials catalogue, and where deemed necessary will be made accessible to interested parties of the general public and researchers wishing to study the materials.

Of interest for the Dutch Caribbean, is the policy of the Netherlands Museums Association (NMA) regarding the treatment of human remains in their collections. The NMA adheres to the ICOM Code of Ethics for Museums (2004) regarding the ethical treatment and status of human remains in their collections, and in addition, with respect to more specific aspects of inter alia the display of human

remains in exhibitions, the NMA adheres to the advice statement of the Ethical Code for Museums committee (2007). Furthermore, the *Stichting Volkenkundige Collectie Nederland* (SVCN), an association for the eight ethnology museums in the (European) Netherlands, has produced a Code of Conduct specifically for the treatment of human remains in ethnological museums, which pertains for instance to their display and the minimum standards required for inventory (SVCN 2012). However, regarding the physical preservation of the remains and the quality of storage conditions, packaging, and accompanying documentation, there are currently no Dutch guidelines available for museums or other curating facilities, although the Netherlands Museum Association makes mention of the recommendations set out by the German Museums Association (2013) (*Museumbericht* 6 June).

Future directions

Archaeological human remains cannot be considered as simply a type of material. They are socially, culturally and emotionally highly laden, and the way they are treated is socially and politically significant. The recognition of archaeological human remains as a separate and unique category of archaeological finds in national and international legislation is an important step toward developing a strategy for their longer term treatment that incorporates the wishes of all stakeholders. As we have seen above, the status of archaeological human remains in legislation across the globe is highly varied, but recent debate on how to deal with them has already led to critical examination of the manner in which they are treated throughout the different stages of recovery and curation (Cassman *et al.* 2007), and may lead to re-evaluation of legislation in the future.

The guidelines set out by the DCMS, MGS, and GMA represent an important development toward incorporating the wishes and recommendations of various stakeholders, including the general public, potential descendants, and scientific researchers and museum professionals. These guidelines reflect rigorous research into the opinions of all stakeholders, and they devote great attention to optimal conditions for preservation of remains from deterioration. Their specific recommendations for the physical preservation of the remains, storage conditions, packaging, and accompanying documentation can therefore be considered best practices for the post-recovery preservation of human remains, and may serve as a model for the development of similar guidelines elsewhere in the world.

Continued scientific importance

As discussed above, legislation or guidelines specifically regarding the treatment of archaeological human remains are lacking or inadequately enforced in large parts of the Caribbean (see also Harrison 2011; Llorens-Liboy & Núñez 2011), reflecting similar issues in general cultural heritage management in the region (Siegel & Righter 2011). In practice this can mean that human remains are not excavated or studied by individuals with training in osteology (Llorens-Liboy & Núñez 2011). The same is the case with skeletal remains that have been under long-term curation, since these may predate (enforcement of) legislation or development of local education programs in archaeology, osteology and bioarchaeology (Llorens-

Liboy & Núñez 2011). As such, older collections of archaeological human skeletal remains stand to benefit from new analyses by trained bioarchaeologists. Scientific interpretations cannot be considered 'final' in the sense that once analysed, archaeological materials are depleted of scientific worth. On the contrary, re-analysis and re-interpretation of data are as much part of science as the initial research (Nilsson Stutz 2008). Theoretical developments in the field of bioarchaeology in the last couple of decades, and the move away from simple descriptive osteology to more holistic bioarchaeological approaches means that basic osteological methods have changed and been refined, warranting new investigations of long-term curated remains. Furthermore, the continued development of bioarchaeological and archaeometric techniques means that human skeletons are increasingly important sources of information on past peoples' lifeways and deathways. The rapid development of techniques means that many analyses which in the past were (highly) destructive are now, or in the very near future will be, (practically) non-destructive to the material. This opens up a broad range of research possibilities and serves to increase the scientific value of these remains. Currently, materials excavated decades ago are receiving renewed interest from researchers from the Caribbean and elsewhere, hoping to answer new research questions with new techniques or non-destructive analyses (Crespo *et al.* 2013).

This emphasizes in particular the significant scientific value of skeletal remains that have been under long-term curation in the Caribbean, including those that have previously been studied. The scientific importance of the remains generally does not diminish, however long-term storage leaves skeletal materials vulnerable to deterioration. But, needless to say, human skeletal remains also have considerable non-scientific value. Globally, increasing concerns from indigenous groups, the scientific community and society at large about the ethical treatment of human remains have highlighted the need to justify their long-term curation. Therefore, if collections of human remains are to stay in curating facilities, plans need to be drafted regarding their ethical treatment, study and conservation through consultation with all potential stakeholders.

Shared responsibility

As described above, guidelines for the treatment of human (skeletal) remains adhered to by museums in for example England, Wales, Northern Ireland, Scotland, and Germany, state that museums are responsible for documenting and inventorying the materials in their care, and making scientific reports, which requires specific scientific (osteological) training. However, the presence of a research department, or experts with osteological training, is dependent on the aims of the organization holding the materials (and their reasons for doing so) and on available funding. Many curating facilities and organizations across the Caribbean lack the funding for such actions, or were not established with the aim to actively pursue scientific research of remains. Legislation or guidelines regarding the specific post-recovery treatment of archaeological human remains is mostly lacking in the Caribbean countries, and other legislation pertaining to the cultural heritage is often poorly enforced or problematic for other reasons (Siegel & Righter 2011).

However, the long-term care for human skeletal remains is also the responsibility of researchers who wish to study such materials. The scientific community of (bio)archaeologists is committed to the long-term conservation of human skeletal remains from archaeological contexts, a fact that is reflected in the codes of ethics and conduct statements of various scientific associations, such as those outlined by the Society for American Archaeology, The American Association of Physical Anthropologists, The World Archaeological Congress, The European Association of Archaeologists, and the British Association for Biological Anthropology and Osteoarchaeology. For example, the Bylaws of the Society for American Archaeology state that it is the ethical responsibility of archaeologists 'to advocate and to aid in the conservation of archaeological data', which includes the mortuary record and human remains (SAA 2012). Similarly, the American Association of Physical Anthropology states in its Code of Ethics that one of the principles of their organization is to 'work for the long-term conservation of the archaeological, fossil, and historical records' (AAPA 2003). The British Association for Biological Anthropology and Osteoarchaeology also emphasizes the important role of researchers in conservation of remains, noting that 'osteoarchaeologists should work toward the long-term conservation of the osteoarchaeological record' (BABAO 2007).

Bioarchaeologists can contribute significantly to the conservation of human remains by reporting on preservation conditions and providing curating organizations with the basic osteological data from their analyses. Both of these are part of their routine studies and require only minor adaptations for curation purposes. If researchers and curators collaborate to protect and conserve human skeletal remains, the condition of remains can be improved and maintained even when very few resources (funding) are available by making optimal use of researchers' expertise without increasing their work load significantly. In applying this concept of 'shared responsibility', for example, researchers may perform condition assessments and create inventories (including basic osteological data) as required by curators, and even re-package remains when original packaging materials are unsuitable or have deteriorated. The shared responsibility of researchers and curators toward archaeological human skeletal remains may, through collaboration, be extended to the active engagement of other stakeholders, drafting plans for the future curation or other treatment of the remains, drafting codes of ethics and practices, and public outreach and education programmes. In sum, shared responsibility is a model for the collaborative improvement of the post-recovery treatment of human remains from archaeological contexts, but importantly the practical implementation of the shared responsibility concept does not afford researchers, curators or any other party the right to access or use collections or data beyond existing collaborative agreements.

Conservation strategy

The guidelines for the treatment of human (skeletal) remains adhered to by museums in for example England, Wales, Northern Ireland, Scotland, and Germany present highly detailed best practices for the conditions of curation

of human remains. Here, key aspects of care for human remains outlined in these guidelines (inventorying and documentation, storage conditions and packaging materials, condition assessment) are discussed in the light of potential implementation in the Caribbean region. Collections in the Caribbean region are subject to conditions which are not applicable to many other parts of the world, in particular the countries in which these guidelines were developed. The tropical to subtropical climate of the region, with high temperatures and humidity, as well as the abundance of pests, can form a threat to human skeletal remains and the storage facilities they are held in, and may warrant specific storage requirements and more frequent replacement of e.g. packaging materials. Together with limited resources, this means that practical use of these guidelines must be tailored to local needs and conditions.

As mentioned above, the concept of shared responsibility between researchers and curators may be extended to the involvement and engagement of other stakeholders, through for example public outreach and education programmes. The involvement of local communities and the broader public in the treatment of archaeological (and ethnological) human remains provides the opportunity to develop a sustainable conservation strategy, which incorporates the views of all stakeholders.

Below, a number of practical measures are suggested for post-recovery treatment of archaeological human remains in the Caribbean. These measures are drawn from: (1) the best practices described in the recent European guidelines, discussed above, (2) personal experience of the author as a researcher working with such collections in the region, and, most importantly, (3) from the concept of shared responsibility introduced above. This concept of shared responsibility resonates with recent developments in museology, which explore a variety of models for shared responsibility for the care of archaeological and ethnographical collections. Non-Western models of museums, for example, provide alternative perspectives on the treatment of archaeological and ethnographic collections, and recent developments emphasize the potential of alternative approaches which include traditional Western curatorial practices (Kreps 2006).

Inventory

Collections of archaeological human (skeletal) remains should be carefully inventoried and documented. The GMA recommends digitisation of inventory data for speedy access and to facilitate future work. A basic inventory system for human remains should include the number of individuals and an inventory per individual of remains that are present (visiting researchers with bioarchaeological expertise can be requested to assist), the assigned inventory numbers per individual, an assessment of the condition of preservation (see below), information on the nature and location of any related documentation or archival material, information on the context of acquisition of remains, information on the archaeological (*e.g.* site name and location, associated materials, dating) or ethnographical context, information

on any previous handling or restoration work on the remains, information on previous research activities and their results, including the location of samples taken and time frame for their return.

Handling and cleaning

Bone is porous, and therefore absorbs oils present on the skin. To prevent this, bone should only be handled with clean hands, or preferably gloves. Nitrile gloves are preferred, as they do not contain proteins (latex gloves contain proteins from the rubber tree), and are therefore suitable for handling materials which may at some point be sampled for ancient DNA or protein research. Gloves that are powdered on the inside should be avoided: the powder usually consists of corn starch which can contaminate samples of dental calculus that can be used for ancient starch grain research.

Poorly preserved materials should not be washed with water, and bones should never be immersed while cleaning. Soil left adhering to bone after excavation will dry and shrink, and can damage the bone in the process. Bone should never be stored wet or damp, as this can encourage the growth of moulds.

Condition assessment

According to guidelines set out by DCMS (2005), MGS (2011), and GMA (2013), museums should regularly check the condition of materials to identify if the integrity of the remains has deteriorated and whether storage conditions and packaging materials are still adequate. Standardised documentation is recommended for condition assessment. Bioarchaeological researchers will generally include an assessment of the condition of the materials in their study of the remains, as the condition of the remains impacts their analysis of the materials. Therefore, when expertise and funding for condition assessment is lacking, researchers with appropriate expertise, who wish to study the materials, may be called upon to contribute by reporting on the condition of the remains and packaging materials and providing advice on potential improvements, as well as re-packing when packaging needs replacing.

Basic reporting should include an assessment of bone condition and integrity, an inventory of remains, evidence for the presence of pests, deterioration of packaging or labels, individual integrity (*i.e.* bones packaged together as a complete skeletal individual).

Storage, packaging and labelling

Storage areas, packaging materials and containers should be kept clean and regularly checked for damage, leakage, or the presence of pests. The DCMS, GMS and GMA recommend that large collections of human remains be stored in a dedicated storage area, which both allows for management of storage conditions specifically suited to human remains, and allows for monitoring of access to the remains for ethical reasons (*i.e.* leaving remains as undisturbed as possible). When the allocation of a separate storage room is not possible, or collections are of smaller

size, it is recommended that a specific area of the storage facility is designated for human remains. Integrity of individuals is emphasized by DCMS, MGS, and GMA. Remains of individuals should be cleaned and stored individually, preferably in individual storage containers.

Skeletal remains are best stored clean, in a cool and dry place, and away from sunlight.[28] The DCMS (2005) recommends optimal temperatures and humidity levels for the storage of human skeletal remains. High or low humidity of the storage environment is advised against by DCMS (preferably between 35-70%, not above 85%), but at the very least attempts should be made to control humidity levels and avoid rapid fluctuations. When it is not possible to adhere to these temperatures, minimal requirements are that (rapid) temperature and humidity level fluctuations are avoided, since these can lead to deterioration of the bone.

Inert packaging materials are recommended since these do not contain chemicals that are harmful to the remains. Polyethylene self-sealing bags are recommended to pack bones, and bubble wrap and jiffy foam can be used for extra protection of bones in the container. Bones should never be packed if not completely dry. Wooden and cardboard containers are not recommended, since these can contain lignin, which in high levels can release an acid which destroys DNA and proteins, and thus leads to deterioration of human remains. Similarly, wrapping remains in newspapers exposes them to acids produced by deteriorating lignin. Acid and lignin free packaging materials and containers can be purchased, and some museums store human remains in good quality cardboard boxes (Museum of London 2009). However, wood and cardboard, as well as paper archives and cardboard binders can attract termites, which in the Caribbean can pose a threat to collections. Furthermore, rodents can gnaw through cardboard and sometimes wood, and will gnaw on bones to sharpen their teeth and for the minerals they contain. Rodents also leave droppings which are harmful to the health (Arriaza and Pfister 2007). Plastic containers can be used, as long as they are polypropylene (PP) or polyethylene (PE), and materials are completely dry before placing them inside, to avoid moulding. PP or PE boxes protect against insects, rodents, and to a certain extent water damage (*i.e.* leakages or flooding), and are relatively cheap.

DCMS and MGS suggest that labelling of packaging materials and marking of remains (with inventory numbers) should be done with waterproof ink according to standards set out by the United Kingdom Collections Trust SPECTRUM Advice (Collections Trust 2011). Similar to the requirements for packaging materials, labelling and marking should not introduce harmful chemicals to the remains.

Visiting researchers with expertise in the study of human remains tend to have expertise and experience in the handling, labelling and packaging of remains, and can be called upon to re-package or label any materials they encounter that require a packaging or labelling upgrade.

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28 UV light is destructive to the proteins in bone, and bones exposed to it for long periods of time will become brittle and eventually disintegrate. UV light can also damage packaging and labels.

Public outreach

Of great importance to the future of the archaeological heritage is the involvement of all stakeholders in strategies for and implementation of its management. The wider debate on the holding of human remains in various curating organizations worldwide, means that the indefinite curation of remains has been questioned, and, secondly, that the general public and local and indigenous communities actively engage in policy development regarding their treatment.

Researchers can simply and effectively contribute to public outreach and education programmes of museums and other curating organizations by actively engaging with the public through presentations (*i.e.*, museum or school lectures) while visiting to study materials, and by preparing a report for the general public alongside the required scientific report. But engagement of all stakeholders in the management of the archaeological heritage requires their involvement in all the stages thereof, including the research, since exclusion at any stage defies the principles of the collaborative management of archaeological heritage. Therefore, methods should be sought to involve all stakeholders in the design and execution of research.

Discussion/conclusions

There are some very simple and effective ways to improve preservation of archaeological human remains in the Caribbean. Guidelines that have been implemented elsewhere in the world can be consulted by curating organizations, and adapted to local circumstances where necessary. Some suggestions have been made here, based on these guidelines, which may be relatively easily and inexpensively brought into practice throughout the region. An important tool suggested here, that can be used by curating organizations in the region, is the concept of shared responsibility. The advantage of this approach is that it can relatively cheaply make use of the available expertise on the treatment of human remains, and thus provides an option for improvement even when funds and expertise are very limited. But in the long-term curation of human remains (or any other materials) must not overly rely on any single stakeholder. Scientific expertise can provide a framework for the optimal conditions needed for the preservation of archaeological human remains, but the involvement and engagement of multiple stakeholders, in particular the general public, are essential to the future of the cultural heritage, including human remains.

The development of policies and guidelines for the (long-term) treatment of archaeological human remains in the Caribbean is also a step toward the development of legislation that recognizes human remains as a unique category of archaeological materials, which requires different treatment for both ethical reasons and due to its specific material properties. Currently, worldwide, there is a great variety in legislation pertaining to the treatment of archaeological human remains, while in the majority of cases the optimal conditions for storage and handling of these remains are the same (or similar). Nonetheless, ethical concerns and concepts of death vary across the globe, and legislation must reflect local customs and needs. Legislation such as NAGPRA, for example, was specifically

developed with the concerns and interests of Native American populations in the United States in mind, and is not necessarily an appropriate framework in other parts of the world (see also Jacobs 2009). The development of legislation pertaining to the treatment of archaeological human remains in the Caribbean must adapt to local customs and needs, and will require considerable time and input from various stakeholders to develop. Curating organizations such as museums can play a major role in raising awareness among different stakeholders and in particular the general public, as well as engaging them in the planning and implementation of curation of collections. Visiting researchers can actively contribute to engagement of all stakeholders through both public presentations of their research as well as participatory activities in which stakeholders take part in all stages of the research design and execution.

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