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Abstract

Bioarchaeology, as a subdiscipline, has begun confronting its colonial origins and discussing how to incorporate stakeholders and ethically move forward. Here, we frame this discussion within the context of Sudan and Ancient Nubia. We argue that first we must acknowledge the sordid history of the discipline and then actively take steps to dismantle continuing systems of racism, sexism, and western-centered biases. We begin by discussing the history of the excavation, analysis, and treatment of human skeletal remains from early excavations through to current projects. We then turn to an examination of how we can further decolonize bioarchaeology in Sudan. This will certainly involve working closely with local communities and the National Corporation for Antiquities and Museums, as well as a reconsideration of decision-making processes. We are working towards a best care practices document, detailing guidelines for the curation and analysis of human skeletal remains.

Keywords

community participation – Nubia – Nile Valley – outreach – human skeletal remains – ethics

1 Introduction

Archaeology has been working towards dismantling the previously entrenched colonial systems of power within the discipline by involving Black, Indigenous, People of Color, and otherwise marginalized peoples in all steps of scientific research, returning cultural property, and co-curating archaeological materials (Smith & Wobst 2005; Atalay 2006; Rizvi 2019; Schneider & Hayes 2020). Influenced by feminist theory, critical race theory, post-colonial theory, and gender studies, the decolonization movement in archaeology has made significant strides in creating an environment where the study of the past is more equitable, unbiased, and sustainable (Bruchac 2014).

Bioarchaeologists, defined here as specialists in the excavation and analysis of human skeletal remains, have also embraced decolonial scientific practice and are cognizant of the ethical considerations and obligations that are inherent to studying the remains of human bodies (DeWitte 2015; Lambert & Walker 2018; Squires et al. 2019; Meloche et al. 2020; Thomas & Krupa 2021; Buikstra et al. 2022). Although positive movement has been made, it is important to state that continued decolonization efforts

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are absolutely essential to deconstruct persistent disciplinary inequalities (de la Cova 2019; Watkins 2020; Stantis et al. 2023). While repatriation policies, such as NAGPRA (Native American Graves Protection and Repatriation Act), have been put in place in certain settler societies, tensions between some indigenous communities and archaeologists remain (Montgomery & Supernant 2022; Wheeler et al. 2022). Recent publications have nicely articulated why repatriation and indigenous perspectives need not be at odds with bioarchaeological research, but rather, significantly contribute to this research (Halcrow et al. 2021; Lippert & Sholts 2021). Additionally, the discipline struggles with the ethical implications of excavation and analysis of Black and Enslaved people, particularly existing skeletal and anatomical collections (de la Cova 2019; Watkins 2020; Lans 2021; Williams & Ross 2022). As Professor Michael Blakey, a leading anthropologist who has conducted extensive research on bioarchaeology in the context of African American history, has stated, "The ethical question around the disposition of African American cemeteries and ancestral remains is not whether they are to be studied or memorialized. The question is, who decides? Who decides how human remains will be treated, whether spiritually, scientifically or both?" (Blakey 2022: 13). In addition to examining decolonization of the discipline in scenarios of Black, Enslaved, Indigenous, and People of Color, marginalized people more broadly, have also been examined (Mant & Holland 2019).

The decolonization of archaeology in Africa is an ongoing process (Burka 2015; Schmidt 2017; Douglass 2020; Ndobochani 2021). Recently, Rennan Lemos argued that postcolonial and decolonial theory, what he refers to as 'narratives of reparation,' can effectively be used to decolonize archaeology in Sudan and Nubia (Lemos 2022; also see Matić 2018; Minor 2018; DeSouza 2020; Fushiya 2020; Buzon & Marshall 2022; van Gerven Oei 2022). However, little ink has been spilled regarding decolonizing *bioarchaeological* practice in Sudan and Nubia, specifically. In an attempt to further decolonize bioarchaeology in the Nile Valley we (1) provide an historical perspective on bioarchaeological practices in the region to contextualize how attitudes regarding human remains have changed through time, and (2) put forward recommendations for what bioarchaeologists can do to enact change in a meaningful way. Importantly, we move beyond an exclusive focus of the past, and question – how can we contribute to decolonizing bioarchaeology in Sudan today? We have identified three primary areas that will need support, continued work, and collaboration: working with local communities, collaborating with the Sudanese National Corporation for Antiquities and Museums (NCAM), and the development of best care practices guidelines for human skeletal remains in Sudan.

2 Colonial History of Sudan

Sudan is not only geographically African but also exhibits many distinctively African characteristics, such as mobile populations, as well as an economic reliance upon and a symbolic importance of cattle (Emberling 2011). Archaeological research in Sudan has developed with a focus on the riverine region in the north, known as Nubia. Archaeologically, "Nubia" (see below) is divided by the modern borders of Egypt and Sudan, extending from the First Cataract in Egypt to the confluence of the White and Blue Niles near what is today's capital, Khartoum (Fig. 1). The extreme arid environment of northern Sudan preserves archaeological material, including human, animal, and botanical remains, markedly well (Edwards 2004). It is no surprise that some of the earliest archaeological evidence in the region, dating to the Paleolithic, includes human skeletal and mummified material (Usai 2019).

The history of archaeology in Sudan cannot be traced back without the context of a modern colonial background (also see Näser 2021). In 1821, Egypt, under the rule of Muhammad Ali, conquered the territory that is today known as Sudan. Turco-Egyptian colonization created a safe passage from Egypt into Nubia and the rest of Sudan for western travelers and scholars. Early explorers to Sudan (e.g., Frédéric Cailliaud 1820–1822; Linant de Bellefonds 1821–1822; Karl Richard Lepsius 1842–1845) recorded visible archaeological monuments, such as the pyramids at Meroë, traveling from the Egyptian border to south of Khartoum (Ahmed 2021). However, some were not as interested in documentation. Giuseppe Ferlini, for example, destroyed many pyramids at Meroë in search of treasure (Ferlini 1837), while others vandalized important monuments such as Count Pückler-Muskau who inscribed his name on the walls of Musawwarat (Ahmed 2021). In 1881, the religious leader Muhammad Ahmad, who proclaimed himself the "Mahdi," led a Sudanese rebellion, referred to as the Mahdist Revolution, wherein an independent caliphate was established in 1885. This was short lived as British-Egyptian forces sought to regain control of Sudan almost immediately (Collins 2008: 22–23). A series of British-Egyptian campaigns into Sudan (1896–1898) culminated in a treaty in 1899 between Britain and Egypt wherein Sudan would be co-ruled by an agreed upon

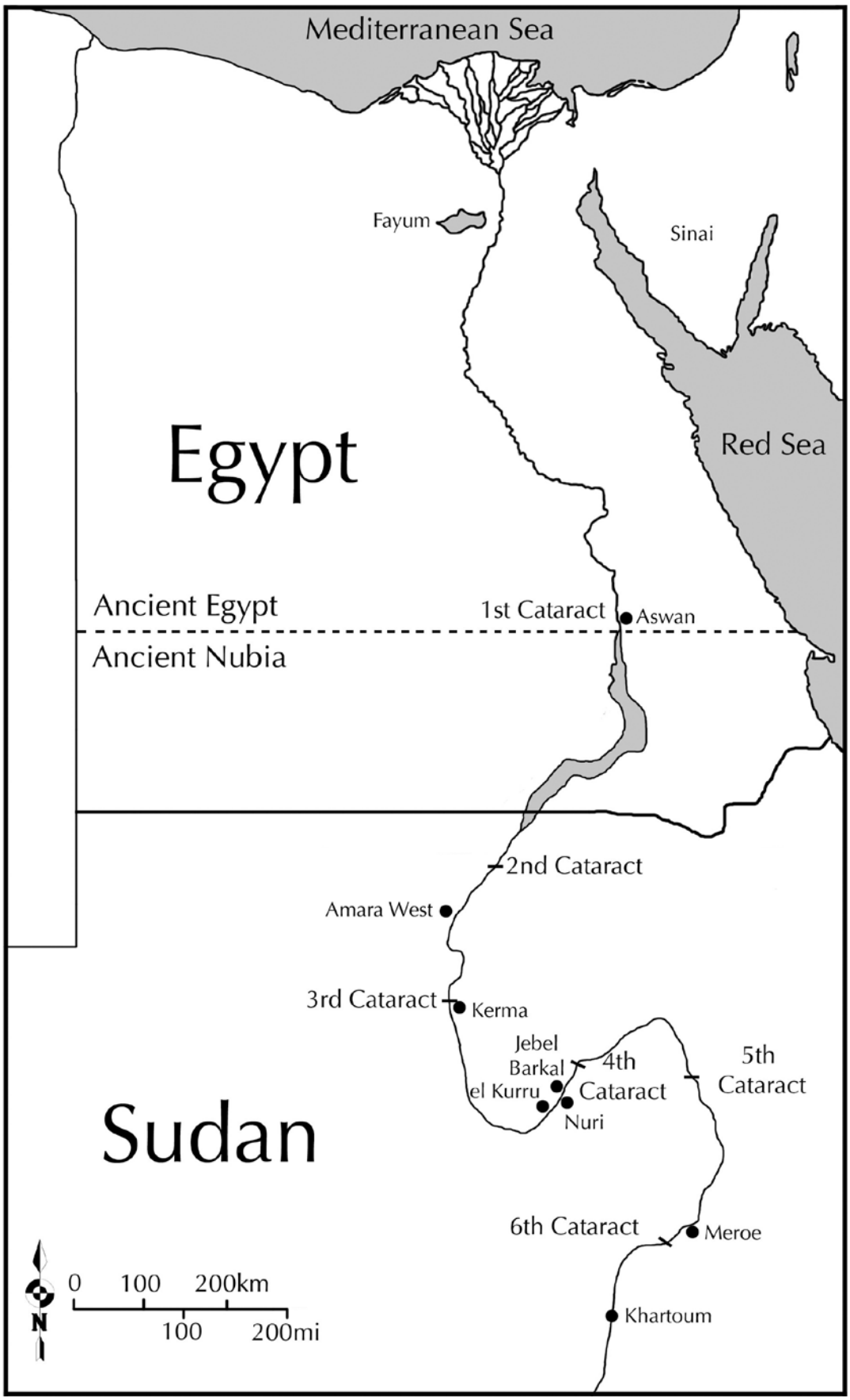

FIGURE 1 Map of Sudan

governor-general.[1] However, the demands for independence strengthened after the Egyptian Revolution that overthrew British rule (1919); but it wasn't until January 1, 1956 that Sudan was officially declared an independent state (Holt & Daly 2011: 91–112). The legacy and impact of colonization on the Sudanese people, economy, conflicts, culture, and political organization, does not end here (Ayers 2010; Idris 2012); however, we find it crucial to have a basic understanding of this timeline when discussing the development of archaeological thought and bioarchaeological ethics in the region.

It was under this Anglo-Egyptian Condominium administration that archaeological monuments, remains, and objects were institutionalized through the establishment of the *Ordinance for Making Provision for the Better Preservation of Antiquities in the Sudan* (1905) and the Sudan Antiquities Service (SAS; Heierland 2008). The law stipulated that state ownership of archaeological sites and objects and licencing of excavation, was managed and protected by SAS. An archaeological museum was set up in the Gordon College in Khartoum, which became the nucleus of the National Museum today. It has been argued that the goal of the archaeological museum was to inform the Sudanese populations about the Sudanese past through archaeological and colonial lenses (Fushiya forthcoming). Ahmed Adam and Shadia Taha summarize the colonial impact on today's heritage management in Sudan, "Colonialism has a great effect on the perceptions of the past; cultural heritage management in Sudan has concentrated on the preservation and presentation of heritage sites from a technical point of view." This approach had "no relevance to present-day populations. This resulted in the alienation of the local communities" (2022: 2). Today's NCAM and the *Ordinance for the Protection of Antiquities* (1999) largely inherit the colonial heritage framework (ibid., Fushiya forthcoming).

3 History of Bioarchaeology in Sudan and Nubia

The history of archaeology in Sudan is closely related to the concept of "Nubia" that has been increasingly challenged from different points of view in recent years (Bradshaw 2017: 136–153; Carruthers 2022; Lemos 2022; van Gerven Oei 2022). Geographically, Nubia extends from the First Cataract, near Aswan Egypt, to elDebba, between the Third and Fourth Cataracts. Linguistically, Nubia can be defined as the First to Fourth Cataract region, wherein the Nubian languages are spoken today. For many archaeologists, Nubia extends further south up to the confluence of the White and Blue Nile near Khartoum (Soba), which reflects the capital city of the southernmost Medieval Nubian Kingdom, Alwa. Archaeologists were trained within a colonial framework and made no connection between the ancient and modern Nubian people and their cultures until William Adams suggested cultural continuity (1977). Yet, it is only recently that the participation of Nubian people (and scholars) in the knowledge production of the Nubian past, as proposed by Ali Osman (1992), has seen integrated in discussions and archaeological praxis (Osman & Edwards 2012; Buzon & Marshall 2022; Spencer et al. 2024). On the other hand, the history and monuments of riverine northern Sudan are the heritage of the Sudanese people and shapes Sudanese identity (Adam & Taha 2022; Mohamed & Emberling 2022). Simultaneously, the image of Nubia as a past culture created by archaeology (Carruthers 2022) threatens the continuous existence of Nubian people today (Agha 2019).

Archaeology in Sudan began with several significant biases. First, there was a notable geographic limitation in that most excavations focused on Nubia. Second, early excavations and, more to the point, excavators were focused on an Egyptian presence in Nubia.[2] In reality, the Kingdom of Kush that emerged in Nubia (ca. 2500 BCE, Kerma period) was a strong and independent trade partner with and political rival of pharaonic Egypt (Welsby 2013). The long-term, close relationship between Egypt and Nubia is reflected in an entangled material culture and social identity (e.g., imported Egyptian objects into Nubia, incorporation of Egyptian architectural and iconographical characters in Nubian identity, use of hieroglyphics, the worship of the Egyptian deities by Nubians; Smith 2003). These Egyptian cultural traits drew the attention of early Egyptologists and archaeologists, and the Nubian past has long been approached from base questions regarding pharaonic power and Egyptian cultural influence in Nubia (Spencer et al. 2017). Pyramids, temples, and burials that showed Egyptian characteristics were extensively excavated and studied, while the unique history, culture and development of Nubia, and its relations to sub-Saharan Africa were not pursued, or even considered (Edwards 2007). Simultaneously, archaeologists interpreted Egyptian influences as evidence of

1 Egypt was under British occupation from 1882; however, Britain was not able to claim sole control of Sudan. The basis of the reconquest of Sudan was to regain the territory of the khedives (the viceroy of Egypt) and the British sought to protect access to the Upper Nile Valley (Holt & Daly 2011: 85).

2 Ancient Egypt conquered Ancient Nubia in the New Kingdom (ca. 1550 BCE; Smith 2003).

'superior' pharaonic cultural diffusion to Nubia. This modern western focus on ancient Egyptian colonization is what Elizabeth Minor refers to as a "double-colonialist lens" (Minor 2018: 251). Third, many of these early excavations were being conducted under active colonial rule of Sudan. The Egyptocentric approach discussed above also offered a parallel narrative with the modern colonization by Egypt and Britain ruling Sudan (Wengrow 2003).

In the midst of such an Egyptocentric, monument-focused archaeological scholarship, the scientific value of human remains was largely not recognized. However, archaeological documentation methodology was developed during the colonial era, and archival documents from the time allows us to re-analyse past practice (e.g., Minor 2018). More structured and scientific research was conducted in the early 20th century when a great deal of archaeological sites and cultural heritage was due to be destroyed by flooding as a result of the construction of the Aswan Dam in Nubia (originally in 1902 and then heightening of the dam in 1912 and 1933; Reisner 1910; Firth 1912, 1915, 1927). Teams of archaeologists began salvage work to record and preserve sites as much as possible. Dozens of cemeteries and multiple fortresses were excavated as part of this tremendous effort. A second heightening of the Aswan Dam threatened more sites, and another international campaign was organized between 1929 and 1934 (Hassan 2007).

The following summarizes the shift in approach towards human remains over the last century in Sudan by focusing on four case studies, Resiner, Arkell, the Scandinavian Joint Expedition, and an overview of current practice (for historical outlines of bioarchaeology in Sudan/Nubia, see Jakob & Magzoub Ali 2011; Baker & Judd 2012; Binder 2019; Buzon 2021). These case studies illustrate how the treatment of human remains was simultaneously dehumanizing and objectifying during the 19th and 20th centuries. This has changed significantly as bioarchaeology continues to develop.

3.1 *George A. Reisner's Excavations at Kerma (1913–1916)*

George Reisner was an American archaeologist with extensive excavation experience in Egypt, Sudan, and Palestine. As was typical for the time, Reisner was particularly interested in elite temples and tombs. He excavated at El Kurru and Nuri, both of which are royal cemeteries in use during the second Kushite dynasty (ca. 670–321 BCE), Jebel Barkel, a significant religious site with more than a dozen temples, and the royal necropolis at Kerma (ca. 2500–1500 BCE), just to name a few. Here, we focus on the latter example, Kerma, because Reisner arguably excavated the largest number of human remains from this context (Reisner 1923).

As discussed above, the Kingdom of Kush was an independent civilization that unified more than 1,200 km of Nile Valley territory, extending from the First to Fourth Cataracts of the Nile (Bonnet 2020). At its height, Kush posed a serious threat to Egypt, which no doubt spurred Egyptian invasion on multiple occasions. The capital city of the Kingdom of Kush, Kerma, was located at the Third Cataract of the Nile (Fig. 1). Approximately 4 km east of the urban center was the necropolis. Excavated between 1913 and 1916 by George Reisner, the southernmost portion of the cemetery contains burials from the Kerma Classique Period (ca. 1650–1500 BCE), the apex of Kushite civilization. Reisner misclassified this material, assuming the Kerma necropolis was a devolved form of Egyptian culture; this was also directly linked with Reisner's racist and Egyptocentric attitudes, which have been documented elsewhere (Boozer 2017; Matić 2018; Minor 2018; Buzon & Marshall 2022; van Gerven Oei 2022).

Burials were located in extremely large burial mounds, or tumuli, in some cases measuring more than 90m in diameter. These large tumuli are thought to have been built for the ruler of Kerma, who would have been interred in a centralized burial chamber. While these chambers were looted in antiquity, vestiges of their original glory, including mica-inlaid burial beds, statuary, and alabaster and faience vessels, were uncovered (Reisner 1923). The largest tumuli were bisected by an internal retaining wall and within the corridors, hundreds of, what Reisner deemed to be 'human sacrifices,' were found. In sum, Reisner estimated the cemetery contained 20,000–40,000 individuals (Reisner 1923). In the end, Reisner excavated seven large tumuli, 16 small tumuli, and 112 independent graves and, although we don't know the exact number, certainly exhumed thousands of skeletons (Reisner 1923).

Reisner took detailed notes, photographs, and sketches, and published on the material he had excavated; although his excavation techniques have not gone without criticism (see Boozer 2017; Mickel 2019). Reisner published a two volume manuscript on the excavations at Kerma (Reisner 1923). In it, each grave is documented, the contents of the grave, including human remains are described in text and are frequently accompanied by a sketch. The project worked with Professor Grafton Elliot Smith,[3] an anatomist and pathologist, who was responsible for osteological analysis. In addition to estimating sex and age-at-death, Elliot Smith also analyzed the so-called

3 Professor of Anatomy at the University of Manchester (1909–1919); Chair of Anatomy at the University College London (1919–1937).

'racial attributes' of these individuals, often identifying them as "negro," if they possessed African cranial traits. This practice, which is considered archaic in bioarchaeological studies today, was typical of a cultural diffusionist perspective (Binder 2019; Quintyn 2023).

While the documentation of human remains is a great deal more thorough than many archaeologists of the time, the post-excavation treatment of the remains is questionable. It is clear that some of the skeletal remains were sent to Egypt, perhaps for inspection (Reisner 1923). Today, fewer than 1,000 are curated at the Duckworth Laboratory at Cambridge University and the Boston Museum of Fine Arts. Neither archaeological publications nor the reports of the SAS provide detailed information on selection criteria nor post-excavation handling. To this day, we do not know where the non-exported skeletal material are – perhaps left *in-situ* and reburied, or interred in a commingled ossuary on-site. There is a clear disparity between this treatment of human remains and the care and attention that was given to objects, which are largely well-documented.

3.2 *Antony J. Arkell's Excavation at the Khartoum Hospital (1944–1945)*

Anthony J. Arkell was a British archaeologist and the first Commissioner of Archaeology and Anthropology of Sudan Antiquities Service under the Anglo-Egyptian Condominium administration. He excavated a mound near the Khartoum hospital that was long-used as a cemetery up to the 19th century (Arkell 1945, 1947). His team excavated 41 burials that spanned from the prehistoric to Meroitic, and possibly Medieval, periods, many of which were disturbed by modern graves (Arkell 1949: 31, 129–131). This research identified the first pottery-using Mesolithic culture of Sudan (ca. 8000–5000 BCE; Smith 1981). Professor Douglas E. Derry (Professor of Anatomy at Cairo University) studied the human skeletal remains of the excavation in Cairo.

The report is indicative of the particular interest in skulls and exportation of human remains. Arkell notes, "All skull fragments, together with all surviving bones from burial M 20(2), and a gnawed bone from burial N20(2), were sent to Dr. D.E. Derry at Cairo …." (Arkell 1949: 31; contra. Arkell 1947: 175; he indicated all human remains were sent to Cairo). Each excavated burial was described with the location, depth, burial position, possible sex, associated objects, and identification of recovered bone fragments. Of the 17 Paleolithic burials, nine burials yielded fragments of skulls, one skeleton was almost complete, and the rest of the remains were fragmentary (Derry 1949a: 34). Additionally, five Meroitic skulls were also sent to Derry in Cairo (Arkell 1949: 119) but due to the friable condition of the skulls, examination was not possible (Derry 1949b: 127). There are an additional six burials, interred in an extended position, that were photographed and described in the excavation report (Arkell 1949); however, analyses of these remains are absent from Derry's report. None of these skulls were accompanied with associated skeletal remains, even though seven out of 14 Meroitic individuals were identified as almost "complete skeletons" (ibid.: 129–130). The fate of the remaining human remains that were not exported is not clear. This practice reflects a common approach to human remains during the first half of the 20th century, when skulls were considered the most valuable skeletal elements (Baker & Judd 2012; DeWitte 2015; Pullman 2018; Binder 2019). This selection for study poignantly reflects the researchers' interests, which unfortunately was not uncommon for the time. Arkell and Derry were particularly interested in the racial classification of the prehistoric inhabitants of Khartoum. The report includes a lengthy study of a single prehistoric skull (Derry 1949a: 33–34), while only brief observation notes were given for the skulls from burials of Meroitic and later periods (Derry 1949a: 127, 132). Unfortunately, the paleolithic skeleton in question is currently unaccounted for and appears to be lost at this time (Jakob & Magzoub Ali 2011: 516).

The SAS report does not mention any skeletal or human remains that were added to the collections of the Antiquities Museum, whereas artefacts were listed as new collections (Arkell 1945, 1946). Interestingly, it was the first SAS excavation, directed by the then Commissioner of Archaeology and Anthropology. The "antiquities" were specified in *Ordinance for Making Provision for the Better Preservation of Antiquities in the Sudan No. 8 of 1905* as "all buildings monuments remains or objects … were built produced made in the Sudan or brought thereinto before the year 1783." It did not include human or animal remains.[4] We can infer that human remains were not considered to be "antiquities" and were, thus, outside of legal protection. Yet, this does not mean the care of human skeletal remains was completely outside of the control of SAS. The value of human skeletal remains for research, importance of their preservation, and need of control over the division of excavated human skeletal remains along with objects were brought to an attention of the Governor-General Sir Reginald Wingate by a pathologist, Marc Armand Ruffer,

4 This changed in the antiquities ordinance revised in 1952; now bioarchaeological materials (human and animal remains) are considered "antiquities" (see Saba and Salamé 1984).

in 1913.[5] This seemingly led to more control over the treatment and study of human remains by SAS (Ward 2019); additionally, there is documentation showing that Reisner asked for clarifications on this matter.[6]

3.3 *The Scandinavian Joint Expedition to Sudanese Nubia (1961–1964)*

The Scandinavian Joint Expedition to Sudanese Nubia (SJE) was a collaboration of archaeologists from Denmark, Sweden, Norway, and Finland, who excavated in the region between the First and Second Cataracts prior to imminent flooding due to the construction of the Aswan High Dam (opened 1970). The SJE worked with the then SAS to excavate as much ancient cultural material as possible. In sum, 490 sites spanning the Paleolithic to the Medieval period (ca. 14,000 BCE–1,400 CE) were identified, including 4,200 tombs (Säve-Söderbergh 1967, 1979; number of burials/skeletons is unclear). The results of the SJE excavations were well-published and included yearly reports in *Kush* and other journal venues and culminated in a 9-volume series. The collection of 1,546 of the excavated human remains are currently curated at the Biological Anthropology Laboratory, University of Copenhagen (Binder 2019).

J. Balslev Jörgensen, O. Vagn Nielson, and J.V. Holm were responsible for studying the osteological material. Säve-Söderbergh reports that no osteologists were available to go to Sudan for such an extended period of time, thus, "nearly all of the material," with the exception of "particularly fragmentary bones," was sent to the Institute of Physical Anthropology, now the Panum Institute, at the University of Copenhagen (Vagn Nielson 1970: 14). Vagn Nielson published a volume on human remains, which documents measurements, non-metric variation, and pathological conditions, of more than 1,500 human skeletons.

In addition to the export and documentation of this collection, Säve-Söderbergh noted his respect to the sentiment of local people:

> Our latest finds came from the Muslim tomb vaults. In one of them next to one of the enclosures just mentioned, a girl was buried with a German 15th century coin used as a pendant in her necklace. But as a rule we did not excavate the Muslim tombs in order not to offend the feelings of our Nubian friends who regarded such tombs as belonging to their ancestors.
>
> SÄVE-SÖDERBERGH 1979: 51

3.4 *Current Projects*

The motivation for excavating human skeletal remains varies by project and context. Much like the Scandinavian Joint Expedition, many ongoing archaeological projects are undertaken with the aim of salvaging archaeological material before it is destroyed. In some cases, this due to an increasingly higher water table; in other situations, modern agricultural and urban development encroaches on archaeological sites; etc. This can lead to tension between modern development and heritage/archaeology, which is a topic that should be further explored.

Ongoing projects in Sudan have various approaches when it comes to the long-term curation of human skeletal remains. To our knowledge, excavation practices and short-term storage solutions are very similar between teams. However, long-term storage can be summarized into three main categories.[7] Many teams store human remains in magazines, or storage facilities, on site. Some teams store skeletal remains in Khartoum, at the Sudanese NCAM; however, storage at NCAM is very limited, so this is not a viable option for all teams. Lastly, with the support of NCAM, some projects export human remains to academic institutions all over the world (see Binder 2019).[8] Non-destructive and destructive analyses are allowed by NCAM.

The attitudes towards human remains have clearly changed since Reisner's excavations over a century ago. The ethical mistreatment of skeletal remains in the early days of excavations in Sudan mirrors perceptions of their scientific value, characteristic of the time. Racist, sexist, and colonial attitudes were deeply embedded in all facets of excavation, analysis, and interpretation. As the scientific value of skeletal remains increased, so did the care and standards for curation (e.g., excavation and curation of the entire skeleton, not just the skull). However, colonialism no doubt remains entrenched in bioarchaeological approaches. Below we discuss some of the ways in which teams have taken anti-colonial measures in their own projects, as well as conceptualize some ways we might collectively further decolonize bioarchaeology in Sudan.

5 A letter from M.A. Ruffer to R. Wingate, Durham University Sudan Archive (SAD.185/2/12-13); a letter from Wingate to Ruffer, Durham University Sudan Archive (SAD.185/2/122).

6 A letter from G.A. Reisner to P. Drummond Durham University Sudan Archive (SAD.188/3/120-124).

7 In our opinion, this decision can be influenced by many factors, including but not limited to, funding, ease of access for future research, limited space at NCAM storage facilities, and collaborative choice between the director and NCAM inspector.

8 This includes museums, which also need to critically reflect on decolonizing their collections.

4 Ways Forward

As outlined above, the study of human skeletal remains and their ultimate curation are embedded in a deep colonial history. Recently, there have been efforts in Sudan to make bioarchaeology, and archaeology more broadly, more equitable and include local communities. However, we argue, more can be done. Building off of and learning from historical treatment of archaeological human bodies, we provide a few suggestions for ways forward. We do not conceive of this list as comprehensive, rather, we ourselves suggest it should be considered as a starting point of discussion and expansion in the archaeological community and NCAM in Sudan.

4.1 *Working with Local Communities*

Participatory approach was introduced to Sudanese archaeology relatively recently (Humphris et al. 2021), even though archaeological outreach programmes at museums were conceived of as early as 1939, during the colonial period (Fushiya 2021a). Though the intention was positive, they reflected the time when postcolonial theories and the idea of community archaeology did not exist. It was characterized by a top-down approach, to "educate" the Sudanese about their country's history that was largely based on archaeological research in the riverine north Sudan, written by western researchers. Cultural and ethnic diversity in the country, local interests, perceptions, and knowledge, how they associate and interact with the fabric of the past and archaeological narratives did not draw serious scholarly attention until recently. Expulsion of international archaeological salvage missions in the Fourth Cataract area by the Manasir people from 2006, followed by a similar resistance against salvage archaeological projects by local communities in the Fifth Cataract (Kleinitz & Näser 2013) was a wake-up call for many archaeologists to an adverse situation and to the negative consequence of a lack of meaningful engagement with local communities.

The funding from Qatar-Sudan Archaeological Project (QSAP) became available to 41 international and Sudanese archaeological projects in Sudan from 2013, which required public engagement and the creation of a book for the public to all funded projects (Ahmed 2021). Community engagement work sprang up in different parts of the Middle Nile Valley as the result. Publication of books targeting the Sudanese and international public, lectures and guided site visits for communities, on-site interpretation panels, and small museums are some examples of the deliverables (Fushiya 2020: 75–83). While the increase of archaeological information accessible to the Sudanese populations is certainly important and (unwittingly) matched the Sudanese's expectations of archaeologists (ibid.: 180–182), the approach was archaeology-centered and identified local communities as a passive audience, inheriting the approach from the colonial period. Reflecting on this issue, more inclusive heritage dialogue has gradually taken place in different projects. At Amara West/Abkanisa, community engagement has developed over the years from broadcasting to collaboration in narration of local history and heritage – which includes archaeology – and co-production of heritage resources, and towards community-led heritage activities (Spencer et al. 2024).

Alongside this archaeologically-centered research, some projects began investigations into community's interests and questions (Tully 2014, 2015; Näser & Tully 2019), presence/absence of attachment (Bradshaw 2017), knowledge and interest about the past (Humphris & Bradshaw 2017; Näser 2019), and archaeologist-community relationship (Fushiya & Radziwiłko 2019; Fushiya 2020). These in-depth analyses of local values of archaeological sites, objects and landscape led to more meaningful engagement and collaboration. More importantly, these inclusive efforts try to understand communities' way of making sense of the past and past materials, foster equal partnership, and seek for mutual benefits through archaeology. It is a driving force to shift the discipline towards decolonized practice (Humphris et al. 2021). They also challenge the prevailing conventional rhetoric of "Muslim communities are not interested in and do not find a connection to the pre-Islamic past" in the context of Sudan (Näser 2019). However, local participation in the knowledge production of the past, their history, and heritage has still been limited. Though it is still far from a disciplinary shift, archaeologists active in Sudan increasingly select a participatory approach and contribute to moving towards decolonizing its practice.

Despite the discussions and actions towards decolonizing archaeology in Sudan, inquiries concerning human remains (i.e., their excavation, treatment, data sharing, curation, display, and dissemination/publication) and local people's opinions have not been a focal point. This is exemplified in an account by British journalist, Rex Keating: "each morning with unfailing regularity an old woman appeared on the dig [at a cemetery surrounded by modern houses] to lay claim to the property of her "ancestors" as she described these people who died at least 4,000 years ago" (Keating 1962: 90–91). Yet Keating's remark about the woman's statement as "[a]n amusing indication of how Nubians feel about their forbears" (ibid.: 90), implies the link between bodies in the excavated burials

and the modern Nubians were not taken seriously at the time. A customary rule regarding the excavation of human remains exists out of consideration of Muslim communities' religious sentiment and ancestral connection today. Such respect to modern burials existed as early as the colonial period as well (Arkell 1949: 7). Excavation of Muslim graves is not allowed in Sudan (cf. Ikram 2018: 48, in case of Egypt), with an exception when local communities request such an excavation and NCAM agrees, or during salvage archaeological projects. Additionally, Sharia law that was previously implemented in northern and central Sudan from 1991 to 2020 forbade disturbing Muslim burials, and it was "prudent to seek local knowledge to establish the potential presence of such graves within a concession area" (Jakob & Magzoub Ali 2011: 518). More generally, the excavation of human remains, intimately connected with death, could evoke a sense of fear, unease, and aversion. No regulation or procedure (e.g., consultation of local communities) is necessary to excavate, study, curate, display, and/or publish non-Muslim graves for a research project that is granted permission for field research from NCAM. Human and animal remains older than a hundred years are considered to be "antiquities" according to the *Ordinance for the Protection of Antiquities* (1999). However, some Sudanese consider past human remains to be their ancestors (see above and also Buzon & Marshall 2022). Sudanese archaeologists and heritage experts, Ahmed Adam and Shadia Taha, suggest the revision of this legislation (2022); the terminology and framework of the treatment of excavated human bodies needs to be legally reviewed as well.

In cases of North America, the study, treatment, and repatriation of human remains have occupied an important place in the establishment of NAGPRA and development of collaborative archaeology, while criticism from and direct involvement of the Native American Peoples were inseparable to the change that was brought to archaeology in the region (Ferguson 1996). In Sudan, collaborative efforts have largely been initiated by non-Sudanese archaeologists with international funding. The lack of voices, demand, and voluntary participation from Sudanese communities does not necessarily mean a lack of interests and care; rather, this could be a repercussion of the colonial power structure that silenced and alienated archaeology from local people.

Considering the colonial history and its legacies, a procedure that foregrounds the Sudanese context needs to be developed with participation of local stakeholders. Collaboration is key for this process. To begin, a courteous explanation about bioarchaeological research and methods, and listening to ideas and wishes of local communities and NCAM – including whether or how to excavate, analyze, store, and display human remains from their neighboring sites – will be essential to handle the sensitive issue, and eventually find the best care practice.

4.2 *NCAM and Archaeologist Collaboration*

NCAM formally shapes archaeological practice in Sudan. It is the national agency under the Ministry of Culture and Information, responsible for protection and management of all tangible cultural heritage, sites, and museums in the country. Every archaeological project is required to obtain permission from NCAM prior to field research, work under the supervision of an inspector in the field, register selected finds (i.e., provide all provenance information), and arrange exportation of samples (e.g., ceramics, organic samples, human and animal skeletal remains). Exportation of human remains in the form of permanent loan and curation overseas are still allowed by NCAM.[9] Since the establishment of NCAM, the agency has dealt with a lack of financial and human resources to effectively fulfill its role in managing extensive collections and hundreds of archaeological sites, including two World Heritage sites. While sporadic financial assistance from different foreign archaeological projects and international funding agencies, such as QSAP (discussed above), support NCAM, there is a persistent lack of secured funding, which constrains maintenance and improvement of facilities and methods to care for the constantly increasing collections, including human skeletal remains.

In 2019, NCAM has formalized a bioarchaeology laboratory (M. Bolheim Bioarchaeology Laboratory) at NCAM headquarters in Khartoum, with the support of the British Museum and the Institute for Bioarchaeology (Saad & Antoine 2021). It is currently managed by NCAM's bioarchaeologist, Mohamed Saad. The facilities include an office, tables for analysis, a small specialist library, limited laboratory equipment, as well as a small storage room dedicated to human remains and other biological materials. The storage space in the lab building is very limited; NCAM is exploring the potential for additional storage space to manage a large long-term bioarchaeological collections (see also Lamptey 2022).

Access to education in osteology in Sudan is a crucial issue for NCAM and, more generally, to improve the care practice of human remains. Osteology is not taught in

9 It should be noted that NCAM has denied exportation sporadically; this makes it difficult for bioarchaeologists to anticipate costs and storage solutions. Going forward, it would be useful to have a mutual and clear understanding of expectations before fieldwork begins.

any universities in Sudan (Jakob & Magzoub Ali 2011). Training relies on short-term courses that provide a basic understanding and introduction to methods and analytical approaches for Sudanese archaeologists organized by international institutions in cooperation with NCAM. From 2011, a series of courses were given by Michaela Binder, supported by the Institute for Bioarchaeology at the British Museum. A workshop on stable isotope and DNA analysis including sampling methods was arranged in 2022 by Robert J. Stark funded by National Geographic Society. In 2023, a Bioarchaeology and Biomolecules workshop by Robert Stark, Iwona Kozieradzka-Ogunmakin, and Kendra Sirak, with grants from University of Warsaw and the John Templeton Foundation, was held at NCAM and the University of Khartoum. Michele Buzon and Mohammad Ali Faroug organized a Bioarchaeology Workshop at the International University of Africa in Khartoum, funded by the US National Science Foundation. Additionally, some missions provide training to Sudanese inspectors and students on a more *ad hoc* basis while in the field. There needs to be more regular University training opportunities for Sudanese interested in bioarchaeology. This should involve graduate students and faculty from various universities throughout Sudan. Faculty have expressed a keen interest in gaining bioarchaeology skills to be able to teach their students and develop degree programmes within Sudan.

Further, a lack of training and experiences of community engagement among Sudanese and international archaeologists presents another constraint to widely encouraging a participatory approach in archaeology. Most archaeologists are not trained in the methods and skills (e.g., ethnography, interviews, qualitative analysis, ethics, education/learning, language [Arabic]), which are important to conduct community engagement and initiate collaboration. In fact, the interest and needs of community archaeological training are extremely high among Sudanese archaeologists and students (Fushiya 2021b). However, despite the lack of formal training, NCAM employees, as local archaeologists, have the capacity to communicate with local people and understand the sociocultural sensitivity of the given issue. International archaeologists have closely worked with NCAM thus far; yet, further collaboration will be even more important to widely promote a collaborative best care practice in bioarchaeology and Sudanese archaeology at large.

4.3 *Decision Making Process*

The decision making process regarding if and how human remains are excavated, how bones are stored and curated, the degree to which scientific analysis can be done (if any), and whether or not they should be reburied must be clearly defined. As described above, we argue that this should certainly involve the local community, the project's Sudanese inspector, NCAM, as well as project team members, to build consensus over the research process, method, and treatment of excavated human remains. We also advocate for transparency and inclusion of said decision making process in publications. The following is a suggestion of steps to take for burial excavation, especially with regard to the treatment of the bodies (Table 1). These steps are designed to aid a typical research-driven project in Sudan becoming more inclusive and collaborative in their treatment of human remains. This will facilitate a better relationship and closer interactions between the archaeological project and local communities (Fushiya 2020; Thomas & Krupa 2021).

4.3.1 Step 1[10]

All excavations in Sudan require permission from NCAM as the legal entity that manages all sites, objects and human remains. The project plan is discussed prior to each field season with the representatives of NCAM.

4.3.2 Step 2

The archaeological team travels to a site location with at least one inspector from NCAM.

4.3.3 Step 3

There is an informed consent meeting about the project with the local community. If possible, this should include as much of the community as possible (e.g., gender, age, ethnic groups, etc.). This stage should also include sharing explicit plans about excavation and treatment of human remains, with topics/questions such as:

- What the project expects to find
- What is the research design and approach
- What archaeologists will do with the remains after excavation
- Where the remains will be stored directly after excavation
- Where the remains will be stored long-term
- If any analyses wish to be done and why
- If human remains can be displayed in a public museum

It is also important to inform the community about alternatives for curation (e.g., storage on-site, storage at NCAM, exportation, reburial) and ask what they would

10 Steps 1 and 2 are obligatory when conducting archaeological fieldwork in Sudan, as defined by the *Ordinance for Protection of Antiquities 1999* (the National Corporation of Antiquities and Museums 2002).

TABLE 1 A suggestion of steps to take for burial excavation, especially with regard to the treatment of the bodies

1	Consult with NCAM and inspector	Discuss the goals of the project; receive permissions for research and excavation.
2	Travel to site	A NCAM inspector accompanies the archaeological team.
3	Consult with a local community (Informed consent meetings)	Describe research design, excavation plans, study methods, and expected findings, including both short- and long-term storage for human remains. Make sure to ask for questions, feedback, and thoughts – including whether they give consent to go forward with proposed research.
4	Excavate	If members of the local community are hired for excavation, describe the aims and methods of the excavation, and ask if they are comfortable excavating human remains. Organize outreach programmes (e.g., open-days, school visits, etc.).
5	Participation of the community	Request community input about findings and use of images/data in both academic and public venues. Discuss if there is anything else the team can do for the community going forward.
6	Post-excavation community outreach	Relay the results of the season and communicate about future excavation plans. Confirm community support for human remains curation (short-term and long-term) and scientific analyses (both destructive and non-destructive). Clearly define your long-term curation strategy for human remains.
7	Post-excavation communication with NCAM	Provide a report of all findings and inventory to NCAM. Apply for permission to export samples, if applicable. Ask what NCAM would like to see done in future excavation.
8	Publish	Publish all findings with extensive summary in Arabic and preferably in an open-access format. Provide copies of publications to NCAM and the local community.
9	Future research scope and research proposal	Discussion among the local community, NCAM and the archaeological project about the future research questions, methodologies, area of excavation, etc., prior to submission of funding application.

prefer. Funding (period, cycle, objectives) and methodology may limit whether all wishes of the community can be responded to, but such limitations should also be explained. In case of dissent (non-unanimity), we suggest working with NCAM and the inspector to find a solution that appeases all members of the community; if this is not possible, we recommend differing to the recommendations of NCAM and the inspector. However, this should also be taken into consideration with continuing excavation and analysis. Last, but not least, it is important to address any questions and ask for feedback.

4.3.4 Step 4

If members of the local community will be hired to aid in excavation, explain the aims and methods of the project and explicitly ask whether they are comfortable excavating human remains. Additionally, once excavations have started, we suggest opening the site and welcoming the local community to show the community recent finds. This is particularly important when the excavation reveals something unexpected or counter to initial hypotheses – this open site community engagement helps facilitate future discussions. For this step, it is ideal to employ someone who specializes in community engagement and who can converse with the local community and keep up-to-date with the community's wishes. It can be organized as a Site Open Day, or a group visit by students, teachers, etc. In as much as possible, this should include the entire community (e.g., gender, age-group, ethnic group, etc.).

4.3.5 Step 5

This step seeks community reflection and feedback after excavation, asking if they have any questions or concerns, if they foresee a way archaeologists and the community can further work together, and/or if they have any suggestions for going forward. It is also important to ask how the community would prefer to disseminate excavation results. Crucially, this step influences how the narrative of the past is shaped, both for academic publications as well as public venues (e.g., museum panels, books, websites, social media, etc.). In addition to the local community

and archaeologists, NCAM and, if necessary, the curatorial department of the National Museum or other museums, should be involved in this step.

Crucial questions to ask are:

- How should the results of archaeological excavation and bioarchaeological analysis be narrated (e.g., ancestors)
- How visual images of skeletal elements or burials should be used or not used, in both academic and public venues
- What would they like to see done with their heritage
- If applicable, whether an excavated body, or skeletal element, should be put on display in museum

4.3.6 Step 6

Before archaeologists leave the field, the findings, even if tentative, should be shared with the local community, and specific plans for human remains curation (short-term and long-term) and scientific analysis (both destructive and non-destructive) readdressed (Steps 3, 4, 5). This stage also presents an ideal time to evaluate the engagement by listening to feedback and reflections from the community, NCAM, and the members of the archaeological project. The information gained here will offer some useful insights for Step 9.

4.3.7 Step 7

All post-excavation procedures will be undertaken according to the regulations of NCAM, including a final report. The project is advised to ask the NCAM representative about her/his opinion regarding the status of the project. If exportation of samples is necessary, all laws and regulations of NCAM, Sudanese Customs Regulations, and any applicable importation policy should explicitly be followed.

4.3.8 Step 8

Academic publications will be prepared and published after analyses, together with Sudanese archaeologists who were involved in the project; if at all possible, all publications should be translated into Arabic and made available open access.[11] This output will incorporate the preferred narratives of the community and ways of presenting (or not presenting) human remains. Copies of publications will be provided to NCAM and the local community.

4.3.9 Step 9

Together with the outcome of community discussion and in collaboration with NCAM (Steps 5 and 6), an effort should be made to communicate the scope of a future research project prior to the submission of a funding proposal. It is important to make the process and research as collaborative as possible.

These steps do not necessarily need to be followed linearly; some parts of the process should be iterative (e.g., Steps 3–5). For instance, as the excavation progresses, there may be unexpected findings that might be worth consulting communities, such as a burial of a leader or a child. Discussion of future research scope (Step 9), in many cases, would take place in parallel to the community outreach (Step 7) and communication with NCAM (Step 7) and publication process (Step 8).

5 Best Care Practices for Human Remains

While ethical considerations regarding best care practices of human remains largely appeared very late in the timeline of excavation and analysis of skeletal material (as discussed above), there has been a burgeoning ethical dialogue in the field, particularly in the past couple of decades. Official laws and policies that have been passed giving more rights to human skeletal remains and tissues more broadly, as well as to living descendents of said remains. The Vermillion Accord on Human Remains, which was adopted by the World Archaeological Congress in 1989, addressed ethical responsibilities concerning scientific research on human remains (Huffer & Charlton 2019). The United States passed NAGPRA in 1990, which stipulates that indigenous groups have authority over ancient indigenous remains and objects (updated December 2023). The UK passed the Human Tissue Act in 2004, which is more focused on cadaverous tissues and non-skeletal samples taken from living patients. Questions surrounding the ethics of displaying human remains are also detailed in the International Council of Museums policy (1986) and the Tamaki Makau-rau accord (2006). While these certainly apply to the context of Sudan, they are beyond the scope of this paper. However, perhaps a separate publication or document outlining best practices for displaying remains in Sudan should also be considered.

Multiple organizations and institutions have published ethical guidelines and best care practices for the excavation, analysis, curation, and display of human skeletal remains. The British Association of Osteoarchaeologists and Biological Anthropologists (BABAO) have written

11 We also want to acknowledge that some journals have limitations regarding posting translations; while tackling this issue is beyond the scope of this publication, we would encourage authors to select publishers that do allow translations.

a code of ethics, code of practice, a guidance document on digital imaging, a statement on the sale of human remains, a publication on the standards of recording human remains, a position statement on reburial and repatriation, standards for the role of the human osteologist in an archaeological fieldwork project, and an advice for accessing collections of human remains in the UK (all open-access available on their website; BABAO 2019). Their website also refers interested parties to additional resources including the Department of Culture, Media, and Sport (DCMA, UK) guidance for the care of human remains in museums; the Human Tissue Act (2004; UK), and the Advisory Panel on the Archaeology of Burials in England's recommendations for destructive sampling of human remains for scientific analysis. Other statements regarding the treatment of human remains include: the Society for American Archaeology (SAA 2021), the World Archaeology Congress (WAC 1990), the American Association of Biological Anthropologists (AABA 2003), and the European Association of Archaeologists (EAA 2022).

Additionally, more regionally-specific guidelines have been written, focusing on more context-specific challenges and recommendations for many areas of the world. For example, Italy (humanremains.org 2019), the Caribbean (International Association for Caribbean Archaeology 2023), Norway (National Research Ethics Committee 2022), and the Netherlands (Nederlandse Vereniging voor Fysische Antropologie 2023). In this vein, we would like to develop a best practices document for the archaeology of human remains in Sudan. We support the ethical guidelines put forth by BABAO, DCMA, and others, but feel that a document specifically tailored to the colonial history of Sudan would be beneficial. Perhaps most importantly, we strongly believe that this document should be revised and edited as policies and attitudes towards human remains change through time. The development of this document should include local communities, NCAM, bioarchaeologists, museums, and field archaeologists.

At the last International Congress for Nubian Studies (Warsaw, 29 August–4 September, 2022) a Nubian Bioarchaeological Interest Group was created and later formally acknowledged by the International Society for Nubian Studies. It is within this group that the first draft of the guidelines, in collaboration with the parties discussed above, will be drafted and published online.

The outbreak of the armed conflict in April 2023 has made a nation-wide impact on life of the people of Sudan. NCAM has relocated its office to Cairo and now focuses on emergency cultural heritage projects. The employees based in Khartoum have been displaced from their homes. The M. Bolheim Bioarchaeology Laboratory at NCAM was raided by the Rapid Support Forces in June 2023 and the scale of damage is difficult to confirm due to the continuing conflict in the area. All archaeological fieldwork has been suspended since the conflict began. The aforementioned proposal can be put forward and eventually implemented after the situation in Sudan improves.

6 Conclusions

As the discipline of bioarchaeology expands and excavations in Sudan and Nubia become more robust, we view clear ethical guidelines and strong community ties to be of utmost importance. Pillars of this policy should include: education, outreach, communication, and transparency at all levels of excavation and publication. In collaboration with NCAM, archaeological teams must be prepared to respect community wishes, including repatriation. There is also applicability of these recommendations beyond Sudan – other countries in Africa, and elsewhere, might benefit from clear guidelines and expectations for how to deal with archaeological human remains. In our opinion, these developments will build a stronger bioarchaeology that is more sustainable in an increasingly decolonized world.

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