Journal of Ancient Egyptian Interconnections

Countering the Racist Scholarship of Morphological Research in Nubia: Centering the "People" in the Past and Present

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Abstract
The early morphological research on the skeletal remains of the people who once lived in ancient Nubia was beleaguered by biased interpretations stemming from racist paradigms. Corresponding with subjective explanations of archaeological material remains, individuals from ancient Nubia were assumed to be incapable of grand accomplishments by many researchers who equated biological or racial characteristics with intellectual achievements. Moving beyond these antiquated and racist perspectives, modern research on ancient Nubians using a holistic bioarchaeological approach emphasizes biocultural variability and situates similarities and differences within a contextual perspective to reconstruct identity and group composition. Additionally, the ways in which archaeology is conducted in the region is highlighted as a means to decolonize the discipline, including diverse research teams and substantial involvement with the local communities.

The Origins and Afterlives of Kush conference aimed to examine what we know about this ancient African state through archaeological and historiographical evidence as well as considering the role of such research in historical and contemporary discourse. The goal of this paper is to center the focus on people: Who were the people involved in the origins of Kush? How do we study the ancient people? How do the people who conduct research influence interpretations of the ancient people? How do researchers interact with contemporary peoples related to this topic? We know archaeology as the study of humans in the past but often the people of the past are lost with focus placed on inanimate material remains. This paper will review how methods to understand people through morphological research have transitioned from racist paradigms to alternative perspectives over time, how people as researchers play a vital role in ethical practices through inclusive approaches, and examples from the Tombos Archaeological Project to illustrate these ideas.

Who Were the People? Cranial Morphological Research in the Nile Valley

Research on people from ancient Nubia through human skeletal remains began primarily with individuals excavated during the First Archaeological Survey of Nubia, associated with the raising of the Aswan Dam.[1] One of the people involved in

the early days was on-site anatomist Grafton Elliot Smith, who was recruited after more than two thousand burials had been removed.[2] He was chiefly concerned with how and when "racial contrasts" arose. Smith and others accomplished this goal through measurements of the cranium and observations of other anatomical features; in essence, they were following the traditions of anatomists such as Johann Friedrich Blumenbach and Samuel Morton, who equated biological characteristics with achievements in race science.[3] Individuals and groups of crania were generally sorted by physical features associated with "Negroid" and "Caucasoid" races. To these researchers, features did not simply denote geographical origin but were associated with mental capabilities. "Caucasoid" was considered the standard against which other races were viewed. People embodied traits that were judged to be immutable; any variation was explained using in racial-historical terms.[4]

For Smith, those with "Negroid" traits would have a negative influence on the resourcefulness of people and the flourishing of arts in a society. Races of Africa could be defined by varying amounts of "Caucasoid" [Egyptian] and "Negroid" mixing.[5] Many people working in archaeology were influenced by these racist views. For instance, in the mind of George Reisner, who attributed the grandeur to the Egyptians, the impressive architecture and materials remains found at Kerma and A-Group Nubian sites could not have been created by the "Negroid" culture.[6] Despite rejecting the link between achievement and biological characteristics, Batrawi[7] used "Negroid" and "Caucasoid" features in analysis and continued traditions of racial typology. With regard to Nubian groups, he defined them as hybrid races of pure "Negroid" and "Caucasoid." "Negroid" traits increased with the C-Group, continuing through the Meroitic period. He found the X-Group to represent an "alien" population replacement. This approach to research persisted for decades. For example, changes in features found in post-Paleolithic groups in Upper Egypt and Lower Nubia were explained by a "Negroid" invasion.[8] More recently, remains from Soleb dated to the New Kingdom period were described by Billy and Chamla[9] to demonstrate an increasing "Negroid" influence in Upper Nubia. People were seen as fixed types with immutable behavioral characteristics.

In current times, even in certain applied contexts (such as aiding in forensic identification) such uses of racial typology are becoming less common.[10] For most anthropologists engaged in holistic research, people and morphology are studied from an alternative viewpoint. Classification of humans into a few groups, such as race (not considered a biologically valid scientific concept), is too broad to capture meaningful human variation. Explanations for variability and continuity in populations instead focus on environmental and social influences on biological features as well as historical changes. Some researchers approached morphological variation from this perspective in the past as well. Carlson and Van Gerven[11] led the way in considering environmental influences on cranial shape in Nubia. Morphological changes observed in populations from Wadi Halfa and Scandinavian Joint Expedition to Nubia sites dating to Mesolithic through Christian periods led them to acknowledge a dietary behavioral shift that occurred. They developed the innovative masticatory-function hypothesis: these people shifted their diets to softer, higher-carbohydrate foods from more highly abrasive foods, resulting in cranial shape change. Mechanical demands of the chewing muscles decreased due to the softer diet. As a result, jaw and tooth size was accordingly reduced, resulting in more rounded skulls with smaller faces and muscle attachments. Thus, continuity in the people of Lower Nubia over time is supported in contrast to earlier studies that explained morphological changes in terms of invasion, racial types, and racial admixture.[12]

More recently, Stynder and colleagues[13] have emphasized that findings of population continuity do not necessary imply genetic isolation with no gene flow. Cranial morphology is dynamic and varies across space and time. The researchers stress that types such as "Upper Nile Negroid" or "Lower Nile Caucasoid" are invalid as discrete analytical units, rejecting the concept of biological race. People from these areas are closely related and share similarities with groups to the north and south beyond the borders of Nubia to form a continuum. Thus, gene flow along this corridor would not result in major morphological alterations. Population movements as well as changes in selective pressures (such as in the masticatory functional hypothesis described above) should be considered in interpretations of variation.

How Do We Trace Movements of Peoples?

People who lived at various sites in the past can be examined using a wide range of established and

more recently developed methods that allow for continued refinement and reappraisal of interpretations and variation. Technological advancements in stable and radiogenic isotope analysis and ancient DNA analysis of degraded samples have expanded our techniques to reveal where people moved; many current advancements involve only a very small amount of sample using rapid and more affordable analyses.[14] New resulting data can be used in conjunction with studies by other researchers on curated skeletal collections, expanding our knowledge of various bioarchaeological topics. Correct contextual information associated with curated skeletal collections is required; for older collections, this can be challenging given the separation of skeletal collections from other archaeological materials in various institutions. Collaboration with regional archaeologists can help to provide the relevant context.[15]

While contextual details are key, importance must also be placed on the people being studied. Far too often in the past and still today, the people as represented by their skeletal remains are left out of the main body of research and relegated to the appendices of books and reports.[16] Osteological analyses can add a wealth of information that would otherwise be left out of the record, including but not limited to: health, disease, identity, nutrition, life experiences, and demographic patterns.[17] Skeletal data should be integrated and treated as equally important as other archaeological data (ceramics, lithics, jewelry, etc.). For instance, how can we holistically examine social roles such as ethnicity or gender without including biological factors that may have contributed to identification by people and others? While social roles are fluid and not necessarily dependent on these biological factors, discounting the role ancestry, sex, or appearance, for example, may play would ignore how biocultural markers might socially and spatially vary over time.[18] Full integration of bioarchaeological researchers in the planning stages, excavation, analysis, and completion of the project provides the most robust contextualization of interpretation.[19] A centralized and updated database of Nubian archaeological collections, including skeletal samples, is a worthwhile goal for researchers of all kinds of data.

Ways of answering questions of interest about people in the past have changed with trends in the field. Movement of peoples has long been a topic of interest in archaeology including some of the early works that defined cultures based on material items and how cultures changed over time.[20] The actual movement of people offered a key explanation of cultural change. Migration was conceptualized as invasion or large-scale population movement rather than the multilayered process we know it to be. With theoretical shifts starting in the 1970s, partially to counter earlier racist narratives, migration as a research topic receded with decided focus on internal rather than external social dynamics as explanations for cultural change.[21] Archaeological data such as artifacts, structures, and burial practices can give an idea of a person's cultural affiliation and possibly origin. However, there is more to identity than just material remains and that these material expressions continually change. Over the last decade or so, migration and mobility have become a larger part of the mainstream research agenda with different questions and approaches.[22] Part of this trend may be accounted for by scientific advances in bioarchaeology and biogeoarchaeological methods using isotopes (e.g., strontium and oxygen), DNA, and other biodistance methods. Archaeologists now have more scope to demonstrate movements. In fields such as Mediterranean, classical, and historical archaeology, migration remained a popular topic due to the abundant evidence for state-organized migration and colonization.[23]

In particular, many archaeologists have been interested in investigating the movement of people in imperial contexts. The activities of Roman and Egyptian empires, including areas of Africa, for example, included colonization as well as the forced relocations of individuals and groups in the conquered territories, including military personnel. Having an additional line of evidence, such as a nonlocal isotopic signature, is very useful in reconstructing individual life histories as well as the population dynamics. The topic has become more popular in these areas with an increased interest in connectivity, postcolonial perspectives, and entangled situations. Overall, there is a wider trend in social sciences and humanities to understand mobility in a broad sense and a recognition that cultural mobility is a key component of human life.[24] Rather than just documenting that movement occurred, the focus is on the reasons people migrated and the consequences of these migrations for the migrants as well as the host and origin societies. Through these ideas the methodological advances in tracing migrants appeal to a wider set of researchers. As such,

researchers working all over the world on sites from many time periods have made use of isotopic techniques in tracing human mobility.

The Influence of People in Ethical Research Practices

The intersectional identities and experiences of those who study the people of the past play important roles ensuring ethical practices in research. As the authors of this research, we wish to explain how our positions in life and society influence our perspectives. Michele Buzon has learned and transformed her ways of working in Sudan since 2000 and approachees her analysis of past peoples as someone with mixed heritage. She is the daughter of an immigrant father from the Philippines and a Euro-American mother. Coauthor Jenail Marshall comes from the perspective of an American of African descent who participated in field research in Sudan for the first time in 2020 and has worked in public education for many years. We have both been trained in the U.S. anthropological tradition that combines cultural, biological, and archaeological methods and theories. We are personally aware of how biological and cultural features can be intertwined in various ways in our lives. Our experiences have influenced the perception of cultural interactions both in past peoples as well as the current communities of the field site and academic realms as we persisted through the tumultuous year of 2020; many recent events have heightened awareness of important ethical issues.

In the United States, the deaths of Breonna Taylor and George Floyd, both unarmed African Americans unjustly killed by police, have created activist movements and epistemological reflexive moments for many academic fields. Notably, several archaeologists are now questioning ways to decolonize the field, a conversation in which many underrepresented and marginalized scholars have engaged for several years.[25] In 1997,[26] the Society for American Archaeology surveyed the racial demographics of the field. Of the over 1,500 respondents, there were only two that identified as African American, ten as Native American, and only four of Asian heritage. More recently, in 2013,[27] the United Kingdom's labor intelligence report revealed that White archaeologists accounted for 99.2% of the paid positions. Focusing on the Nile Valley region in Africa, at the time of writing this paper, there is one African American known in the field of Egyptology.[28]

A 2018 study focusing on state of biological anthropology in the United States showed that White students accounted for 75.3% of undergraduates, 92.2% of master's students, and 88.9% of doctoral students.[29] Furthermore, the authors highlighted that African Americans account for 8.9% of U.S. PhDs across all fields but in Biological Anthropology make up only 0.9% of the field. More alarming are tenure-track lines for African Americans, Native Americans, and Native Hawaiians; there are no data (from a 2014 survey) suggesting full professorship in the field of biological anthropology for any of these groups.[30] There is a depth of literature on diversity, equity, and inclusion in STEM that shows that this is not a matter of being interested in the STEM fields.[31] Here, the statistics show a severe deficiency in the discipline that requires the need for direct actions to address why marginalized scholars do not enter or stay in the field. These authors suggest that the lack of anthropology programs in some of the historically Black colleges and universities (HBCUs) may contribute to students not finding the discipline as easily as other majors.

Archaeology in Africa has a long history of using research approaches embedded in European colonialism.[32] The primary mode of practicing archaeology still relies heavily on the extraction of material evidence to interpret the past. In this vein, African archaeology practices are much like North American archaeology's often exploitive relationship with Native American and Indigenous communities.[33] To some archaeologists and bioarchaeologists, studying the past means that the focus involves the empirical objects and the misleading assumption that there are no local or indigenous communities to consult.[34] For example, in the 1960s, the building of the Aswan High Dam ultimately left many archaeologists to suggest that Nubian land, materiality, and civilization were lost, as were the people.[35] However, Agha[36] argues that definitions of Nubia are embedded in colonial concepts of archaeology's focus on the materiality of objects as "nostalgia." Therefore, the focus on the material past and objects leads to the misconception that the people are no longer existent.

For the past several decades, it has been clear that one cannot begin and end with the artifact (be it the body or another form of material culture) and hope that the work will speak for itself. Acknowledging that the focus on materials of "lost civilizations" has

been the so-called Global North's epistemological underpinnings of archaeology, how do we begin to move away from the European colonial paradigm in African archaeology? As a scholar of African descent, coauthor Jenail Marshall is aware of the need to break down barriers and broaden the methodological approaches used in archaeology to create a more inclusive and equitable discipline. The need for a more inclusive field became more prevalent during the most recent field season at Tombos, Sudan. She was asked by a teenage interlocuter something along the lines of *"why are these old things so important to you Americans?"* The question was something she had not thought much about because her view of Nubian archaeology was that this it is important to everyone involved. Now, she realizes that involvement requires a much more in-depth analysis.

This socially reflexive moment leads to thoughts about African archaeology and the ways we can avoid being sample thieves and biocolonialists, a theme in archaeology that still resonates with many communities across Africa.[37] Anthropologists and archaeologists have long been a tool of marginalization, perpetuating inequality, racism, injustice, and the status quo since the inception of the field as a scholarly practice.[38] As an African American in a discipline that still suffers from diversity issues, Marshall recognizes the ways that archaeological research operates in constructing the past is often a reflection of European colonialism and that scholars are socially embedded in the present.[39] As scholars in the times of Black Lives Matter, it is imperative to, in some spaces, start and continue the work to make archaeology in the Nile Valley more inclusive and equitable, and several actions are required moving forward in the field.

The Need for Change

In Africa, the practice of archaeology must change, and this means that it, too, must take part in the recognition of other ontologies that many Black and Indigenous scholars engage with in anthropology.[40] Archaeology, deemed as a scientific practice, often still evokes a positivist view of scientific inquiry, marking its endeavors as a rational and asocial process. The production of Westernized scientific knowledge is therefore about dominance that falls under the false pretense of finding universal truths.[41] Archaeology must consider that researchers are social actors and help create, maintain, and reproduce various structural inequalities. Thinking that we live, work, and research in a post-racialist era does not address the socially constructed ways that racial inequalities are assembled in daily lives. The privilege of the field is in its praxis of coming into communities and defining people's past. It is imperative that the discipline become a more reflexive field of practice by acknowledging that researchers are socially embedded in the present.[42] Dominant anthropological practices continue to endorse a model of scholarship in which the lives of cultural others constitute the legitimate objects. In bioarchaeology, osteological subject making is part of reinforcing the notion that people historically situated as research subjects remain as such. This involves racializing scientists and research subjects in ways that reinforce racial and scientific norms that reflect White scholarship as universal.[43]

The use of human remains to help answer some of these questions, especially through destructive techniques, necessitates the recognition of additional ethical considerations. Many organizations have directly addressed these topics through organized symposia at international and national conferences, such as the Association of Africanist Archaeologists. Several researchers have published perspectives on best practices and relevant issues[44] and provide examples of analyses that are used construct sweeping regional narratives about migration and population change based on small sample sizes with problematic interpretations in a number of regions[45] and ethically questionable collection practices.[46] There has been a blatant tendency for genetic research to ignore information from previous osteological data, leaving hardly any room for collaborative research to occur. Understanding lineage is seen as more important than building a comprehensive picture of the past as shown through recent publication trends.[47] These issues are pertinent to any type of research, especially destructive analyses like DNA and isotope work. There is more work needed and a focus on using decolonized frameworks is required to change the structural conditions of the discipline.

Community Inclusion and Decolonized Ethnography

In African archaeology, the people are often an afterthought when considering who, what, and why archaeology occurs. Whose heritage are we preserving, and what do we mean when something becomes deemed archaeological heritage?[48] There is

very little research on community perceptions and their involvement in the archaeological projects in the Nile Valley.[49] For several decades, local participation has meant physical labor in the form of excavation crews, with little to no recognition of their work. The colonial legacies of elitist and White foreign scholars that dominate the practice of archaeology, especially in Africa, often meant that they control all aspects of the process of producing knowledge. Dominant archaeological practices have been slow to adapt to bringing intersectional frameworks to the discipline that center the people, their viewpoints, and theories. Archaeology that focuses on equity and the intersectional issues within the discipline are often classified as social archaeology.[50] This type of archaeology is often not considered as scientific or valuable to the promotion and production of knowledge within the discipline. At present, the way archaeology is practiced across the continent of Africa reinforces Westernized, colonial strategies that continue controlling the production of archaeological knowledge. If archaeology in Africa continues to operationalize as a discipline this way, it will never be a truly decolonized field of practice.

Redefining archaeology in Africa requires more extensive incorporation of the worldviews, needs, and theories into archaeological praxis. Ethnography can serve a crucial role in transforming archaeology into a people-centered, reflexive practice.[51] Pikirayi[52] indicated that for archaeology, "community engagement enables archaeologists to recognize the voices of the communities and other stakeholders, ensuring that these become active participants in the course of the archaeological process." This requires archaeologists to step away from the focus on cultural materiality as something only concentrated in the past and focus on context-specific forms of community engagement. Additionally, understanding the importance of memory and oral histories to preservation of archaeology in Africa involves understanding local communities are not removed from cultures of the past. Their values and continuity of their cultures need to be fully recognized in archaeological discourse. As suggested by Chirikure,[53] archaeologists should strive toward, at minimum, co-leading projects with communities. Ideally, archaeologists will be led and guided by African voices and communities in order to make fundamental changes in the field.

Communities are fluid, aggregated phenomena, and therefore it is vital to consider the continuities and the disconnections of people's identities. Nubian identity in Sudanese archaeological discourse is often treated as something in the past.[54] There is a misinformed view in dominant discourse in some Sudanese archaeology that Nubians no longer exist, and publication trends confirm this narrative.[55] A simple Google Scholar search, understanding the limitations as English-speaking scholars, was conducted utilizing variations of the phrase "Nubian identity," "Nubian ethnicity," "Nubian identity in Sudan," and "contemporary Nubian identity in Sudan," and there emerged a pattern of discourse that interprets Nubians in Sudan as belonging to the past. Few journals (e.g., *Dotawo: A Journal of Nubian Studies*) consider the complexities of Sudanese Nubian identities today.

At the Tombos archaeological site in Sudan, the people identify as Nubian and Nubian language has been maintained with Arabic as the second language. In our most recent field season in 2020, a burial was excavated where the individual identified as culturally Nubian based on the material evidence discovered. It caused much excitement for everyone, and the Nubian people we worked with aptly named the individual "*ideendauw*," the Nubian word for "grandmother." As Fuishiya and Radziwiłko[56] interrogate, "How has archaeology responded or contributed to relationships that the diverse peoples of Sudan develop with the past?" The Humboldt University Nubian Expedition (2004–2008) was one of the first projects to recognize archaeology's non-inclusive practices in Sudan. However, this was after alienation had occurred from the foreign teams' projects, and the implications of the social damage between the local communities and the expedition team was an afterthought.[57] In general, Sudanese archaeology and its relationship with local community engagement is a recent phenomenon that has been seen more broadly only within the last several years.[58]

Collaborative archaeology projects are relatively recent phenomena in Sudan. They gained more traction in 2012 with the Qatar-Sudan Archaeological Project (QSAP), initiated by Qatar and Sudan, to support the exploration of Sudan's rich heritage in a community-engaged way. The Mograt Island Archeological Mission (MIAMi) of 2014 was one of the first projects with a clearly community-oriented purpose. Tully[59] put forth the MIAMi method, a framework that "supports the view that archaeological 'science'

is unquestionably engaged with a socially constructed environment viewed differently by a range of stakeholders." With their research, they wanted to understand how the people living on Mograt, the largest island in the Nile, wanted to engage with the archaeological project. The extensive collaborative project spanned five years and had several successful outcomes and resources for the local communities, ranging from organizing events, developing a project website, and a bilingual Arabic-English publication.[60]

Humphris and Bradshaw[61] qualitatively analyzed residents' perceptions, knowledge, outlooks, and experiences at the local level about their archaeological research project at the Royal City of Meroe in Sudan. They examined communities' heterogeneity and conclude their qualitative assessment, promoting understanding of the local community before engaging in collaborative archaeology. More recently, Fushiya and Radziwiłko[62] began a community engagement project at Old Dongola. They looked at ways to revive the expedition's relationship with the community through a series of local public meetings addressing community concerns and needs from the project. Also, they involved Sudanese university-level students in learning the skills for heritage management and addressed the community's needs, skills, and potential local development actions. Additionally, they worked with local schools in Ghaddar and did a poster workshop in which the students were able to present their research posters to the community and the expedition team.[63] These examples chronicle the evidence that the field of archaeology in Sudan is becoming one that collaborates and forms partnerships between the local people and archaeologists.[64]

Integrated Research and Commmunity Engagement at Tombos

The Tombos Archaeological Site is an ongoing project located at the Third Cataract of the Nile in Sudan. Co-directors Stuart Tyson Smith (University of California, Santa Barbara) and Michele Buzon (Purdue University) have been actively excavating in the cemetery since 2000 and more recently the settlement areas as well. One strength of our project comes from the people involved. As co-directors, Stuart Tyson Smith and Michele Buzon share a vision of how we want to reconstruct the past using information from the people as well as the materials, and we place importance on inclusion in our research, field and lab teams, and interactions with the community. The project began with a relatively small group and people from the surrounding village during our first season; exciting discoveries led to continuing productive fieldwork for more than two decades, with plans for future work. Supported by universities (University of California, Santa Barbara, and Purdue University), the National Science Foundation, National Geographic Society, and other awarding organizations and donors, it has grown to have nearly twenty on our team along with up to forty local community members during a field season.

The excavation team includes a representative each season from the National Corporation for Antiquities and Museums (NCAM) in Sudan. Dr. El Hassan Ahmed Mohammed, now director of fieldwork at NCAM, was our first inspector, and he worked with us during many of our ten seasons at Tombos (2000–2020). During the last decade, Dr. Ahmed Mohamed worked with ceramic materials from Tombos to complete his PhD at the University of Khartoum (2017). Team member since 2011 and supervisor of the Tombos settlement excavations, Sudanese native Dr. Mohamed Faroug Ali worked with Stuart Tyson Smith to complete his PhD at the University of California, Santa Barbara (2016). He is one of the first Sudanese to earn a PhD in archaeology in the United States. Among many other students and colleagues who have joined the team at the Tombos field site and lab analyses, African American students have included Shayla Monroe (UCSB, PhD 2021) since 2013 and Jenail Marshall (Purdue) since 2020, as well as Alexander Blasingame (Purdue), who published a study based on undergraduate laboratory research.[65] We have welcomed several Sudanese researchers and students on our team for training and experience over the years. For example, current team member Remah Abdelrahim has worked with us during four seasons, beginning as a trainee for NCAM. Her strong interest in bioarchaeology has been encouraged through excavation experience with the Tombos and nearby Abu Fatima cemeteries along with the inventory and preliminary analysis of skeletal remains at the field house. Her well-developed skills in bioarchaeology, the English language, and community engagement have greatly assisted the team.

In addition to working with community members at the site, we have regularly provided a lecture for

the town during our field season. During this lecture, we provide some background to the research questions we are investigating, display photographs of the season's finds, and discuss our preliminary interpretations. We have really enjoyed how much the Tombos people have embraced the findings of our work, expressing pride in the influence of their ancestors, the ancient Nubians. These lectures have been generally well attended by the site workers, as well as others in the community. However, the location of the lecture at the local football club and cultural norms have resulted in attendance of only adult men. We have been working to be more inclusive of women, arranging a separate talk specifically for them in a different location. Although many of their male family members have worked at the archaeological site, the women have reported that they hear very little about the site findings. These lectures have generated many interesting questions about archaeology and our research from the community. We have also hosted an end of the season party on Tombos Island, collaborating with the local field team for our delicious mutton feast.

The younger generation of Tombos community members has also not traditionally been part of our lecture audiences. That being the case, we have worked with the local elementary school to plan appropriate interaction opportunities. Dr. Mohamed Faroug Ali initiated our plans with the school and more recent assistance from Remah Abdelrahim and researcher Tomomi Fushiya, whose work in archaeology is focused on community archaeology and heritage management at various sites in Sudan.[66] Lectures for the elementary students have been provided with time for questions from the children and teachers. In collaboration with the Tombos Elementary School principal and teachers, we produced three educational posters that could be used for teaching about archaeology, Nubian history, and Tombos (Figs. 1–3). Designed with former Purdue students Claire Sigworth (MA, 2019) and Katie Whitmore (PhD, 2019), these transportable posters were requested by the school to aid teaching in various classrooms, as the teachers felt that they lacked appropriate materials. In 2020, we hosted our first group of students at the Tombos site for a tour of active excavation units. These fifth-grade students and their teacher expressed excitement in the process and findings. We hope this is the first of many community visits to the site. We were also able to host a visit of students and faculty from the University of Shendi.

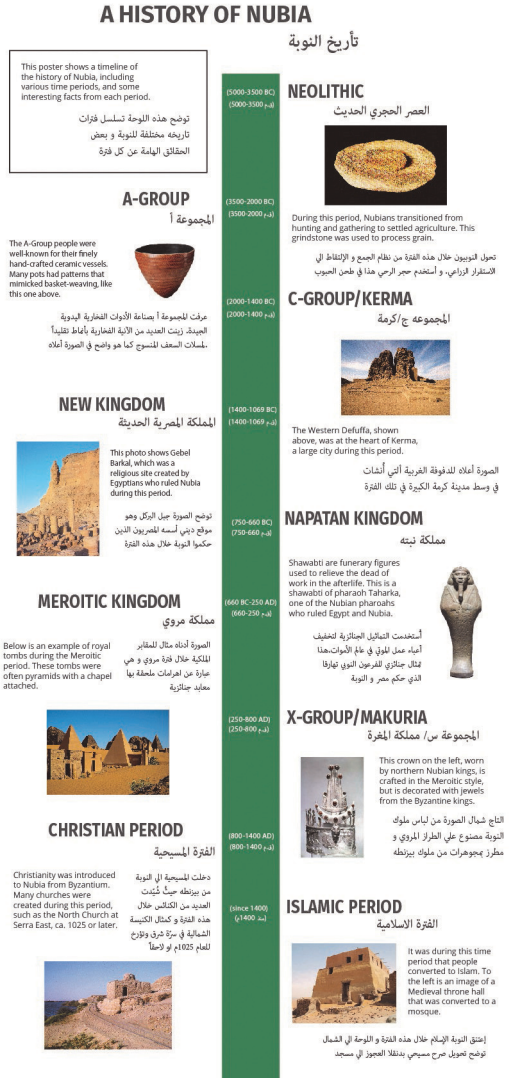

Figure 1: Tombos School Poster: History of Nubia.

A long-term collaborative and cooperative relationship with fellow researchers, students, and community members in Sudan is our continued goal. One major hurdle is the lack of materials in Arabic about research. We, like many other foreign teams, primarily produce our publications and other products in languages other than Arabic. Communication and transportation technologies have changed greatly in the twenty years we have worked

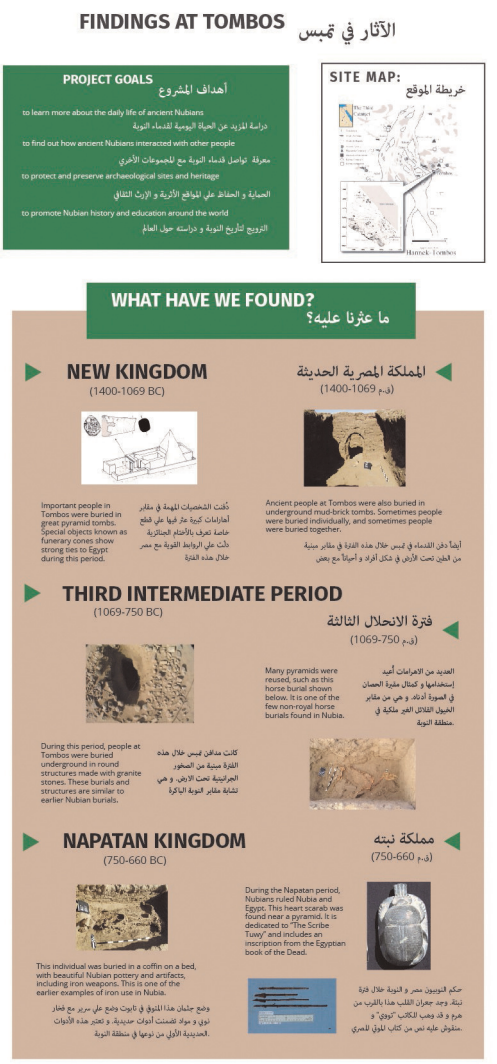

FIGURE 2: Tombos School Poster: Findings at Tombos.

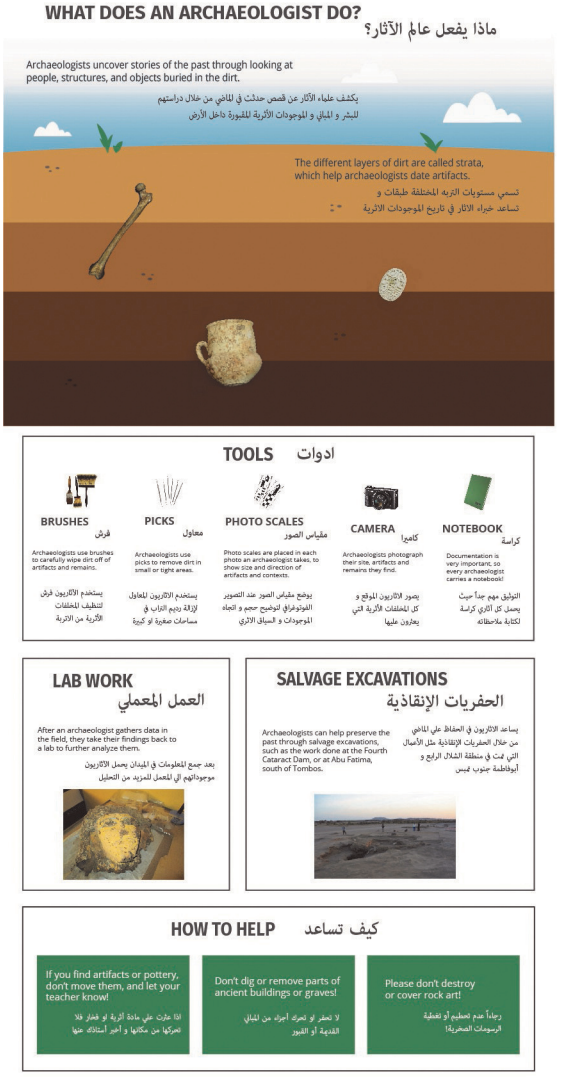

FIGURE 3: Tombos School Poster: What Does an Archaeologist Do?

at Tombos. Many Tombos residents have internet access via mobile phones. We have created a website for the Tombos Archaeological Site (tombos.org), with information on our current excavations, the team, publications, and other news. All postings are in both English and Arabic (with translations provided by Mohamed Faroug Ali and Remah Abdelrahim). Inspired by the many teams supported by the Qatar-Sudan Archaeological (QSAP) project funding, we also created a Tombos site information pamphlet in Arabic and English and distributed it locally, across Sudan, and internationally. As detailed above, many research teams in Sudan are placing importance on community engagement and outreach activities in current projects.[67] Discussions with residents during our season lectures have encouraged us to work on an English-Arabic booklet on Tombos research and to explore ways to further dissemination our findings in Arabic. Strongly encouraged by the town residents, we are also investigating ways to fund and create a visitor center at Tombos, with multi-language informational

panels about the site (Nubian, Arabic, and English).

To further reach these goals of cooperative research, we created a nonprofit organization in 2017, the American Sudanese Archaeological Research Center (AmSARC), led by Dr. Mohamed Faroug Ali. The mission of the center is to encourage American and Sudanese archeological research and collaboration in Sudan and to provide the network and support for success. The center facilitates research and nurtures scholarly ties between institutions and individuals in both countries, as well as conducts its own archaeological research in Sudan. AmSARC also organizes outreach on public archaeology throughout the two countries. We are working on translating relevant archaeological publications into Arabic. The AmSARC platform has featured several African archaeologists in virtual lectures as well as work by US projects; many of the videos are available on the AmSARC website. AmSARC was incorporated as a nonprofit corporation in California and has secured 501(c)3 status. Membership is encouraged to support the organization efforts with additional information available on the website (amsarc.org).

We are furthering our collaborative efforts with Sudanese researchers with new projects. In 2020, we worked with colleagues from the University of Dongola at Wadi Halfa, Department of Geophysics. The team, led by Dr. Mohamed Abd alwahab Mohammed Ali, with Ammar Adam Ali Ibrahim, Muhannad Hassan Orkeldin and Mosaab Hussein Altom, used magnetometry and resistivity to identify anomalies that could represent buried domestic and/or public structures and the boundary of the Tombos town fortification. The resulting data will be used to plan test excavations and allow us to investigate daily life in the town of ancient Tombos. Additionally, as part of a National Science Foundation project, coauthor Buzon is with working with botanist Dr. Maha Kordofani from the University of Khartoum to identify and analyze plant samples that will aid in establishing baseline data to trace human mobility using strontium isotope analysis. Coauthor Marshall will work with Dr. Mohamed Faroug Ali and Remah Abdelrahim on a Tombos community project supported by the Wenner-Gren Foundation Engaged Research Grant.[68]

During the off season, how we conduct our research is also important. The vast number of archaeological projects and resulting materials have created storage issues for excavated items in Sudan. The increase in excavated sites associated with the building of the Merowe dam supported primarily by QSAP funds resulted in overloading of facilities. NCAM in Sudan has allowed the export of human skeletal remains, as well as other samples, for analysis (organic materials for radiocarbon dating and isotope analysis, ceramic sherds, etc.) Ideally, exported materials should be limited to analytical samples and loans with excavated materials stored in climate-controlled secure facilities in Sudan. Current challenges include monetary resources as well as sufficient partner educational institutions for training of materials analysis and curation. For example, resources are needed for adequate and long-term storage of human remains in a hot and humid environment; training programs in bioarchaeology are not currently available in Sudanese universities. Dr. Mohamed Faroug Ali, as an assistant professor of archaeology at the International University of Africa, and Michele Buzon have been awarded funding from the Fulbright specialist program to conduct a bioarchaeology workshop and curriculum planning.

For researchers who excavate and/or curate archaeological collections from Sudan, stewardship is an important responsibility. Materials and data need to be maintained. As we work to preserve the cultural heritage in the region, we must insist on ethical practices. Collections, both physical and electronic, must be supported and accessible to other researchers after initial analyses are completed, with timely publication in venues with wide readership. We should strive to create educational and research opportunities for our Sudanese colleagues and students. While many major funding agencies expect outreach activities, researchers can open a dialogue with local partners in order to address the needs and desires of the community and national researchers as a fundamental early step in research-project design.

Morphological Research at Tombos

Who were the people of Tombos? The site is known for Egyptian inscriptions placed on high boulders along the Nile at the Third Cataract that could be seen from boats heading north on the river towards Egypt. Recently, work in the settlement at Tombos has revealed a large fortified enclosure. We consider Tombos to be the New Kingdom Egyptian fortress of Taroy based on the size and location of this structure, viewed within the context of Egyptian

inscriptions (such as a stela of Merymose, the viceroy of Nubia).[69] The site dates to the mid-Eighteenth Dynasty, with evidence from the settlement slightly earlier than the cemetery. There are several areas of cemetery with New Kingdom features including a field of Egyptian-style elite pyramids and chapels, Egyptian-style underground chamber tombs with more modest practices, and Nubian-style tumulus structures that appear at the end of the New Kingdom and continue until the Napatan period. During the Third Intermediate Period and the Napatan period, new pyramid tombs were built and older pyramid tombs were reused.[70]

Within all of the burial structures the majority of individuals, more than 90%, are buried in an Egyptian extended-body position. Egyptian-style burial goods are also very common. There are several individuals buried in the flexed Nubian body position, all female. Given that Egyptian cultural practices were used by Nubians during the New Kingdom colonial period, several different types of analyses, include morphological techniques, have been used to understand population composition and identity in the Tombos sample.[71] From a morphological standpoint, it is important to understand the variability that exists in a sample within the context of the region, historical movements, and environmental pressures. Key to meaningful morphological research are the kinds of questions being asked. For Tombos, how can we investigate the interactions of colonial Egyptians with the local Nubian population during and after the imperial presence?

Morphological variation is present in groups living in various locations in the ancient Nile Valley. Pertinent to Tombos, data from curated remains and publications of individuals buried using Egyptian practices in the region of Thebes in Egypt (likely origin of colonists) do show morphological differences with those of individuals buried using Nubian practices in the Third Cataract region of Kerma (10 km from Tombos) in Nubia.[72] However, these groups are by no means mutually exclusive; there is significant overlap, although data suggest that Egyptians (Thebes region) appear to be a more morphologically homogeneous group than Nubians (Kerma region). Through the use of factor analysis and logistic regression of cranial measurements to predict group membership in relation to other Egyptian and Nubian samples, the Tombos sample appeared as a mixed group of Egyptians and Nubians. Within the context of a primarily Egyptian-style cemetery, these data suggest that this New Kingdom colonial cemetery contained Egyptian immigrants and local Nubians. Individuals from burial features dating to period after the withdrawal of Egypt until the Napatan period continue the same morphological trends. Sustained interaction and the creation of a multi-cultural community of their descendants occurred.[73] Ongoing three-dimensional analysis of cranial morphology analyzed within the context of mortuary structures (Egyptian elite pyramid/chapel, Nubian tumulus, Egyptian middle-class chamber) reveals that morphologically similar groups tend to cluster by tomb type. People buried elite Egyptian-style pyramid tombs are spatially and morphologically different from those buried in the Nubian-style tumulus graves. Increased evidence for mixed cranial morphology is found in the Egyptian-style middle-class chamber tombs. Based on these data, it is possible that the middle-class chamber tombs are the location for the Egyptians who were interacting with the local Nubians, as well as their offspring; economic status, class, or other social factors may have played a role in how immigrants interacted with locals at Tombos.[74]

In addition to combining mortuary ritual indications of identity with cranial morphology, strontium isotope analysis has also provided another line of evidence for tracing human mobility and population changes. Strontium concentrations and ratios differ according to variations in local geology. The biologically available strontium present in soil and groundwater is incorporated into local plants, animals and people. Data for Third Cataract region around Tombos have provided encouraging baseline data along with some recent studies in other Nile Valley sites.[75] Strontium isotope analysis can be used to identify first-generation immigrants if the strontium incorporated into body tissues locally (Tombos) is different from that in the place of origin (e.g., Thebes, Egypt). The patterns found in the strontium isotope data correspond with what we find in the mortuary practices and cranial morphology. About a third of the New Kingdom burials have non-local signatures, with the highest number present during the early founding years of the community. None of the burials dating to the post-colonial period at Tombos are non-local. Additionally, none of the individuals buried in a Nubian flexed-body position or in a tumulus have strontium values that correspond with nonlocal values.[76] With the collaboration

of many colleagues who work in Sudan, ongoing research will provide new data to track the variability in space and time in strontium isotope ratios, including the assessing climate change and the contribution of aeolian dust across the Sahara to this method.[77] These new findings may assist other researchers in tracing the movements of people in this region.

With these combined data sets, what can we say about the people of Tombos? Analysis of the bones for signs of health and disease indicates that people in the community lived lives without a significant amount of hard physical labor and injury and had adequate nutritional resources.[78] We see mortuary practices from both Egyptian and Nubian traditions, variability in cranial morphology greater than what would be expected for a group of only Egyptian immigrant colonists, and isotope values that suggest both locals and non-locals.[79] The sample includes people who lived at Tombos over a few hundred years and whose families expressed identities that may have shifted over the time this site was in use. As someone who grew up in a multicultural family, Michele Buzon thinks carefully about perceptions of identity both by the self and others. She considers her father, who grew up in the Philippines during World War II in an Americanized environment. Before coming to the United States to practice medicine, he experienced aspects of American culture in the Philippines and compulsory English-language classes from young age; Buzon reflects on the combined cultural practices that were traditions in her family. How is identity defined in such a fluid environment? Categorization is a typical aspect of archaeological analysis and it is difficult to avoid defining people as discrete groups.[80] However, by the Twenty-fifth Dynasty, we have a community of people at Tombos who are biological and culturally entangled. As Van Pelt[81] notes, descendants of this Egypto-Nubian community would have functioned in a social environment that was natural to them, perhaps no longer conscious of their mixed heritage. Additionally, these types of societies in Nubia may have served as models for the cultural reconfiguration of Egyptian and Nubian features influencing the character of the new Napatan dynasty.[82]

Moving Forward

The goal of this paper was to examine the ways in which people are situated in the study of ancient Nubia. Researchers and their perspectives greatly influence the range of interpretations considered regarding the biological and cultural character of past peoples. Racial paradigms guided many earlier studies of ancient Nubia, and these ideas have continued to persist in some realms. These biased viewpoints have certainly affected morphological research, although the same can be said about the field's colonial approach to archaeology in Africa, which has mostly been conducted by non-African individuals with little local involvement. Many teams conducting field projects in Sudan over the last decade or so have increased their efforts to think more broadly about how they conduct research and with whom. Much work in this arena remains to be done. Examples from the Tombos Archaeological Project as well as other teams provide some possible avenues to decolonize and redefine the field of Nubian archaeology.

Acknowledgments

This paper was based on a presentation by Michele Buzon at The Origins and Afterlives of Kush conference. Current events since the 2019 conference in the wake of inequalities exposed via COVID-19 and Black Lives Matter movements inspired us to more fully address ethical issues in the disciplines related to this paper, best approached in collaboration with the additional perspective of Jenail Marshall. Fieldwork, laboratory analyses, curation of archaeological materials, and public outreach activities for the Tombos Archaeological Project have been supported by the National Science Foundation (BCS-0917824, 0907815, 0313247, 1916719), the National Geographic Society, the American Philosophical Society, the American Association of Physical Anthropologists, the Killam Trust, the Institute for Bioarchaeology the University of California—Santa Barbara, and Purdue University. We thank our Tombos team members, the National Corporation for Antiquities and Museums in Sudan, and the Tombos community for their support for our excavations. We gratefully acknowledge Stuart Tyson Smith for his commitment to addressing and reassessing interpretations in Nubian archaeology through the hosting of this conference and through his many publications and presentations. He has and continues to be a wonderful co-director, colleague, and mentor for the Tombos team, inspiring many to question dogma and expand ways of thinking.

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Notes

1 Baker and Judd 2012.

2 Smith 1910.

3 Blumenbach 1825; Morton 1844.

4 Armelagos and Van Gerven 2003.

5 Smith 1909.

6 Reisner 1923.

7 Batrawi 1946.

8 Strouhal 1971; Burnor and Harris 1967.

9 Billy and Chamla 1981–1982.

10 Bethard and DiGangi 2020.

11 Carlson and Van Gerven 1977.

12 E.g., Burnor and Harris 1967.

13 Stynder et al. 2009.

14 Katzenberg and Grauer 2019.

15 Francigny et al. 2009.

16 Buzon 2011.

17 Buzon et al. 2005; Buzon 2020.

18 Buzon et al. 2016.

19 Buzon et al. 2005; Buzon 2011.

20 E.g., Childe 1950.

21 Adams et al. 1978.

22 Cameron 2013; Gardner 2007; Graves-Brown et al. 1996.

23 van Dommelen 2014.

[24] Greenblatt 2010.

[25] De Souza 2020a; Douglass 2020b; Gannon 2020; Matić 2018; White and Draycott 2020.

[26] Zeder 1997.

[27] Aitchison and Rocks-Macqueen 2013.

[28] Ashby 2020.

[29] Antón et al. 2018.

[30] Antón et al. 2018.

[31] Harkavy et al., 2015; Weissmann et al., 2019.

[32] Schmidt and Pikirayi 2016.

[33] Schmidt and Pikirayi 2016; Sillman 2010.

[34] Näser 2019, 2020; Sillman 2010.

[35] Agha 2019; Hassan 2007.

[36] Agha 2019.

[37] Fushiya 2020.

[38] Watkins 2018; de la Cova 2019.

[39] Barrett and Blakey 2011.

[40] Ludwig 2016; Kohn 2015; Alberti et al., 2011.

[41] Santos 2014; Smith 2012; Latour and Woolgar 1979; Latour and Porter 1993.

[42] Watkins 2020.

[43] TallBear 2013.

[44] E,g., Prendergast and Sawchuck 2018; Ávila Arcos 2018.

[45] Gourdine et al. 2020.

[46] Ávila Arcos 2018.

[47] Morris 2017.

[48] Smith 2012; Andah 1995; Kusimba 1996.

[49] Mehari and Ryano 2016.

[50] Preucel and Meskell 2007; Diaz-Andreu et al. 2005.

[51] Castañeda and Matthews 2008; Hamilakis 2011.

[52] Pikirayi 2011, 104–105.

[53] Chirikuri 2020.

[54] Fushiya and Radziwiłko 2019.

[55] Agha 2019; Fushiya and Radziwiłko 2019.

[56] Fuishiya and Radziwiłko 2019, 172.

[57] Tully 2014.

[58] Fushiya and Radziwiłko 2019; Fushiya 2020.

[59] Tully 2014, 156.

[60] Tully and Näser 2016.

[61] Humphris and Bradshaw 2017.

[62] Fushiya and Radziwiłko 2019.

[63] Fushiya and Radziwiłko 2019.

[64] Atalay 2012.

[65] Blasingame 2013.

[66] E.g., Fushiya and Radziwiłko 2019.

[67] E.g., Näser 2019; Fushiya and Radziwiłko 2019; Humphries et al. 2020.

[68] See < wennergren.org/programs/engaged-research-grants >.

[69] Smith and Buzon 2018.

[70] Buzon et al. 2016.

[71] Buzon et al. 2016.

[72] Buzon et al. 2016.

[73] Buzon 2006; Buzon et al. 2016.

[74] Buzon et al. 2019.

[75] Buzon et al. 2007; Buzon and Simonetti 2013; Schrader et al. 2019.

[76] Buzon et al. 2016.

[77] Schrader et al. 2019.

[78] Whitmore et al. 2019; Schrader and Buzon 2017; Buzon 2014.

[79] Buzon et al. 2016.

[80] De Souza 2020b.

[81] Van Pelt 2013.

[82] Smith 2013; Buzon et al. 2016.