Bioarchaeological Remains Curation Project at the Egyptian Museum: A Collaborative Effort for Curation and Ethical Management

Zeinab Hashesh, Ahmed Gabr, Salima Ikram, Sabah Abdel Raziq, Samia El-Merghani, Afaf Wahba, Wazir Ebd el Wahab, Roxie Walker *

Abstract

Egypt is home to a vast collection of biocultural artifacts that extend from prehistoric periods to the late Roman period. Since the 19th century, archaeologists have gathered many bioarchaeological remains, reflecting the diverse populations that inhabited the region. A large portion of these remains is preserved in the Egyptian Museum at Tahrir. In 2018, a specialized training program for museum curators was implemented at the American University in Cairo (AUC), supported by both AUC and the Institute for Bioarchaeology at London, to improve the management and utilization of these collections. This initiative fostered a collaborative project between the Egyptology Department and Fine Arts faculty, Beni-Suef University, and the Egyptian Museum, funded by the Institute for Bioarchaeology. The primary goals of the project, known as the Bioarchaeological Remains Curation Project at the Egyptian Museum (BRCPEM), include the careful examination, categorization, documentation, and ethical curation of the bioarchaeological remains, with the ultimate aim of creating an accessible database for scholarly research upon the completion of the inventory. Additionally, the training of curators at the Egyptian Museum is ongoing, focusing on equipping them with the essential skills needed to effectively manage these invaluable materials. The project adopts the recommendations of ICOM 2017 regarding mechanisms for dealing with sensitive remains. Room 3 inside the museum basement has been designated as the initial site for the project's activities by Dr. Sabah Abdel Raziq, the Former Director of the Egyptian Museum in Tahrir.

Keywords: Human remains - Ethical Management - Museum Curation - Bioethics - Collaborative Research.

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مُلخص البحث

تُعتبر مصر موطناً لمجموعة متنوعة من البقايا الحيوية الأثرية التي تمتد من عصور ما قبل التاريخ حتى نهاية العصر الروماني وما تلاه من عصور. خلال القرن التاسع عشر، قام علماء الآثار بجمع عدد كبير من هذه البقايا الحيوية (بقايا أدمية، بقايا حيوانية، وبقايا نباتية)، والذي يعكس التنوع السكاني في المناطق التي سكنوها. وقد تم حفظ جزء كبير من هذه البقايا في المتحف المصري بالتحرير بدعم من معهد البيوارکيولوجيا بلندن.

في عام ٢٠١٨، تم تنفيذ برنامج تدريبي لأمناء المتحف المصري بالتعاون مع الجامعة الأمريكية بالقاهرة (AUC)، وبدعم من معهد البيوارکيولوجيا في لندن، بهدف رفع الوعي بأهمية البقايا الحيوية وتوثيقها وتحسين ادارتها.

وقد عزز هذا البرنامج في تأسيس مشروع تعاوني بين قسم الآثار بكلية الآداب جامعة بني سويف والمتحف المصري، بدعم من معهد البيوارکيولوجيا بلندن. أُطلق على هذا المشروع اسم «مشروع حفظ وصيانة البقايا الحيوية بالمتحف المصري» (BRCPEM). تشمل الأهداف الأساسية للمشروع الفحص الدقيق، والتصنيف، والتوثيق وفقاً لمعايير مهنية وأخلاقية. كما يستهدف المشروع إنشاء قاعدة بيانات للمجموعات البيوارکيولوجية التي تم الانتهاء منها، مما يسهل على الباحثين في المستقبل الوصول إليها لأغراض البحث العلمي. بالإضافة إلى ذلك، يتم استكمال أعمال التدريب لأمناء المتحف المصري بشكل دورى لتزويدهم بالمهارات الأساسية اللازمة لإدارة هذه المواد القيمة بشكل فعال. وذلك تنفيذا لتوصيات الايكوم ٢٠١٧ بشأن كيفية التعامل مع البقايا البيوارکيولوجية بمعايير مهنية واخلاقية. وقد تم تخصيص الحجرة رقم «٣» في بدروم المتحف المصري كموقع أولي لأنشطة المشروع من قبل ادارة المتحف المصرى برئاسة أ. صباح عبد الرازق المدير السابق للمتحف المصرى بالتحرير.

الكلمات الدالة: بقايا آدمية- اخلاقيات إدارة المجموعات الآدمية- العناية بالمتاحف – التعامل الأخلاقي- بحث تعاونى.

Introduction

Several museums established their own ethical guidelines regarding the treatment of human remains before the adoption of the International Council of Museums (ICOM) Code of Ethics for Museums (e.g., British Museum, National Museum of Denmark, Smithsonian Institution, American Museum of Natural History, The National Museum of the American Indian, The Field Museum in Chicago, The Museum of Osteology in Oklahoma City, etc). In 2017, the ICOM Code of Ethics for Museums addressed the sensitive issue of bioarchaeological remains within museum collections, emphasizing the ethical implications of their acquisition, display, and care. Regarding the care of these sensitive and significant materials, they should be acquired if they can be securely housed and respectfully cared for in alignment with professional standards

and the beliefs of the originating communities. In addition, their exhibition should be conducted with respect for human dignity.[1] The Bioarchaeological Remains Curation Project at the Egyptian Museum (BRCPEM) aligns with the ICOM 2017 objectives.[2]

The objectives of the project included conducting an initial assessment of the bioarchaeological remains to evaluate their state of preservation. Furthermore, the project aimed to establish a systematic approach for processing and recording bioarchaeological materials, accompanied by photographic digitization. A custom database was to be developed to facilitate data management, and a secure and accessible storage system was to be implemented for the preservation of these materials. Finally, the project sought to delineate future goals and objectives based on the outcomes of the survey conducted. Additionally, ongoing training for curators was provided throughout the project.

Training the Egyptian Museum Curators

Since Feb 2018 and before the beginning of the Bioarchaeological Remains Curation Project at the Egyptian Museum (BRCPEM) in 2020, AUC organized a training course funded by the Institute for Bioarchaeology (London), which continues until the present. The objective of the program is to train curators in basic bioarchaeology, to teach them how to identify bones, record skeletal and mummified remains, perform basic estimations of age at death and sex, and properly handle and store bones and other bioarchaeological materials.

The course consisted of two parts: theory and background (human osteology, handling of remains, documentation, storage) at the American University in Cairo, and practical skeletal analysis, with practical experience being provided in basic documentary photography and the storage of remains in the Egyptian Museum. In the first part of the course, the students were assigned readings, attended lectures on bone anatomy and skeletal analysis, and carried out some laboratory work. Topics covered were the components of bone, growth, dentition, sex and age estimation, palaeopathology, recording systems, mummification and the study and handling of mummies, museum ethics, and the care and storage of osteological and mummified remains. The main literature for the course was *Human Osteology – A Laboratory and Field Manual* by W. M. Bass, which is a standard reference. To further enhance the learning experience, participants received supplementary handouts containing relevant material from various sources. These handouts served as valuable reference materials and practical guides. At the Egyptian Museum, eight curators who had attended the training course were afforded the opportunity to apply their newly acquired skills in a hands-on setting. The hands-on

[1] The ICOM Code of Ethics for Museums (2017), 2.5, 3.7; 4.3.
[2] See 2.5, 3.7; 4.3 in https://icom.museum/wp-content/uploads/2018/07/ICOM-code-En-web.

learning was carried out on the contents of the box labeled TR 28/4/26/27 (Fig. 1). The material in the box originated from multiple sites and periods. We have cranial material from Nagada, Beit Allam, Kawamil, and Gebel Silsileh. These materials have been traced to de Morgan's excavations in the late nineteenth century and published in his work *Recherches sur les Origines de l'Egypte Ethnographie Prehistorique et Tombeau Royal de Negadeh*, vol. 2, pp. 269 ff.[3] Fouquet carried out anthropometry, which was standard for the time, but also made observations on palaeopathology. The training program was successful, with Egyptian museum Curators emerging with a basic understanding of the identification and care of human remains. The duration of the course extended over four weeks in March 2018, four hours per day, five days a week. The students had to master a great deal of information through lectures, with their progress checked by regular tests, and augmented by as much hands-on experience as possible.

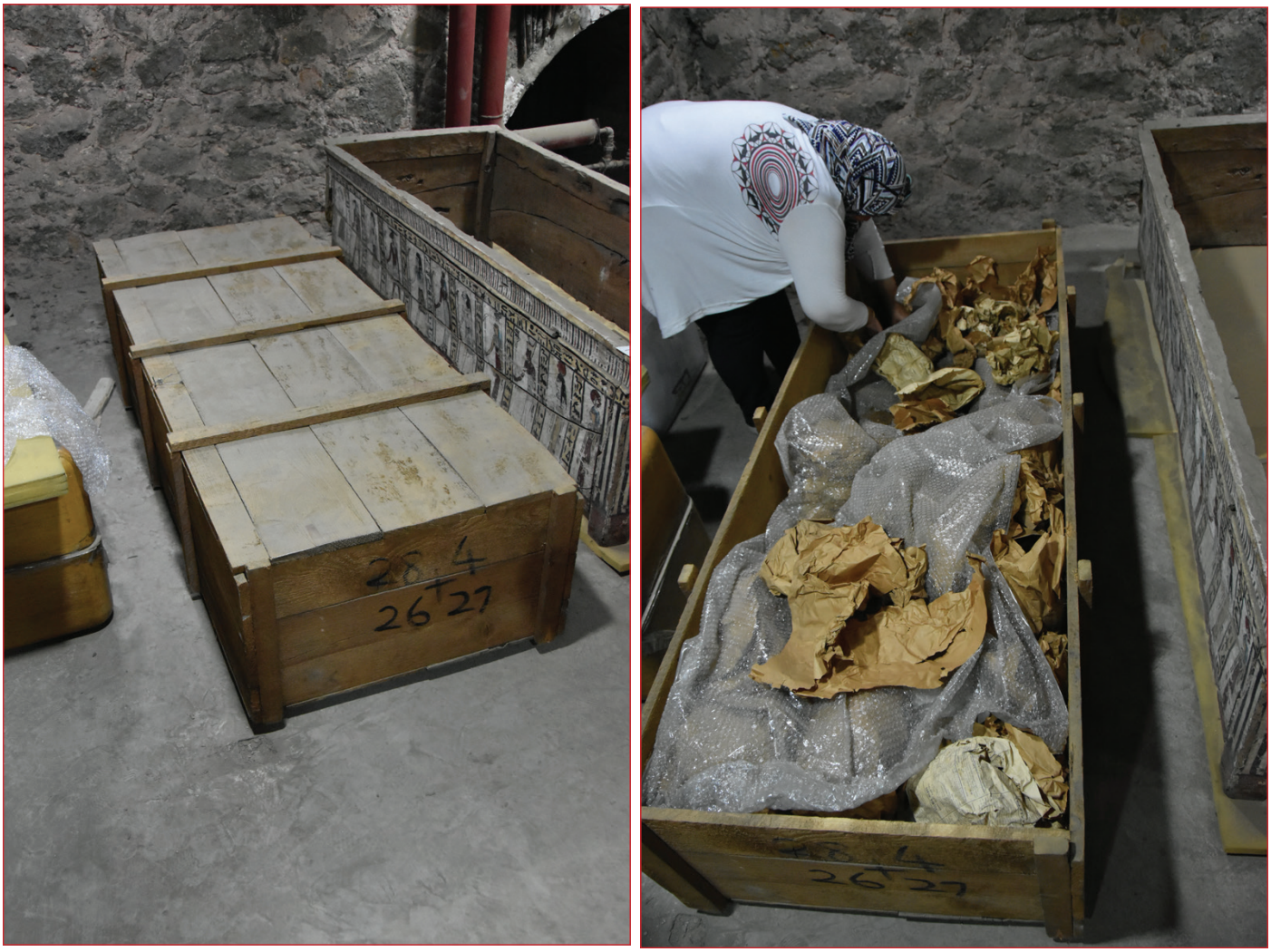

Figure 1. Large wooden box TR 28/4/26/27 de Morgan's excavations in the late nineteenth century, examined by Dr. Fouquet.

[3] De Morgan (1897), Appendix.

In December 2023, the project organized a workshop titled "Bioarchaeological Materials Management" under the supervision of Prof. Ali Abelhaleem Ali, Director of the Egyptian Museum. The workshop brought together 45 trainees from diverse institutions, including museums, inspectorates, and universities. This initiative aimed to partially enhance the skills and knowledge of professionals in the field of bioarchaeology and materials management, not only within the Ministry of Tourism and Antiquities but also in Egyptian universities.

The collections housed in Rooms 3 and 4 comprise a diverse assemblage of both mummified and skeletal remains, accumulated by pioneering Egyptologists and archaeologists since the late 19th century. These remains were subsequently organized systematically by previous curators, categorized by anatomical element, and directly stored on shelves (Fig.2).

Skulls, pelvises, and mandibles were grouped separately, while some bones were labeled with individual or cemetery numbers to facilitate the reconstruction of complete skeletons. A few complete skeletons were identified and segregated. While some collections were well-preserved and stored in wooden boxes, others were housed in deteriorating containers filled with various materials, including sawdust, straw, sugarcane, and cotton. Notably, some skeletal materials were wrapped in antique newspapers, while others were wrapped in plain brown paper (Fig. 3). Despite these challenges, the majority of the remains were successfully salvaged, totaling approximately 9,000 skeletal and mummified remains from both rooms. As the ongoing survey progresses, it is anticipated that several thousand additional remains will be incorporated into this initial assemblage.

Figure2. Pre-curation of Skulls and Hips at room 3 (a) Hip bones placed on the central south shelves (b) Skulls placed on the south 2 shelves. (Photos by A. Gabr).

Figure3. Historical Context of the Collections (a) Skeletal remains from Emery's Nubian excavations (1929-1931), wrapped in plain brown paper and newspapers. (b) Skeletal materials from Petrie's Deshasha excavations (1897).

Project stages

In 2020, following the training of curators in bioarchaeology, a promising collaborative initiative was established between the Egyptian Museum and Beni Suef University funded by the Institute for bioarchaeology. This project specifically targeted the materials housed within rooms 3 and 4 in the basement of the Egyptian Museum. Room 3 was designated as the primary workspace for the project. The space was outfitted with two photography stations, a dedicated conservation area, and several desks and chairs, and the existing shelving was repurposed with the addition of extra shelves for sorting and storage purposes. The initial focus of the project was to clean the workspace thoroughly, followed by the meticulous cleaning of the skeletal remains that had been stored on the shelves. **To achieve the project's objectives, a four-stage approach was implemented**:

1- **Surveying and Storing:** A comprehensive survey and storage of bioarchaeological materials in the basement.
2- **Documentation and Analysis:** Detailed documentation and analysis of the collected materials.
3- **Database Development:** Creation of a computerized database to manage and analyze the bioarchaeological materials.
4- **Catalogue Creation:** Preparation of a comprehensive catalogue of the bioarchaeological materials.

Surveying and Storing the Bioarchaeological Materials in the Basement

The initial stage of the project involved a comprehensive survey, which included the cleaning, sorting, and establishing connections between skeletal remains, as well as documenting and re-housing these materials for secure storage.

Cleaning and Documentation

The initial phase of the project involved a thorough cleaning of Room 3. During this process, all skeletal remains exposed on the shelves in Rooms 3 and 4 of the basement were manually cleaned using brushes and puffers. Subsequent to cleaning, an inventory of both the skeletal remains and the newspaper wrappings was conducted (Fig.4). Matches between skeletal elements were established, often based on identifying numbers inscribed directly on the bones. A primary focus of this analysis was to develop a biological profile of the skeletal sample and to conduct a Minimum Number of Individuals (MNI) analysis for all commingled bones located on the shelves, alongside assessments of age and sex. Determination of sex and age was based on cranial and pelvic morphology, adhering to the methods outlined in established standards.[4] The results were categorized into five distinct groups: Undetermined (?), Female (F), Probable Female (F?), Male (M), and Probable Male (M?). Age assessments were similarly classified into five categories: Young Adult (YA), Middle Adult (MA), Old Adult (OA), Adult (A), and Sub-Adult (SA). Subsequent to the cleaning process, the documentation system for each individual bone involved recording specific information on specially designed forms. Documentation included the anatomical element, any associated identification numbers, the age of the individual, provenance, preservation status, biological profile, excavation date (if available), and any other pertinent information, along with the date of recording and the name of the individual conducting the recording. All collected data were subsequently entered into an Excel spreadsheet. Additionally, each bone or individual was documented digitally through photographic means, utilizing a Nikon D-5600 camera equipped with an 18-200 mm lens and a 60 mm lens, ensuring that a scale and label were included in each photograph.

Through this systematic approach, it was possible to derive an MNI based on the preliminary categorization of the various types of bones, following the standards established by White and Folkens (2012).[5] Basic training in photographic documentation continued throughout the duration of the project.

4 Buikstra and Ubelaker, (1994).
5 White and Folkens (2012).

Figure 4. Cleaning process for both newspapers and human remains

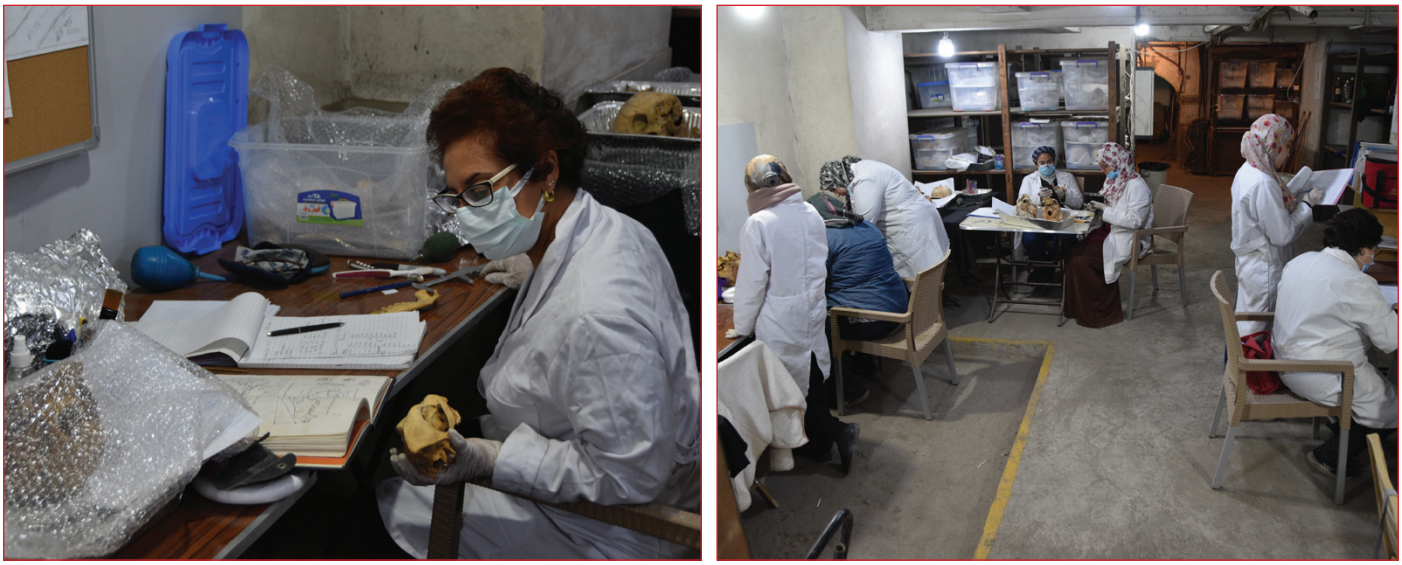

Figure 5. Documentation and analysis at room 3

Conservation and Storage

The conservation of relevant materials identified during the survey was conducted in collaboration with the conservation department of the Egyptian Museum. Special attention was given to the preservation of coffins and excavation packing materials, such as antiquated newspapers, which provided valuable insights into the post-excavation history of the artifacts (see Fig. 6).

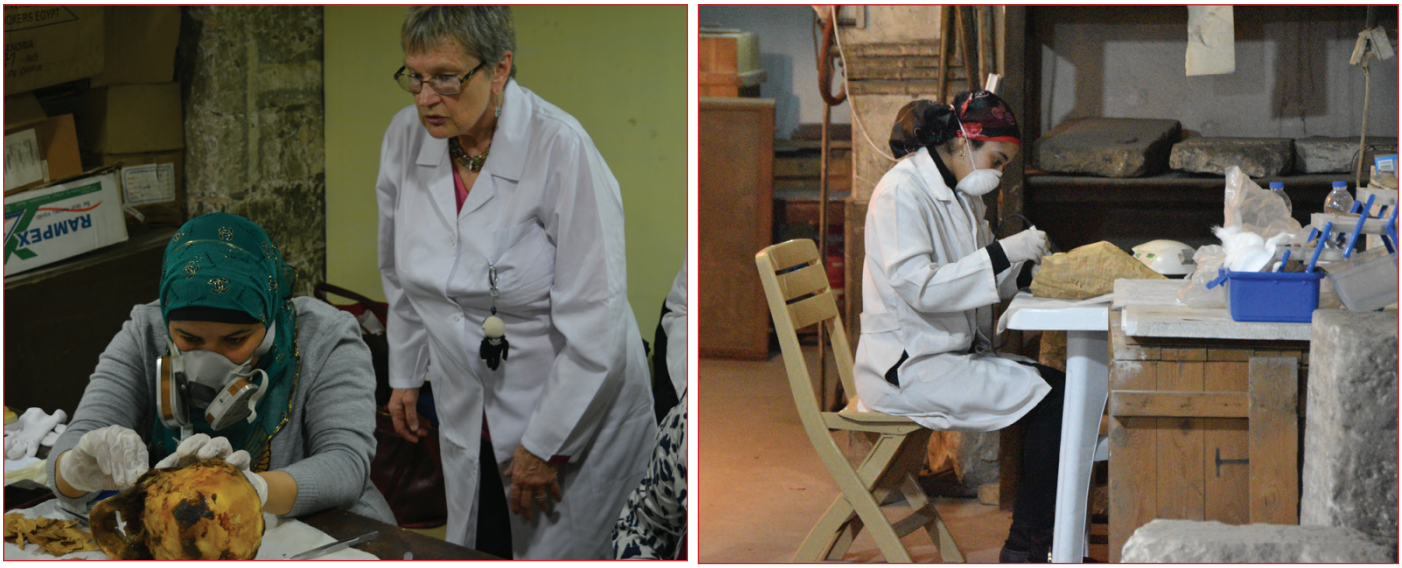

Figure 6. Conservation steps for both human remains and basket coffins

A primary objective of the project was the implementation of effective storage protocols for the skeletal remains. To this end, bones were meticulously wrapped in acid-free tissue paper and bubble wrap before being placed in custom-designed plastic containers. Larger containers, measuring 44x39 cm, were utilized for complete skeletons and skulls, while smaller containers were reserved for isolated skulls and pelvises. Internal dividers were employed to separate individual remains or skeletal elements. Mummified remains were similarly protected, using cardboard covered in acid-free tissue paper. For complete mummies, specialized wooden boxes were constructed to accommodate their specific dimensions. All containers were clearly labeled and organized on numbered shelves, in accordance with the Egyptian Museum's established storage practices (see Fig. 7).

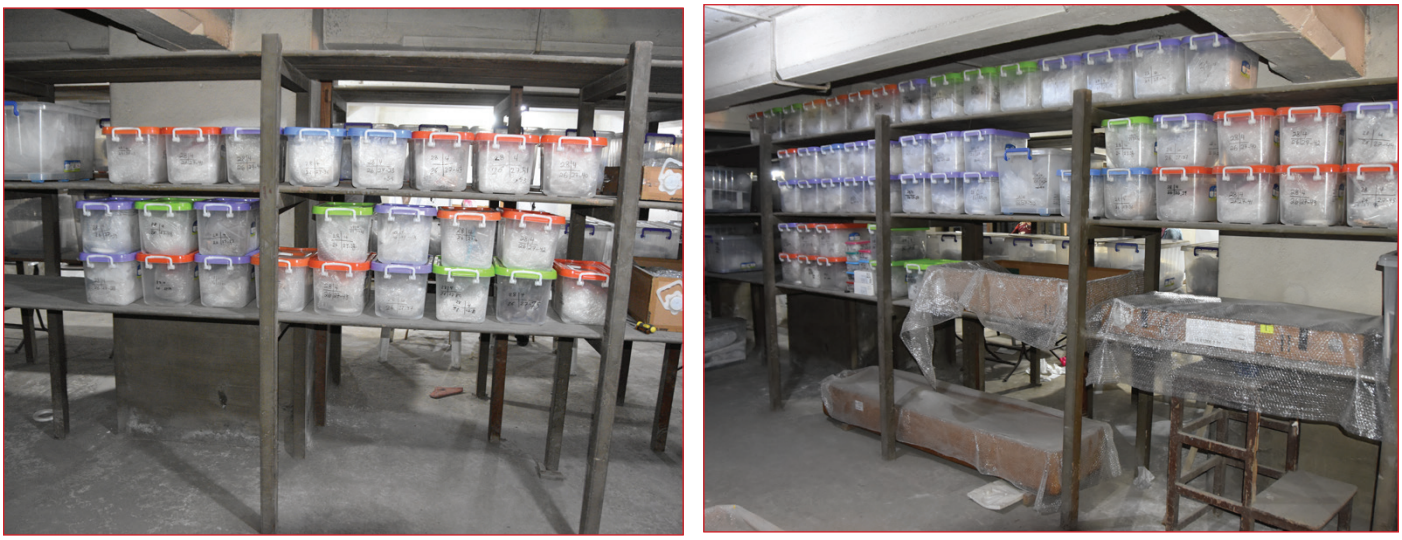

Figure 7. Storage system in room 3 central north shelves.

Moreover, the project emphasizes the importance of maintaining not only the bioarchaeological materials but also the workspace itself. This is achieved with the assistance of the Center for Research and Conservation of Antiquities, directed by Dr. Dalia Melegy and Dr. Nagwa Hassan Atiya El Shafeay, the head of the Pest Control Laboratory. She is responsible for the maintenance of the room to prevent infestations by ***Lasioderma serricorne beetles***, silverfish, and other possible pests (Fig. 8). In the context of mummies and other bioarchaeological remains, ***Lasioderma serricorne*** can be significant due to its ability to feed on organic materials found in the wrappings and contents of mummies. The presence of these beetles can indicate the degradation of organic materials over time, as they contribute to the breakdown of the substances they infest. This can be particularly relevant in archaeological studies, where understanding the conditions and factors affecting the preservation of mummies is crucial.[6]

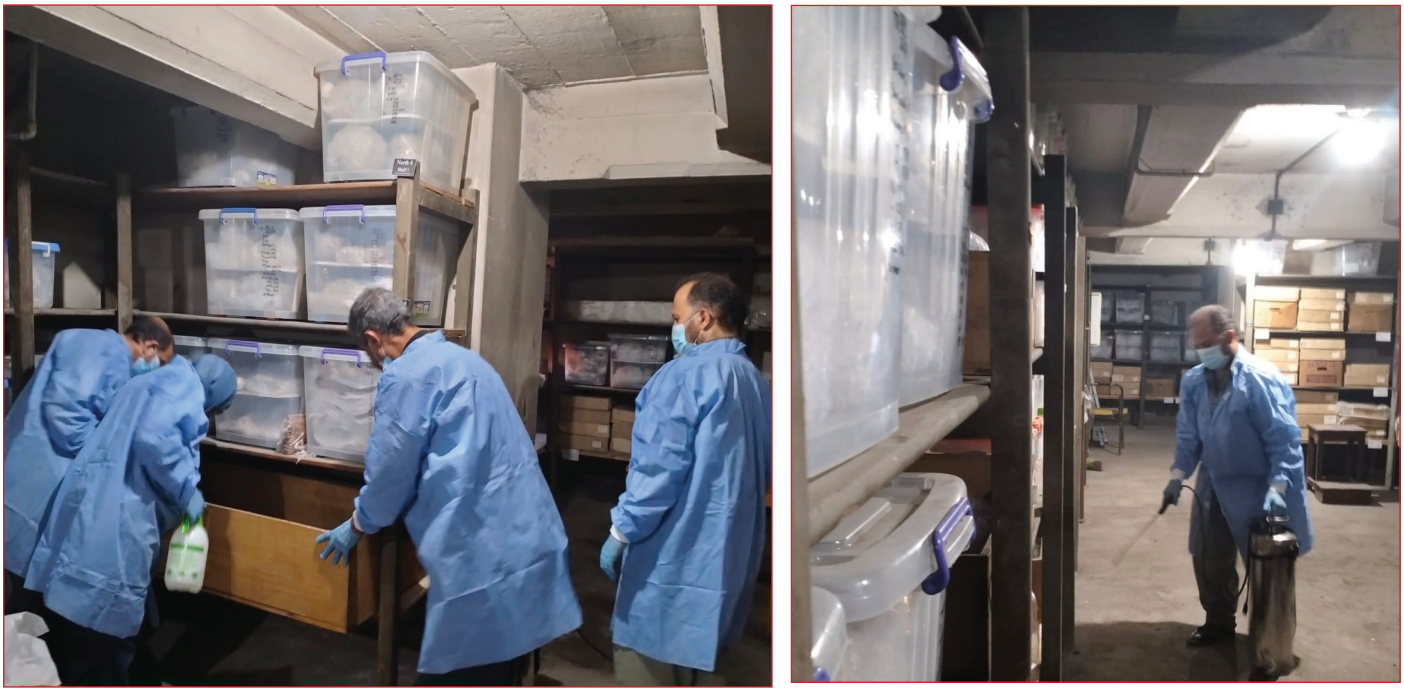

Figure 8. Dr. Nagwa Hassan the head of the Pest Control Laboratory and her team working on room 3

Database Design and Data Entry

For the purposes of the survey, Excel was used as the primary tool for data storage, facilitating easy sorting and management of the collected materials. The database included various fields, such as Room Number ("SS no."),[7] Home Location, Museum Numbers

6 Hagstrum, (2016).

7 SS No. is an abbreviation for Sous-Sol, a French term meaning "basement." It refers to the storage room number.
TR No. stands for Temporary Register, a temporary record or inventory.
JE No. is an abbreviation for Journal d'Entrñe, which translates to "Entry Journal" in English. It is a logbook used to record the entry of items into a specific location or collection.

(TR and JE), Other Numbers, Material, Date, Excavation Number, Site, Anatomical Elements, Portion, Count, Sex, Age, Side, Initials of the Recorder, Entry Date, Current Location, and Additional Comments. The overarching goal of the database is to enable efficient searches for specific bones, areas, sites, or excavators referenced on the storage boxes (see Fig. 9).

Offical Bioarchaeological remains curation Project 2020-2021

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SS no.	Home location	Museum no. TR	Museum no. JE	Other no.	Material	Date	Excav. no	Site	Anatomical Elements
4	South Shelf 3				Human Remains	-	-	-	Occipital
3	East Shelf 3		JE 33738 A		Animal Remains	Predynastic	-	Abadiya and Hu	
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	Humerus
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	Clavical
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	Scapula
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	Scapula
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	Manubrium
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	1st rib
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	1st rib
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	ribs
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	ribs
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	Sacrum
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	Hip
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	Hip
3	East Shelf 3		JE 33738 A		Human Remains	Predynastic	B148	Abadiya and Hu	Cervical

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Anatomical Elements	Portion	Count	Sex	Age	Side	Initial	Entry Date	Current Location	Comment
Occipital			?	Ad	-	RW	23-Feb-2020		
						SI	1-Mar-2021	Central South 2 Shelf 2	
Humerus	C	1	F	YA	L	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Clavical	C	1	F	YA	L	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Scapula	Inc	1	F	YA	L	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Scapula	Inc	1	F	YA	R	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Manubrium	C	1	F	YA	-	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
1st rib	C	1	F	YA	L	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
1st rib	C	1	F	YA	R	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
ribs	Inc	6	F	YA	L	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
ribs	Inc	8	F	YA	R	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Sacrum	Inc	1	F	YA	-	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Hip	C	1	F	YA	L	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Hip	C	1	F	YA	R	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Cervical	C	3	F	YA	-	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Thoracic	C	12	F	YA	-	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Lumbar	C	5	F	YA	-	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Femur	Inc	2	F	YA	L	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Femur	Inc	3	F	YA	R	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Tibia	C	1	F	YA	L	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	
Tibia	C	1	F	YA	R	ZH, NH	24-Feb-2021	Central South 2 Shelf 2	

Figure 9. Basic database designed using an Excel spreadsheet.

Narratives from the Bioarchaeological Materials

The bioarchaeological materials housed within the storage facility originate from excavations conducted during the 19th and early 20th centuries, notably, those led by prominent figures[8] such as De Morgan (1897) and Petrie (1885, 1890, 1894; Petrie & Quibell, 1896; 1900; 1901; Petrie et al., 1902-1904; 1907; Petrie et al., 1913; Petrie et al., 1923; Brunton, 1923: 1; Reisner, 1932; Kaiser, 2018: 32). The collection includes various skeletal elements such as skulls, long bones, pelvic bones, sacra, vertebrae, and remains of hands and feet, in addition to both human and Human and animal mummified remains. The preservation state of these remains is generally commendable, although some lack excavation labels or identification numbers. Some of the storage boxes contained temporary register books, identifiable by "TR" numbers or Journal d'Entrйe "JE" numbers. The project extends beyond merely surveying the total number of bioarchaeological remains and creating an accessible database for researchers. It also aimed to enhance the storage conditions of these remains, additionally the aim of this work was to implement the effective storage and protocols for the skeletal remains

Furthermore, the project seeks to deepen our understanding of the historical methods employed by Egyptologists and anatomists in their treatment of human remains, thereby contributing to the broader narrative of bioarchaeology in Egypt. Notably, the oldest skeletal materials discovered in the basement were cataloged under Box TR 27/3/15/1These materials were examined by anatomist Daniel Marie Fouquet, who collaborated with Maspero, Eugиne Grebaut, and De Morgan. Fouquet is recognized as the first medically trained individual to study eleven royal mummies from Deir el-Bahari.[9] In 1894, he further examined newly unearthed materials from De Morgan's excavations at Dahshur TR 27/3/15/1B,[10] which included the remains of royal women associated with Middle Kingdom kings. Additionally, materials from the aforementioned box included human remains originating from De Morgan's (1896) work at Al-Amrah, near Abydos (see Fig.10).[11]

8 De Morgan (1897); Petrie (1885, 1890, 1894; Petrie & Quibell, (1896; 1900; 1901); Petrie et al., (1902-1904); (1907); Petrie et al., (1913); Petrie et al., (1923); Brunton, G. (1927-1930); Reisner, (1932); Kaiser, (2018), 32.
9 Baker & Judd, (2012); Ikram, (2020); Dawson & Uphill, (1972):107.
10 De Morgan, (1895).
11 De Morgan's (1896).

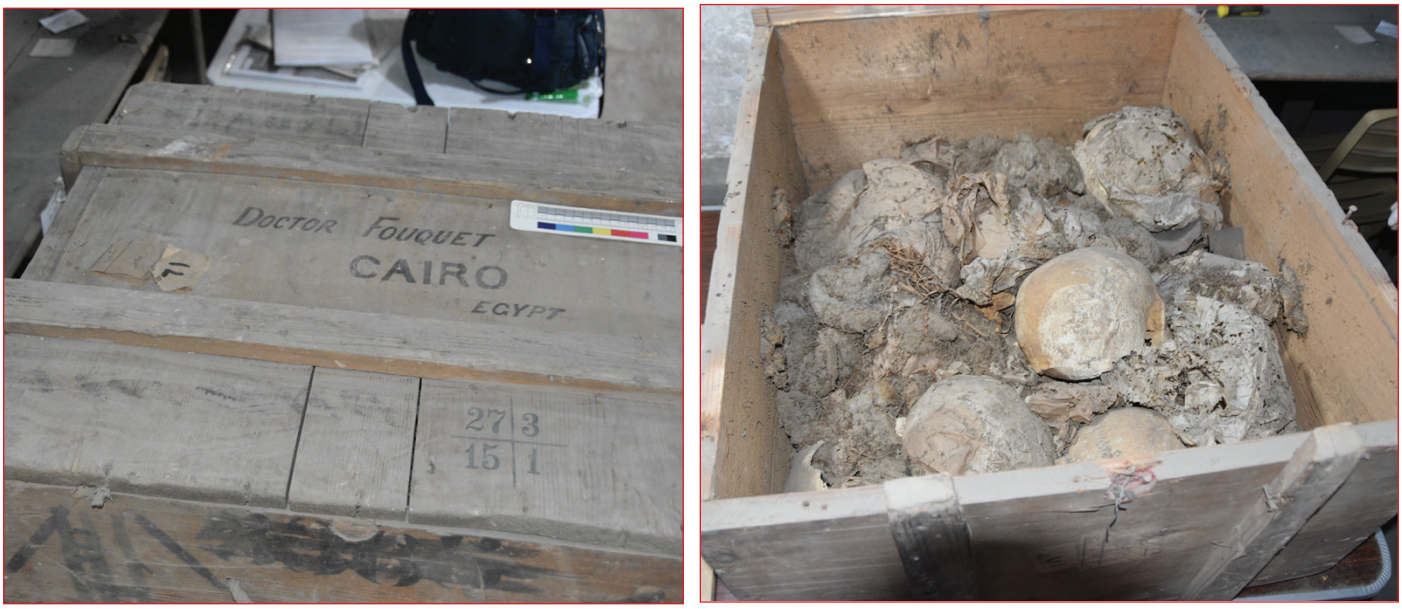

Figure 10. Box TR 27/3/15/1A. The materials were examined by Dr. Daniel Marie Fouquet during the Maspero Excavation at Thebes.

Two additional boxes with TR numbers Box TR 9/11/14/2, 27/3/15/1A contained materials from various archaeological sites, including Nagada North and South, Lisht, Kawamel, Beit Allam, Abydos, Gebel el-Silsileh, and Al-Amrah. Both boxes comprise a combination of skeletal and mummified remains[12] Another inventoried box, with JE numbers and TR numbers contained human remains originating from Petrie's excavations conducted between 1898 and 1899 at the sites of Hu and Abadiya JE 33738 A and TR 9/11/14/2. Petrie excavated several cemeteries located between Abadiya and Hu, which were collectively published in the volume titled Diospolis Parva(see Fig. 11).[13]

12 Fouquet, (1886).
13 Petrie, (1899); Petrie, (1901).

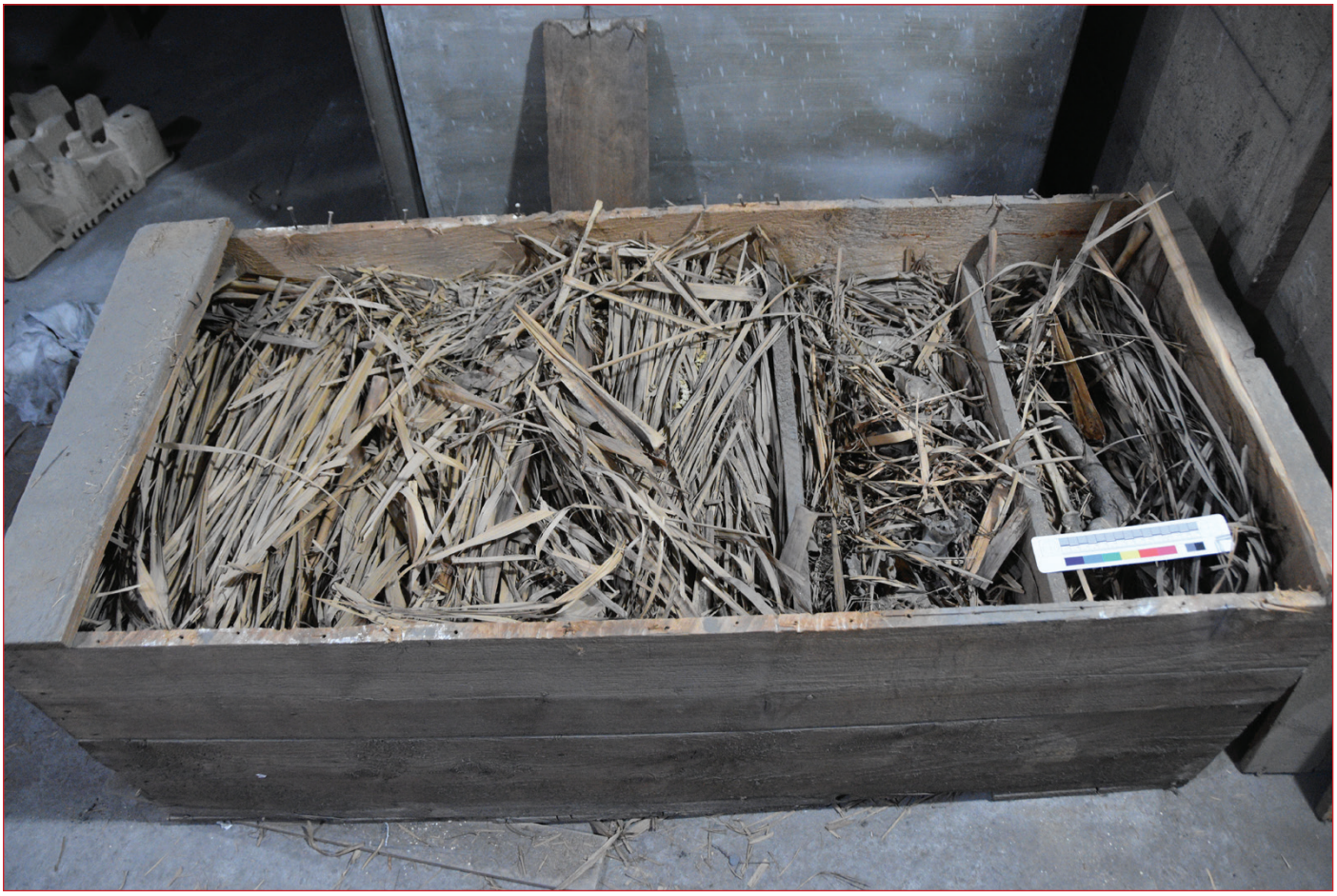

Figure 11. Box TR 9/11/14/2, which contained human remains recovered from Petrie's excavations (1898-1899) at the sites of Hu and Abadiya.

A number of wooden boxes were associated with the Archaeological Survey of Nubia, which was conducted between 1907 and 1911 AD, the boxes contained exclusively skulls derived from Reisner's Nubian excavations and later by Emery and Kirwen between1929-1931,[14] and. The materials from the Nubian cemeteries stored in Rooms 3 and 4 were numbered 166,168, 169, 170, 172, 173, 174, 175, 176, 177, and 193 studied partially by El-Merghani(2015).[15] Additionally, two Boxes from "Shellal" contained one individual, who may have been tattooed,[16] and the other contained animal bones (see Fig. 12).

14 Emery and Kirwan, (1935).
15 El-Marghani (2015).
16 Reisner, (1907-1908).

Figure 12. Box 315 Reisner excavation between 1907-1911.

Two wooden boxes, associated with the Edfu Excavation of 1939 and bearing the inventory numbers TR 25/1/55/1A and TR 25/1/55/1B, contained a total of 56 skulls. These skulls were examined by Stanislas Zejmo-Zejmis at Warsaw University in 1951 (Fig. 13). Additionally, two smaller boxes, containing four skulls from Sami Gabra's 1930 excavations at Dier Tassa and Badari (TR 8.11.30.6 and TR 6.11.30.2), and another box from Junker's 1925-1929 excavations (JE 49697), containing the mummified remains of Setka, studied by Derry in March 1931, were also identified.[17]

Additionally, collection comprises 29 large wooden boxes containing mummified remains attributed to priests and Priestesses of Amun, though the origins of some boxes remain uncertain. Among these, 14 boxes lack specific descriptions, raising questions about them. Ten boxes are confirmed to contain complete mummies, which include both mummified and skeletal remains from Thebes, dating to the 3rd Intermediate Period.[18] Furthermore, 5 large wooden boxes from the same period have been documented and are mixed with skeletal remains associated with De Morgan from Upper Egypt. This assemblage highlights the complexity of ancient Egyptian burial practices and the potential for further research into the historical context of these remains.

17 Derry, (1942), 240-265.
18 Daressy, (1900), 146; Sousa (2018b), 21-22.

Figure 13. Edfou Excavation of 1939: Box TR 25/1/55/1A.

Promising Steps and Future Goals

The primary objective of this project is to advance the examination of bioarchaeological materials in forthcoming seasons, enhance our recording system, and incorporate thousands of additional records into the database. Furthermore, we aim to establish a more appropriate and sustainable storage system for these rare and valuable materials. The preservation of archaeological human remains necessitates the maintenance of optimal storage conditions. Temperature and humidity are critical environmental factors that must be carefully controlled. Ideal storage conditions involve a stable temperature range of 18-22°C and a relative humidity of 40-55%. Fluctuations in temperature can induce stress on the materials, resulting in damage, while high humidity promotes mold growth and low humidity leads to desiccation. To ensure these conditions, continuous monitoring of temperature and humidity levels is essential, along with the implementation of effective climate control systems.[19] Adequate ventilation and airtight storage containers further contribute to the preservation of these invaluable artifacts. By adhering to these principles.

19 Clavir (1996); McGowan and LaRoche (1996); Berger, (2013), 33.

This summer, we plan to host a workshop at Beni-Suef University that will focus on early attempts related to bioarchaeological heritage. A significant development for the project includes the planned expansion within the basement of the Egyptian Museum. Specifically, the initiative seeks to develop and equip two additional rooms (4 and 5), thereby transforming the designated area for bioarchaeological remains into three interconnected spaces. The current museum director, Dr. Ali Abelhaleim, along with the head of the basement department, Ms. Asmaa Ahmed, has expressed support for the project's expansion. Rooms 4 and 5 have been allocated for this purpose, marking the establishment of a dedicated center for biological remains within the basement of the Egyptian Museum for the first time since its founding in 1902. Development and preparation efforts are currently underway to facilitate the consolidation of all scattered biological remains within the basement into this newly established center. Additionally, the project aims to implement ongoing annual maintenance of the basement to mitigate insect infestations.

Conclusion

The collaborative project established between the Egyptian Museum at El Tahrir and Beni Suef University, under supervision of the former director of the Egyptian Museum Dr. Sabah Abdel Raziq, and funded by the Institute for Bioarchaeology at London, has made a promising start. It has successfully trained curators, and the team has inventoried, cleaned, conserved, and photographed a significant number of bioarchaeological materials housed in the Egyptian Museum's storage areas. Materials from the excavations and analyses conducted by notable figures such as Victor Loret, Walter Bryan Emery, Jacques de Morgan, Gaston Maspero, William Matthew Flinders Petrie, George Andrew Reisner, Douglas Derry, Grafton Elliot Smith, Frederic Wood Jones, Marc Armand Ruffer, and Fouquet have been uncovered during the initial sessions of the program, and these items have been cleaned, recorded, and re-housed. The collections encompass materials from numerous sites, including Abydos, Kawamel, Deshashah, Dahshur, Abadya, Hu, Nagada North and South, Beit Allam, El Amrah, Gebel Silsila, Lisht, and various regions of Nubia. Deir Tassa, Al Badari. The significance of these collections is readily apparent, given their potential to enhance our understanding of ancient Egyptian cemeteries excavated between the 1800s and 1900s, as well as the contributions of bioarchaeological pioneers. More importantly, they provide researchers across multiple disciplines with a new perspective on mortuary archaeology. A designated workspace for the handling and storage of bioarchaeological remains has been established, resulting in the creation of over 9,000 new records, with an equivalent number of bones cleaned, examined, and restored. However, substantial sorting and recording work remains. The

next step involves continuing the examination of materials from SS 30, specifically T.R. No. 28/4/26/28, where we have completed the analysis of 35 out of 70 skulls still present in the box. Numerous similar boxes are located in the basement, prompting us to seek renewal of project permissions for an additional year.

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Bibliography

Baker, B. J., & Judd, M. A. (2012). Development of paleopathology in the Nile Valley. In J. E. Buikstra & C. A. Roberts (Eds.), The global history of paleopathology: Pioneers and prospects (pp. 209-234). Oxford: Oxford University Press.

Bass, W. M. (1987). Human osteology: A laboratory and field manual. Columbia, MO: Missouri Archaeological Society.Buikstra, J. E., & Ubelaker, D. H. (1994). Standards for data collection from human skeletal remains. Fayetteville, AR: Arkansas Archaeological Survey Research Series.

Berger, S. (2013). Treating Bones: The Intersection of Archaeology and Conservation (Doctoral dissertation).

Brunton, G. (1927-1930). Qau and Badari I-III. London, Bernard Quaritch.

Clavir, Miriam (1996). Reflections on Changes in Museums and the Conservation of Collections from Indigenous Peoples. Journal of the American Institute for Conservation 35(2): 99-107.

Dawson, W. R., & Uphill, E. P. (1972). Who was who in Egyptology. London: Egypt Exploration Society.

De Morgan, J. (1895). Fouilles a Dahchour, Mars-Juin 1894. Vienne.

De Morgan, J. (1896). Recherches sur les origines de l'Égypte. Paris: Ernest Leroux.De

De Morgan, J. (1897). Recherches sur les origines de l'Égypte. Paris: Ernest Leroux.

Derry, D. E. (1909). Anatomical report B. Bulletin of the Archaeological Survey of Nubia, 3, 29–52.

Derry, D.E. (1942). «Mummification. II-Methods Practiced at Different Periods». Annales du Service des Antiquitйs de l'Йgypte (ASAE) 41, 1942,240-265.

El Marghani, S. (2015), comparative study of adult Nubian Carnia from C-Group and contemporaneous to them, Ph.D. theses, Cairo University.

Emery, W. B. (1965). Egypt in Nubia. London: Hutchinson.

Emery, W. B., & Kirwan, L. P. (1935). The excavations and survey between Wadi Es-Sebua and Adindan, 1929-1931, by Walter B. Emery and L. P. Kirwan. Government Press.

Fouquet, D. M. (1886). Observations relevйes sur quelques mommies royales d'Йgypte. Bulletin de la Sociйtй d'Anthropologie de Paris, 3, 578–586.

Fouquet, D. M. (1896). Appendice: Note sur les squelettes d'El-'Amrah. In J. De Morgan (Ed.), Recherches sur les origines de l'Égypte: L'Bge de la pierre et les métaux (pp. 241–270). Paris: Ernest Leroux.

Fouquet, D. M. (1897). Recherches sur les crвnes de l'йpoque de la pierre taillйe en Йgypte. In J. De Morgan (Ed.), Recherches sur les origines de l'Égypte (pp. 269–380). Paris: Ernest Leroux.

Firth, C. (1912). The Archaeological Survey of Nubia: Report for 1908–1909. Cairo: Government Press.

Firth, C. (1915). The Archaeological Survey of Nubia: Report for 1909–1910. Cairo: Government Press.

Firth, C. (1927). The Archaeological Survey of Nubia: Report for 1910–1911. Cairo: Government Press.

Gabra, S. (1930). Fouilles du Service des Antiquitйs a Deir Tassa. Annales du Service des Antiquitйs de l'Égypte, 30, 147-158.

Hagstrum, D. (2016). Fundamentals of stored-product entomology. Elsevier.Ikram, S. (1995). Choice cuts: Meat production in ancient Egypt. Leuven: Peeters.

Ikram, S. (2020). Physical anthropology and mummies. In I. Shaw & E. Bloxham (Eds.), Oxford handbook of Egyptology (pp. 409-426). Oxford: Oxford University Press.

Kaiser, J. E. (2018). Raising the Dead: The Bioarchaeology of the Saite and Roman Period Wall of the Crow Cemetery in Giza. University of California, Berkeley.

McGowan, Gary S. And Cheryl J. LaRoche (1996). The Ethical Dilemma Facing Conservation: Care and Treatment of Human Skeletal Remains and Mortuary Objects. Journal of the American Institute for Conservation 35(2): 109-121.

Petrie, W. M. F. (1885). "The discovery of Naukratis." Journal of Hellenic Studies 6: 202-206.

Petrie, W. M. F. (1890). Kahun, Gurob and Hawara. London, Kegan Paul

Petrie, W. M. F. (1894). Tell el Amarna. London, Methuen & Co

Petrie, W. M. F. and J. E. Quibell (1896). Naqada and Ballas. London, Bernard Quaritch.

Petrie, W. M. F. (1900-1901). The royal tombs of the First Dynasty. London, Egypt Exploration Fund, Kegan Paul, Trench, Trьbner & Co.

Petrie, W. M. F., E. R. Ayrton, C. T. Currelly and A. E. Weigall (1902-1904). Abydos. London, Egypt Exploration Fund; Kegan Paul, Trench, Trьbner & Co.

Petrie, W. M. F. (1907). Gizeh and Rifeh. London.

Petrie, W. M. F., B. A. Wainwright and A. H. Gardiner (1913). Tarkhan I and Memphis V. London, British Scool of Archaeology in Egypt

Petrie, W. M. F., G. Brunton and M. A. Murray (1923). Lahun II. London, British School of Archaeology in Egyp

Petrie, W. M. F. (1898). Deshasheh 1897. London: Egyptian Exploration Fund.

Petrie, W. M. F. (1899). Excavations at Abвdiyeh and Hы. Archaeological Report (Egypt Exploration Fund), 1898-1899, 1-3.

Petrie, W. M. F. (1901). Diospolis parva: The cemeteries of Abadiyeh and Hu 1898-99. London: Egyptian Exploration Fund.

Reisner, G. A. (1910). The Archaeological Survey of Nubia: Report for 1907–1908. Cairo: National Printing Department.

Reisner, G. A. (1923). Excavations at Kerma: Parts I-III. Cambridge, MA: Harvard African Studies.

Reisner, G. (1932). A Provincial Cemetery of the Pyramid Age. Berkeley, University of California Press.

Sousa, R. (Ed.). (2018). The Tomb of the Priests of Amun: Burial Assemblages in the Egyptian Museum of Florence Gate of the Priests Series Volume 1 (Vol. 97). Brill.

White, T. D., Black, M. T., & Folkens, P. A. (2012). Human osteology (3rd ed.). Burlington, MA: Elsevier, Academic Press.

Zejmo-Zejmis, S. (1950). Йtude craniologique. Crвnes provenant de Tell Edfou. In K. Michalowski, D. Desroches, de Linage, Manteuffel, & S. Zejmo-Zejmis (Eds.), Fouilles Franco-Polonaises: Rapports III Tell Edfou 1939 (pp. 372-392). Le Caire: L'Institut Franзais d'Archйologie Orientale.

The ICOM Code of Ethics for Museums (2017), 2.5, 3.7; 4.3.
https://icom.museum/wp-content/uploads/