

**Anubis-Mountain Secrets**  
DEATH, TOMBS & DISCOVERIES

**Book of the Dead Rescue**  
REPAIRING PAST REPAIRS

**Historic Synagogues**  
CAIRO'S JEWISH HERITAGE

# SCRIBE

THE MAGAZINE OF THE AMERICAN RESEARCH CENTER IN EGYPT



## SAVING THE MONEY

RESTORING COINS AND TEACHING CONSERVATION  
AT THE EGYPTIAN MUSEUM

SPRING 2019 | ISSUE 3





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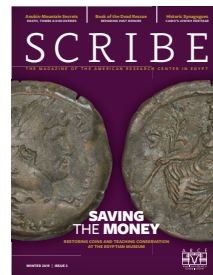
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This Roman-era coin showing Hadrian (L) and the river god Nilus (R) was struck in 131-132 CE in Alexandria. The coin was restored in a project described in our cover story, *Page 8*.

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Updates on excavation, conservation and research projects developing across Egypt



**Dr. Louise Bertini**  
Director for Egypt,  
Interim Executive Director

## Early New Kingdom Discoveries at Tell Edfu

Since spring 2018, a number of projects have kicked off and new discoveries have been made by our research supporting members. One research supporting member project I am excited to share is the Oriental Institute of the University of Chicago’s fieldwork in Tell Edfu under the direction of Drs. Nadine Moeller and Gregory Marouard.

In November 2018, the Tell Edfu project unearthed remains of an extensive domestic quarter belonging to the settlement, which they dated to the beginning of the 18th dynasty. A considerable urban villa of over 4,000 square feet was identified and dated to the early Thutmoseid period (ca. 1500-1450 BCE). The residence contains a number of well-preserved rooms, distinguished by a large

column-lined hall with a private domestic sanctuary located in one of its corners. Within this sanctuary, Moeller and Marouard’s team has discovered a number of archaeological remains attesting to the purpose of the space, including a fireplace, an offering table and, most excitingly, an incredibly rare ancestor bust and a statue of a seated scribe figure.

This sanctuary evidently was used by the mansion’s inhabitants for cult worship and activity dedicated to the ancestors of the family. The ancestor bust is cut from limestone and depicts a female donning a long tripartite wig and a broad wesekh necklace, and the style of the bust dates it to the early 18th dynasty. The seated scribe figure is carved from black diorite and features a male with a shoulder length wig holding a papyrus

Early 18th Dynasty villa discovered at Tell Edfu

PHOTO: G. MAROARD/  
© 2018 TELL EDFU PROJECT





Stela depicts standing man and woman

PHOTO: H. MCDONALD/  
(C) 2018 TELL EDFU PROJECT

roll in his left hand. A limestone stela was also found showing a man and woman side-by-side in raised relief, but

the condition of the stela makes it difficult to read the accompanying inscriptions bearing their names.

This discovery is one of the earliest examples of a domestic cult shrine dedicated to ancestor worship from the New Kingdom period and is the first such artifact of its kind to be found in decades. Considering the earlier discoveries by Moeller and Marouard in Tell Edfu, including the use of the settlement as a base for prospectors and copper smelting as early as the fifth dynasty, this project is an outstanding achievement by the Oriental Institute. Projects like this remind us of the integral role ARCE's partner institutions and research supporting members play in the organization's mission to advance research and promote conservation of Egypt's invaluable archaeology and rich cultural heritage.

There are a number of projects I would like to highlight among ARCE's Antiquities Endowment Fund (AEF) grant recipients. One of our newest AEF projects,

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Statue of seated scribe with long wig

PHOTO: H. MCDONALD / © 2018 TELL EDFU PROJECT

led by Kei Yamamoto at the University of Arizona, is the conservation of a wooden coffin belonging to a man named Nakht. Originally hailing from Asyut during the First Intermediate and Middle Kingdom periods, it is one of seven known provincial-style coffins currently housed in North America. Yamamoto’s project will repair the coffin’s warped wood and conserve and consolidate the fragile external painted layers of decoration and hieroglyphic writing. The coffin will be put on display at the University of Arizona following the project completion, and we will be watching eagerly as the process continues to unfold in the coming months.

Another new AEF project is led by Marcus Müller, whose team from the University of Tübingen has been excavating a large Ptolemaic-period temple in Arthribis, near the city of Sohag. The temple was dedicated to the lion-headed goddess, Repit, and was built during the reign of Ptolemy XII. In the fourth century CE, the temple was turned into a Coptic nunnery and underwent a number of changes that added a church and workshops. Müller’s team has been excavating, documenting and conserving the temple remains since 2003 and, with the support of the AEF grant, will complete a comprehensive conservation of the temple’s extensively decorated walls and floors. Upon completion of this project, the temple will be able to safely welcome visitors – a day that we are looking forward to with great anticipation!

During the last few months, ARCE hosted several conferences and major events. Over three days in December 2018, our Cairo Center hosted ‘The Egyptian Soundscapes: Music, Sound and the Built Environment’ conference, drawing together an international cohort of academics, researchers, architects, musicians and music producers to discuss, debate and present the intersection of their respective fields. Michael Frishkopf, director of the Canadian Center for Ethnomusicology, kicked off the event as keynote speaker and was joined by other prestigious international scholars including Elliott Colla, Mark LeVine and Ted Swedenburg. Additional participating scholars and professionals included Rob Switzer, Alaa El-Habashi, and May al-Ibrashy.

On January 10-13, 2019, ARCE co-hosted the third installment of The Joint Conference on the Bioarchaeology of Ancient Egypt & The International





Rare ancestor bust found at Tell Edfu

PHOTO: G. MAROUARD / © 2018 TELL EDFU PROJECT

Symposium on Animals in Ancient Egypt. With nearly 90 speakers from across the world, including preeminent experts such as Salima Ikram, Richard Redding and Louis

Chaix, the conference offered an insight into disease, food, healthcare, animal breeding and mummification practices in ancient Egypt.

I'd like to close with reminding you all that ARCE's Annual Meeting will be taking place in Washington D.C. from April 12-14, where we will bring together the world's leading scholars in the fields of Egyptology, Coptology and archaeology to revel in their shared passion of all things Egyptian heritage. I look forward to seeing you all there! 🌸

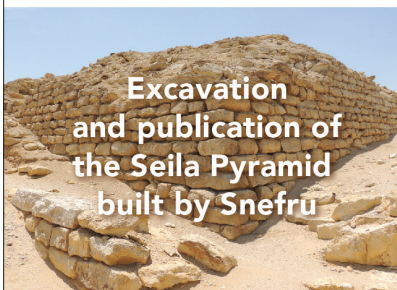
*For more on the Tell Edfu Project:* <https://oi.uchicago.edu/research/projects/tell-edfu-project>



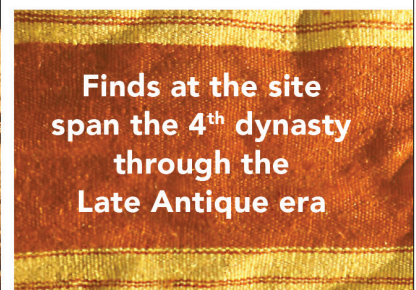
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Awaiting conservation, thousands of coins were stored in seven crates.

# From Basement Crates to Gleaming Glory

The Egyptian Museum Coins Conservation Project

COMPILED BY DAVID EVERETT FROM REPORTS BY THOMAS FAUCHER AND CHARLOTTE REROLLE

Several years ago, the busy director of Cairo's famed Egyptian Museum found time to investigate a stash of ancient coins sitting in the institution's basement. Sabah Abdel Razek eventually learned his museum had seven heavy crates of these coins, many of them corroded and some even melded by age into clumps. Prodded by research, Razek realized the coins were a tantalizing cornucopia numbering in the tens of thousands.

Today, those coins are slowly moving out of the basement. Starting with Razek's fateful realization – and the contributions of French archaeologist Thomas Faucher – the journey of those coins from various excavations around Egypt has taken a new path toward restoration and study. In fact, the crates appear to be the world's single largest trove of old Egyptian coins,

representing a formidable lode of information that likely will reveal unpublished discoveries.

But this alluring stockpile presents even more opportunity. The coins have become the heart of an ARCE-funded effort to train Egyptians in the delicate, fascinating chemical science of coin conservation. Those basement crates, some of which apparently rested in the dust for more than a century, will inaugurate a new generation of domestic experts to help study, restore and document thousands of coins already found across Egypt – plus the archeological treasures of copper, silver and gold money yet to be discovered.

The Egyptian Museum Coins Conservation Project was organized by Faucher, an expert on the production and use of money in Egypt, and by conservator Charlotte Rerolle, who served as co-director of the field school. The Cairo project was the second field school funded by ARCE's Antiquities Endowment Fund and dedicated to the restoration of coins discovered in Egypt. The first school, led by Faucher in 2016 at Karnak, raised awareness of the need to train Egyptian personnel in coin restoration. For the latest school, Faucher, who is currently with the National Center for Scientific Research in the Institute of Study of the Archeomaterials at Orleans, turned to Egyptian Museum director Razek and head of the restoration laboratory Moamen Othman to train specialists by restoring some of the wondrous repository of coins from the museum's basement.

The diverse coin collection presented many challenges. An initial review of samples from the seven crates indicated they held an estimated 249,000 coins from six ancient eras. Most (about 146,000) are from the late Roman period, but the second largest batch were Ptolemaic bronze coins, with others from Roman, Byzantine and Islamic times.

These figures are huge. The museum's holdings easily surpass the largest collections of Egyptian coins held in the United States and Europe: almost 17,000 in the American Numismatic Society in New York, and about the same in the Bibliothèque Nationale of France. Even the larger coin collections of the Graeco-Roman Museum of Alexandria don't come close. Such comparisons make it easier to understand the importance of restoring and studying the Egyptian Museum coins.

Beginning in the fourth century BCE until the end of antiquity, various rulers of Egypt minted hundreds

of millions of coins. While most were lost or melted down, archaeological excavations throughout the country since the second half of the 19th century have unearthed enormous quantities of coins. Because of the poor condition of most excavated coins, many hoards are sitting in storerooms or museums without study. In Egyptology, resources also focused on monuments and temples, meaning that conservator targeted architecture, stone, art or language, rather than developing expertise in coins, coin restoration or the secrets they might reveal about the economy and social history of ancient Egypt.

To Faucher, these thousands of unrestored coins represent untold opportunity. His goal since starting studies in Egypt in 2000 has been to establish some kind of school of numismatics, which would fill the

Conservation students use tools and scopes for the meticulous work to remove corrosion.





coin conservation gap and offer a new career path for Egyptians interested in studying and preserving the nation's history. To study, write about and learn from coins, you need clean, restored specimens.

"The conservation of coins is an essential step of the work, since without it, the study of coins is simply impossible," Faucher said. The field schools and expertise they offer "will allow a generation of students, curators and researchers...to have access to new data and therefore better understand the economy of ancient Egypt."

### Crates of Mystery

When Rizek and his staff took stock of the corroded coins in the basement crates, they found no inventory numbers or information regarding their origins.

Coins corroded into clumps were among the most challenging to separate and restore.

Faucher scoured different inventories of the museum, leading to the conclusion that the cases of coins were probably filled at the end of the 19th and first decades of the 20th centuries from numerous archaeological operations throughout Egypt.

At that time, excavated coins arrived at the Egyptian Museum after first being sent to the Graeco-Roman Museum of Alexandria, where a department of coins and medals had been established as early as 1895. There, curators would choose the ones they wanted to keep and send the rest to the Egyptian Museum. Most wound up in those basement crates, one of which actually was labeled "scrap bronze."

The Cairo field school preparation began by transferring the heavy contents of the wooden cases into smaller plastic boxes that held between 10 and 20 kilograms (22 and 44 pounds) of coins. With the help of Mona El Wakeel and other curators working in the museum basement, more than one ton of coins was moved from the seven crates and readied for conservation.

For the field school training, Faucher and Rerolle were drawn to one batch of coins that carried an enticing hint of documentation. With roughly 3,500 coins, this group bore a single note mentioning "Kom Aushim 1922." This indicated the coins probably came from a Fayoum site before excavations began there in 1924 by a University of Michigan team. Faucher speculates the museum's coins had been found by *sebakhin*, peasants who gathered ancient clay bricks from the Fayoum's Karanis area for fertilizer. Over time, the coins wound up in the control of the predecessor agency to the current Ministry of Antiquities, finally resting in those basement crates.

The Kom Aushim coins were compelling because of the 1924-35 Fayoum excavations by the University of Michigan, which produced the largest Egyptian coin documentation ever published. Faucher also hopes information about the Fayoum coins will relate to more recent work there by UCLA Egyptologist Willeke Wendrich, who is also an ARCE partner. In addition to these research connections, the Fayoum stash offered a range of lessons in conserving coins and recording numismatic data. For instance, the batch included two compacted masses: the first was a 5-kilogram group of a single type of Ptolemaic coins from the second century BCE; the second (217 coins, 3.2

kilograms) was composed of Roman billon – a copper alloy containing less than 25 percent silver – dating to the first and second centuries CE. Another group of more than 800 large Roman drachmas was added to the field school project because they were already undergoing treatment.



Among the money restored at the Egyptian Museum was this Roman coin with a bust of Hadrian on one side and, on the other, the goddess Isis Pharia next to the famous Alexandria Lighthouse. The coin was minted in 133-134 CE.

From November 2017 to April 2018, the coins were registered, processed and repackaged; the restoration field school itself ran for three months in 2018. Several Egyptian restorers, including two who attended the first training at Karnak in 2016, were assigned to enhance the condition of the coins. While the Karnak school taught the basics of restoration, the museum coins required delicate, advanced methods. The new field school also wanted trainees to learn how to establish conservation protocols for specific coin

collections and how to manage and analyze data from the work. The goal was to equip the restorers with the skills needed to work autonomously on the museum's enormous stockpile.

Because some of the Cairo participants were not part of the initial training in Karnak, and because Faucher and Rerolle wanted the students to understand both practice and theory, the 2018 school included a series of lectures and other presentations. The topics were all relevant: the information potential of coins, how to separate them by size and shape, how different alloys corrode



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over time, how to mechanically or chemically clean coins, including mass treatment, and, finally, how to collect and manage data.

## Bathing Coins

A first-floor room at the Egyptian Museum was arranged into different work areas: mechanical cleaning (using scalpel, glass-fiber, micro-motor or ultrasonic pen) with binocular loupes; chemical procedures, including the preparation of chemical solutions; and a table for photography and data registration. With safety a priority, operations were organized into two groups: One engaged in mechanical cleaning to the highest degree possible, known as “exhibition level.” Their precise tools and techniques, both individual and automated, were used on the 800 Roman coins. The other group focused on mass treatment of the coins from Kom Aushim.

Those coins were sorted by era, particularly through size and shape. The team separated the latest Ptolemaic coins of a ternary copper alloy (copper, tin and lead) from the Roman billon coins (copper and silver) and the binary copper alloy coins. The varying compositions of these alloys required the team to establish different procedures for each type, including the lead-laced late Ptolemaic coins that were most of the batch.

Given the immensity of the collection, the team focused on mass chemical treatment, occasionally complemented with mechanical interventions. Otherwise, the amount of time required to individually clean each coin – up to several days – would have made the job impossible. Moreover, unlike hordes of ancient coins discovered in other countries, corrosion deposits are particularly thick in Egypt because of salty soil and sand and because Nile flooding often inundated archaeological sites. Salt and water are not a coin’s friends. The corrosion on the Egyptian Museum coins was often several millimeters thick, almost doubling the volume of an individual coin.

The ancient coins also presented a complex series of chemical challenges for the trainees. Typical coin corrosion is manifested as green surface copper carbonates. Beneath that, corrosion becomes purplish-red copper oxides. Even if a coin’s original surface is intact, it can still be covered in an extremely fine black film. Meanwhile, pockets of copper chloride – the material



The proud graduates and leaders of the Coins Conservation Project include (L-R) Doaa Eid, Shaima Mohamed El-Said, Museum Conservation Department Chief Moamen Othman, Project Director Thomas Faucher, Hala Ahmed, Co-Director Charlotte Rerolle, Raghda Mahmoud, Eid Nagy, and Instructor Fanny Dallancourt.

responsible for active corrosion – are enclosed within the different layers of corrosion.

Given the thickness of the corrosion, the largest clumps on some coins were removed by an ultrasonic pen or by a small diamond bit mounted on a micro-motor. This led to a more uniform result from the chemical action. However, the mechanical intervention was used only occasionally to limit the temptation of this time-consuming process. It took six weeks of testing, including revising the number of chemical baths needed to remove the thick corrosion, before field school trainees decided on the best mass treatments.

Two general types of solutions were tested: one involved traditional but expensive solutions. The other involved more economical products easily found in Egypt. About 100 Ptolemaic coins exhibiting varying states of preservation were selected for these tests. After five baths of one hour, the team found the best cleaning and chemical reaction control from a certain mix of EDTA (a corrosion-dissolving agent) with a first stage in citric acid to remove sediments. Other solutions were less effective or too powerful. Similar tests were set up for 110 Roman billons, which were test-cleaned with preliminary solutions of formic acid and citric acid. After many adjustments, the best result for the billons was determined to be from a rotation between a formic acid bath and the EDTA mix.

After these protocols were established, the trainees turned their attention toward the mass of more

than 200 Roman billons fused together by corrosion. Instead of the previous system of trainees working on different steps, each field school participant worked simultaneously on all stages of work on the mass. This approach promoted cross-training and reinforced the cohesion of the group, Faucher said.

One high point of the field school came on March 25, when Faucher and Naglaa Ezzat of the University of Ain Shams led an international conference at the French Institute in Cairo. The event, “The History of Egyptian Coinage and Beyond: Conservation, Collection Management and Numismatic Studies,” attracted 120 participants for 18 lectures by Egyptian and foreign scholars. More important for the field school, the conference allowed the Egyptian Museum team, including trainers and trainees, to present initial results from its coin restoration project.

By the end of the field school, the team had processed fewer coins than planned, but the knowledge

gained was far more important for domestic Egyptology. The school’s graduates had been trained in the details of corrosion, the numismatic expectations of scientific data and independently creating and managing mass chemical treatment procedures – skills previously uncommon in Egypt.

Today, the five restorers in Cairo are working autonomously to process more of the museum’s coins and to improve efficiency in their processes. With protocols established for Ptolemaic coins and Roman billons, the conservators are turning to the late Roman, Byzantine and Islamic coins. They recently showed Faucher a batch of newly clean coins, and they are getting involved in other metal conservation projects at the museum. Over time, the dusty, coin-filled crates from the Egyptian Museum’s basement will have new homes in display cases or new value through the scholarly secrets of ancient Egypt they will reveal. 🌸



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The Joint Expedition to Malqata is made possible by



The excavation of the pyramid complex of Senwosret III at Dahshur is made possible by The Adelaide Milton de Groot Fund, in memory of the de Groot and Hawley Families, and the Institute for Bioarchaeology.

Left: Preservation of the King’s Palace at Malqata. Right: Reconstructed Senwosretankh mastaba with the pyramid of Senwosret III at Dahshur in the background.

A new entrance and exterior staircase leads from the desert surface to the below-ground door of the building protecting the tomb of Senwosret III.

# THE SECRETS OF ANUBIS —





*A KING'S VIOLENT DEATH, TWO STUNNING TOMBS  
AND THE CYCLE OF DISCOVERY IN SOUTH ABYDOS*

# MOUNTAIN

COMPILED BY DAVID EVERETT FROM REPORTS BY JOSEF WEGNER

**T**HE FEROCIOUS ATTACK came when Pharaoh Woseribre Seneb-Kay probably was astride his horse. The assailants hacked at the king's ankles, legs and back from below, slicing to the bone more than a dozen times. When he was finally down, the blows came from above. The weapon: a battle axe. Three times to the head, and the young ruler of a doomed Upper Egyptian Kingdom was dead. He wasn't even 40 years old.

Caught between two superpowers along the Nile and struggling in a chaotic time, Seneb-Kay's followers worked to provide him a royal tomb. The result wasn't much compared to the glorious burials of richer, more powerful kings. Seneb-Kay's tomb consisted of three narrow underground chambers, one of which contained his mummified body. The burial mask and coffin were bright with golden touches, but the stone blocks of the burial chamber were borrowed from other chapels, their previous inscriptions hidden in the joints or covered in a layer of mortar. The uneven blocks were assembled with thick swaths of mortar to make them fit together. Even the cedar planks for the king's canopic chest were recycled, still bearing the decoration of their original use in a coffin of a 13th-dynasty king.

Given the circumstances of his death, Seneb-Kay's burial 3,600 years ago was expeditious. The only special achievements were the hastily drawn color paintings on the wall of the stone chamber – a decoration not only rare for the time but perhaps unique. The paint just dry, the stabbed and crushed body of the young king was delivered to an eternal afterlife just a few feet under the desert sands, in the cliffside royal cemetery called Anubis-Mountain.

In Egypt, would you think the story ends there? Seneb-Kay's shallow tomb eventually was looted, the walls, coffin and mummy broken apart so robbers could scrape and grab whatever gold was to be found. They dragged the mummy into another of the narrow

chambers and tossed it to the ground, dumping the wooden chest, the shattered coffin mask and other debris over it. With all the riches gone except for the wall paintings, the sands were allowed to cover the mess and fill the open tomb. After scores of centuries, only traces were left on the surface.

And yet, as for any story in Egyptology, the tale continues, thanks in part to ARCE funding of continuing excavations at Anubis-Mountain. Traces of Seneb-Kay's tomb were not uncovered again until the year 2014, during excavations by the University of Pennsylvania Museum and Egypt's Ministry of Antiquities. That team's diggers had previously been searching for non-royal burials of the ancient inhabitants of South Abydos. But a year earlier, they had uncovered a 60-ton red quartzite sarcophagus nearby. So – as is always the case in desert archaeology – they were filled with hope. Looming nearby, the peak of Anubis-Mountain looks pyramid-like, if you imagine hard enough. With only a few weeks left in the season, they spotted the outline of ancient walls and dug until they realized it was probably another tomb entrance. The excavations continued until workers saw a white entrance slab, its top cracked open centuries earlier by those ancient robbers.

Josef Wegner, of the Egyptian section of the University of Pennsylvania Museum and the team's director, knelt in front of the broken white stone. He felt there might not be enough time left in the season to excavate this newly exposed tomb. The space beyond was filled with sand and debris. But how could he resist? Dig he and his team did, until they came upon a narrow chamber that amazingly bore what turned out to be the first example of painted, two-dimensional art in a royal tomb of Dynastic Egypt. On the day Wegner's team first brushed the sand away from the colorful wall paintings, they tore off coats and shirts to shade the ancient art from the bright Egyptian sunlight.

With the sands removed, they found that the small but beautifully painted burial chamber was empty and partially caved-in, so they dug into the

**LOOMING OVER THE AREA, THE PEAK OF ANUBIS-MOUNTAIN LOOKS PYRAMID-LIKE, IF YOU IMAGINE HARD ENOUGH.**



adjoining narrow chambers. Only later did they find a battered wooden chest, its inscriptions from both Seneb-Kay and previous users still visible. When Wegner's team kept digging, they finally uncovered the body of the pharaoh, rifled and discarded by the ancient tomb robbers.

It took more than a year to finish the puzzle – the king's skeleton was documented and analyzed, the texts and decoration on the burial walls recorded, studied and conserved. The cartouches of Seneb-Kay, which appeared in several locations, were pondered for their historical evidence on a forgotten Egyptian dynasty. The older inscriptions on the reused blocks were studied for the indications they provide on an era of conflict. International headlines touting Wegner's discoveries continued when osteologists Maria Rosado and Jane Hill scrutinized the pharaoh's bones and skull to find the stabs, slices and bashes that took the young king's life on that fateful day more than three thousand years past, a life that ended with

the king's burial at the foot of the sacred desert peak called Anubis-Mountain.

### Comparing Two Tombs

This iconic cycle of ancient burial, tomb robbing and modern rediscovery has emerged through excavations at the base of desert cliffs in South Abydos, in the royal necropolis that contains the burials of at least 11 kings. Some of those, like Seneb-Kay, reigned during the tumultuous Second Intermediate period. Others lived in the more stable and prosperous Middle Kingdom. The resulting tombs reflect these changing circumstances of Egyptian history. The differences are evident when one compares Seneb-Kay's burial around 1650 BCE with the bigger, deeper, grander tomb of 12th dynasty king Senwosret III, who ruled about 200 years earlier.

The tomb of Senwosret III is one of Egypt's largest, a 600-foot (180-meter) long underground edifice representing decades of engineering. That's nearly

Conservators Molly Gleeson and Daniel Doyle restore the painted wall scenes in the Seneb-Kay burial chamber in the reconstructed tomb.



Assisted by another worker, Hamdy Abd el-Ghany (right) deconstructs and re-sets masonry on the burial chamber's north wall after protection of the paintings with foil facing.

two football fields long. Hewn into the bedrock at depths of almost 160 feet (50 meters), the tomb is lined with an immense volume of masonry transported to Abydos from hundreds of kilometers away. In contrast, Seneb-Kay was buried in the smallest king's tomb known from Pharaonic Egypt. Only 40 feet (13 meters) long, the young king's final resting place was dug directly beneath the desert surface and modestly constructed of mudbrick and, for the narrow burial chamber, of reused limestone. Senwosret III's tomb represents a long-term royal building project completed at the height of Egypt's affluent 12th dynasty. Seneb-Kay's tomb was built rapidly following the unexpected, violent death of the king. Whereas Senwosret III's tomb is vast but undecorated, Seneb-Kay's is intimate and painted.

These differences highlight the discoveries from ongoing archaeological work of the University of Pennsylvania Museum, which has revealed other royal burials in the necropolis. Physical remains indicate that eight of these tombs, including Seneb-Kay's, belonged to rulers of the still-mysterious, unnumbered 'Abydos dynasty' – a period with leaders who ruled their breakaway kingdom during the difficult time between the Middle and New Kingdoms. In addition, two other massive tombs at Anubis-Mountain are now linked to the powerful 13th-dynasty kings Neferhotep I and Sobekhotep IV. Those two tombs are outstanding examples of the royal mortuary architecture that emerged at the end of the 12th dynasty and which define many of Egypt's last royal pyramids.



For Wegner, the broadest goal at Anubis-Mountain is monument conservation and site management to preserve the heritage of Abydos. In discussions with Egypt's Ministry of Antiquities, he has promoted the idea of allowing visitors to view several of the tombs, including those of Senwosret III and Seneb-Kay.

The first step, in 2011-12, came with Antiquities Endowment Fund support from ARCE to construct a permanent cover building over the huge subterranean tomb of Senwosret III. More funding from ARCE moved Wegner into a second phase, which focused on the tombs of both Senwosret III and Seneb-Kay. Each project presents challenges to Wegner and Egyptian authorities that, when finally addressed,



could attract visitors to a necropolis only a short drive from the famous Seti I temple at Abydos.

The royal burials at South Abydos continued later than Seneb-Kay's era with the construction of the last of Egypt's royal pyramids: that of Ahmose at the transition between the 17th and 18th dynasties. Wegner's ARCE-supported archaeological work around Anubis-Mountain aims to understand the long-term development of this royal necropolis and the associated cultic and urban areas. In the desert landscape where at least 12 pharaohs of Egypt's Middle Kingdom and Second Intermediate period were buried, exploration continues.

### Reconstructing Defects

The tomb of Seneb-Kay (ca. 1650 to 1600 BCE) is among the few royal burials known from the Second Intermediate period, when national rule over Egypt was mired in competition from smaller kingdoms and the rival powers of the Hyksos in northern Egypt and the Theban kings to the south. The quick but revolutionary painted imagery on Seneb-Kay's tomb walls testifies to the political and economic challenges of the era, as well as changes in mortuary traditions. As demonstrated by osteological analysis, the violent demise of Seneb-Kay adds more insight into these historical and political conditions. Seneb-Kay's remains pre-date the well-known mummy of Seqenenre-Tao of the Theban 17th dynasty, making Seneb-Kay the earliest king whose physical remains indicate death in battle.

Working with the engineering department of the Sohag inspectorate of the Ministry of Antiquities in 2015, Wegner's team and Egyptian officials completed an assessment for a cover building to enclose the small, long tomb. The tomb, of both mudbrick and

The jumble of stone at the 13th Dynasty Tomb S10 includes a burial chamber (top) and red quartzite burial crypt.



**TOP:** With Anubis-Mountain in the background, Senwosret III's tomb is covered by a long building infilled with debris from the tomb.

**BOTTOM:** Jennifer Wegner documents relief decoration from blocks that were recycled to build Seneb-Kay's tomb.

stone, eventually will be surrounded by a meter-wide walkway with an entrance from the south. The short, three-chambered tomb will be encased in a permanent vaulted building comparable to the much larger Senwosret III cover building. After the project is complete, the protective building will be reburied beneath the desert landscape, with a doorway leading to an elevated walkway from which the tomb's entire interior will be viewed.

Before a protective building could be started, though, Wegner's team spent three seasons in 2015-16 addressing the damaged masonry and fragile decoration of Seneb-Kay's burial chamber. When the chamber was

first exposed in 2014, the structure was standing, but in partial ruin. Three large limestone blocks on the chamber's north, south and east walls were missing. Because the chamber was so quickly built with a combination of Nile mud and gypsum, its north side was weakened under the weight of loose blocks. An additional concern was the long-term stability of the painted decoration, which was applied to a thin gypsum layer over the limestone.

The reconstruction began in the summer of 2015, when excavation of the perimeter disclosed another problem: the lack of a foundation. The burial chamber of recycled limestone blocks and stone floor had no supporting masonry. In addition, digging by tomb raiders had destabilized the lowest masonry courses and shattered the relatively weak mud mortar joints between many blocks. The challenging, unavoidable solution was to take this compromised masonry apart, lay a sub-floor foundation and reset the blocks with new mortar joints.

Of course, the paintings had to be preserved for such work. Before removing the painted blocks, conservators Lucy Skinner and Daniel Doyle treated the polychrome imagery with a chemical consolidant. The paintings were then coated with a protectorant and covered with reflective foil. All of the blocks from the inner (east wall) were removed, along with most from the northern wall and some from the southern wall.

The mortared subfoundation was constructed in a trench to the elevation of the remaining floor blocks, with the removed blocks then restored to their original spots and new blocks added to replace the missing parts of the wall. Meanwhile, the team had to deal with another challenge from the irregular width of the mortar joints. Before deconstruction, each joint in the entire chamber was mapped so Wegner could recreate the position and alignment of the blocks as closely as possible. In addition, Penn Egyptologist Paul Verhelst completed a laser scan of the entire tomb and surrounding landscape to help in the reconstruction.

This scan and the careful work of disassembling the burial chamber revealed more irregularities that appear to reflect the unexpected death of Seneb-Kay and a limited window of time available to the ancient tomb builders. Seneb-Kay's tomb was, in fact, still being decorated right up to the point when the king was interred. It appears the tomb builders originally intended to add further texts and imagery but they ran out of time.

During reconstruction, the Wegner team worked to re-create these unique characteristics of the hastily

built burial chamber. The blocks were reset by an experienced excavator and restorer, Hamdy el-Badry, who captured irregularities in the alignment of the north wall as well as an outward widening near the top of the east wall. After replacing Nile mud with gypsum and mortaring the floor blocks, the result is a rebuilt burial chamber that looks as close as possible to the original construction more than 3,600 years earlier.

One fortunate result of the deconstruction process was the opportunity to fully document the previous carved decoration on many of the reused limestone blocks. After studying these inscriptions, it became clear that Seneb-Kay's tomb masonry included more than a few recycled blocks. Nearly all of the limestone for the dead pharaoh's burial chamber was taken from one or two funerary chapels of an elite 13th-dynasty family. University of Pennsylvania Museum curator Jennifer Wegner and Kevin Cahail completed epigraphic recording and photography of these formerly concealed decorations. At the same time, Wegner completed work on a monumental stela dating to the 11th dynasty that had been reused as a roof slab for Seneb-Kay's burial chamber. This stela (dating ca. 2100 BCE) preserves a remarkable historical inscription recording the participation of a Nubian chief named Idudju-iker in the 11th-dynasty Theban conquest of the towns of Thinis and Abydos. These blocks in Seneb-Kay's tomb therefore span the eras of the birth and decline of Egypt's Middle Kingdom.

After the masonry of Seneb-Kay's tomb was reconstructed, the paintings were fully restored and conserved. In 2015-16, the University of Pennsylvania Museum's Gleeson, assisted by Doyle, stabilized, consolidated and cleaned the chamber's decoration. A detailed assessment was completed, with photo documentation of each stage of treatment. The conservators had to deal with insect accretions as well as salt damage that compromised the adhesion of gypsum plaster under most of the painting. The decoration responded remarkably well to the consolidation and cleaning, with only limited infilling and reconstruction where the painting had crossed the gypsum-faced mud mortar.

When the protective cover is installed fully, the burial chamber of Seneb-Kay could become Egypt's only Second Intermediate period king's tomb accessible to the public. At that point, Wegner hopes to return the skeletal remains of Seneb-Kay to his tomb, installing the king in a permanent case. There, visitors will see this once-forgotten ruler whose violent death and modest burial demonstrate the challenges Egypt faced during his lifetime.



### One of Egypt's Largest

Not far from the painted tomb of Seneb-Kay rests the grander and much deeper funerary monument of Senwosret III. (This same pharaoh built a pyramid in Dahshur, resulting in uncertainty over his final resting place; his mummy has never been found.) In 2011-12, the vaulted cover building was finished to protect the entrance to Senwosret III's Anubis-Mountain tomb and the remnants of its ancient mudbrick staircase.

Because of the tomb's depth and surrounding excavations, the protective building at first seemed to rest in a large crater in the desert. This depression provided the perfect place for Wegner's team to move mounds of rock, desert clay and other debris from the tomb's interior. After the area was filled with this removed material, clean desert sand became a final layer. This and the other site work at Senwosret III's tomb benefitted from the expertise of Rais Ibrahim

Conservators Lucy Skinner and Daniel Doyle (center), assisted by Paul Verhelst, stabilize the painted walls of Seneb-Kay's tomb before reconstruction.

## IF THE QUARTET OF TOMBS IS OPENED TO THE PUBLIC, THE ATTRACTION WOULD BE UNLIKE ANY IN THE NATION.

Hamdy Abd el-Ghany (left), assisted by foreman Ashraf Zeidan (right, turned away) and other workers, reconstructs the limestone masonry of the north wall of Seneb-Kay's burial chamber.

Mohammed Ali and workers from the towns of Beni Mansour, el-Arabah and el-Ghabat. Today, only the tomb entrance and the top of the cover building are visible.

The broader site work included an open, walled entrance staircase leading down to the iron door of the cover building. To delay the need for another total excavation, perimeter walls were erected to prevent windblown sand from covering the tomb entrance as it has for the last thousand years. Wegner's team also installed an iron staircase from the cover building's door down into the rock-cut entrance passage for the

tomb. The rest of a modern staircase was finished in 2015-16 to ease the final 100-foot (30-meter) descent to the first of the tomb's chambers.

While the work advanced on the entrance, stairs and cover building, the team continued excavating the inner end of Senwosret III's tomb. By the end of 2016, all of the known tomb had been explored and cleared. However, the team knew the ancient robbers had dislodged much of the original quartzite masonry. An issue still being considered is the level of restoration that might be done on the more severely damaged chambers. Whether that work begins or is





delayed, this huge tomb is ready at least partially for public visitation.

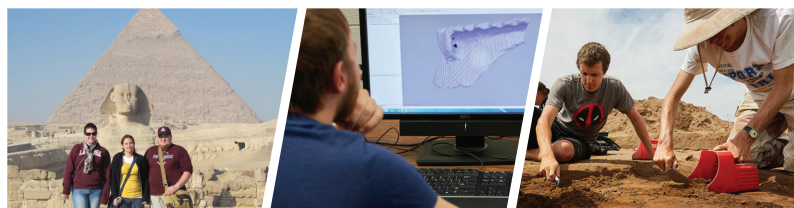
### Unparalleled Attraction

During the ARCE-funded work on the two tombs, excavations continued elsewhere in the royal necropolis at South Abydos. With support from the National Geographic Society and University of Pennsylvania Museum, major excavations were completed on the late Middle Kingdom tomb of the 13th-dynasty king Sobekhotep IV. Nearby, ARCE's AEF supported a team led by Dawn McCormack of Middle Tennessee State University to excavate the tomb that likely belongs to Sobekhotep IV's brother and predecessor, Neferhotep I.

The brothers' tombs exemplify funerary practices of their time. The only other surviving examples of this mortuary type are the now-inaccessible 13th-dynasty pyramid substructures in the Memphite necropolis at south Saqqara, Dahshur and Mazghuna. Together, these tombs represent the final stage of the late Middle Kingdom tradition with arrangements of burial compartments that derived from the 12th-dynasty pyramid of Amenemhat III at Hawara. The two royal tombs at South Abydos feature massive masonry interiors composed of a series of inward-turning passages that culminate in a monolithic quartzite burial chamber about 30 feet (10 meters) below the desert surface. Although the tomb now attributed to Neferhotep I was examined in 1902 by Egyptologist Arthur Weigall, his work for the Egypt Exploration Fund failed to expose the massive substructure of Sobekhotep IV's tomb. During excavations in 2014-16, Wegner's team found this tomb (known as S10) in a promising state of preservation. Although the tomb's upper architecture is damaged, the burial chamber and substructure remain relatively well preserved.

Along with the earlier subterranean tomb of Senwosret III (with whom these later 13th-dynasty kings sought to establish connections), and the Abydos dynasty crypt of Seneb-Kay, the brothers' tombs illuminate the development of the Anubis-Mountain necropolis. If the quartet is opened to the public, the attraction would be unlike any in the nation: one of Egypt's largest royal tombs (Senwosret III); the tomb of the long-forgotten pharaoh Seneb-Kay; and the magnificent architecture of the probable burial places of Neferhotep I and Sobekhotep IV. 🦋

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# Fixing

THE

# Fixes



BROOKLYN  
MUSEUM  
TEAM TRIES  
TO UNDO  
PREVIOUS  
RESCUE OF  
2,200-YEAR-OLD  
SCROLL



COMPILED BY DAVID EVERETT  
FROM REPORTS BY  
YEKATERINA BARBASH

PHOTOS COURTESY OF BROOKLYN MUSEUM





Brooklyn Museum paper conservators Clare Manias (left) and Elyse Driscoll examine the precious, fragile scroll.

**B**EFORE A 2,200-YEAR-OLD Book of the Dead scroll from ancient Egypt was photographed in New York at the dawn of the 20th century, the delicate papyrus had been unrolled and re-rolled so many times that someone decided the best rescue option was to glue it to long strips of cotton fabric. The manuscript also was bent slightly, so the priceless scroll was trimmed along the top and bottom edges to straighten it out. Notwithstanding this mistreatment, what was perhaps a 40-foot papyrus was then sliced into several shorter pieces that made the lengthy document easier to handle.

In 19th-century America, these preservation efforts were well-meaning, perhaps even state-of-the-art for an historic Egyptian papyrus that was deteriorating during each handling. But they also present the greatest challenges today for Brooklyn Museum conservators who must deal with the damage and ineffectiveness of the previous rescue – unintentional or not. The museum’s ARCE-funded team is focusing most of its efforts on removing the papyrus from the toxic fabric, dealing with the pernicious glue, undoing odd overlaps and applying the sophisticated conservation techniques of the 21st century. The goal is to allow the public to view as much of the elegant, delicate scroll as possible, instead of continuing that destructive rolling and unrolling.

All this attention centers on the Brooklyn Museum’s fragments of a rare Book of the Dead made for a priest named Herw. His version of the book demonstrates an uncommon style of horizontal script and monochromatic vignettes popular in Memphis during the Ptolemaic era. The Herw manuscript also flaunts a distinct style of writing.

The Egyptological detective story of documenting, preserving and eventually displaying Herw’s scroll is part scholarship, part mystery and part hard science, plus a dollop of literary criticism, if you can apply that term to this unusual version of the famous burial spells. The Brooklyn conservation team has even taken to concocting its own papyrus paper and 19th-century adhesives to test the best way to undo the mounting, gluing and slicing of more than a century ago.

The Book of the Dead of Herw has enjoyed an intriguing history since leaving Egypt. In 1853, the papyrus was exhibited unrolled as part of Dr. Henry Abbott’s collection at the Stuyvesant Institute in New York. Visiting this exhibition many times, legendary poet Walt Whitman was so impressed with the papyrus that he described it in an essay for *Life Illustrated*. The papyrus did not sell at Abbott’s exhibition, and by 1859

it arrived at the New York Historical Society, where it was examined unrolled. After being photographed for a book published in 1900, more than 23 feet of the manuscript made its way to the Brooklyn Museum in 1937. Well before that moment and even before the photograph was taken, the deteriorating papyrus had been glued to the fabric backing. Now, more than a century later, the museum’s 21st-century conservation team faces daunting challenges.

“Decorated with beautiful vignettes and inscribed in a careful hieratic hand, the document is an exceptional example of craftsmanship and religious scholarship,” said Yekaterina Barbash, associate curator of Egyptian art at the Brooklyn Museum and leader of the Herw documentation and restoration. “It is unfortunately in dire condition.”

### Weighing Hearts

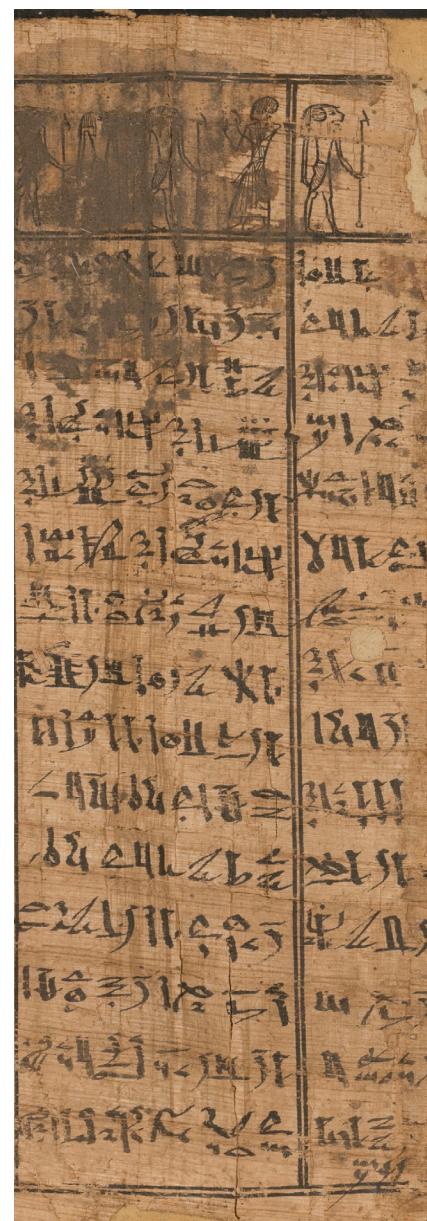
The Book of the Dead is a mortuary text of magic spells meant to ease the deceased person’s trip into the afterlife. The spells, written in hieroglyphs or hieratic script, often were illustrated with vignettes, but the evolving spells varied by region and era. Nearly 200 different spells have been identified. Perhaps the most famous are two that describe a sort of pre-afterlife trial in which the dead person’s life is judged in a “Weighing of the Heart.”

The Brooklyn Museum manuscript was created for a “God’s Father” priest named Herw, whose mother was Takhabes. The museum’s main fragment comprises spells 100 to 153, mostly in correct mathematical order, with some spells omitted. A separate fragment approximately 18 inches long records the text and vignette of spell 162 and a portion of the vignette for spell 161.

As with many ancient manuscripts, scholars have found related pieces but continue to search for others. The Penn Museum holds fragments that almost certainly belong to the Herw papyrus but for earlier spells than those in Brooklyn: 3, 18, 86, 98 and 99. Other fragments that seem to belong to the same manuscript and that record spells 16, 26 and 30 appeared in a Sotheby’s sale in 2009. These fragments also originated in the Abbott collection, but were separated from the larger manuscript in the 19th century – spurring that conclusion about the original scroll measuring more than 40 feet.

“We hope that presenting our manuscript in the galleries and its publication could lead to the location of another sizable portion from earlier parts,” Barbash said.

Most documented Books of the Dead are Theban and consist of vertical columns of hieroglyphs and



Chapters 110 and 109 of the Book of the Dead of Herw show the rare double-ruled columns and horizontal hieratic inscriptions.



colorful illustrations arranged in a layout noticeably different from Herw's manuscript. The horizontal hieratic inscription, double-line outline of columns and monochromatic vignettes are characteristic of the relatively rare Books of the Dead from Memphis. This categorization is confirmed by elaborate, stereotypical titles on the Herw manuscript that nearly match the titles held by members of a family of Memphite priests from the Ptolemaic period. Recorded in hieroglyphs in the Weighing of the Heart vignette of chapter 125, the list of titles includes God's Father, King's Familiar, Servant of Ptah, Wab-Priest of the Gods of the Temples of Memphis, Hem-Priest of Min and Scribe of Ptah. Although several individuals among the generations of this family were named Herw, the different mother names indicate that the owner of the museum manuscript is not attested in those records.

#### **Creative Writer**

One of the most striking features of the Herw papyrus is the unusually high number of variants in many spells. When scribes created a new Book of the Dead after someone died, they usually copied from one or more master texts. However, scribes sometimes deviated from the original text by inserting an alternate word or phrase. Scribes introduced these alternate versions with the word, "variant" (ky-dd). What followed could be a synonym for the original terms, or a scribe might insert a clause to elaborate a term or even express a different notion than the original.

In the Herw papyrus, the range of the author's variants is remarkable. The document includes variants for an entire clause or for a single word. Some variants are inserted in the middle of a sentence, while the remaining sentence matches the master copy. In

other cases the scribe repeats an otherwise analogous sentence from the beginning but uses a different word or clause. Scholars believe that most variants originated in other Book of the Dead papyri that a scribe copied.

For many spells, Herw's scribe took this creative practice to the extreme. Even short spells incorporate more than one variant. For instance, spell 115, which spans sixteen narrow lines, includes a whopping five variants. This number is even more astonishing given that the spell was cut in half to fit the papyrus' outlines. Instead of trying to complete more of the spell, the ambitious Herw scribe made the literary choice to instead record multiple variants in the few lines that fit. As a result, the text ends abruptly in the middle of a sentence, with a rather appropriate phrase, *iw=I rx.kwi* – "I know."

Another example of this authorial creativity are the 15 variants in the classic Weighing of the Heart spell 125 – an extraordinarily large number. In one instance the spell addresses the deities in Osiris' Hall of the Two Truths as "O, One whose Breath is Fire, who came from Memphis." The text continues with "Variant: One who Emits Flame. O, Necropolis. Variant: One of the Necropolis of

Bubastis who Came Forth from the Netherworld." In both situations, the variants introduce a literary, spiritual nuance to the intended meaning. In another line, the Herw scribe simply offers an alternative geographical origin of the deity; "O, Argument Settler who came from Wenes. Variant: Wenut." A different meaning was even created by a pun: "O, Musician (iHy) who Came from Nun. Variant: O, Sovereign (ity) who Came from Nun."

In fact, many variants in the Book of the Dead of Herw show enough phonetic or visual similarity to conclude they were likely intentional puns. Other variants probably were an attempt to reinterpret part of a spell to better understand or explain it. The scribe of this manuscript appears to have been conducting a sort of ancient research on the topic of the Book of the Dead, perhaps compiling variations from numerous sources.

"Such extreme use of variants is, as far as I know, exceptional," Barbash said. "Preserving this manuscript and making it available to the public and scholars will certainly contribute to our understanding of the religious, scholarly and scribal traditions of the ancient Egyptians."

The conservation team made its own papyrus to test methods to restore the ancient scroll.



## Science and Tests

As Barbash continues her scholarly review, she and the conservation team used the ARCE grant from the Antiquities Endowment Fund to launch the long, difficult challenge of restoring and displaying Herw's Book of the Dead. That meant another unrolling of the papyrus scroll to start a precise examination. Barbash's museum team includes paper conservators Elyse Driscoll and Clare Manias, supervised by Lisa Bruno, the Carol Lee Shen chief conservator.

The first steps were all science. Several small, detached fragments whose original location in the scroll could not be determined were submitted to the University of Arizona's accelerator mass spectrometry laboratory for radiocarbon analysis. The results indicated a date of 360 – 200 BCE, which corresponded to the team's prosopographic, stylistic and paleographical date.

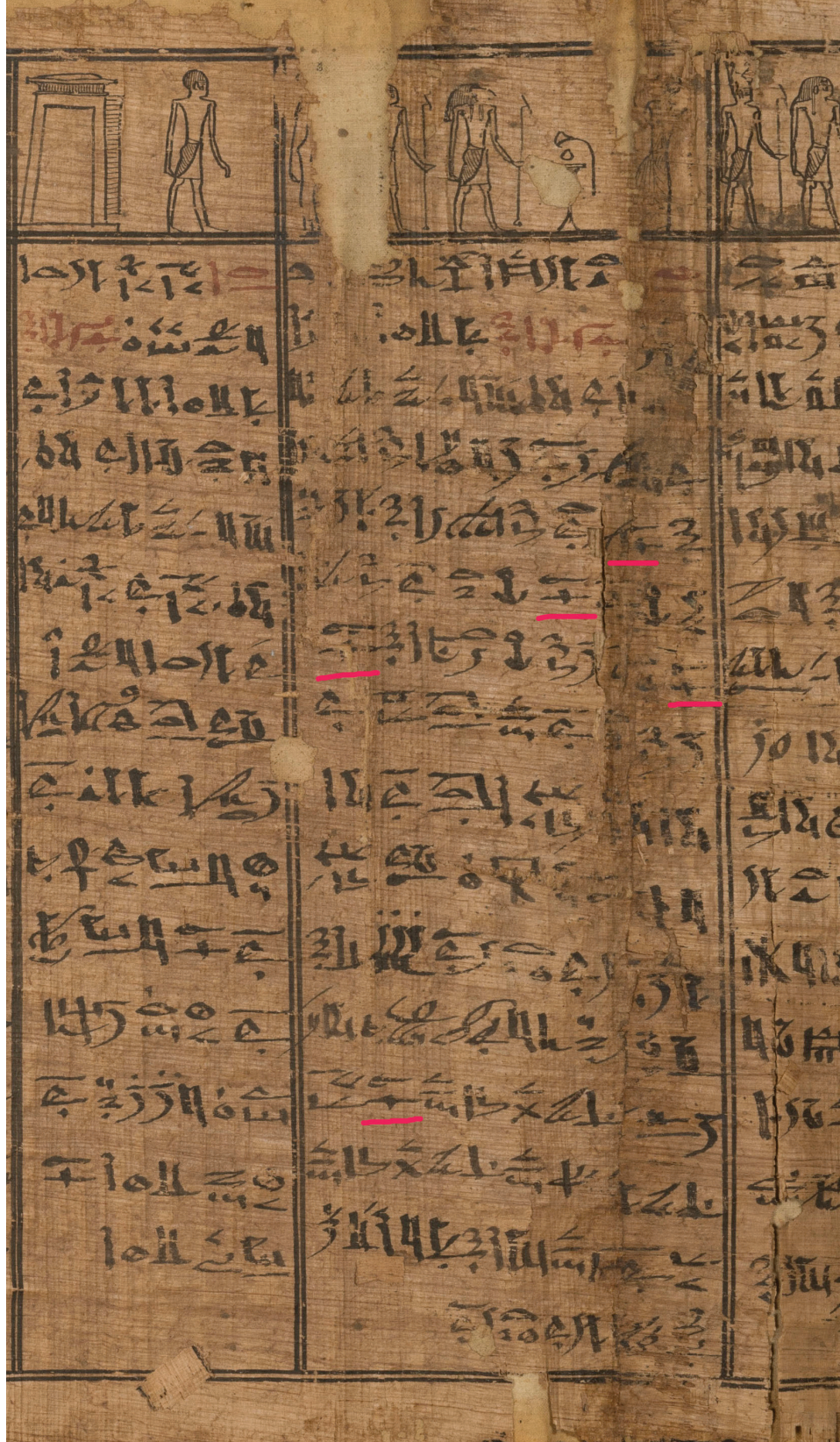
For images, the papyrus was photographed using high resolution digital equipment to supplement previous film photography from 1993. Based on ultraviolet and infrared photography, the black ink used by Herw's scribe was determined to be carbon-based, typical of ancient Egyptian ink. The imaging techniques also identified traces of red ink as mineral-based, likely red ochre.

After this work, the papyrus was rehoused in a safer manner to prevent further damage. It was rerolled, with the better-preserved part of the manuscript now situated closer to the top of the scroll. The manuscript was inserted into a 6" diameter archival tube with new acid-free interleaving paper, then carefully placed on its side in a custom-built box with foam inserts that prevent the roll from resting on itself. This housing method provides greater support for the brittle, fragile papyrus.

To experiment with the 19th-century glue and fabric mounting, Barbash's team decided to focus on a Herw manuscript fragment that belongs to the end of the book and that arrived at the Brooklyn Museum as a separate piece. This smaller fragment's manageable size allowed tests that eventually will lead to work on the full scroll.

The first conservation chore was addressing the ink. As with many ancient documents, the black ink was found to be actively flaking and unstable in many areas. The treatment involved a solution of deionized water and funori, a stable, clear, seaweed-based adhesive. The funori successfully re-adhered the ink to the papyrus without altering the overall appearance.

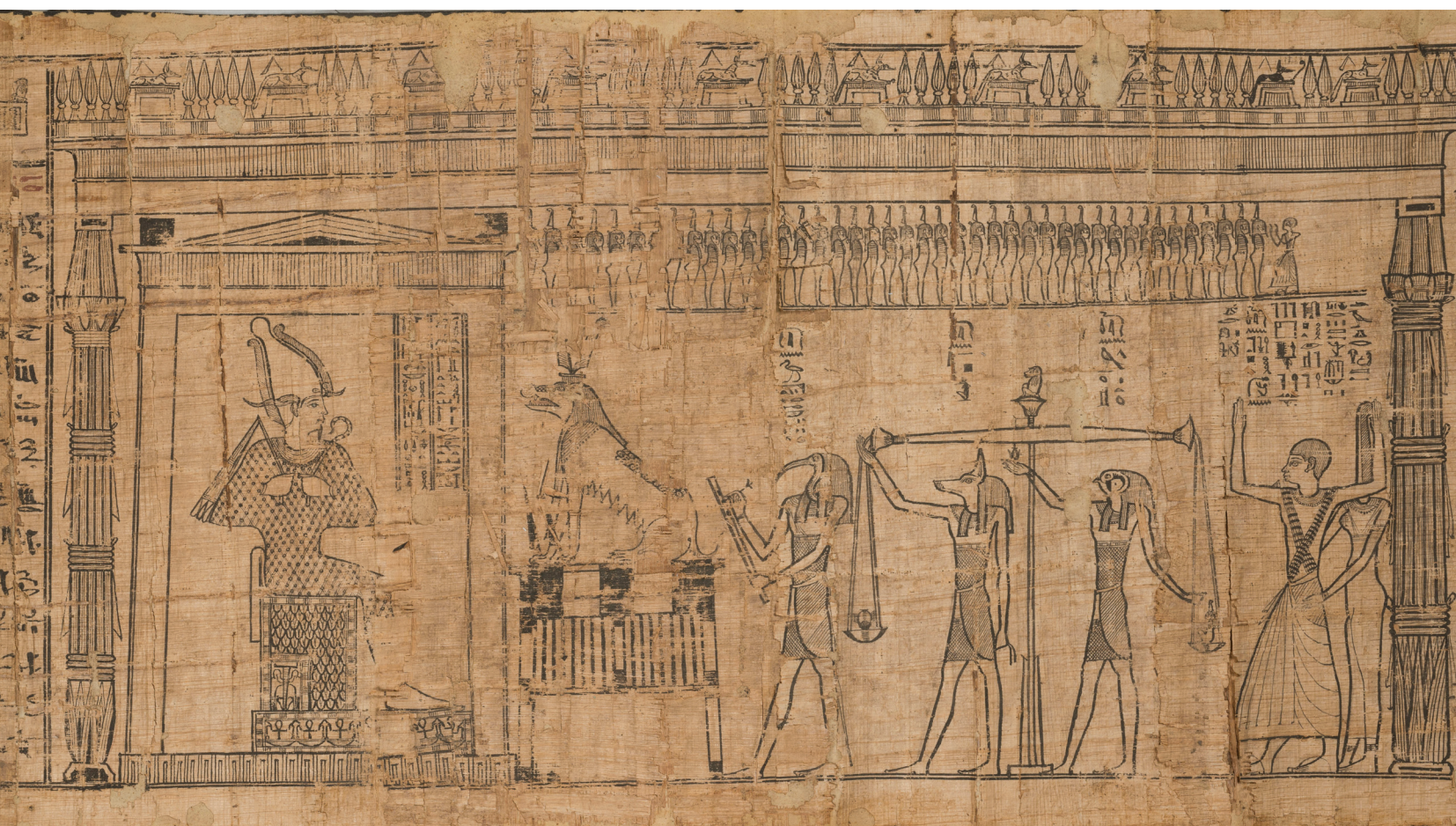
Next, conservators began the tedious process of stabilizing and cleaning the surface of the papyrus, reducing accretions, loose debris and insect frass. The



frass probably came from cockroaches or silverfish interested in the starch component of the fabric. This contamination was visible on the fabric support, especially in areas where the papyrus is now lost, suggesting that the 19th-century fabric mounting and gluing may have led to unexpected damage.

The papyrus also was unstable from interlayer cleavage where the upper, horizontal layer of papyrus had detached from the lower, vertical layer of papyrus.

The ancient scroll features unusual numbers of variants in the script for its spells.



The famous Weighing of the Heart chapter is among the most beautiful.

Papyrus paper is a complex, multi-layer material manufactured by beating strips of papyrus while the fibers of each strip are perpendicular to each other. Because an adhesive stronger than funori was needed, the cleavage was stabilized with diluted wheat starch paste.

Meanwhile, some misaligned and distorted fibers as well as larger areas of lifting papyrus required a process known as local humidification before the fibers could be realigned. As with many conservation techniques, “local humidification” is more complicated than it sounds: A small area of papyrus is gently placed between two sheets of Gore-Tex, polyester and dampened blotter paper, then put under an acrylic sheet with a light weight. Finally, several fractures were repaired and the fragments reattached using Japanese paper and wheat starch paste applied to the front of fragments. In areas containing ink, mends were applied to the back of the fragment when possible to avoid obscuring the text.

#### **Glue and Cotton**

*The Oldest Books in the World*, published in 1900, includes a photograph of the Book of the Dead of Herw (then in the possession of the New York Historical Society) already lined with the fabric backing. The

backing has kept the delicate manuscript together for more than a century but, as did the insects, the fabric also has caused its own damage. The 19th-century glue and cotton fabric are much stronger than the ancient papyrus, reacting differently to fluctuations in humidity and temperature. This causes stress and fractures in the scroll. Additionally, the rigidity of the mounting materials caused additional fractures and even papyrus loss during the decades the mounted papyrus remained rolled. And all of these issues were compounded by the rolling and unrolling of the scroll.

Barbash and her team have yet to decide whether to remove the fabric. But they are testing how to achieve that feat, just in case. “Whether the papyrus could or should be removed from its backing is one of the most significant decisions we faced,” Barbash said. “The backing will probably continue to cause damage to the manuscript. However, the process of detaching it may jeopardize the papyrus even more. Because the papyrus is un-exhibitible in its current condition, we wanted to explore the feasibility of backing removal.”

Thus the real detective work began. To better understand whether the backing could be safely removed, conservators first had to identify the exact



materials used to mount the Herw papyrus. They developed a series of experiments on mock-up papyrus sheets, manufactured from papyrus stalks acquired from the Brooklyn Botanical Garden. The experiments were designed to help identify a safe, appropriate approach to working on the fragile Book of the Dead without causing further damage.

The fabric backing was fairly easy to document: starched, plain-weave cotton. Some overlap occurred when the frayed edge of one sheet of fabric was connected slightly over an adjacent sheet – a construction not unlike the manufacture of ancient papyrus scrolls. But identifying the 19th-century adhesive that held the papyrus and fabric together was more challenging, in part because the glue was inconsistently applied. At first, conservators thought orange accretions visible on both the papyrus and its backing were pure colophony resin. But attempts to re-create the gluing process with the mock-up papyrus and similar cotton fabric were unsuccessful.

To determine if additional materials were used in combination with colophony, the team sent fragment samples to the aptly named department of scientific research of The Metropolitan Museum of Art. This work was supported by the Met's Network Initiative for Conservation Science, which was supported by a grant from the Andrew W. Mellon Foundation. With this laboratory help, the adhesive was identified as a mixture of pine resin, possibly with sandarac (Cupressacea resin) and wax. This discovery was relevant in that the team knew that a Dutch restorer, Nicolaas Hopman, developed a technique of using wax and resin mixtures in the 19th century to attach new linings to damaged paintings on canvas. Judging by the fabric mounting of Herw's Book of the Dead, this technique or a variation may have been used at some point for papyrus conservation. Whether it was Abbott, someone he hired or someone else involved in the manuscript's journey is unclear.

After science came trial and error. Based on The Met's analysis, the Brooklyn Museum team manufactured several adhesive mixtures comparable to the one used in the 19th century. A mix of one part colophony, one part beeswax and 1.5 parts solvent appeared to be the best chemical match, so it was tested on the mock papyrus and cotton mounting. But the mixture did not properly attach. Records show that Hopman, the Dutch restoration expert, had added resin to his mixtures. This configuration meant the mixture would have to be heated when applied - a risky procedure for ancient, fragile papyrus. Wax resin in painting conservation usually is spread hot enough to saturate several paint layers.

To investigate this theory, Barbash's team returned to the 2,200-year-old papyrus itself. The conservators chose a few discreet areas along the margins of the fabric support of one Herw fragment. Their cross-section examination showed that the adhesive filled the interstices of the 2,200-year-old papyrus but did not saturate or penetrate it completely. This told the conservators the adhesive applied more than a century ago may not have been a hot melt.

So far, this was good news: The lack of penetration of the adhesive mixture into the brittle papyrus supports the idea of removing the ancient document from its newer backing. However, while the papyrus is definitely not tightly attached to the fabric in certain areas, other areas are more securely attached. Barbash and her team speculate that uneven attachment could be the result of an uneven application of wax resin when the manuscript was mounted on the cotton strips. And this indicates the mounting process was challenging for 19th-century restorers in much the same way the Brooklyn team is struggling with its own, modern-day papyrus and adhesive. In the end, the inconsistent adhesive presents yet another challenge when deciding whether to remove all or part of Herw's manuscript from its fabric mount.

The team has tried removal on tiny samples of the papyrus. So far, tests with heat and different solvents seem to have little effect, but local humidification appears to swell the starch layer of the cotton just enough so the adhesive and papyrus could be released. If more funding is found, the Brooklyn team will continue experimenting with the new, home-made papyrus and glue and on tiny spots of the original manuscript. Further investigation into additional mixtures, glues, application techniques and even historical recipes also will continue. The key will be whether the humidification can be paired with other techniques to make removal of the fabric the best

**THAT MEANS SOMEONE CUT THE LONG, BRITTLE, 2,200-YEAR-OLD DOCUMENT INTO PIECES ... THE CUTS MAY SIMPLY HAVE BEEN DONE FOR CONVENIENCE.**



The conservation team developed its own version of the glue used to attach the scroll to fabric.

choice for all or part of a fragile treasure the museum wants to share with the public.

### Priceless Cuts

Regardless of whether the papyrus is released from its century-old fabric backing, Barbash still must contend with the Book of the Dead's length. Even a cleaned and stabilized scroll would be difficult to move out of the conservation lab. With bending inadvisable, the 23-plus feet of papyrus could not turn the corner even in the large museum. And another rolling and unrolling just to move it would be too destructive. Cutting papyri into smaller sections was acceptable practice in the 19th and early 20th centuries, but few teams, if any, would consider this approach today for large, intact papyrus rolls.

That's when the Barbash team realized another aspect of the alarming previous treatment of the Herw manuscript. During the team's examination, they found that "several vertical fractures" appeared to have been intentionally created before the papyrus was mounted on the cotton fabric. That means someone cut the long, brittle, 2,200-year-old document into pieces. It was not uncommon among early sellers and collectors to divide Egyptian artifacts into pieces in hope they

would attract more collective revenue separately than as a single object. Or the cuts may simply have been done for convenience. For the Herw manuscript, the adjusted areas typically have one edge of the papyrus overlapping the other, obscuring a small amount of text and illustrations. In some areas, the text is slightly misaligned.

The team's alarm about the scroll's previous treatment resumed when it found those edge trims. Because of their incredibly long lives, most lengthy Book of the Dead papyri will exhibit a slight curvature when unrolled. This bending happens naturally over time. Presuming this happened to Herw's manuscript, the Brooklyn Museum conservators expected to see a slight curve or bend in the papyrus when the manuscript was first unrolled. Instead, the scroll was fairly straight. When they looked more closely, they discovered irregularities in the width of the upper and lower margins of the papyrus, suggesting it was trimmed prior to mounting.

The experts thus concluded that Herw's long manuscript probably was cut into smaller sections, with some upper and lower margins trimmed, to make it easier to handle, mount and display in straight cases. Correcting the treatment and restoring the



The scroll was damaged by cuts, which were painted with glue when pieces were re-attached.

scroll's original curve are compelling arguments for removing the fabric backing.

Sticking with the idea of such a radical, difficult move, the team turned again to science: ultraviolet radiation revealed a bright fluorescent material brushed onto the surface of the papyrus along each side of the vertical cuts. The material appears to be the same adhesive used to mount the papyrus on the fabric. Brush strokes also appear along the upper and lower edge, presumably to secure the papyrus to the cotton strips. That means the restoration in the 1800s included painting glue over the cuts and trimmed edges as well as on the back when the papyrus was mounted on the cotton strips.

The Barbash team certainly was disappointed to learn the museum's 23-plus feet papyrus was not intact. But the existence of the breaks in the manuscript meant the cut sections could be separated again for conservation and installation in galleries without inflicting new damage on the prized manuscript.

The months-long process is moving the Brooklyn team toward a decision on removing the fabric backing. Regardless of that decision, the team has decided the cuts will be used to separate the manuscript into pieces that are easier to handle, study and display.

"Significant advantages gained from removing the fabric, including aesthetic appearance and increasing accessibility, could outweigh the risks involved," Barbash said. "This significant manuscript deserves to be known by the public." 🌸



**Image:** Statue of Queen Ankhes-meryre II and Her Son, Pepy II, ca. 2288-2224 or 2194 B.C.E. Egyptian alabaster, 15 7/16 x 9 13/16 in. (39.2 x 24.9 cm). Brooklyn Museum, Charles Edwin Wilbour Fund, 39.119.

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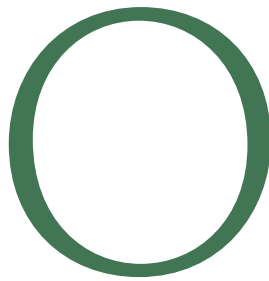
## EGYPT'S SYNAGOGUES:

# Past & Present

ARCE-FUNDED  
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ON LAST  
JEWISH TEMPLES  
IN CAIRO

**TOP:** The Hanan Temple, dedicated in 1900 with Carrara marble pillars, features the original carpets in the central prayer hall.

**BOTTOM:** The magnificent Sha'ar ha-Shamayim Synagogue in central Cairo is illuminated by 18 stained-glass windows.



## FROM THE MANY PATHS

to understand the rich, complex Jewish history of Egypt, one of the most revealing must have been on a December day in 1896 when a British scholar climbed a rickety

ladder into a dusty attic room at a Cairo synagogue. What Solomon Schechter of Cambridge University said he found was astonishing: Ancient manuscripts over 10 centuries of history, from the Crusades to his own time – disorganized, debris-covered piles of everything from scholarly works and religious treatises to personal letters, receipts, poems and shopping lists: the paper of everyday life. Among the most precious were thousands of letters, manuscripts and other documents from 950 to 1250.

The momentous contents of this storage room, plus more documents gathered by Schechter and other scholars and explorers, came to be known worldwide as the Cairo Geniza. The name relates to the temple rooms used to store rather than discard any worn-out documents that mention the name of God. Most

temple genizot eventually bury such documents in cemeteries. For many documents linked to Schechter, however, that burial never occurred, and a mystery arose as intricate and nuanced as the Cairo history of the faith.

The room where Schechter worked for months into 1897 and from which he eventually removed the trove of documents was in Ben Ezra Synagogue, the oldest Jewish temple in Egypt and one of the oldest extant Jewish houses of worship in the world. According to the local tradition, the synagogue was erected on the location where Moses prayed to God. Whatever the legend, a Jewish temple apparently has stood on the spot since the ninth century, a fact relevant to a recent, ARCE-funded survey of Ben Ezra and Cairo's 10 other remaining synagogues.

For Egypt, a nation known for discoveries relating to the age of the pharaohs, the revelations from the medieval treasures related to Ben Ezra are much more than a window into its later history. The hundreds of thousands of fragments, letters, books and even sheet music are another Egyptian contribution to knowledge about the development of both Western and Eastern civilizations.

The compound at the Sha'ar ha-Shamayim Synagogue is wide, peaceful and beautiful.



The image shows a highly ornate, arched wooden structure, the Ark of the Covenant, set within a dilapidated stone wall. The structure is flanked by two columns and topped with a decorative pediment. The central door is dark wood with two large, carved palm trees. Each palm tree has a trunk that resembles a scroll, with the Hebrew word 'תורה' (Torah) inscribed on it. Above the door is a semi-circular window with a sunburst design and a central tablet. The surrounding wall is heavily damaged, with peeling plaster and exposed brickwork. The overall scene is one of historical decay and architectural grandeur.

The ark for the Torah scrolls in the dilapidated Capoussi Synagogue features engraved palm trees with the Ten Commandment tablets embedded in the trunks.







Damaged by fire in 1976, the Nissim Eshkenazi Synagogue was dedicated in 1894 with marble floors and a round, stained-glass window adorned with the Star of David.

## Throughout it all, diverse Jewish communities reflected historic migrations of people to, within and from Egypt.

Recent scholarship supports the idea that some of the “Cairo Geniza” documents now found in museums worldwide came from places beyond Ben Ezra, including material from other synagogues. Indeed, the dusty room from which Schechter removed documents into 1897 was fewer than five years old, the result of a renovation of an older temple in which some, perhaps many, of the documents he found had originally accumulated over centuries of deposits, moves and restorations. Before Schechter entered the newer chamber, some of the documents may have traveled there from other synagogues and sources, in much the same way that documents not recovered

by Schechter himself are now described by the famous Cairo Geniza label. Certainly, many documents he recovered in that original mission had previously been removed, stored or even temporarily trashed during the synagogue’s renovation, losing the context of origin and discovery important to archaeologists.

“The label ‘the Cairo Geniza,’ while not preventing us from accurately assessing the content of the manuscripts, can be distorting,” writes scholar Rebecca J.W. Jefferson in the Fall 2018 *Jewish Quarterly Review*, “because it can preclude us from truly appreciating the breadth of Jewish material culture in Cairo in all its varied manifestations.”

The Capoussi Synagogue, featuring a blend of architectural traditions, was named to honor prominent Rabbi Haim Capoussi, who died in 1631.



Those manifestations permeate the ARCE-funded survey of Cairo’s synagogues. Today, Ben Ezra is largely a visitors’ attraction, in part because all that remains of Cairo’s once glorious Jewish community, which numbered around 42,000 lives in 1947, is three women. Against this backdrop, Cairene Jewry’s immovable assets, foremost among them its historic synagogues, are facing what could become a transformation partially funded by the ARCE grant. The exceptional initiative from Magda Haroun, the head of Cairo’s tiny Jewish community, and her deputy, Samy Ibrahim, is the Cairo Jewish Synagogues Study (CJSS) – an innovative project to document those remaining synagogues so their future can be assessed. These temples—both ancient and modern—open a window onto a minority that flourished in the Land of the Nile for thousands of years.

In 2017, the ARCE grant launched the first step of the plan to survey Cairo’s Sephardic, Ashkenazic and Karaite synagogues, their architectural qualities and the objects integrated into their sanctuaries. Some were cleaned of local debris that accumulated since their decades-ago abandonment. Amid a careful evolution of local and national attitudes, the survey supports the belief that the Jewish community was and still is inseparable from Egyptian society, culture and history.

### Migration

When Persians and later Romans conquered Egypt, Jews thrived or survived as partners, oppressed minorities or somewhere in between. Throughout it all, diverse Jewish communities reflected historic migrations of people to, within and from Egypt, plus regular shifts of status influenced by local, national or continental predicaments. This trend of migration continued into the nation’s modern history, from British rule and independence to more contemporary conflicts, including two world wars, the founding of Israel, regional conflict and Egypt’s evolving role in Arab-Jewish relations. In Cairo, these shifts accompanied the development of the city itself, including the relocation of Jewish life from older to newer neighborhoods and the transition of Jewish roles in social and economic development that affected synagogues like Ben Ezra.

### The Geniza’s Home

As the city’s oldest synagogue, Ben Ezra proudly touts its status among the oldest Jewish temples standing. Controlled by an informal collaboration between the local Jewish community and the Egyptian government, the recently updated synagogue has not been used



for prayer since 1992, although the temple is popular with tourists and local visitors.

The synagogue’s design, furniture and carpeting feature ornaments and symbols prevalent in churches and mosques throughout the East. In 1889-1892, the current synagogue was rebuilt on the site of a previous, demolished structure, which itself arose from older structures that date to a Coptic church thought to have existed at the same location. Some even think the original temple was built in part with material from a nearby Roman ruin.

In this and other ways, the landmark reflects the diverse cultural and architectural history of Cairo and Egypt. The rectangular building’s flat roof is ringed by pedestals that display figures resembling the lotus flower – a spiritual symbol from both ancient Egypt and other religions. Inside, amid marble columns, the first floor houses the ezrat yisrael (men’s section), and aron ha-kodesh (holy ark) – the receptacle of the Torah scrolls. Crafted of wood, the ark is laced with golden

The white-stone entrance of the Ashkenazic Synagogue is crowned by stained-glass in the shape of the Star of David and the temple’s name in Hebrew letters.



The Maimonides Synagogue, honoring famed Jewish scholar Moshe ben Maimon, (1135-1204), was renovated in 2008-2010.

The documentary riches from what Schecter called the Cairo Geniza are now spread among academic institutions and museums worldwide.

engravings and mother of pearl to reflect the finest traditions of Islamic art. Perched nearby is an arch of alternating black and white bricks – a style prevalent in Eastern, Muslim and Christian prayer houses. The bimah (an elevated platform from which the service is led) is composed of white marble. Unlike Cairo’s other synagogues, Ben Ezra contains a marble-clad mastaba platform carved with gilded texts, including a reference to the Biblical Moses. The floor is paved with square stone tiles; on the ceiling and walls are marvelous frescoes with arabesque designs and colored geometric patterns.

On the second floor, the ezrat ha-nashim (women’s section) is reached by a wooden staircase in the courtyard. Ten marble pillars support the gallery’s ceiling and stone arches, which are alternately painted

black and white. The capitals of these pillars take the form again of lotus flowers – a motif in Egyptian architecture since Pharaonic times. Storerooms are found on either side of the eastern wall; the now-empty chamber to the left harbored the geniza. Items supposedly were deposited into the repository through a hatch on the western wall. However, one visitor who saw the predecessor synagogue’s geniza before the 1889-92 renovation described a document-stacked room accessible only from the roof.

The documentary riches from what Schecter called the Cairo Geniza are now spread among academic institutions and museums worldwide, although many remain at Cambridge. The records include legal disputes, engagement agreements, day wage payments to janitors, fragments of various ancient books, records of



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The beautiful, deteriorating dome of Nissim Eshkenazi Synagogue.

foreign trade from around the region and into India and China, thousands of personal letters and even testimony about various atrocities during the Crusades. With a lull in deposits after 1300, the document deposits resumed when Spanish Jews migrated several hundred years later. Even if the label Cairo Geniza reflects material from beyond Ben Ezra, the resulting scholarship and knowledge have proven invaluable to Jewish history and broader historical revelation. Studies on geniza materials continue, including efforts by universities and libraries worldwide to digitize their caches, make them more widely available and promote scholarly

synergies, including at The Frieberg Genizah Project or the Cambridge Digital Library.

### **Maimonides and the Neighborhood of the Jews**

Cairo was established by the Fatimids in the latter decades of the 10th century, spurring many inhabitants of nearby Fustat (the old capital) to move to the new city. Different Jewish streams centered on Cairo's Zuwaila quarter, which was consequently dubbed "the Neighborhood of the Jews." Over eras, Jewish influence ebbed and rose until the turn of the 20th century, when the neighborhood's 12 synagogues thrived during what could be called a golden age of Cairene Jewry. Today, only two of those temples remain.

"The Rabbi Moshe" Synagogue is named after Moshe ben Maimon (Maimonides, 1135-1204), whose enormous influence as a rabbinical authority continues to this day. His *Guide to the Perplexed* is considered one of the most important philosophical works from the past eight centuries. Maimonides also earned a reputation as a teacher and gifted doctor and scientist.

Maimonides was among the Jewish refugees from what would become Spain who joined the vibrant Jewish communities in Morocco and, later, in Egypt, where he became nagid (spiritual leader) of the Cairo Jews. After the family fortune was lost when his brother disappeared (probably drowned in a shipwreck) on a trading mission to India, the rabbi turned to medicine and became so famous he was named court physician to the vizier of Sultan Saladin. Connecting the heritage of one Cairo synagogue to another, a letter his brother wrote to Maimonides about a trip to India is now part of the Ben Ezra-related Cairo Geniza collection at Cambridge.

The Maimonides synagogue's present structure resembles a building that was renovated at the end of the 1800s, but the temple deteriorated after its 20th-century abandonment. Between June 2008 and March 2010, the compound was renovated from the foundation up. This ambitious project entailed pumping out ground water and installing a system to prevent further water damage.

The location of the yeshiva (study hall) where Maimonides is thought to have studied and taught is accessed from a passageway near the synagogue's front yard. This ancient wing of the compound is a quasi-subterranean expanse of just over 430 square feet (40 square meters). A wooden dome in the center of the ceiling allows light through several windows, with niches to the right and center. Documents indicate that Maimonides himself was temporarily laid to rest in one of the niches before his remains were later transferred to Tiberias on the Sea of Galilee.

Not far away, the Capoussi Synagogue is named for Haim Capoussi (d. 1631), who was among the Cairo Jewish community's most prominent rabbis. From an architectural standpoint, the unique temple calls to mind synagogues in Venice and Padova, but its egg-like dome reflects Byzantine elements common to Coptic churches. The present building was renovated near the end of the 19th century, and its current condition requires a comprehensive renovation from the foundation to the top.

### Toward the Future

The abrupt changes in Egypt at the turn of the 20th century included the immersion of migrating Ashkenazic Jews from Russia, Romania and Central Europe. In Cairo, the Ashkenazic community's offices and lone synagogue were set up near bustling al-Ataba Square. This temple was damaged by rioters in 1945, but the structure was rebuilt and re-opened its doors five years later.

Yet another development was the significant increase of migration of Jews from Cairo's old neighborhoods to the center of town. The Jews of central Cairo integrated themselves into the cosmopolitan environment that informed the country's large cities

during the inter-war period. Some of these "downtown Jews" regularly attended a synagogue near their homes, including Sha'ar ha-Shamayim (Gate of Heaven) Synagogue. Inaugurated in 1905, this magnificent temple occupies an expansive compound on one of central Cairo's main streets.

At the same time, most of Cairo's Karaites gradually relocated to the 'Abassiya sector. Karaism is based on the Jewish Bible instead of the Rabbinic law that evolved from Talmudic literature. As such, the Karaite community adopted its own unique customs focusing on the Moshe Dar'i Synagogue.

Besides Ben Ezra and a few others, these Cairo synagogues lie empty and relatively unused except for an occasional holiday ceremony. The ARCE-funded survey is an initial step toward consideration for further restoration and other uses that reflect Cairo's Jewish heritage and, more broadly, the role of this important minority in Arab and Muslim societies. ♡

*Yoram A. Meital, professor of Middle East studies at Ben-Gurion University, is Visiting Fellow at The Herbert D. Katz Center for Advanced Judaic Studies at the University of Pennsylvania. David Everett is associate editor of Scribe.*

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The latest from ARCE's offices and chapters in the U.S. and Egypt

# Diverse Insights at the Cairo Center

Since the fall, ARCE's Cairo Center has kept busy playing host to a number of events, including the Center's annual lecture series, in addition to book signings and conferences. Aside from a lecture by former ARCE fellow Michael Wenzel, ARCE also hosted Alaa El-Habashi

and Ola Said, the owners of a restored medieval period home in the UNESCO-listed neighborhood of al-Darb al-Ahmar. Speaking about their experience of purchasing, restoring and ultimately reinventing the home as a community hub, El-Habashi and Said offered incredible firsthand insights into the reality of adaptive reuse in the Egyptian context.

In November, authors Humphrey Davies and Lesley Lababidi participated in a lecture and book signing for their AUC Press publication, *A Field Guide to the Street Names of Central Cairo*. Tarek Swelim capped off the month with a lecture about his recent findings on the development and evolution of the Arabesque in medieval Cairo. December kicked off with a lecture by sustainable tourism consultant Ahmed Shaboury and ended with a festively timed lecture and book signing by Seif El Rashidi, in honor of his recent AUC Press book co-authored with Sam Bowker, *The Tentmakers of Cairo: Egypt's Medieval and Modern Appliqué Crafts*.

The first edition of "The Egyptian Soundscapes: Music, Sound and Built Environment" conference took place over three days in mid-December, co-hosted by ARCE and the American University in Cairo. The start of the new year saw ARCE co-host the third installment of the Joint Conference on the Bioarchaeology of Ancient Egypt & The International Symposium on Animals in Ancient Egypt (BAE-ISAAE),



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with the American University in Cairo, the Institute for Bioarchaeology, the Wenner-Gren Foundation and Archimède. Two lectures by former fellows Ibrahim Mansour and Anny Gaul, who presented their respective research on the Shadhili Sufi order and the evolution of classic Egyptian recipes, also took place in January.

A flurry of lectures followed in February, beginning with renowned Egyptologist Marianne Eaton-Kraus giving a special guest presentation on the role of connoisseurship in the study of Ancient Egyptian art. This was followed by two specialist lectures from Coptologist Stephen Emmel and Abdelrahman Medhat, a conservator at the Grand Egyptian Museum. 🌸

1 Humphrey Davies and Lesley Lababidi sign copies of their book at ARCE on November 7, 2018.

2 Humphrey Davies and Lesley Lababidi take questions from the audience following their book presentation on November 7, 2018.

3 Ahmed Shaboury speaking at his lecture on December 12, 2018.

4 Former ARCE fellow Ibrahim Mansour speaking at ARCE on January 23, 2019.



4

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# Northern California Student Grant Honors Dr. Eugene Cruz-Urbe



Amr Khalaf Shahat's focus is in archaeology and paleoethnobotany. He is using the \$1,500 grant to fund an experiment at UC Berkeley to construct a stable isotope map of Nile River water and plant samples irrigated by it. Results will enable scientists to distinguish which plants were grown with Nile water and which, having a different isotope signature, likely arrived in Egypt as imports.

The study will have large-scale applications for Egyptian archaeologists, life scientists and paleoecologists, according to Shahat. It will provide anthropological information for Egyptologists interested in the social meaning of food and its regional and trans-regional sources. Additionally, the research will offer archaeobotanical data to Egyptologists studying food remains in non-elite contexts, an area that lacks scenes or offering formulas and is under-studied in the archaeological record. The experiment is under the supervision of Dr. Christine Hastorf and Todd Dawson of UC Berkeley.

Shahat hopes to build social connections between national labs in Egypt, life sciences labs at UC Berkeley and the Hearst Museum of Anthropology to facilitate long-term collaborations in the future. He says he is honored to be the beneficiary of the grant, as he was acquainted with Cruz-Urbe and appreciates his efforts to make connections between many divergent cultures and ideas.

Cruz-Urbe was a scholar well known for his interest in Demotic language (particularly Demotic graffiti), for his bow ties, and for his constant and unpretentious good humor. He died March 12, 2018, from injuries received in a bicycling accident near his home in Richmond, Indiana. He was 65 years old and had returned only recently from Egypt.

Cruz-Urbe received his B.A., M.A., and Ph.D. in Near Eastern languages and cultures from the Oriental Institute of the University of Chicago. His career included stints at California State University, Monterey Bay – where he began his association with ARCE Northern California – Northern Arizona

**A**RCE Northern California awarded its first Eugene Cruz-Urbe Memorial Student Grant to Amr Khalaf Shahat (above), a doctoral student concurrently enrolled at the University of California, Berkeley and the Cotsen Institute of Archaeology at the University of California, Los Angeles. Cruz-Urbe, who died in March 2018, was the editor of the *Journal of the American Research Center in Egypt* and a longtime member of ARCE's Northern California Chapter. His many friends created and contributed to a student grant to honor his memory, and funding is secured to continue the grant through 2021.



Gene Cruz-Urbe


University and Indiana University East, where he retired as professor of history in May 2017.

Friends, stunned by his sudden death, decided to remember Cruz-Urbe with a grant, administered by ARCE Northern California, to fund undergraduate and graduate students who either attend school in or have a home town in Northern California.

Betty and Bob Bussey remember Gene as an engaging, enthusiastic and humorous speaker – a down-to-earth person, bow tie and all. Gene was a man of many talents: teacher, Egyptologist and active researcher.

Glenn Meyer remembers, “I was always interested in Set and so was drawn to Cruz the first time he gave a talk on Set at an ARCE conference. The trickster was at play that day, because Cruz was never able to give that talk. His computer crapped out right about the time he started. Was he upset? Probably. Did he show it? No. Cruz was a gentleman and a gentle man, with an air so unassuming that you often forgot what a great scholar he was, until such time as he took it upon himself to point out, gently, the error of your ways.”

Dr. Steven Vinson, Cruz-Urbe’s colleague at Indiana University, said, “Perhaps all of the work that Gene did through the decades, working so assiduously to recover the many small monuments left by ordinary ancient Egyptians throughout the land of the Nile in hopes of securing their own immortality, will now redound to Gene’s benefit. As so many of those ancient Egyptians hoped for themselves, we can also hope that Gene’s good name will endure forever.”

The next call for grant applications will go out in Fall 2019. For more information, email chapter president Barbara Wilcox at [ARCENorCal@gmail.com](mailto:ARCENorCal@gmail.com). 

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# Members Tour The Met, NYU Center

In November, ARCE partnered with two Research Supporting Members to provide a unique member experience. In collaboration with The Metropolitan Museum of Art in New York, our members attended an exclusive tour of The Met's exhibit "Nedjemankh and His Gilded Coffin." The exhibit was curated by Dr. Diana Craig Patch, curator in charge of the Egyptian art department at The Met, with the assistance of Janice Kamrin and Niv Allon. The special tour was led by Kamrin, associate curator and member of the ARCE Board of Governors. This intimate event allowed 20 members to enter and tour the gallery before The Met opened its doors to the public. The highlight of this exhibit is the dazzling golden coffin, which belonged to the priest of Heryshef, Nedjemankh, and dates to around the first century BCE.

ARCE members who attended were mesmerized by the coffin and enjoyed the private tour of the exhibit with Dr. Kamrin's expert explanation.

After the tour, ARCE hosted a breakfast where guests had a lively conversation with the Met's curators. A number of current Met fellows attended the breakfast and had a chance to share their research topics and ideas.

Following the tour at The Met, our members had an opportunity to attend a private tour of the New York University Institute of Fine Arts Conservation Center. The tour was led by Dr. Hannelore Röemich, professor of conservation science, and her students. Many ARCE members in attendance were alumni of NYU's archaeology program and delighted in learning about the methods of conservation presently being taught at the school. The tour included the studios where students learn how to conserve paper, photographs and paintings. Three students shared stories about their work in these areas. Members were interested in hearing about new methods of conservation, and a number of attendees developed new ideas for future field collaboration between archaeologists and conservators. Similar events are planned with other museums and partner institutions, including a spring private lecture about the Sunken Cities exhibit at the Minneapolis Institute of Art. 



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- 1 Copy of Theban tomb scene at The Met
- 2 Drs. Janice Kamrin (L), Diana Craig Patch, Henry Bleattler (R)
- 3 The gilded coffin amazed ARCE members.
- 4 Pectoral of winged goddess at The Met
- 5 Theban-style storage jar at The Met
- 6 Met Fellows and ARCE members
- 7 Students at the NYU Conservation Center
- 8 Dr. Hannelore Roemich with students Leah & Taylor (R)

PHOTOS 1, 3, 4, 5: The Metropolitan Museum of Art.

# FELLOWS FORUM

*Conversations with ARCE fellows past and present*

## Peter Lacovara

ARCE Fellow 1979-80

## Elizabeth Hart

ARCE Fellow 2012-13

*Peter and Beth spoke in January by phone. Their exchange has been edited and condensed for clarity.*

**PL:** How are things at The Met?

**BH:** They're great! I'm having a lot of fun looking at the sickles here, seeing how they change over time. I'm going to Egypt in about two weeks to look at some of the complete sickles at the Egyptian Museum. They have some from the tomb of Hemaka and Tutankhamun's tomb as well. And then I'm going to Giza to look at some of their flint sickles, and then pull it all together for my project.

How are things with you?

**PL:** Good, good. I'm just back from Egypt but I have to go back for a tour in about two weeks.

**BH:** Oh great, you'll be there.

**PL:** Yeah, so maybe we'll run into each other. Okay, we should start the chat. How do you think fellowships or conducting research in Egypt has changed over time? Have the available resources changed?

I just checked and I was a fellow in 79 and 80. It was pretty rough back then. I did an archaeology fellowship, which was rare, so the budget had to be stretched. I went to Deir el Ballas, which was the site I worked on for my dissertation, and I lived in a tent at the site. It was Petri-esque; it was really cold, and I ate tuna fish out of tin cans and bathed with cold water poured over my head. It was a lot different back then.



**PETER LACOVARA** (B.A. 1976, Boston University; Ph.D. 1993 The Oriental Institute of the University of Chicago) is director of The Ancient Egyptian Archaeology and Heritage Fund. He is also consulting curator for the Egyptian collection at the Albany Institute of History and Art and visiting research scholar at the American University in Cairo. He has worked as senior curator of ancient Egyptian, Nubian and Near Eastern art at the Michael C. Carlos Museum and assistant curator in the department of ancient Egyptian, Nubian and Near Eastern art at the Museum of Fine Arts, Boston. Peter has taught at universities in the U.S. and Egypt. His archaeological fieldwork includes excavations at the Valley of the Kings, the palace city of Amenhotep III at Malqata, Abydos, Hierakonpolis and the Giza Plateau, and currently he is directing the survey and restoration of the site of Deir el Ballas. His publications include studies on daily life and urbanism in ancient Egypt, Egyptian mortuary traditions and the material culture of ancient Egypt and Nubia.

**BH:** Oh wow! Well, I did mine in 2013 and I was sort of doing an archaeology fellowship as well. I was analyzing artifacts that were stored in dig houses. I had to be on permits and go to the excavation houses and live there.

I was at Abydos, looking at the lithics from Dave Anderson's Mahasna project and from Steve Harvey's Ahmose and Tetisheri Project and then I was in Aswan at Naq el-Qarmila with Maria Gatto. We had much better living conditions – lovely dig house, lovely bathrooms.

**PL:** So, things have changed! Okay, the next question: Why was it crucial for you and other scholars to be able to work in Egypt and not just remotely?

The reason I went to Ballas was that the site had originally been excavated by George Reisner and never published. I'd found the records when I worked at the MFA, but they were very incomplete. There were plans of houses which had never been attached to a map, so there was no indication where they were on the site. I had to go back and re-survey and then of course found much more and found a lot more data. That kind of archaeology, of course, you can't do in a library.

**BH:** Yes, the artifacts are in Egypt, so going there is the only way to study them. Working with an archaeological collection in the field means it's very complete. I get to see everything, even the not-so-pretty pieces which are actually very important.

**PL:** Yes, and your project is so important because we know so little about flint tools and the Dynastic period; nobody pays attention to them.

**BH:** Right, and I want this project I'm working on now to show that there's still a lot that we can learn from them even in the Dynastic period when we have all this other data. With

the flint, you can still have a really good look at the economy and how it works because these flint remains preserved so well and there are so many of them. I'm also hoping eventually to write a kind of field guide for lithics, with collection strategies, an overview of the tool types and debitage types just to help make it easier for people to collect and deal with their lithics.

**PL:** That's great. What was living in Egypt like for you?

**BH:** Well, I spent most of my time in the field, in dig houses on projects. I got up at an ungodly hour, like 5 a.m., and was in the lab studying artifacts by 6 a.m. I took a break for second breakfast at 9:30 and worked until lunch at two. Then back in the lab for another few hours until it got dark. And then I processed data on my computer until it was time to go to bed, around 9 p.m.

But one thing I love about being in the field is that it's so remote; the Internet is complicated (though it's a bit better now). You get to ignore or not be able to access everything else in your life and just focus on doing the research. It's actually kind of relaxing in that way.

**PL:** Yes, escape all the political news at home. I've spent a fair amount of time in Cairo and I like Zamalek a lot really; you can walk around, there are shops and stuff. Cairo can be overwhelming. I'm from New York City, but I can't imagine somebody from a small town visiting Cairo for the first time.

**BH:** What are your highlights of your travels around Egypt? What do you recommend people visit?

**PL:** Let's see; I've led a fair number of tours. I try to take people to the Egyptian Museum and give them enough time. I think sometimes people are rushed through these things and don't get to see a lot of what they should see. Often, they don't put newer things on the itinerary, like the Imhotep Museum at Saqqara, or the serapeum



**ELIZABETH HART** is a J. Clawson Mills fellow in art history at The Metropolitan Museum of Art. She received her Ph.D. in anthropological archaeology from the University of Virginia in 2017, M.A. from the same institution in 2010, and B.A. from the University of Michigan in 2004. Beth's research specialties include ancient economies, the Predynastic period of Egyptian history, and lithic artifacts. She has participated in Egyptian fieldwork projects in Abydos, Aswan, Elkab, Giza, Helwan, El-Mahâsna and Wadi el-Hudi, and is the head lithic specialist for the University of Vienna's Wadi el-Sheikh project. She has worked as a research fellow with the University of Vienna, as board relations manager for the American Research Center in Egypt, taught at the University of Virginia and helped coordinate a special exhibit at the Kelsey Museum of Archaeology. Her research has been supported by grants from the National Science Foundation, the University of Virginia and the American Research Center in Egypt.

since that's just recently re-opened, or even the Nubian Museum in Aswan which is fantastic.

**BH:** I took my family last year, and we did make it to the serapeum and the Nubian Museum. One of my favorites is Bab Zuwayla. Getting there, you go through the Egyptian market and that's really fun and not touristy, and Bab Zuwayla has the amazing views over Cairo. It's kind of scary to get up there and kind of exciting, and people love that.

**PL:** I also like The Gayer-Anderson Museum to get a snippet of what life was like in the past.

**PL:** Do you have any words of wisdom you'd like to share with those just starting out in their studies of Egypt's cultural heritage?

**BH:** Well, go to Egypt, with a tour or a group or to study. Being able to study while you can actually visit the sites and museums and the artifacts brings it all to life. It really helps you find out what you want to do. If you're planning to spend a long-term career dealing with Egypt, then you definitely have to go and see what you're getting yourself involved in because it's an amazing and fun place, but it's also very intense.

**PL:** And I think in particular, now, there's so much destruction happening because of the expanding population, and everything that goes along with it – cultural expansion, industrial expansion, cemetery expansion. Things are disappearing and being destroyed at a frightening pace. I would certainly encourage people to go to Egypt and try to record some of this material before it's lost forever. Probably not since the Aswan Dam have we faced such an urgent situation in archaeological recording.

**BH:** Do you have any advice for people who are doing fellowships?

**PL:** I was pretty much on my own back when I first started. But nowadays, ARCE goes out of its way to be very helpful to fellows. I was very

# FELLOWS FORUM

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lucky because Lanny and Martha Bell really took me under their wings and helped me when I was down in Luxor, but the ARCE Cairo staff really go out of their way to be very helpful and provide everything the fellows need. They have a lot more support.

**BH:** And they do usually have groups of seven or eight coming in at a time and they get together in Cairo and try to build some community there. I’m sure it’s nice to have other people just to study with or know that are doing the same thing. I spent most of my fellowship, like I said, outside of Cairo and I

didn’t get to tap into that as much.

**PL:** But you did get to meet a lot of people in the field, so that was a really good thing.

**BH:** Yes, exactly. That’s one of the best parts of doing the fellowship: getting to connect with other scholars at the same time.

**PL:** Yes, you make the international connection, not only with Egyptian scholars but with people from all over the world. 🌍



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# BACKFILL

Recalling moments captured over the decades



## Saving the Monuments of Nubia

When the construction of the Aswan High Dam threatened to flood significant Nubian sites, UNESCO organized an international rescue campaign. Beginning in 1960, groups, including the Oriental Institute of the University of Chicago and representatives from ARCE, excavated and recorded numerous sites, recovered artifacts and even relocated entire structures.

The Oriental Institute excavated at several locations in Upper Egypt in the reservoir area of the Aswan High Dam from 1960-64. Project director Keith Seele managed the expedition from the decks of the houseboat, *Fostat*, later adopted by ARCE. As the seasons progressed, a modest fleet of vessels floated along the Nile to continue to support the documentation and preservation efforts. They were moored on the Nile's east bank at the royal cemetery, Qustul, in the first days of 1963. The tremendous efforts over the next seasons recovered thousands of artifacts and salvaged our understanding of the mortuary landscape, now beneath the water's surface.

The activities of the Oriental Institute and other UNESCO partners during the International Campaign to Save the Monuments of Nubia contributed valuable information to the understanding of Egyptian Nubia and successfully preserved over a dozen important sites and monuments by the conclusion of the campaign in 1980.

**ABOVE:** Oriental Institute Nubian Expedition, Qustul 1963, (seated L-R) Expedition Director Keith Seele, Fuad Yakub, Louis Sabkar, Mr. Murad, James Knudstad. (standing/partial identification) Schaden, Hoerth, Habachi, assistants.



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The harbor city of Old Quseir is located on the Red Sea coast – a three-hour drive east of Luxor – situated at the narrowest point between the Nile River and the Red Sea. Because of this strategically advantageous position, Quseir operated as a commercial and military harbor since Egypt's Roman period but was abandoned in the fourth century. The Ayyubid dynasty revived the settlement as Quseir al Qadim. The Oriental Institute of the University of Chicago's excavation of the site began in January 1978 under the direction of Drs. Janet H. Johnson and Donald S. Whitcomb (thought to be above center). This photograph was taken during the 1980 excavation, which focused on the 14th-century Islamic town. Among the finds from the Islamic period were paper documents – letters, ledgers and shipping records – that illustrated the flow of grains and goods from Egypt to holy lands on the opposite coast. The site proved a fascinating comparison of trends in trade through the harbor during two different settlements, separated by centuries.