

FROM THE DIRECTOR'S STUDY

While great strides have been made in understanding the history and culture of ancient Mesopotamia, the field of Assyriology is nevertheless a young one, and many questions of the most basic kind remain to be answered. Research continues to reveal new information about even some of the most well-known artifacts. For example, in this issue, Susanne Paulus reconsiders the traditional understanding of objects known as *kudurrus* (from the Akkadian word for "boundary stone") as boundary markers set up in fields to protect property. By examining more ancient exemplars of these artifacts, including the "Chicago Stone" at the Oriental Institute, in comparison with later monumental *kudurrus*, Susanne sheds new light on the raison d'être of these objects as protectors of property placed in temples, emphasizing the continuity of Mesopotamian thought and traditions throughout its long history.

Also in this issue, two articles by Yorke Rowan and Gregory Marouard, respectively, highlight the ways in which advances in technology, such as satellite imagery, remote sensing, and geomagnetic survey, can best be used in combination with on-the-ground excavation in order to further our understanding of ancient sites. Combining aerial photography and computer modeling with excavation, Yorke's work on the Eastern Badia Archaeological Project in the Black Desert of eastern Jordan during 2010–2016 has revealed that constructions originally assumed to be tombs built by mobile pastoralists were actually more permanent houses occupied during the Late Neolithic period (6500–5000 BC). Similarly, utilizing kite aerial photography and geomagnetic survey in conjunction with Photoscan software, Gregory's team was able to confirm the presence of a Roman theater at the site of Kom ed-Dahab in Egypt as well as uncover information about its construction and materials.

Together, these three articles illustrate the impressive scope of the work being done by scholars at the Oriental Institute: pursuing deep philological-historical inquiry into the meaning of objects and texts, leading the field in technological approaches to archaeology of the ancient Near East, and increasing our understanding of ancient civilizations through excavations across the modern Middle East.



Gil J. Stein, Director

In This Issue

3 Exhibitions

5 Kudurrus

12 These Old Houses

16 From Space to Ground

22 News

25 Programs & Events

32 Volunteer Spotlight

39 Artifact Highlight

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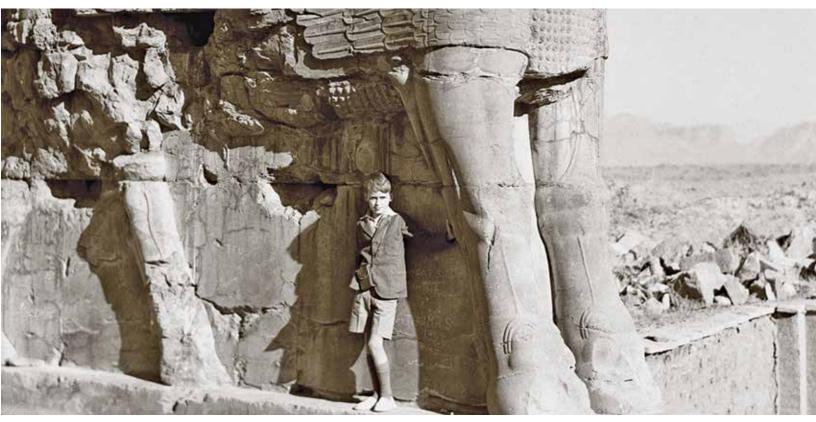
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On the cover: kudurru, ca. 1099-1082 BC (British Museum, London, BM 90841. Copy on display in the Mesopotamian Gallery of the Oriental Institute Museum). ©Trustees of the British Museum

EXHIBITIONS



Winged bull from the Gate of all Lands, Persepolis

PERSEPOLIS: IMAGES OF AN EMPIRE

In the Special Exhibit Gallery, ongoing

The exhibition presents large-format photographs of the ruins of one of the greatest dynastic centers of antiquity built at the height of the Achaemenid Persian empire (550-330 BC). The photographs, taken during the Oriental Institute's Persepolis Expedition (1931-1939). record the forests of columns, monumental audience halls, and stone relief carvings of the people who came from all corners of the empire to honor the Persian king.

DON'T TAKE MY STUFF — TELL MY STORY

In the Lower Level of the Oriental Institute, May 1-October 30

When an archaeological site has been damaged, a page from the storybook about humankind (aka "history") has been ripped out before it could ever be written. Today, heritage is under threat as never before. K-12 students and adults respond to the memory of the history that has been lost due to looting and destruction, and hope for the history yet to be discovered by archaeologists through twodimensional art. Presented in collaboration with The Dream Rocket Project.

A THREATENED HERITAGE Throughout the Museum, ongoing

In many parts of the world, political instability and conflict have displaced populations and created threats to archaeological sites, landscapes, and museums. This series of panels documents threats to heritage in the Middle East and suggests possible ways to prevent further losses and build a stronger future for the past.

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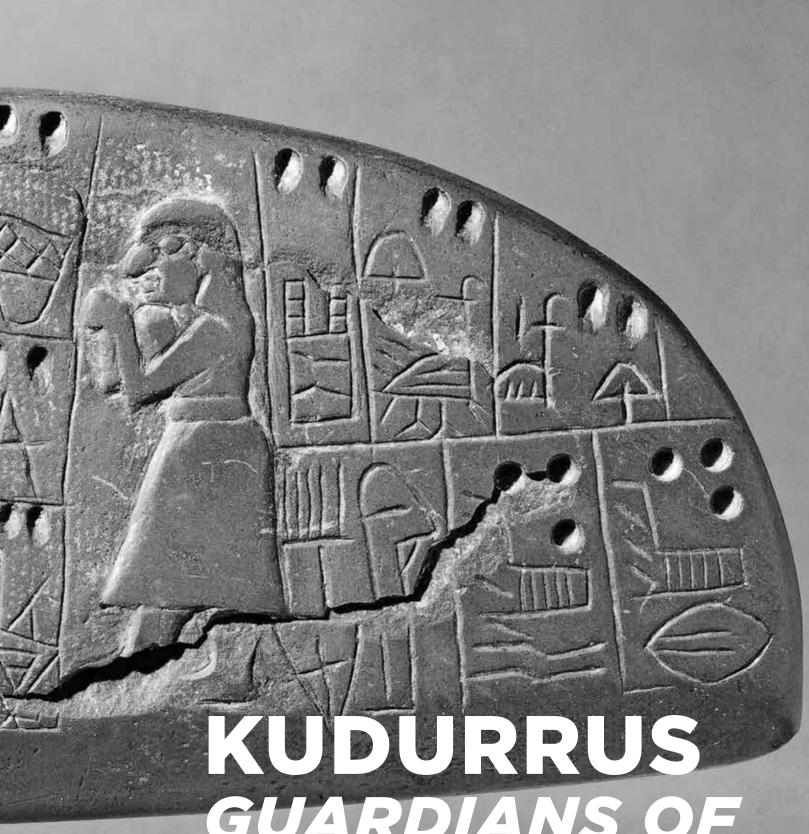
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Blau Plague, ca. 3000 BC (British Museum, London, BM 86260). ©**Trustees of the British Museum**



GUARDIANS OF PROPERTY

iscovered by the French botanist and explorer André Michaux in 1782, the Caillou Michaux (fig. 1) was one of the first cuneiform-inscribed objects to be brought back to Europe. Though nobody at the time could read this script, the inscription was nevertheless copied and analyzed. Early theories abounded; some were convinced that the stone was a magical object, a talisman against evil spirits. One scholar even "translated" the inscription into Latin, reconstructing a mysterious and ancient ritual. In 1802, however, the cuneiform script was finally deciphered. This was quickly followed in 1857 by the identification of Akkadian, the language of the Caillou Michaux. Two of the men responsible for the decipherment of Akkadian, the French-German scholar Julius Oppert and the young British scientist and photographer Henry Fox Talbot, were among the first to translate the Caillou Michaux. The result was far less exciting than they had expected: the inscription commemorates a land donation given by a father to his daughter as a dowry when she married an important official.

The beginning of the inscription reads:

"400 acres of land (...), farmland of the town of Kar-Nabu, (on the) bank of the 'Bitter-water-canal,' Nirah-nasir, the son of Habban, gave (as) dowry land to Dur-Sharru-kina'itu, his daughter (...) for future days:

3-uš-rope is the upper length in the east, adjacent to (the land of) the province of the city of Bagdada;

3-uš-rope is the lower length in the west, adjacent to (the land of) the House of Tunamisah;

1 uš-rope 50 ninda is the upper width in the north, adjacent to (the land of) the House of Habban;

1 uš-rope 50 ninda is the lower width in the south, adjacent to (the land of) the House of Habban (...)" (Excerpt from the Caillou Michaux, ca. 1099-1082 BC)

Because the land is described in such detail, scholars first concluded that objects like the Caillou Michaux were boundary stones, erected on fields to protect the land against shifting borders. They called these monuments kudurrus (Akkadian for "boundary marker"), even though this term is rarely used in the objects' inscriptions. Today, more than 160 of such kudurrus are known, dating from ca. 1400 to 625 BC, all originating in Babylonia (modern southern Iraq). They are typically made of stone and inscribed with records of land donations or acquisitions. Furthermore, scholars have linked other stone inscriptions, such as the famous "Chicago Stone" (ca. 2600 BC) in the Oriental Institute Museum (fig. 2), to these objects. These so-called ancient kudurrus are much older, dating to the third millennium (see timeline of the kudurrus), and are mostly written on tablets rather than on stelae. Their inscriptions also deal with real estate property:

"23 acres, land of the House of Adkup, 43 1/3 shekels of silver (is its price),

26.6 acres, land of the House of Ilalum, 50 shekels of silver (is its price)

were given to Ur-Gunura (and) Lu-baragsi."

(Excerpt from the Chicago Stone, ca. 2600 BC)

Although similarities between the ancient and later kudurrus are obvious, closer examination of the Chicago Stone reveals a problem: the tablet is inscribed on both sides and measures just 10.0×12.5 inches. If it were to be placed at the border of a field, it would quickly be lost or stolen because stone was a precious and rare material in Mesopotamia. These tablets could not be used as boundary stones at all since they were too small and fragile. But even the larger kudurrus of later times were perceived by the Mesopotamians to be fragile and threatened objects. On a kudurru from Babylon, a copy of which is on display in the Oriental Institute Museum (fig. 2), we can read

> "(If) he picks up this stelae and throws it into water, tosses it into a well, smashes it with a stone, burns it with fire, buries it in the dirt, or buries it in a hidden place, the great gods An, Enlil, Ea (and) Belet-ili will look angrily upon this man."

> (Excerpt from the *kudurru* BM 90841, ca. 1099–1082 BC)

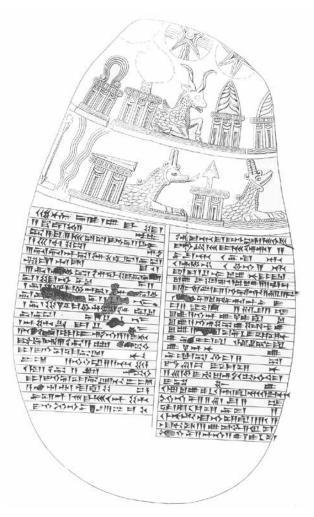


Figure 1. (above) Calliou Michaux, ca. 1099-1082 (Bibliothèque Nationale, Paris). Drawing from A. L. Millin, Monuments Antiques inédits ou nouvellement expliqués (Paris: Chez Laroche, 1802, p. 63 pl. IX)

Figure 2. (right) Chicago Stone, ca 2600 BC (Oriental Institute Museum, A 25412)

The Babylonians imagined all kinds of destruction that could befall the kudurru and therefore tried to protect the object themselves. This stone from Babylon was not found on the fields but in the temple of the god Marduk, the main deity of Babylon. When Ursula Seidl, an art historian, studied all known findspots of kudurrus, she discovered that they were not erected on fields but were instead set up in temples before the gods. This raises the question of what purpose the stones were expected to serve. In other words, why did people invest time, labor, and costly materials to set up these stones in temples once they acquired real estate?

While movable property (e.g., cattle) was sold and exchanged freely, the sale of real estate (i.e., houses and farmland) was much more complex because multiple rights had to be respected. In the earliest real estate documents dating to the third millennium BC, transactions were linked

to rituals. Early sales documents inform us about sumptuous feasts accompanying property transfers. During these occasions, all concerned parties which could include previous owners, neighbors, family, potential heirs, and other members of the rural community - sat together and shared a meal. The people participating in the meal thereby witnessed the transaction, and by consuming food and alcohol, they forfeited their

go Stone, food was still considered

right to object to the

transaction. On the Chica-

part of the purchase price, and it is stated that the neighboring farmers sat at the sides of the fields to validate the transaction. Other measures were taken to ensure the publicity of the legal act. The Chicago Stone mentions that "oil was spread on the side (of the house)" to visibly mark the property as sold. Another method was to inscribe the transaction on a peg and to drive it into the outer wall of the house in question. While these actions secured the publicity of the sale, the most common way to prove that a legal real estate transaction had taken place was by presenting a written document.

These documents were not inscribed on stone but rather were written on clay, a common material in Mesopotamia. All of the details of the transaction were listed, along with any witnesses. To indicate that he forfeited all rights to the sold object, the seller - and sometimes the witnesses - would seal the tablet. This sealing practice also served a secondary function: it guaranteed the authenticity of the tablet. Occasionally, as in this example from

the Oriental Institute collection (fig. 3), the sales document was also wrapped in another layer of clay to create an envelope. This envelope would be inscribed with either the whole transaction or simply the most important parts of it and then sealed. If the authenticity of the tablet was ever doubted, the envelope could be broken to check the original document. These sales documents could therefore be used as proof in court.

If later someone appealed to the judges to contest a transaction, they could present the sales documents even if all the witnesses had died. The Mesopotamian legal system was well organized. Trained judges heard lawsuits and judged in accordance with the laws proclaimed by the king. The king not only pronounced laws but also acted as the highest judge in the land for complicated or severe cases. Written proof was examined,

witnesses present at the transaction were heard (often under oath), and experts such

as land surveyors could

be summoned to testify. But real estate lawsuits could be quite extensive. One infamous case lasted through the reigns of three successive kings and covered such topics as contested adoptions and family relations, a canceled sale, failed water ordeals, and more. Given these circumstances, it is not surprising that people did everything in their power to prevent real

estate transactions from being contested.

Both parties usually swore

an oath by the name of the king and the gods of their city to respect the transaction. They believed that if they broke the sales agreement, the gods would punish them. Occasionally, the threat of divine punishment was not enough, and additional penalties were added; these punishments could be financial or physical in nature. They could also be quite complex, as seen in the following legal text dating to the late second millennium BC:

"According to the decree of the king Marduk-apla-iddina I, they will [drive] a bronze peg into his mouth,

they will pour 1.1 pounds of bitumen (and) 1.1 pounds of tar into his mouth,

they will stuff 1.1 pounds of goat hair and 1.1 pounds of wool into his mouth,

he will give 1.1 pounds of silver and 1.1 pounds of gold for the leather bag of (the gods) Marduk and Sarpanitu (...)." (Excerpt from a legal transaction from Babylon, ca. 1171-1159 вс)

While the high monetary fine would likely have ruined the transgressor, the other punishments with which he was threatened are more symbolic. For instance, the peg that was to be driven into the wrongdoer's mouth may be identified with the peg that was driven into the wall to mark the validity of a sale. This is interesting because the symbolic act of marking a sold house with a peg had long since disappeared by this time period, but the corresponding punishment remained a part of the legal transaction.

Public acts, sealed clay tablets, oaths, and threats of financial and capital punishments, were all measures taken to protect properties against claims. But what role did the kudurrus play? The stones were not sealed and therefore could not be used as proof in court. Additionally, they were set up in temples and not on the real estate, so they also could not serve as a public proof that the land had been sold. The older kudurrus, including the Chicago Stone, reveal little about their purpose. The Chicago Stone is a compilation of sixteen different sales transactions copied onto a single stone tablet; therefore, it could only have been written after the last sale had been concluded. When these contracts were inscribed on stone, they may have been shortened, but nothing that could give us a clue about the kudurru's purpose was added. This situation is quite different when compared to that of the later objects.

Returning to the inscription on our stone from Babylon (fig. 2), we observe that the new landowner had the complete sales transaction copied out on stone; however, he omitted elements that are typically found in common sealed clay documents, such as a witness list, a sealing, and the date of the transaction. In place of these, he added a long list of curses:

"An (the god of heaven), Enlil (the father of Marduk and the previous head of the pantheon), Ea (the god of wisdom and fresh water), Belet-ili (the mother goddess), the great gods, shall look angrily upon him and shall curse him with an unbreakable curse!

Sîn (the moon god), the luminary of the pure sky, shall clothe his whole body with incurable leprosy, and he shall not become pure until he dies, and like a wild ass, he shall roam outside his home!

Shamash (the sun god and the god of justice), the judge of heaven and earth, shall strike his face, and his bright day shall turn to darkness!

The lady Ishtar (the planet Venus and the goddess of love and war), the able princess of the gods, shall send forth the bariritu-demon, her messenger of wrath. Day and night, he shall expel him from his settlement. He shall spend the night like a dog in the streets of his city!

Marduk (the god of Babylon and the current head of the pantheon), the lord of heaven and earth, shall bloat his insides with dropsy, whose bond cannot be loosened!

Ninurta (a hero and the god of battle), the lord of the border and the kudurru, shall remove his kudurru, crush his border, (and) change his boundary!

Gula (the goddess of healing), the chief physician, the great lady, shall create a persistent wound on his body, and he shall bathe in pus and blood just as in water!"

(Excerpt from kudurru BM 90841, ca. 1099-1082 BC)

A total of twelve gods are described here cursing a potential transgressor. Most of the gods are not only mentioned in the text



Figure 3. Envelope with sealings from Nippur, ca. 1737 BC (Oriental Institute Museum, A 30140)

but are symbolically illustrated on the kudurru. On the stone from Babylon, the gods An and Enlil are represented by a crown of horns, which identifies them as the most supreme gods of the pantheon. Beside the crown, Ea is symbolized by a turtle (fig. 4 left). The "pedestals" beneath these symbols are the temple façades of the gods' main dwelling places, depicted in miniature. The emblems of the astral deities Sîn, Ishtar, and Shamash - respectively, the moon, the morning star Venus, and the sun - are also visible on the kudurru. Meanwhile, Marduk is represented by both the spade and his snake-dragon mushhush, and Ninurta by his famous double-headed lion mace (fig. 4 right). Furthermore, other deities whose symbols are depicted on the stone - such as Nirah or Ishara (fig. 4 right) and Papsukkal (fig. 4 left) - are not mentioned in the written text. However, this is not surprising since the inscriptions on the kudurrus state that the images and text are meant to complement each other:

"All the great gods whose names are mentioned on this stela, whose residences are marked, whose weapons are visible, and whose drawings are sketched in (...)"

(Excerpt from a kudurru in the Louvre, Sb 22)

People believed in the power of the gods to curse potential transgressors. When someone fell ill with festering wounds, dropsy, and/or leprosy, these symptoms were interpreted as signs of divine disfavor. Sick people were expelled from society and forced to live in the steppe outside of the cities. These curses may therefore be interpreted as prayers to the deities to punish transgressions against properties. Hence, it was necessary to set these *kudurrus* before the gods in their temples. Normally curses of this kind were used by kings to protect stelae or other objects against destruction or usurpation by future kings while normal people faced punishment by the court. What is the connection among *kudurrus*, curses, and kings?

When kudurrus were reintroduced around 1400 BC (see timeline of the kudurrus), there was a change in the policy of landownership. In the preceding period, land was sold freely or was given by the king in exchange for certain services. The king therefore maintained an interest in respecting the ownership of land given in exchange for service, because part of his income and military service depended on it. No curses and consequently no kudurrus were necessary to protect these arrangements. After this system collapsed at around 1500 BC, the following Babylonian dynasty, the Kassite kings, changed their approach to landownership. Instead of giving out small parcels of land in exchange for services, the kings donated whole towns and their rural hinterlands to high officials. These officials collected taxes from the land, which was farmed by the rural communities. This arrangement was only possible if the king exempted the donated land from any taxes and services normally owed to him or his provincial administration. For the new landowners, this provided good income, but at the same time, they feared that a future king would revoke the donation or the exemptions connected with it. This fear can be seen in the following passage:

"If this man (i.e., a future king) hates the law and loves injustices,

(if) he does not fear the curses that I have written on this stela and left on this land before (the gods) Shamash, Marduk, Annunitu and the great gods of heaven and earth,

and (therefore) takes away the land that I have given to my offspring, causes an encroachment or reduction inside (the land), converts the exemptions that I have stipulated into services (...)"

(Excerpt from a *kudurru* in the Louvre, Sb 22, ca. 1186–1172 BC)

This passage illustrates the fragility of the arrangement between a subject and his king. Except in cases of private transactions, a king did not swear an oath not to transgress an agreement. Rather, he sealed a royal donation document, which could be used in court as proof of a land donation. Nevertheless, this document was of little use if a future king simply decided to take the land away. Because the king was the highest judge in the land, it was not possible to bring a legal case against him. It is therefore not surprising that the landowners wrote their transactions on stelae, placed these objects before the gods in their temples, and threatened any violators, including the king, with curses.

This explains the function of the *kudurrus* and the connection among *kudurrus*, curses, and the king, and leads us to an important question. The transactions listed on the *Caillou Michaux* and the *kudurru* from Babylon are private transactions; the first documents a gift of dowry land from a father to his daughter, while the latter records a private sale between Amil-Enlil and Marduk-nasir. However, the king appears twice on the *kudurru* from Babylon, once on the relief incised into the front of the *kudurru* (fig. 2), and a second time in the inscription, when the text states that a person will be cursed if he says, "The land is not a **king's gift!**" But why should it matter if privately sold land was a king's gift?

During the Kassite period the kings limited this special form of landownership. While the land could be inherited, sale of the property outside the family was prohibited. This ban was loosened after the Kassite period, and later landowners could sell their real estate if they found themselves in financial difficulty. Even if it was sold, however, it kept its exemptions and its status as a "king's donation." This also explains why *kudurrus* were widely used in the post-Kassite period until ca. 625 BC; as long as this system of landownership survived, *kudurrus* were needed to protect it.

Can we say the same of the ancient *kudurrus*? The *Chicago Stone* is clearly a combination of multiple private sales and can therefore only be compared to the later post-Kassite *kudurrus* (see timeline of *kudurrus*). However, the ancient *kudurrus* have their own long history. If we look into the earliest *kudurrus*, which date 400 years before the *Chicago Stone*, the situation becomes difficult, as those texts remain poorly understood. Nevertheless, some parallels can be cautiously drawn between the earliest *kudurrus* and those of the Kassite period. Both appeared in a time of social change, when the system of landownership was reorganized. The amounts of land given are in both cases significantly larger



Figure 4. Details with symbols of a kudurru, ca. 1099-1082 BC (British Museum, London, BM 90841. A copy is on display in the Mesopotamian Gallery of the Oriental Institute Museum). ©Trustees of the British Museum

Timeline of Kudurrus

3100-2150 BC Uruk III - Early Dynastic - Sargonic Period

Ancient kudurrus with private copies and

official land sales

Blau Plaque (ca. 3000 BC) Chicago Stone (ca. 2600 BC)

2100-1500 BC Ur III - Old Babylonian Period

No kudurrus

1400-1150 BC Kassite Period

Kudurrus are reintroduced to protect royal donations, curses are added (kudurru Sb

22, ca. 1186-1172 BC)

1150-625 BC Post-Kassite, Early Neo-Babylonian Period

Kudurrus are widely used to protect private

and royal land transactions

(kudurru BM 90841, ca. 1099-1082 BC)

(Caillou Michaux, ca. 1099-1082 BC)

(kudurru showing king Nabû-apla-iddina,

ca. 890 BC)

than in normal private transactions. Additionally, both types of kudurrus are typically limited to single transactions. We cannot prove that these transactions were donations like the ones attested in the Kassite kudurrus, but these earliest kudurrus lack the usual sales terminology, though some food was indeed exchanged. Furthermore, on some of these objects, such as the "Blau Plaque"



(fig. on title page), a bearded man wearing a net-like shirt and a bulky headband is depicted facing another person. He is also holding a mace-like object. This figure is normally assumed to be the "priest-king," one of the earliest known rulers of Mesopotamia. This could suggest that the transactions on these early kudurrus were donations or endowments made by a ruler. More than 2,000 years later, we find a similar scene on a small kudurru; in this illustration king Nabû-apla-iddina (ca. 890 BC) looks favorably upon a loyal subject standing before him and gives him land and a garden as a royal gift. Given this evidence, the earliest kudurrus may have served the same function as the later kudurrus; that is, they protected properties against future violations with the help of the gods. That people who lived a millennium apart may have employed the same solution to a similar problem serves to illustrate the longue durée of thought and traditions in Mesopotamia.

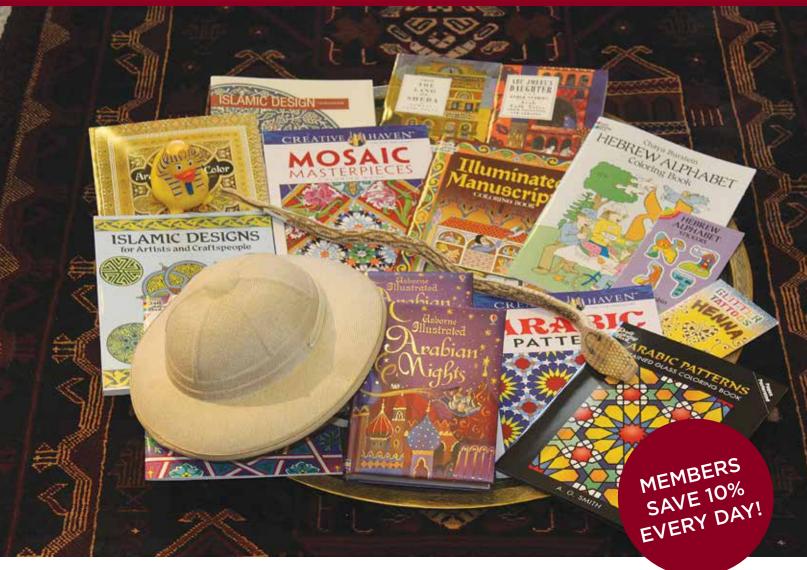
One important difference remains, however: the earlier kudurrus, unlike the later ones, utilized no special protection in the form of divine symbols and long, elaborate curses. Perhaps people thought that writing a transaction on stone and placing it before the gods was enough to protect their land. When the kudurrus reappeared, people emphasized these protective elements, making the gods the guardians of their property.

FURTHER READING

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Paulus, Susanne. Die babylonischen Kudurru-Inschriften von der kassitischen bis zur frühneubabylonischen Zeit: Untersucht unter besonderer Berücksichtigung gesellschafts- und rechtshistorischer Fragestellungen. Alter Orient und Altes Testament 51. Münster: Ugarit-Verlag, 2014.

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uring flights between Cairo and Baghdad in 1924, Sir Roderic Hill created rough maps of the region he flew over, including what he termed the "land of conjecture," an area of the Black Desert of eastern Jordan. Discussing this territory, Hill said that the area filled him with a sinister foreboding and that "the hills rose like odious flat-topped slag-heaps" (R. Hill 1929, p. 9, map III). Although we might not see it as sinister, our impressions of such an arid region were also guided by our modern perceptions, and as archaeologists, we should know better. After only a few seasons of fieldwork, our understanding of the eastern Jordanian desert is dramatically different from when we began this research project.

The Eastern Badia Archaeological Project [EBAP], a joint project of the Oriental Institute of the University of Chicago and Whitman College, examines two study areas in the Black Desert, Wadi al-Qattafi and Wisad Pools. Pilot seasons conducted between 2010 and 2014 recorded and explored structures in these areas. Our initial impressions, based on limited survey and recording, led us to suggest that these clusters of collapsed constructions were tombs, presumably of transhumant pastoralists

who passed briefly through this very arid region in search of food and water for their animals. The dates for these mortuary structures, tombs, and other anthropogenic features were unknown owing to the lack of chronologically diagnostic surface artifacts. We noted similarities to nawamis (the local Arabic term for burial structures in the Sinai) and other large, dry masonry tombs recovered in Yemen and Saudi Arabia.

Starting with the premise that these buildings might be mortuary in nature, we excavated four structures, two at Wisad Pools and two at Wadi al-Qattafi. Instead of burial structures, the artifacts, architecture, and analyses revealed houses with living areas and work spaces. Unlike the highly portable and ephemeral tent camps of mobile pastoralists, these buildings are carefully constructed of basalt slabs, round (to oval) in shape, using basalt pillars for support, with doorways, hearths, plastered space, and exterior courtyards.

The first indication that these old houses were not burial structures was at Maitland's Mesa along the Wadi al-Qattafi (fig. 1). In 1927 Maitland's Mesa (M-4) was recognized by RAF pilot Percy Maitland to have extensive structures covering the top,



Figure 2. South Slope 11 (SS-11) old house, Maitland's Mesa (Photograph by Y. M. Rowan)

which he thought was a fortress and we thought might be a necropolis based on parallels in Yemen and Saudi Arabia. There are more than 250 structures atop the flat summit of M-4 (huts, animal pens, a tower tomb, and a line of 55 constructed chambers), but we later realized that approximately 100 collapsed structures of basalt also extend along the slopes of the mesa. On the southern slope, we excavated one collapsed basalt structure (SS-11), selected because an intact entrance was visible (fig. 2). Although we thought this was a burial structure, we soon discovered that this was incorrect. Excavation of the oval, corbeled dwelling recovered animal bones, flint tools such as knives, scrapers, notches, and denticulates; an absence of human bones made it clear that this was not in fact a mortuary structure. Adjacent to the house a second entrance opens to a courtyard with a small hearth and an attached storage room with a pillar supporting a roof, still standing (left side of building, fig. 2). A charcoal sample (5475-5325 cal BC) from an interior hearth supports the Late Neolithic date based on the typology of arrowheads (Rowan et al. 2015). Such well-built houses with doorways, entrances, and possibly corbeled roofs should not exist in a region that we believed too arid for



Figure 4. Old house W-80 at Wisad Pools (Photograph by Y. M. Rowan)



Figure 3. Old house W-66 at Wisad Pools (Photograph by Y. M. Rowan)

anything but the most mobile, desert-adapted living. Moreover, we had not expected that this would date to the Late Neolithic (ca. 6500–5000 BC).

The following year at Wisad Pools, we chose another basalt mound for excavation believing that it too was a mortuary building. Like Wadi al-Qattafi, the landscape around Wisad Pools includes Late Miocene basalts over limestone. Unlike Qattafi, however, there are no mesas, only low plateaus and hills intersected by short, shallow wadis and extensive mudflats. At Wisad, basalt boulders block a small wadi, creating a series of small reservoirs that collect rain runoff. Hundreds of structures are evident, primarily concentrated on the east side of the pools. Close to the pools, there is also a dense concentration of petroglyphs (pecked rock art), artifacts on the ground surface dating to the Epipaleolithic and the Neolithic, and Safaitic inscriptions.

Like SS-11 at Maitland's Mesa, we chose a structure that appeared undisturbed. Beyond that, we could see no dimensions or features because of the collapsed large basalt blocks. W-66a, with a stone platform nearby (W-66b), was apparently used during several different phases. The earliest use was a roughly circular single



Figure 5. Central pillar and hearth in the old house South Slope 1 (SS-1), Mesa 7, Wadi al-Qattafi (Photograph by Y. M. Rowan)



Figure 6. Transverse arrowheads from the old houses at Wisad Pools (Photograph by G. O. Rollefson)

Figure 7. Badia points from old house SS-1 at Mesa 7, Wadi al-Qattafi (Photograph by G. O. Rollefson)

room about 4.25 m (north-south) with traces of plaster preserved in places. In the center of the room a large basalt pillar about one meter high was standing (fig. 3). An elliptical plaster basin (ca. 58 × 44 cm) was set into the floor on the west side, just below a niche $(1.5 \times 0.85 \text{ m})$ on the northeastern side of the building plastered at least four times. Charcoal from plaster provided Late Neolithic dates (ca. 6600-6460 cal BC).

Building techniques similar to those discovered at Maitland's Mesa were used for W-66a. On the southern, southeastern, and western walls, basalt slabs were stacked into fairly straight sections that then corbeled toward the center. We are uncertain whether the slabs actually reached the central pillar. If they did, the roof would be very low, and the inhabitants would only be able to crawl on their hands and knees. Possibly the corbeling covered the interior only partially, with a higher roof of skins and poles supported by central poles, reinforced by the basalt pillars.

Another larger, more complex building at Wisad Pools, W-80, required two seasons of excavation. Multiple sections of W-80 (fig. 4), both exterior and interior, and multiple renovations, made it more difficult to understand and to excavate the building, but reflect the use of the structure over a longer period of time. Multiple radiocarbon dates confirm over nearly 1,000 years of use, although probably not continuous. A large interior room measured about 6.5 × 5.5 m, with a central pillar, and other pillars that probably also supported roofing slabs similar in construction to other old houses. This structure incorporated the largest basalt slabs, some of which would have required five to six people to move a single slab. Within the large room, about four large working slabs had a singular, well-ground cup. Many other ground stone tools, such as grindings slabs, handstones, and pestles, were found in this area. At least four hearths were found in the northern area of the grinding equipment. A northeastern doorway, about 60 cm wide, appears to be a reconfigured opening that once was much larger. Just inside the doorway, an unusual cache of gazelle/caprine astragali (knucklebones) were discovered.

Chipped stone tools were numerous within the structure, differing significantly from those found at the Wadi al-Qattafi houses. In addition to other tools, drills, borers, cortical knives, and tabular scrapers were found, but most significant is the large number of arrowheads. According to co-director Gary Rollefson, over 600 arrowheads were found, nearly 90% of them transverse arrowheads. These are much smaller projectile points than those found at the Wadi al-Qattafi buildings, and may suggest greater emphasis on hunting of smaller mammals and birds, perhaps more numerous owing to the attraction of water in the pools.

Our most recent excavations (2015-2016) concentrated on a building on the slopes of Mesa 7, one kilometer north of Maitland's Mesa along the Wadi al-Qattafi. We selected this building, Southern Slope #1 (SS-1), because upright basalt wall slabs were visible. A central standing basalt pillar and supporting pillars were built into the walls (fig. 5). Built on a slope in close proximity to the sources of building material eroding from the top of the mesa, the builders cut into the side of the hill to create a level space. Interior construction consists of a series of upright basalt slabs, complemented by exterior large flattish slabs; smaller cobbles were used to fill the spaces between these two rows.

Excavations in the small interior (ca. 4.0 × 5.0 meters) revealed grinding slabs, handstones, an obsidian tool, a stone disk with a central drill mark, an impressive "seam" knife, and arrowheads. In the northern section a hearth was cut into the bedrock. A shallow, light gray plaster basin (ca. 80 cm × 70 cm) was built on the bedrock limestone, and up against small upright slabs lining the interior wall clear finger impressions were visible.

Again, chipped stone artifacts were numerous, and very interesting in comparison to those found at Wisad Pools. Burins and drills were quite common, as were notches and denticulates. Blades were most commonly used for tool manufacture. Projectile points were also numerous, with a high proportion of large "badia points" (fig. 7). These large points contrast with the very high relative frequency of transverse arrowheads (fig. 6), the much smaller points found at Wisad Pools. Are these different houses used for different purposes?

After six seasons of excavating four buildings at Wadi al-Qattafi and Wisad Pools, a picture is emerging that challenges our preconceptions about these areas, and the arid Black Desert in general. Our limited investigations suggest that many of the structures we initially suspected to be mortuary features are in fact old houses. These were built with some permanence intended, and sometimes reconfigured through time. Corbeled roofing required hauling and lifting extremely large, heavy slabs, a construction technique previously unknown in the eastern desert during the Late Neolithic. The labor invested in these buildings suggests that people anticipated repeated visits, probably for months at a time, presumably during the rainy season. This leads us to wonder if the current stark, arid environment without topsoil or trees looked quite different during later prehistory. Greater access to water and topsoil, and thus greater vegetation, might have supported domesticated flocks and wild animals, encouraging more visits, and for longer periods. This research is changing our understanding of these Late Neolithic houses, permanent places to live and work, safe havens in a hostile ancient environment.



Figure 8. Visitors and looters to the base of Mesa 7, Wadi al-Qattafi (Photograph by B. Heidkamp)



Figure 9. The old house SS-1, Mesa 7, looted only weeks after excavations, July 2016, Wadi al-Qattafi (Photograph by Y. M. Rowan)

LOOTING AT ONE OLD HOUSE Morag Kersel

Looting occurs at archaeological sites every day all over the world. The best efforts of archaeologists, government employees, local communities, and students, as well as local, state, and international laws and policies, are not enough to protect the hundreds of thousands of known and yet-to-be-discovered ancient sites and monuments. In Jordan, the combined efforts of the Department of Antiquities, the Tourism Police, and the Border and Customs Agencies are doing the best that they can with limited financial resources dedicated to safeguard cultural heritage, but there are too many sites to monitor everything effectively.

Archaeologists are aware of the effects of our presence on the landscape: we are conspicuous, active, and interlopers. We engage with local populations through employment opportunities, community outreach programs, site tours, lectures, and town hall meetings. Many locals have an impression that we come to an area, excavate or survey, and then leave with artifacts, samples, and knowledge. Sometimes we publish the results of our research but often not in the language(s) of the nations in which we work. As archaeologists we often encounter archaeological site destruction as a result of looting: at times overnight or even during the day while we are in the field. Sadly we confronted this situation during the 2016 field season of the Eastern Badia Archaeological Project (EBAP).

While excavating the Neolithic house (SS-1) in the shadow of M-7, a group of visitors arrived nearby. This is not unusual because people often drop by during the season to drink tea, to find out what we are doing, and why we are doing it. This particular visit was different. Men arrived down slope from the site. Rather than visit us, they pulled out shovels and started carrying out their own dig (fig. 8). As we looked on in amazement at the brazenness of their actions, our Jordanian Department of Antiquities representative (Wesam Esaid) spoke with the individuals, and they eventually moved on.

Two weeks after finishing the field season in June 2016, co-directors Yorke Rowan and Gary Rollefson returned to this old house to find that people had dug in the interior of the house, overturning threshold stones, and knocking down and breaking support pillars (fig. 9). Did our interest in this site spark the looters' curiosity? What did they expect to find? Did they find anything? We will probably never know the answers but it is clear that any Jordanian anti-looting initiatives need to focus not only on stiffer penalties and policing but also on educational outreach programs with local communities and in schools. In the future, EBAP will work with NGOs like the Petra National Trust to facilitate workshops on looting and site protection. "Why looting stops us from learning" is an excellent first step in introducing the topic to a younger generation of Jordanians, which will hopefully result in less looting at archaeological sites.



FROM SPACE TO GROUND

Aerial Images and Geomagnetic Survey at Kom ed-Dahab (Menzaleh Lake, Egyptian Eastern Delta)

By Gregory Marouard

atellite detection and remote sensing have been a credible and proven method for at least two decades - sometimes a key implement in fieldwork archeology - for the exploration of large areas or to monitor areas vulnerable to looting as was unfortunately exposed recently in the regions of Syria, Iraq, and Afghanistan. The CAMEL Lab at the Oriental Institute is a leader in this field with a long history of expertise based on a large collection of photos, some declassified and dating back to the late 1960s, such as the now-declassified intelligence satellites images collected by the Corona program.

In the specific case of Egypt, since 2005, free online programs such as Google Earth offer increasingly accurate images that are also frequently updated, which helps to detect or monitor the evolution of sites - particularly during phases of looting that have hit the country between 2011 and 2012 - but also to explore areas previously inaccessible or ignored. In recent years, however, some mass media outlets have become accustomed to relay discoveries of self-appointed "space archaeologists," but often those sensational and untimely announcements have not systematically been preceded – as should be routinely done – or followed by further verification on the ground and as a consequence the archaeological nature of those revelations have been regularly proven false and inaccurate, undermining the credibility of this approach.

After regular monitoring of ancient tells in the western region of Lake Menzaleh since 2006, in 2011 a new satellite picture helped to emphasize the exceptional archaeological potential of a small island of 42 hectares (103 acres) now situated 2 km (1.25 mi) from the lakeshore and less than 12 km (7.5 mi) from the modern town of Damietta.

Located in the marshes and undisturbed areas of the lake, in steady decline for more than fifty years (fig. 1), Kom ed-Dahab the Golden Hill – is very isolated and accessible only by boat. For the first time, in September 2015, an expedition of the Oriental Institute – joined by the Egypt Exploration Society Delta Survey - reached this site and conducted the first archaeological exploration of this terra incognita in order to confirm on the ground the result of remote sensing.

According to the preliminary studies of the satellite images, 1 the site of Kom ed-Dahab appeared to be an early Roman town probably established in Menzaleh Lake at the very beginning of



Figure 1. (left) Localization of Kom ed-Dahab in the Nile Delta and (right) in the western part of the Lake Menzaleh (image Digital Globe©)

the Roman domination over Egypt, circa the first century BC. At this time, the lake was still a lagoon, widely open to the Mediterranean Sea, and some very peculiar installations here point out a strategic harbor settlement established at the extremity of the ancient Damietta/Bucolic Branch. As a smaller version of Alexandria or Pelusion, this site was an emporium and an entrance gate for imported products from the Levant, Cyprus, or the Greek Islands. Acting as a transloading point, it was once connected by the Nile to some regional metropolis such as Mendes/Thmouis or Sebennytos, which lie dozens of kilometers farther into the central delta (fig. 1).

The satellite image from 2011 revealed for this town a hippodamian organization - a strict geometric planning of the urban grid - indicating a rare example for the Egyptian Delta of an ex nihilo foundation - and the existence of multiple major buildings that do not fit into the traditional Egyptian settlement pattern (fig. 2). At the eastern extremity of the main axis of the town, which extends about 450 m (490 yards) in length, a so-far unique example of a large palace with hypostyle courtyard has been discovered. Farther north two large buildings, possibly sanctuaries in stone, have been revealed perfectly included in the islets. Major installations are also visible on the southern and highest part of the site, an area where the few looting attempts are concentrated and which revealed some monumental architectural components such as columns and column bases in red granite. Long storage magazines are also visible in the northern part of the site, on a small island where the harbor remains should be located.

More exceptional, on the northern side of the town the layout of a complete Roman theater was visible on the 2011 image; it is such a vast building that it was already noticeable on the Corona image from 1968 (fig. 2). This monument measures about 56 m in length and is so far the fifth example of such a building ever discovered in Egypt, with the other theaters at Pelusion, Oxyrhynchus, and Antinopolis. According to its plan, a typical imperial pattern traditional of the Antonine period, it can be dated to the mid second century AD, like the two other contemporaneous examples discovered at Pelusion (Tell el-Farama and Tell el-Kana'is).

Since its abandonment, the site has been strongly affected by both rainwater and a probable increase in the lagoon/lake level, and even by tsunamis (as in 365 AD), which have apparently caused a leveling of the archaeological remains. The site is almost flat with a very homogeneous appearance because of the very powdery and almost untouched surface; a conventional survey was not sufficient to confirm the reality of the structures visible on satellite images. Before affecting this surface that had remained almost intact for centuries with a traditional pottery survey, the OI mission decided first to conduct non-invasive investigations by using both kite aerial pictures (KAP) (fig. facing title) and a geomagnetic survey.

The KAP method consists of a camera that captures pictures in time-lapse mode and is attached to a frameless Parafoil kite, a stronger and more stable type of kite, which is important in this area affected by strong sea winds (the Mediterranean shore is located only 20 km farther north). A systematic coverage by kite was done over the most important areas. Because of significant differences in moisture, and the highly variable salinity of the ground, which produces a salty and whitish crust on top of the ancient walls, the limits of many buildings are easily visible from above with important contrasts in the colors and density on the surface.

Back in Chicago, the aerial pictures have been reassembled using Photoscan© software in order to produce a 3D model and then an orthophotograph, a geometrically corrected vertical image of the area (fig. 3).

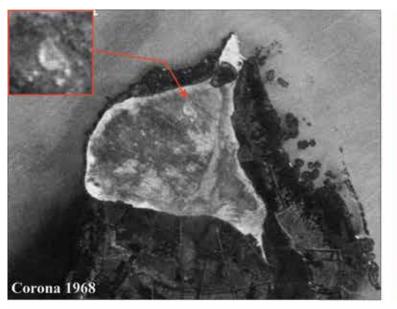
A team from the Institute of Archaeology and Ethnology at the Polish Academy of Sciences led by Dr. Tomasz Herbich was appointed to complete a geomagnetic survey in the area of the main buildings already recognizable from the satellite image. Tomasz Herbich's team is at the forefront of this method which they have already used on more than forty sites around Egypt during the past two decades. Considering the time and funds available for the mission at Kom ed-Dahab and the difficulties in accessing the site, our choice focused on the use of a proven technique that produces secure and immediate results. Six different areas covering 3.60 ha (ca. 9 acres) have been surveyed by using two Geoscan Research FM 256 Fluxgate Gradiometers (fig. 2).

The Geomagnetic survey is a relatively old method that emerged in the 1960s. Viable since the 1980s, it was perfected by the mid 1990s with much smaller portable tools, in addition to the introduction of high-sensitivity magnetometers characterized by short measurement times and the recording of data in the device's internal memory.

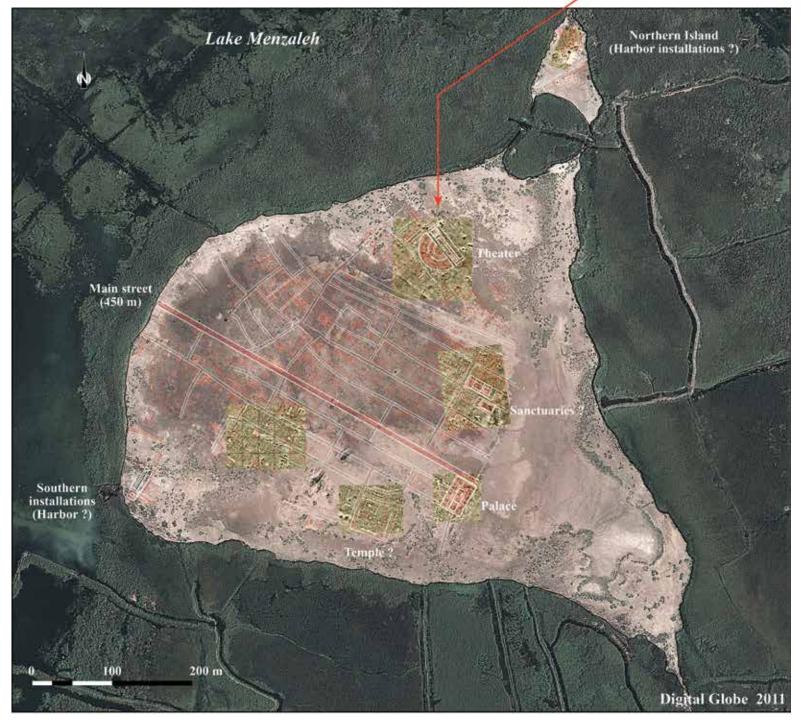
Unlike other methods such as electric resistivity or Ground-Penetrating Radar, the use of geomagnetic survey is particularly successful in Egypt especially because of the strong magnetic contrasts that some building materials can provide such as mudbricks or redbricks made with Nile silt containing ironrich particles. This non-invasive method offers the possibility of covering large areas in a very short time and reveal the vestiges of architecture or traces of domestic or artisanal activities located about 50 cm to 2.00 m below the ground surface; these data allow us to study the urban space extensively and help the archaeologist make strategic choices about the priority areas to excavate or to protect. The Nile Delta sites have produced significant results on wide-ranging surfaces, like the exceptional work undertaken at Tell el-Dab'a / Quantir, Buto, Tell Balamun, or recently in the southern urban area of Tanis.

The method is simple and consists initially of establishing a grid with squares of 20 m by 10 m, oriented according to the cardinal points, which will be surveyed along their short side with a spacing every meter. This grid is marked on the ground with plastic cords, fixed by nonmagnetic aluminum nails. With the gradiometer instrument under measurement, the prospector walks along the axes, from south to north; he or she returns on his or her steps and then measures a new line (fig. 4). A surface of 1.0 hectare (2.47 acres) therefore requires more than a 20 km (12.4 mi) walk.

> Figure 2. Satellite views of Kom ed-Dahab using Corona (1968) and Digital Globe© (2011) with repositioning of the main urban characteristics and location of the six areas covered by the geomagnetic survey (yellow)







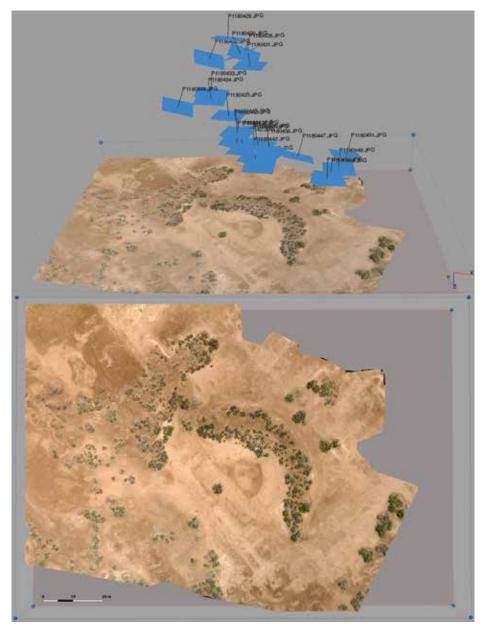


Figure 3. Reassembling of kite aerial pictures with Photoscan©



Figure 4. Gradiometer calibration and ongoing geomagnetic survey along the grid axes $\frac{1}{2}$

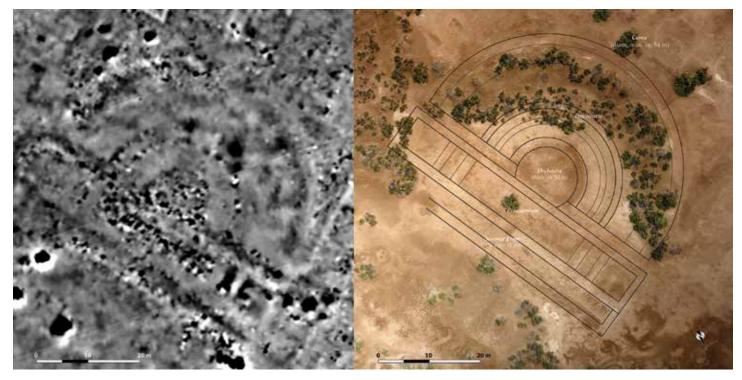


Figure 5. Magnetic map and interpreted aerial view of the theater area

Measurements are taken and stored in the device every second (about every 10 to 20 cm), so it is essential that the instrument holder walks with a very regular pace throughout the entire survey. Differences in rhythm can produce distortions and particularly a shear of the results and zigzags on the final picture. A regular calibration of the device according to the cardinal points precedes any new area (fig. 4).

After downloading the raw data and running it through a computer program, it is possible to generate a magnetic map similar to an underground picture of the area in shades of gray proportional to the measured intensity, where the black gives maximum positive magnetic charge and the white a non-magnetic charge (or the other end of the spectrum).

In addition to confirming the existence of the building, the magnetic map of the Roman theater area (Zone 5, fig. 5) has revealed many details about the construction itself: the use of the redbricks for the praecinctio area (which separate the upper and lower levels of the cavea), for the floor of the orchestra, and for some walls of the proscaenium; a massive filling under the lower (ima) and upper (summa) parts of the cavea with structural

dividing walls; and a series of possible buttresses at the back of the main external wall of the cavea, as it is often observed for this type of construction.

The map also shows many surrounding constructions, such as possible pottery kilns (large black spots rimmed with white) and rows of artisanal or cooking ovens in the northeastern area, multiple domestic installations and important structures such as two peculiar square constructions (one measures 10 m on each side) located in the main axis of the theater, and a vast rectangular building (25 m by 15 m) attached on its northwestern side and connected to the western entrance (aditus maximus).

ENDNOTE

1. For a preliminary presentation of this work, see Gregory Marouard, "Kom el-Dahab interpreted," Egyptian Archaeology 45 (2014: 25-27). We would like to thank Gil Stein, Director of the Oriental Institute, for his support to start this new project, and Jeffrey Spencer and the Egypt Exploration Society Delta Survey for their enthusiastic help.

NEWS

RENOVATING THE MUSEUM GALLERIES AN UPDATE

By Erik Lindahl, Kiersten Neumann, Emily Teeter, Josh Tulisiak

n 2014, the Oriental Institute Museum initiated an ambitious Gallery Enhancements Project made possible, in part, by the generosity of an anonymous donor. The principal aim of the project is to improve visitor's experience in the galleries and the display of the collections through updated graphics, updated lighting, and new free-standing display cases. Although fund raising is still going on for aspects of the project beyond the initial gift, you will see the results completed in time for the celebration of the Oriental Institute centenary in 2019.

A significant first step in the project has been the design and production of three prototype free-standing display cases: a tall wall case, a table-style case (to replace our "Kensington" cases), and a pedestal. The objective of this step was to give us the opportunity to assess a variety of options that come with ordering new cases before placing the full order; such options include lighting products and arrangement, means of access, case dimensions, the thickness of glass as well as standard ultra-white laminated safety glass, or the same high-quality glass with a low-reflective coating, overall aesthetics, and the manufacturing techniques of different case vendors. The path toward ordering the prototypes cases began with conversations followed by site visits by select case vendors, both local and international. Not only did this give us a sense of each vendor's customer service and workflow, it also brought to our attention the plethora of options available when designing new cases from scratch and how many decisions need to made along the way, ranging from minute manufacturing details to delivery and installation. It has been a very enlightening and fruitful experience for the whole team.

We narrowed down our selection to two vendors: Helmut Guenschel, Inc., an American company based in Baltimore, MD, that has been in business for over forty-five years and with whom we already have a working relationship as they designed the large display cases that will remain in the galleries; and Case[werks], LLC, the North American agent for Vitrinen- und Glasbau REIER, GmbH of Lauta, Germany. Working closely with these two case vendors and Elizabeth Kidera, exhibit designer and architect whom we hired to work with us at the outset of the project, we were able to design three prototype cases with many new

> improved features, yet which at the same time preserve the existing aesthetics and traditional style of the museum. As an example, all three of the cases are made of, or clad in, walnut with black trim that matches our existing Vinci-Hamp designed Guenschel display cases. Each of these cases features large glass doors with invisible hinges. The glass of the vitrines is mitered and gasketed, eliminating the obtrusive wood framing of our old cases. These features are a tremendous improvement - not only are the objects within the case much more visible, but accessing the interior of the case is much easier and safer. Two of the prototype display cases were designed with low-reflective glass, which makes a marked difference in unobstructed viewing of the contents. These prototypes also have allowed us to experiment with different types of integral lighting.

All three of the cases arrived at the Oriental Institute in mid-May and were





placed in their respective galleries. The pedestal case has replaced a case in the Haas and Schwartz Megiddo Gallery that holds a recumbent sphinx carved in stone; the wall case has replaced the mummy trappings case in the Joseph and Mary Grimshaw Egyptian Gallery; and the table case stands in the Robert F. Picken Family Nubian Gallery, where it holds A-Group ceramics. We are eager to fully assess the cases' various features in order to make decisions for moving forward with the final case order which will include cases for all of the permanent galleries as well as the Doris and Marshall Holleb Family Gallery for Special Exhibits. In addition to these standard wall, table, and pedestal cases, the order, will include a number of custom cases that will accommodate the display of more unique groups of objects, for example the seals in the Edgar and Deborah Jannotta Mes-

opotamian Gallery, and textiles and furniture in the Joseph and Mary Grimshaw Egyptian Gallery.

As we have moved forward with the new cases, we have started on the other parts of the program, especially lighting and graphics. Lighting makes a tremendous difference in the appearance of a gallery and how effective the displays are. Erik Lindahl has worked with the museum staff and outside consultants to develop a plan for the lighting redesign. Part of this was upgrading our systems by retrofitting existing fixtures and changing the type of bulbs in order to increase visibility and reduce maintenance expenses and energy costs. After consulting with lighting designers, speaking with colleagues at other institutions, and doing a lot of research, the museum will retrofit cases with LED systems, install energy efficient LED lamps in the 58 large vintage ceiling globe lights, and the more than 250 overhead track fixtures will be switched from halogen to high-CRI (color rendering index)

Far left: view of A-Group Nubian material, designed by Erik Lindahl (D. 13358); above left: new pedestal case built by Cāse[werks], with the Tayinat sphinx. (D. 13357); above right: view of new wall case built by Case[werks], with new display of mummy trappings (D. 13354); lower right: new table case from Helmut Guenschel, Inc. with display of A-Group grave goods (D. 13359)





LED lamps that show objects in highly accurate color, which is so important to a museum gallery. This plan promises to also provide substantial energy savings. As a result of this savings, the University has expressed a willingness to underwrite a portion of the lighting upgrade.

This improvement is very visible in the Nubian gallery. The light in the built-in cases now appear much brighter, the light a cooler, crisper, color that makes the objects far more visible, yet at the same time eliminates both harmful UV and reduces infrared, while the longer-life bulbs reduce dark spots and laborious maintenance. The first area to be completely refurbished was the first alcove of Nubia. Although the objects in this area are the same that Bruce Williams, the gallery's co-curator, selected years ago, and only minor changes have been made in the labels, the artifacts have been rearranged in what we think is a more appealing and understandable way.

An important part of the project was developing a graphic hierarchy, from the title and main theme of the case, to sub topics, extended labels, short labels, and donor plaques. Each category will have a specific look regardless which gallery it is in, making the texts and graphics easier for a visitor to navigate. Each gallery will have its own graphic identity, adapting the present scheme of using a motif that represents an aspect of the culture as the "header" on the graphic panels. We now have the capability of printing all our graphics in house on our large-format Epson Stylus Pro 9890, which makes the process much faster and more economical. Josh, the lead for graphic design, is rethinking the colors of the graphics, choosing hues that correspond with objects in the display. He is also going with a uniform typeface that is flexible and more legible. Although we have the files from the original installation, many figures have to be redrawn or cleaned up. The maps, an essential part of the graphic refresh, are being produced with the assistance of our CAMEL lab.

This project has also given us the opportunity to reconsider the presentation of some groups of objects. For example, in the Egyptian gallery, an enormous case presently contains furniture and textiles. We hope that we are able to split the material between two cases: the furniture in a low platform to give a better impression that the objects stood on the floor, and a regular height case for the textiles. This was actually planned for the original installation in 1999, but time and budgets made it then impossible. We are also considering (budget allowing) to present the cylinder seals in a more understandable and attractive way, moving the information about seals and sealing practice, which is currently at the very end of the group of seals, to the beginning as an introduction. The collection of seals with their impressions will be placed in long cases along the wall, making a cleaner installation and freeing up floor space. The new integral lighting that is planned for this section will make the material far more visible. We plan to highlight the Bilalama seal by placing it in its own pedestal case.

This is a very busy time for everyone on the museum staff, but it is exciting to be able to make the galleries even more attractive and user friendly. Make sure to walk through the galleries to see the progress.

THE TOMB OF AN OFFICIAL • L17

Tomb L17 probably belonged to a highranking member of the A-Group's elite ruling class. A cylinder seal found in the tomb indicates that its owner had administrative responsibilities, such as sealing doors, boxes, or vessels. Ivory arrow points suggest some military function, as does an award in the form of a gold fly.

Even though this tomb had been looted in antiquity, some gold objects remained, including the bracelet in this case. More than 4,700 shell objects were found in the tomb, about 100 of which are displayed here. They include many pieces whose purpose is not certain, but hooks and plugs of similar shape were used as adornments in both Nubia and Egypt.



Objects from the official's tomb are displayed

Above: sample of new graphic signage, designed by Josh Tulisiak

Below: rendering of new floor plan for the daily life section of the Egyptian gallery, by Elizabeth Kidera



PROGRAMS & EVENTS AUTUMN 2016



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Wed, Oct 5, 7-8pm

Free.

Lisa Cooper, Associate professor of Near Eastern art & archaeology, University of British Columbia

Gallipoli: The Battlefield

Wed, Nov 2, 7-8pm

Free.

Antonio Sagona, professor of archaeology, University of Melbourne

The Stela and the State: Monuments and Politics in **Ancient Mesopotamia**

Wed, Nov 30, 7-8pm

Irene Winter, former William Dorr Boardman Professor of Fine Arts, emeritus, Harvard University

GALLERY TALKS

Drones for Good: How UAVs and 3D Models are Changing Archaeological Research on Site Looting and Destruction in the Levant

Thu, Oct 6, 12:15-1pm

Free

Registration not required.

Using the Haas and Schwartz Megiddo Gallery as a background, Morag Kersel, research associate at the Oriental Institute and assistant professor in anthropology at DePaul University, talks about the use of unmanned aerial vehicles (UAVs), digital 3D models, and maps from drone-generated aerial photography to study archaeological site looting to better understand both the ancient and modern uses of an early Bronze Age mortuary site in Jordan.

Mesopotamian Land Tenure: A Look at the Chicago Stone and Other Kudurrus

Thu, Nov 3, 12:15-1pm

Free.

Registration not required.

Kudurrus — inscribed stone monuments of land property rights — were common in southern Mesopotamia. Susanne Paulus, assistant professor of Assyriology, guides visitors in decoding select kudurrus dated from 3000 to 1000 BC, currently exhibited in the Edgar and Deborah Jannotta Mesopotamian Gallery. Explore how kudurru use developed from the royal setting to the protection of private property, and how later they are known for representing gods' symbols and curses.

The Invention of Coinage and Its Subsequent Use in the Achaemenid Persian Empire

Thu, Dec 1, 12:15-1pm

Free

Registration not required.

The Oriental Institute excavations in southeastern Turkey at Tell al-Judaidah and Chatal Hüyük revealed several coins dating to the Achaemenid Persian period. Research associate Tasha Vorderstrasse discusses the invention of coinage and its subsequent use in the Achaemenid period with a focus on images of authority on coins and their travel across the Mediterranean for purposes of trade.

TOURS (for visitors who are blind or partially sighted)

Stories of a Mummification Workshop

Fri, Oct 14, 2-3pm

Free.

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Unlock the secrets of mummification through modern materials and little-known stories left behind by the ancient workers.

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Experience the Oriental Institute Museum with a trained guide who gives detailed verbal descriptions of the artifact highlights in the permanent galleries.

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ADULT COURSES

COURSES

Online Course Introduction to Sumerian Cuneiform (8 weeks)

Oct 3-Nov 28 General \$395, members \$325.

Registration required. Register by Sep 19

Mesopotamia boasts some of the most well-documented civilizations in the ancient world, preserved for us in texts written in the cuneiform script, the earliest attested written script in human history. This course introduces students to the basics of Sumerian cuneiform and the Sumerian language. Each week, students read a small section from an introductory book on cuneiform along with a section from the provided packet, answer a few questions about the reading, and complete a small set of exercises at the end of each lesson. Optional readings are available for those wishing to expand their understanding of cuneiform culture or the Sumerian language.

Instructor: Monica L. Phillips, PhD candidate, Department of Near Eastern Languages and Civilizations, University of Chicago

On-site Course The World of the Hebrew Bible (10 weeks)

Thu, Oct 6-Dec 15 (no class on Thanksgiving Day), 5:30-7:30pm

General \$475, members \$405. Registration required. Register by Sep 28

For over 2,000 years, the Hebrew Bible has been considered to be sacred scripture by Jews and Christians, and it contains traditions held in high regard by Muslims. One of the most influential books ever written, it is also one of the most important artifacts from the ancient Near East. In this course, explore the Hebrew Bible and the world it comes from, and trace the new discoveries and revolutionary approaches to Bible scholarship that have emerged through the research of organizations like the Oriental Institute.

Instructor: Joey Cross, PhD student in Hebrew Bible and Egyptology, Department of Near Eastern Languages and Civilizations, University of Chicago

On-site Course Ancient Egyptian Thought and Literature (6 weeks)

Sat, Oct 8-Nov 12, 10am-12pm General \$350, members \$295. Registration required. Register by Oct 3

The literature of ancient Egypt provides a unique method for understanding the thoughts and cultural mores of its people. This course introduces the broad written culture of ancient Egypt through the reading of primary texts, and explanatory secondary literature. We focus on narrative literature, beginning in the Old Kingdom and continuing on through the Ptolemaic period. Themes include the use of literature to legitimate existing social/ political systems, as well as the role of legal systems, gender and sexuality, and multi-culturalism in Egyptian society.

Instructor: Lindsey Weglarz, PhD student in Egyptology, Department of Near Eastern Languages and Civilizations, University of Chicago

DRINKING IN ANTIQUITY WORKSHOP **SERIES**

All sessions: General \$165, members \$135. Per session: General \$65, members \$50. Tasting and light appetizers included. Registration required.

Raise your rhyton to the ancient art of brewing and viticulture from the sands of ancient Egypt to the salty shores of classical Greece. In this three-part workshop series, explore the history, art, archaeology, and literature celebrating the culture of drinking from King Tut's tomb, Agamemnon's Mycenae, Plato's Athens, the Silk Road, and more.

Instructor: Lucas Livingston

Drinking in Egypt and Mesopotamia

Sat, Oct 8, 3-5pm Register by Oct 3

Drinking in the Silk Road

Sat, Nov 12, 3-5pm Register by Nov 7

Drinking in Ancient Greece

Sat, Dec 10, 3-5pm Register by Dec 5



ADULT COURSES meet at the Oriental Institute unless otherwise noted.

REGISTER To register, visit oi.uchicago. edu/register

For assistance or more information, email oi-education@uchicago.edu

EDUCATOR PROGRAMS

ONLINE WORKSHOPS

Knowing Shelter, Knowing People: Learning Cultures from Prehistoric Dwelling (8 weeks)

Oct 3-Nov 28

Registration required. 30 Clock Hours. Includes a copy of Investigating Shelter curriculum guidebook

This eight-week course introduces teachers to scientific concepts and inquiry-based methods through the study of shelter, with a focus on prehistoric dwellings at Jarmo, an archaeological site in ancient Iraq. Using the Project Archaeology Investigating Shelter curriculum guide as a base of the course, participants develop new ways to engage students in discovering how real people lived in prehistoric times and how they obtained their food. Coursework includes group discussions, videos, reading, essay writing, and off-line hands-on activities.

ON-SITE WORKSHOPS

Engineering & Mathematics in Ancient Mesopotamia & Egypt

Sat, Oct 8, 8:30am-3pm General \$20, members \$15. Registration required. Register by Oct 4. 6.5 Clock Hours. Includes instructional materials and lunch.

Using real-world problems from the historical texts, data, and records of royal Egypt and Mesopotamia, get into the minds of ancient engineers and trace how ancient engineering is reflected in modern-day design. Teachers gain practical tools and teaching materials to engage students in understanding the relationships of geography, economics, and the development and application of measurement.

ON-SITE WORKSHOPS

Art in Ancient Mesopotamia & Egypt

Sat. Nov 12. 8:30am-3pm General \$20, members \$15. Registration required. Register by Nov 8. 6.5 Clock Hours. Includes instructional materials and lunch.

Teachers investigate a wide range of forms of artistic expressions, including royal monuments, personal adornments, poetry, and more. Through a curator-led tour and a series of art, language art, and social studies activities, teachers gain different perspectives on the style, iconography, materials, and techniques of art in ancient Mesopotamia and Egypt.

CONFERENCE

Educator Mini-conference: Building a Stronger Learning Community through STEAM

Wed, Dec 7, 4-8pm

Free

Registration required. Register by Dec 5. 4 Clock Hours.

Learn firsthand from classroom teachers in art, language arts, social studies, and science from different parts of Chicago through an interdisciplinary curriculum showcase at this mini-conference. Teachers get lesson plan and project ideas that integrate STEAM (Science, Technology, Engineering, Art, Mathematics) in understanding ancient civilizations. Light reception and instructional materials provided. All educators are welcome. Recommended for teachers of grades 6-12.

EDUCATOR PROGRAMS meet at the Oriental Institute unless otherwise noted.

REGISTER To register, visit oi.uchicago.edu/register For assistance or more information, email oi-education@uchicago.edu

EDUCATOR PASS

The Educator Pass provides two membership cards and all the benefits of a Friend of the Oriental Institute to two adults and their children or grandchildren under the age of 18. K-12 educators receive a special membership price of \$25 (regularly \$75).

For more information, visit oi.uchicago.edu/ educators.

FAMILY PROGRAMS

DROP-IN

Drawing Hour | AGES 5-ADULT

Sat, Oct 8, 1-2pm

Free.

Registration recommended.

Practice looking closely at art and develop drawing skills. Choose ancient sculptures and pottery to sketch, or grab a drawing worksheet to loosen up and get inspired. All materials provided, and you are welcome to bring your own sketchbook.

What's Up, King Tut? | AGES 5-12

Sat, Nov 19, 1-3pm

Free.

Registration recommended.

King Tut wasn't the only boy king? Find out the real story of what makes King Tutankhamun famous, find his artifacts in our gallery, and decipher the hieroglyphs on his 17-foot-tall statue.

FAMILY WORKSHOPS

Junior Archaeologists | AGES 5-12

Sat, Oct 15 & Dec 3, 1-3pm

General \$14, members \$10 (1 child + 1 adult); \$7/\$5 each additional registrant

Registration required.

Let loose your inner Indiana Jones! Children and parents dig into our simulated excavation while learning about the real science of archaeology at the Oriental Institute's Kipper Family Archaeology Discovery Center. Includes an interactive guided tour of the galleries. Fun patches available onsite.

TOURS & TOTS

LamaSeuss

Tue, Nov 8, 1:30-2pm

Free

Registration recommended.

In keeping with the traditions of both the ancients and the Dr., our LamaSeuss program pairs a classic story of Dr. Seuss with an activity inspired by the story and our gallery collections. Perfect for budding, baby archaeologists.

Stroller Tour: World in the Biblical Time

Tue, Nov 8, 2-3pm

General \$15; members, UChicago students/faculty \$10, for up to two adults. General \$7, members \$5 for additional adult registrant. Babies in strollers are free. *Registration required.*

What are the links between archaeology and the Bible? What was it like to be living in biblical times? Join this tour to discover writings, pictorial reliefs, and sculptures that help unveil the answers.

FAMILY PROGRAMS meet at the Oriental Institute unless otherwise noted. Children under 13 must be accompanied by an adult.

REGISTER To register, visit oi.uchicago.edu/register For assistance or more information, email oi-education@uchicago.edu

MEMBERS' PROGRAMS



2016-2017 ORIENTAL INSTITUTE LECTURE SERIES

The Oriental Institute Lecture Series is a unique opportunity to learn about the ancient Near East from world-renowned scholars. Lectures are free and open to the public thanks to the generous support of the Oriental Institute Members.

FALL 2016 LECTURES

Wednesday, October 5

Encounters with Ancient Splendors: Gertrude Bell's Archaeological Discoveries and Research in Mesopotamia, 1909-1914

Lisa Cooper

Associate Professor of Near Eastern Art & Archaeology, University of British Columbia

Wednesday, November 2

Gallipoli: The Battlefield

Antonio Sagona

Professor of Archaeology, University of Melbourne

Wednesday, November 30

The Stela and the State: Monuments and Politics in Ancient Mesopotamia

Irene Winter

Former William Dorr Boardman Professor of Fine Arts. Emeritus, Harvard University

For the complete schedule of the 2016-2017 Lecture Series go to http://oi.uchicago.edu/programs-events/ members-events.

GIVE THE GIFT OF MEMBERSHIP THIS HOLIDAY SEASON!

Give the gift that lasts throughout the year: an Oriental Institute Membership. Gift this membership to an armchair archaeologist or budding Assyriologist. They will enjoy subscriptions, discounts, and invitations to special events. Let us take care of the wrapping and shipping for you holiday membership includes a personalized note, an exclusive Oriental Institute tote bag, the most recent edition of News & Notes, and the 2016 Annual Report. Memberships begin at \$50, and gifts are tax deductible. Membership gifts can be ordered online at oi.uchicago.edu/getinvolved or over the phone at 773.702.9513. Gifts should be purchased by December 14 to ensure a December 25 arrival. When ordering online, in the comment section note if you want the gift mailed to you, the purchaser, or to the gift recipient.



This offer is not available for Educator Pass or Student memberships. If you are a current member this offer is not available for renewals. For assistance or more information visit http://oi.uchicago.edu/programs-events/membersevents or email oi-membership@uchicago.edu.

MEMBERS' PROGRAMS meet at the Oriental Institute unless otherwise noted.

REGISTER for lectures at oimembersevents.

DONOR RECOGNITION

The Oriental Institute would like to recognize members who have made a recent contribution to the Oriental Institute at the James Henry Breasted Society level. The Breasted Society provides an annual source of unrestricted support for our most pressing research projects. Donors who direct their gift of \$1,000 or more to other areas of support at the Oriental Institute receive complimentary membership to the James Henry Breasted Society.

Future James Henry Breasted Society recognition listings will occur annually in the Winter issue of *News & Notes* and will cover the entire calendar year for the year prior.

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The annual support of our members and donors allows the Oriental Institute faculty and staff to continue to conduct world-class research and support archaeological excavations that add to our knowledge of ancient Near Eastern cultures and languages. If you would like more information on the James Henry Breasted Society or how you can support the Oriental Institute, please contact Brittany F. Mullins at bfmullins@uchicago.edu or 773.702.5062.

VOLUNTEER SPOTLIGHT

REBECCA BINKLEY-ALBRIGHT

By Shirlee Hoffman

Shirlee, Oriental Institute volunteer, sits down to interview Rebecca about her experience volunteering at the Oriental Institute.

1. How did you become interested in volunteering at the

Oriental Institute?

doors. I never left.

My introduction to the Oriental Institute was quite accidental, right after I moved to Chicago from New York in 1982. Someone who saw my books while helping me unpack remarked, "You belong at the Oriental Institute." I didn't know anything about the Oriental Institute. I made several phone calls and shortly after found myself in a Docent Training class. Once inside Breasted's beautifully carved wooden



Although I did not exactly have a background in the ancient Near East, I did have formal training in fine art and art history. More importantly, I was fortunate to have traveled extensively and was able to spend countless hours in the British Museum and the Hermitage, and devouring Italy and Greece. I am devoted to museums, architecture, archaeological ruins, and visual expressions of cultures, both ancient and modern.

3. What have you done at the OI since you became a volunteer? What do you do now?

I have done many things. I was a student in the department, including several years with Helene Kantor, one of the most enriching and inspirational teachers of my life. I led many of the grade school tours in the beginning. I also worked on a registration project with Ray Tindel in the basement — a rewarding experience involving focused, exacting work that occasionally included unexpected laughter when the ancient objects and manuscripts presented very sophisticated jokes. I discovered that ancient people were much like us. Our similarities have helped me to present cultures in a way that can be appreciated by visitors of all ages. Over the years I continued to give regular and specialty tours and serve as an Ask Me docent on weekends, as well as helping with special events and educational outreach programs — sometimes while in costume. Lately, I am enjoying helping with the Integrated Database Project.

> 4. What do you particularly like about being a volunteer? What has surprised vou?

I have great respect and admiration for each department, the immense scholarship of individuals, and the cooperation among departments and areas of specialization. I have worked professionally with other museums, and the Oriental Institute is a unique and special en-

The intense academic environment of the Oriental Institute inspires many of us to keep reading and to attend lectures and workshops so that the information we share with

our guests is accurate, current, and shared in a culturally respectful way. I enjoy art groups and visitors from other museums or foreign cities. Surprisingly my favorite tour was for three-year-old little girls. One girl was frightened so I lifted her up. She twisted my hair into creative hair-dos for our entire tour. All the girls became interested in hair so the "tour" ended up being mostly about hair, clothes, and shoes on reliefs and sculptures. We all had such a good time.

5. What would you say to someone who is thinking of volunteering at the OI?

If you have an interest in ancient history, or art, or even in museum studies, please join us! Opportunities are varied and can accommodate different interests, talents, and schedules. The Oriental Institute community extends to many U of C students and neighborhood residents who visit regularly over the years, renewing acquaintances with the volunteers.

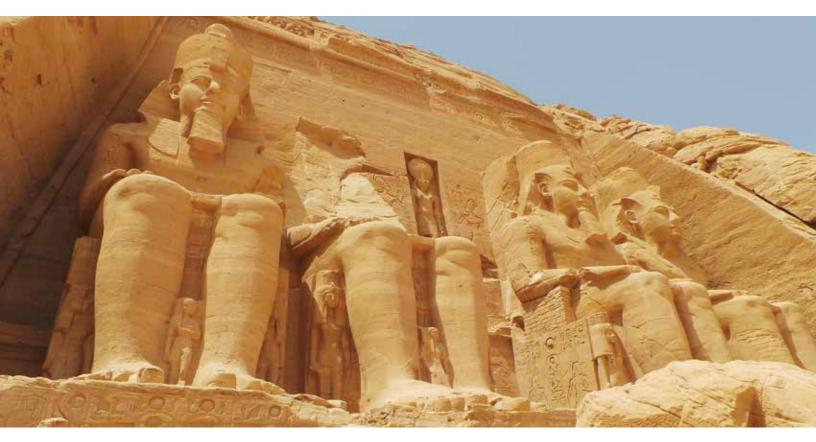
The personal satisfaction is not something I can easily explain. I hope to be here to ask questions and also help answer them for our visitors for many years to come.

> Explore becoming a volunteer at http://oi.uchicago.edu/support.

TRAVEL PROGRAM

THE WONDERS OF ANCIENT EGYPT

GIZA | CAIRO | LUXOR | MEDINET HABU



MARCH 11-26, 2017

OPTIONAL EXTENSION TO ALEXANDRIA MARCH 26-31

Led by Lanny Bell Associate professor emeritus of Egyptology

Join us on an exclusive tour of Egypt, featuring the pyramids of Giza, Old Cairo, and the ruins of Memphis, a private "after hours" tour of the Egyptian Museum, the Valley of the Kings, the temples of Abu Simbel, a Nile cruise to Luxor, Edfu, and Aswan, a special visit to Chicago House, home of the Oriental Institute's Epigraphic Survey, and more!

The Travel Program is a series of international travel tours designed exclusively for Oriental Institute members and patrons. For additional information about the tour, call Jennie Myers at 773.834.9777 or email jmyers1@uchicago.edu. For questions about bookings, call Archaeological Tours at 866.740.5130 or email archtours@aol.com.

GO ONLINE to download the brochure at oi.uchicago.edu/travel. TO BOOK, contact Archaeological Tours at 866.740.5130 or email info@archaeologicaltrs.com.

ITINERARY

Saturday, March 11

Depart United States this evening.

Sunday, March 12: Cairo

Arrive in Cairo and transfer to Mena House Hotel, located at the foot of the Great Pyramid. This evening we will meet with Dr. Bell for dinner.

Hotel: Mena House Hotel

Meals: Dinner

Monday, March 13: Cairo

We begin our touring with an exploration of Memphis, the first capital of a united Egypt, and Saqqara, the necropolis of Memphis. At Saqqara we tour the Step Pyramid complex of Djoser, which predates the Giza pyramids and is the world's first monumental building constructed entirely in stone. We also visit the Saqqara Museum, the smaller pyramid of Teti, a Sixth-Dynasty king whose burial chamber is covered with Pyramid Texts to ensure the survival of his soul, the tombs of the nobles Ti, Ptahhotep, and Mereruka.

Hotel: Mena House Hotel

Meals: Breakfast, lunch, & dinner

Tuesday, March 14: Cairo

Our tour this morning begins in Old Cairo. We visit the Coptic Museum, the Church of St. Sergius, and the Ben Ezra Synagogue. We continue with a walking tour in Islamic Cairo. This warren of streets is lined with a multitude of fascinating architecture. We end our walk in the renowned Suq Khan al-Khalili. This evening enjoy an exclusive after-hours visit to the Egyptian Museum, where you can stroll the galleries in peace and quiet, as it was meant to be experienced. Take your time to savor the details of the museum's most sublime treasures. No crowds. No lines. No distractions. This unique opportunity is an opportunity few ever experience because of the limited availability, and provides a unique insight into one of the most important historical museums of the ancient world.

Hotel: Mena House Hotel Meals: Breakfast & lunch

Wednesday, March 15: Cairo

Our touring today brings us to the only surviving representative of the Seven Wonders of the Ancient World, the pyramids of Giza. We have an opportunity to enter one of the pyramids and to visit the museum, where the remarkably preserved Solar Boat of Cheops is displayed.

Hotel: Mena House Hotel

Meals: Breakfast, lunch, & dinner

Thursday, March 16: Luxor

After a morning flight to Luxor, touring begins at the magnificent sanctuary of Amun-Re at Karnak with its maze of monumental gateways, obelisks, pillared halls, and subsidiary shrines. We also visit Karnak's open-air museum. The remainder of the afternoon is at leisure.





This evening includes a private reception at Chicago House, the home of the Oriental Institute's Epigraphic Survey Project.

Hotel: Luxor Hilton Resort & Spa

Meals: Breakfast & dinner

Friday, March 17: Luxor

Today we cross the Nile to visit the tombs of the Valleys of the Kings and Queens. Among the tombs that we visit are those of Tutankhamun and three other pharaohs selected from tombs currently open to the public. We also visit the Temple of Queen Hatshepsut at Deir el-Bahri, one of the most spectacular monuments in Egypt, and the Colossi of Memnon.

Hotel: Luxor Hilton Resort & Spa Meals: Breakfast, lunch, & dinner

Saturday, March 18: Luxor

Returning to the Nile's west bank, today we tour some of the hundreds of tombs of the nobles, spread over two square miles. These tombs are of special interest for their naturalistic murals, which give us an intimate view of life in ancient Egypt. We also stop at the ancient village of the artisans, Deir el-Medina, one of the best-preserved town sites in Egypt and the subject of the television series "Ancient Lives."

Hotel: Luxor Hilton Resort & Spa

Meals: Breakfast & lunch

Sunday, March 19: Luxor

Today we drive north along the Nile, through villages of baked-mud houses and lush cultivated lands, to

Dendera to visit the Temple of Hathor, the goddess of love, music, and wine. Although this temple was built largely in the first century BC, it occupies the site of a much older building. On the roof of the temple is a plaster cast of the famous Zodiac of Dendera (original in Paris), one of three circular representations of the heavens found in Egypt. We continue to Abydos, where we tour the Temple of Seti I, viewing the famous List of Kings and some of the most beautifully painted reliefs that survive from pharaonic times. We also visit the nearby temple of Ramesses II.

Hotel: Luxor Hilton Resort & Spa Meals: Breakfast, lunch, & dinner

Monday, March 20: Luxor/Cruise

This morning our luggage is transferred to the Nile Cruise boat, the Sonesta St. George, which is our floating hotel for the next four nights. We continue our touring on the west bank of the river with the temples and chapels of Medinet Habu, the largest complex built by Ramesses II, and the Ramesseum, where the fallen statue of Ramesses inspired Shelley's famous poem "Ozymandias." We have lunch aboard the Sonesta St. George. In the late afternoon we visit Luxor Temple, beginning at the newly renovated Avenue of Sphinxes, which originally linked Luxor and Karnak temples. We examine the Roman fresco paintings restored jointly by Chicago House and the American Research Center in Egypt, as well as the open-air museum and blockyard, conserved by Chicago House.

Hotel: Sonesta St. George

Meals: Breakfast, lunch, & dinner



Tuesday, March 21: Cruise/Edfu

This morning is at leisure in Luxor, providing an opportunity to explore the bazaar, visit the Luxor Museum, investigate the new Mummy Museum, or relax at the pool. During lunch we sail to Edfu for the night.

Hotel: Sonesta St. George Meals: Breakfast, lunch, & dinner

Wednesday, March 22: Cruise/Awan

Touring begins at the Temple of Edfu, a well-preserved Ptolemaic temple of the falcon god Horus. We then sail on to Kom Ombo. Often called the Acropolis of Egypt for its spectacular location overlooking the Nile. Kom Ombo is unusual for its equal dedication to two gods. Horus the Elder and the crocodile god Sobek. We study the unique architectural features of this temple before sailing on to Aswan.

Hotel: Sonesta St. George Meals: Breakfast, lunch, & dinner

Thursday, March 23: Cruise/Aswan

Today's touring includes granite quarries where an unfinished obelisk remains embedded in its native stone. This immense monument would have been Egypt's tallest monolith, weighing over 2.3 million pounds at its completion. We continue to the High Dam, a project that forever changed the Nile's annual flood cycle. The morning ends with the Ptolemaic temple dedicated to Isis, known as Philae for the island on which it was originally built. This afternoon will be at leisure.

Hotel: Sonesta St. George Meals: Breakfast, lunch, & dinner

Friday, March 24: Aswan

We disembark this morning and begin our touring at the Kalabsha Temple, built in the reign of Augustus on the site of an earlier sanctuary founded by Amenhotep II. The temple, which was later converted to a church, was originally dedicated to the Nubian god Mandulis, who was associated with Isis. In the same antiquities park we visit the relocated Graeco-Roman kiosk of Qertassi and the shrine of Ramesses II from Beit el-Wali. After lunch we spend the remainder of the day visiting the Museum of Nubian Civilization.

Hotel: Aswan Mövenpick Hotel Meals: Breakfast, lunch, & dinner

Saturday, March 25: Cairo

This morning we fly to Abu Simbel, where the rock-cut temples of Ramesses II and his favorite gueen Nefertari have been saved from the rising waters of the Nile caused by the Aswan High Dam. The temples were built to honor the deified royal pair and to awe the Nubians, and that awesome feeling exists today no less than it did 3,200 years ago. This afternoon we fly back to Cairo.

Hotel: Radisson Blu Heliopolis Meals: Breakfast & lunch

Sunday March 26

Transfer to the airport for our Lufthansa flights to Chicago OR drive to Alexandria.

Meals: Breakfast

Optional Alexandria Extension — Sunday, March 26-Friday, March 31

Your tour doesn't have to end in Cairo, you can join our optional 6-day extension to the port city of Alexandria. Founded by Alexander the Great, this was Egypt's gateway to the Mediterranean world and is filled with fascinating echoes of its glorious past. We visit many thrilling sites during our extended stay, including:

- The National Museum of Alexandria tells the story of the city and its place in Egypt through 1,800 artifacts including figures of Medusa, and a bust of Briniky.
- Discover Alexandrian tombs, statues, and archaeological objects at the Catacombs of Mustafa Kamil, Kom el Shogafa, and Anfushi.
- Bibliotheca Alexandrina: built to commemorate the Library of Alexandria that was lost in antiquity.
- Pompey's Pillar: one of the world's largest monoliths, commemorating the victory of Roman Emperor Diocletian over an Alexandrian revolt.
- The Villa of the Birds, inside the extensive Roman theatrical and residential complex of Kom el Dikka.

Led by Lanny Bell, field director of the Epigraphic Survey of the Oriental Institute for twelve years. The activities of the expeditions under his direction have ranged from epigraphy to excavation and conservation. An expert on the Luxor area, his publications include articles on divine kingship and temple and society in ancient Egypt, as well as a groundbreaking chapter on Luxor Temple in Temples of Ancient Egypt.



Dr. Lanny Bell, associate professor emeritus of Egyptology

\$6420 | Single Supplement \$950

\$1645 | Single Supplement \$495 — Alexandria Extension

THE TOUR RATE INCLUDES:

- Flights within Egypt. Surface travel by air-conditioned motor coach as detailed in the itinerary.
- Accommodations in deluxe hotels/Sonesta St. George cruise ship or equivalent based on two persons sharing a twinbedded room with private bath as listed or similar.
- Meals as listed in the detailed itinerary, table d'hôte.
- Baggage handling for one suitcase per person.
- · All gratuities to tour managers, guides, cruise staff, drivers, and porters.
- A \$600 contribution to the Oriental Institute.

NOT INCLUDED IN THE TOUR COST: International airfare, passport and visa fees, excess baggage charges, transfers to and from airports for tour participants arriving or departing on flights outside of the tour dates, insurance, beverages, and items not on the menu.

TARIFFS: Based on foreign exchange rates in effect January 2017 and a minimum of fifteen participants. All rates subject to change.

DEPOSITS & PAYMENTS: A \$750 deposit is required to book. Final payment is due twelve weeks before departure.

SINGLE ROOMS: For those traveling alone but who prefer to share with another, we will endeavor to work out congenial rooming arrangements. If impossible, or if a single room must be assigned due to the roommate's canceling or incompatibility, or for any other reason, even if at the last moment or while on tour, the single supplement or prorate thereof must be collected.

INSURANCE: Insurance is available and is recommended. By purchasing trip cancellation insurance within twenty-one days of your initial deposit, Travel Insured International will waive the usual exclusion for preexisting medical conditions.

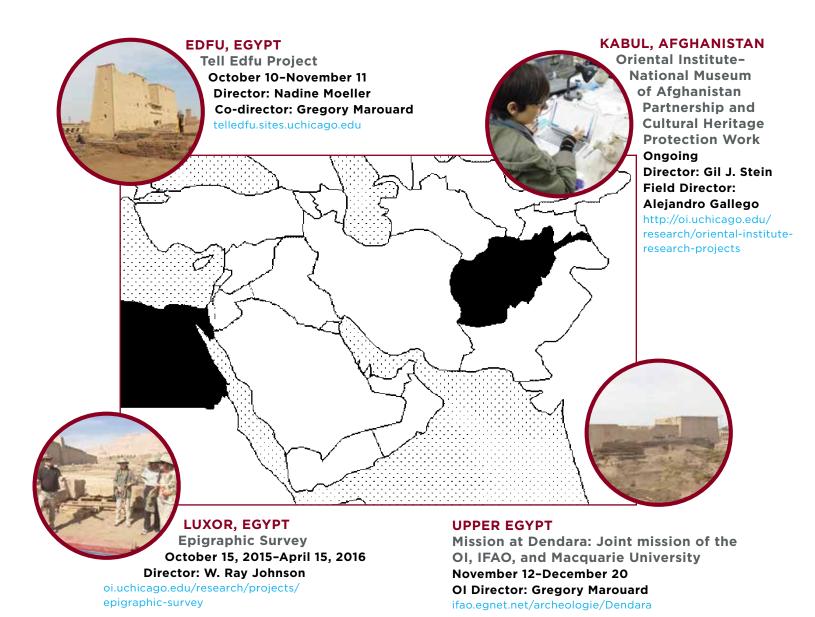
CANCELLATIONS: In the event of a cancellation, refund in full less the \$750 deposit will be made until twelve weeks before departure. From twelve weeks before departure, the penalty is 35% of the total cost, 55% of the cost from eight to six weeks, and 75% from six to three weeks before departure. Any cancellation from twenty-one days before departure will incur a 100% penalty. Single supplements are also subject to cancellation penalties. In addition, if cancellation is made within 60 days of departure, the airlines require a penalty. Cancellation of the tour by the Oriental Institute: full refund.

NOTE: Neither the Oriental Institute nor Archaeological Tours accepts liability for any airline penalties incurred by the purchase of nonrefundable airline tickets.

RESPONSIBILITY: ARCHAEOLOGICAL TOURS, a division of LINDSTONE TRAVEL, INC., and THE ORIENTAL INSTITUTE in accepting bookings for the tour, clearly stipulate that they are not liable for the faults or defaults of other companies and persons that may be used in the carrying out of the tour services; also for accidents, baggage losses, delays, strikes, political unrest, riots, and acts of God and war. In the event it becomes necessary or advisable for the comfort or wellbeing of the passengers, or for any reason whatsoever, to alter the itinerary or arrangements, such alterations may be made without penalty to the operator. Additional expenses, if any, shall be borne by the passengers. The right is also reserved to withdraw this tour, also to decline to accept or retain any persons as members of the tour. No refund can be made for absence from the tour unless arrangements are made at the time of booking. IATA carriers concerned are not to be held responsible for acts, omissions or events during the time passengers are not on board. The passage contract in use by the companies concerned shall constitute the sole contract between the company and purchaser of these tours and/or passengers.

IN THE FIELD

The Oriental Institute has sponsored archaeological and survey expeditions in nearly every country of the Near East. There are projects currently active in Egypt, Turkey, Israel, and the West Bank. These completed and ongoing excavations have defined the basic chronologies for many ancient Near Eastern civilizations and made fundamental contributions to our understanding of basic questions in ancient human societies, ranging from the study of ancient urbanism to the origins of food production and sedentary village life in the Neolithic period. Follow the upcoming projects through the following websites:



If you're interested in supporting one of the Oriental Institute's archaeological field projects, please contact Brittany Mullins, Associate Director of Development, at 773.834.9775, or email her at bfmullins@uchicago.edu.

ARTIFACT HIGHLIGHT

A BUILDING BLOCK OF MILLIONS OF YEARS A STAMPED BRICK

By Kiersten Neumann

When one thinks of ancient Egyptian architecture, what often comes to mind are monumental structures made of stone, for example the Old Kingdom pyramids at Giza and the New Kingdom temples at Luxor. Such conspicuous stone structures stand as testaments to the pharaohs' strong control over resources and the scale of the elite building programs to which these monuments belonged. A more common, though less well preserved, building material used by the ancient Egyptians was mudbrick. These building blocks were created by mixing alluvial sediment with desert sand and chopped straw, then pressing the mixture into wooden rectangular molds and leaving the brick out in the sun to dry. The addition of straw and sand to wet clay was to prevent the brick from cracking during the drying process. A scene from the tomb of Rekhmira, vizier under Amenhotep II and Thutmose III, depicts this production sequence in wonderful detail (Davies, The Tomb of Rekhmi-Rē at Thebes, New York, 1943, pp. 54-55, pls. LVIII-LIX). Because of the widespread availability of the raw materials and relative ease of production, as well as their durable and insulating qualities, mudbricks were used for many building types, ranging from modest private houses to royal palaces and city walls, and continue to be used to the present day. This practice also lives on in language, the Spanish word for sun-dried brick, "adobe," coming from the Egyptian word for brick db.t.

The mudbrick pictured here from the Oriental Institute Museum collection shows the mixed-material composition

of this building material, both the straw and mud being easily distinguished. In the center, the cartouche of Ramesses II (ca. 1279-1213 BC) is visible; this would have been stamped on the surface when the brick was still damp enough to impress and before it had dried. The brick was recovered from the Ramesseum, Ramesses II's mortuary temple, where it was used alongside recycled mudbricks stamped with the cartouches of his predecessors in the construction of a wall. Innumerable stamped bricks of this type would have been used by Ramesses in his many building projects as a way of showing ownership over his constructions. This practice was also carried out by other pharaohs and by Mesopotamian rulers in their temples and royal residences.

The production and use of mudbricks, therefore, could also carry ceremonial and symbolic associations. The inclusion of mudbricks along with other construction implements stamped with the ruler's name in ceremonial foundation deposits speak to a ritualized function. Also serving a symbolic function, though of a different type, were mudbricks inscribed with *Book of the Dead* spell 151, referred to as "magical bricks." These were included in the burial chambers of tombs as a mode of protection for the deceased and had a very different composition

and appearance from architectural mudbricks. For examples, see the artifact highlight in *News & Notes* 203 (2009) on the magical bricks from the Oriental Institute Museum collection.

Artifact: Mudbrick of Ramesses II. Material: Clay, Sand, Straw. Origin: Ramesseum, West Bank, Thebes. Date: Dynasty 19 (ca. 1279–1213 BC). Dimensions: 23.7 x 17.1 x 12.4 cm. OIM E1347. Location: Joseph and Mary Grimshaw Egyptian Gallery





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THE MUSEUM IS CLOSED

January 1 July 4 Thanksgiving Day December 25

ACCESSIBILITY

The Museum is fully wheelchair and stroller accessible. The University Avenue west entrance is accessible by ramp and electronic doors.

PARKING

FREE parking half a block south of the Museum on University Avenue, after 4pm daily and all day on Saturday and Sunday.

GROUP VISITS

For information about group visits, please go to: oi.uchicago.edu/museum/tours.



Programs & Events Calendar AUTUMN 2016 (OCTOBER)

COURSE

Introduction to Sumerian Cuneiform (8 weeks, online) Oct 3-Nov 28

General \$395, members \$325. *Registration required.*

EDUCATOR COURSE

Knowing Shelter, Knowing People: Learning Cultures from Prehistoric Dwelling (8 weeks, online)

Oct 3-Nov 28

General \$175, members \$135. *Registration required.*

LECTURE

Encounters with Ancient Splendors: Gertrude Bell's Archaeological Discoveries and Research in Mesopotamia, 1909–1914

Wed, Oct 5, 7-8pm

Free.

Registration recommended.

COURSE

The World of the Hebrew Bible (10 weeks)

Thu, Oct 6-Dec 15, 5:30-7:30pm

General \$475, members \$405. *Registration required.*

GALLERY TALK

Drones for Good: How UAVs and 3D Models are Changing Archaeological Research on Site Looting and Destruction in the Levant

Thu, Oct 6, 12:15-1pm

Free.

Registration not required.

FAMILY DROP-IN

Drawing Hour Sat, Oct 8, 1-2pm

Free.

Registration recommended.

COURSE

Ancient Egyptian Thought and Literature (6 weeks) Sat, Oct 8-Nov 12, 10am-12pm

General \$350, members \$295. Registration required.

EDUCATOR WORKSHOP

Engineering & Mathematics in Ancient Mesopotamia & Egypt

Sat, Oct 8, 8:30am-3pm

General \$20, members \$15. *Registration required.*

SOCIAL + WORKSHOP

Drinking in Egypt and Mesopotamia

Sat, Oct 8, 3-5pm

General \$65, members \$50. *Registration required.*

TOUR

Stories of a Mummification Workshop

Fri, Oct 14, 12:15-1pm

Free.

Registration required.

FAMILY WORKSHOP

Junior Archaeologists Sat, Oct 15, 1-3pm

General \$14, members \$10 (1 child + 1 adult); \$7/\$5 each additional registrant.

Registration required.

FAMILY DROP-IN

Mummies Night Sat, Oct 29, 5-8pm

Free

Registration recommended.

For more details and to register, visit oi.uchicago.edu/programs





Programs & Events Calendar

AUTUMN 2016 (NOVEMBER-DECEMBER)

LECTURE

Gallipoli: The Battlefield Wed, Nov 2, 7-8pm

Free.

Registration recommended.

GALLERY TALK

Mesopotamian Land Tenure: A Look at the Chicago Stone and Other Kudurrus

Thu, Nov 3, 12:15-1pm

Free.

Registration not required.

COOKING CLASS

Cooking Ancient Gourmet (off-site)

Sat, Nov 5, 1-4pm

General \$45, members \$35. *Registration required.*

FAMILY DROP-IN

LamaSeuss

Tue, Nov 8, 1:30-2pm

Free.

Registration recommended.

TOUR

Stroller Tour: World in the Biblical Time

Tue, Nov 8, 2-3pm

General \$15; members, UChicago students/faculty \$10, for up to two adults. General \$7, members \$5 for additional adult registrant. Babies in strollers are free.

Registration required.

TOUR

Verbal Imaging Tour Fri, Nov 11, 2-3pm

Free.

Registration required.

EDUCATOR WORKSHOP

Art in Ancient Mesopotamia & Egypt

Sat, Nov 12, 8:30am-3pm

General \$20, members \$15. Registration required.

SOCIAL + WORKSHOP

Drinking in the Silk Road Sat, Nov 12, 3-5pm

General \$65, members \$50. *Registration required.*

FAMILY DROP-IN

What's Up, King Tut? Sat, Nov 19, 1-3pm

Free.

Registration recommended.

LECTURE

The Stela and the State: Monuments and Politics in Ancient Mesopotamia Wed, Nov 30, 7-8pm

Free.

Registration recommended.

GALLERY TALK

The Invention of Coinage and Its Subsequent Use in the Achaemenid Persian Empire

Thu, Dec 1, 12:15-1pm

Free.

Registration not required.

FAMILY WORKSHOP

Junior Archaeologists

Sat, Dec 3, 1-3pm

General \$14, members \$10 (1 child + 1 adult); \$7/\$5 each additional registrant.

Registration required.

CONFERENCE

Educator Mini-conference: Building a Stronger Learning Community through STEAM Wed, Dec 7, 4-8pm

Free

Registration required.

SOCIAL + WORKSHOP

Drinking in Ancient Greece Sat, Dec 10, 3-5pm

General \$65, members \$50. *Registration required.*

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