



Excavations underway
inside the first part of the
tomb of Senwosret III
during 2010.

*A Look at Excavations inside the
Tomb of Senwosret III* BY JOSEF WEGNER

REVEALING a HIDDEN TOMB

beneath the sands of South Abydos is an astonishing monument: a gigantic tomb, one of the largest in Egypt, and a striking testimonial to the ancient Egyptians' belief in the divine afterlife of their pharaohs. This is the tomb of pharaoh Senwosret III who reigned *ca.* 1878–1841 BCE, 5th king of the powerful 12th Dynasty. Measured by length it is Egypt's largest tomb, stretching 800 feet from its entrance to its inner chamber. The tomb has no aboveground superstructure: it is entirely a subterranean monument cut into the bedrock and lined with finely cut masonry. It is also a monument that still presents many questions to be answered and mysteries to be solved.

Tombs of pharaohs in ancient Egypt are structures that were heavily influenced by preexisting traditions. Hence, we speak of the “royal mortuary tradition”—the combination of architecture, texts and images, religious beliefs and rituals, and artifacts associated with the burial of royalty. Egypt's royal mortuary tradition produced some of the best known archaeological sites in the Nile Valley—the pyramids of the Old Kingdom (Dynasties 3–6, *ca.* 2700 BCE) and the tombs of the New Kingdom in the Valley of the Kings at Thebes (Dynasties 18–20, *ca.* 1500–1000 BCE). Many royal tombs fit squarely within groupings such as these. However, periodically we

encounter royal funerary monuments that lack close parallels: monuments that suggest periods of dynamic change and flux in the royal mortuary tradition. The tomb of Senwosret III at South Abydos is one such structure.

The Abydos tomb of Senwosret III has been known for over a century. In 1901–1902 the English archaeologist Arthur Weigall, working under the great excavator William M. Flinders Petrie, discovered the vast underground tomb. This was a notable achievement for the young Weigall, then 21 years old, on his first project in Egypt. Somewhat disappointed that the tomb had clearly been entered and plundered in ancient times, Weigall left the tomb to others. In 1902–1903, Weigall's Canadian colleague, Charles Currelly (who later was a key founder of the Royal Ontario Museum in Toronto), completed an examination and plan of the tomb's interior. Weigall and Currelly's reports were published in the 1904 volume, *Abydos III*. For a century the tomb remained inaccessible, its entrance entirely sanded over.

As part of the Penn Museum's ongoing archaeological program at South Abydos, work began in 2004 to reopen and excavate this tomb. The work has been daunting because of the massive scale of the tomb, its depth in the bedrock, and the vast accumulations of sand that encumbered its entrance. With support from the National Geographic Society and the Penn Museum Director's Field Fund we succeeded in reopening the tomb in 2006.

We found it in the exact state it had been left a hundred years ago—a massive subterranean tomb largely full of debris and the wreckage of tomb robbers who had invaded it millennia before. Given the challenge of hoisting material 100 feet to the surface, Weigall and Currelly had shifted material around within the tomb in order to examine the chambers and passages and to produce a plan. However, the tomb was not properly excavated and it was immediately clear that any substantive understanding of the architecture and original contents required a full, systematic excavation program.

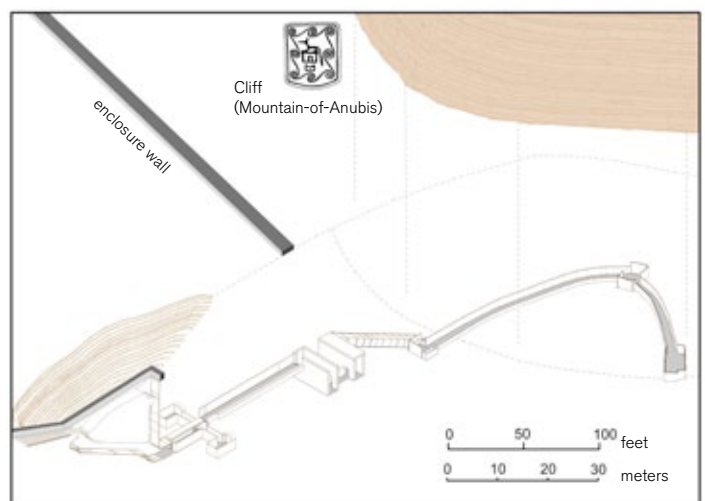
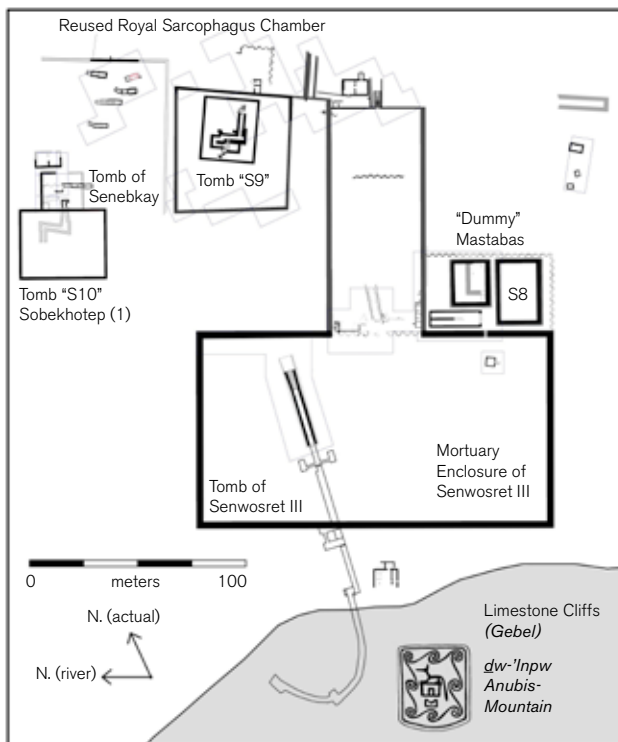
In 2008 we initiated a program of interior excavation. The ongoing goals of this work are to completely excavate the tomb's interior in order to record architecture and artifacts that have bearing on understanding the tomb. Material is removed to the surface by a chain of workmen and screened for retrieval of all artifacts. For the first two seasons the work was hampered by the lack of a cover structure, which led to constant sanding up of the entrance. However, in 2011–2012, with a grant from the Antiquities Endowment Fund of the American Research Center in Egypt, we completed construction of a permanent cover building over

the tomb's entrance. This major undertaking has allowed us to embark on a full-scale project to excavate, record, study, and publish the tomb's interior. The work on the tomb in recent years has benefitted from the interest and gracious support of John R. Rockwell and Francis Rockwell. We are now well over halfway through and the interior excavation may be completed in the near future. Let us enter the tomb and examine the spaces that we have revealed so far and how we stand with the project.

BEAUTIFUL CEILINGS AND DOORS: THE OUTER TOMB

The first section of the interior, which we tackled in 2008–2010, is a group of three chambers. We began with the central chamber, which is a magnificent architectural space cut into the bedrock and lined with fine, white limestone. This “pole-roof chamber” has a meticulously carved ceiling of faux-wooden beams running across its width. The intention behind this design appears to be the evocation of more ancient styles of mortuary architecture in which actual wooden beams formed the ceiling, or perhaps the later adaptation of this form into stone as occurs in the famous Step Pyramid of pharaoh Djoser (*ca.* 2700 BCE) at Saqqara.

Although I was initially optimistic about recovering objects at floor level in this chamber it became clear as we went down that the space had been used as a base



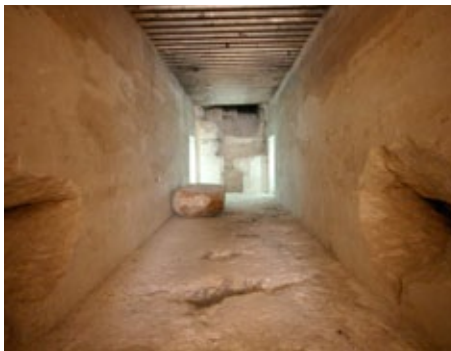
LEFT: The tomb of Senwosret III is located inside an enclosure at the base of the high desert cliffs and surrounded by other structures including other royal tombs: S9 and S10. ABOVE: This isometric view shows the Senwosret III tomb and its spatial relationship to the *Mountain-of-Anubis* above.

One of the challenges of the excavation has been the presence of numerous huge masonry blocks, the remains of the tomb's blocking system.



of operations by tomb robbers who, from there, had attacked the blocking system and chambers further inside the tomb. Many large blocking stones in quartzite and limestone had been pulled into this space and stacked one on top of another. Any original objects were long gone. Because of the use of the archaic pole-roof style it appears the chamber may have held some specific symbolic function, perhaps evoking the idea of ancient modes of royal burial. One possibility is such a chamber could originally have contained magical statuary, perhaps something like an “Osiris-bier” showing the deceased god-king Osiris whose role was instrumental in royal mortuary traditions.

Excavation of the two side chambers (forming the arms of the T-unit) added some interesting evidence to the picture. These chambers are mirror images of each other and reached via passageways extending off of the pole-roof chamber. The two chambers are not lined but only cut out of the bedrock. The work, however, is exacting and the two chambers measure exactly 5 by 10 cubits (over 7 by 14 feet), each with a perfect vaulted ceiling. A stratum of flint nodules, which are part of the limestone bedrock, run



The pole-roof chamber included a roof of faux logs carved in limestone.

at waist height across the entire span of the two chambers. The tomb's builders carefully shaved and patched these nodules with white gypsum plaster. Most intriguing was our discovery that the two chambers both originally had wooden doors

mounted in frames part way down the passage from the pole-roof chamber. What did these doors conceal? Here again we have been frustrated by the extensive removal of any original contents by the ancient tomb robbers. Like the pole-roof chamber the two vaulted rooms contained extensive stacks of wrecked blocking stones and limestone debris from the robbery process.

So, what was the function of the T-shaped group of three chambers? Now fully excavated, we can see this was the final element of the tomb's architecture to be added. Beyond the masonry walls of the pole-roof chamber is a 25-meter long horizontal passageway that was originally packed solid with huge blocking stones of granite, quartzite, and limestone. From end to end this passage contained over 500 tons of masonry. All of this and what lay



Before and after. ABOVE: The first limestone chamber, nearly full to the ceiling with debris as we found it in 2006. RIGHT: The same chamber after completion of excavation in January 2013.



beyond had to be installed before the pole-roof chamber was built. We gain the somewhat disconcerting picture of many months of construction still going on underground after the royal burial chamber had been sealed up. Why? These questions still remain to be answered but we hope further evidence emerges as we come to understand the other parts of the tomb.

TWO HUGE LIMESTONE CHAMBERS

During 2011–2013 we progressed further inward to excavate the tomb's two largest chambers. These are nearly identical: twin chambers constructed with a lining of fine limestone and connected by a passageway at floor level. The chambers, although narrow (2.12 meters/7 feet), are impressive in height (5.5 meters/18.5 feet) and length (8.5 meters/28 feet). The process of excavation has been challenging as the two were filled almost entirely with stone debris and massive multi-ton blocks of limestone—remnants of the blocking stones from the adjacent passages that had been dislodged by ancient tomb robbers. In 2012 we completed excavation of the first of these chambers, which one can see now for the first time.

The effort the ancient builders invested in the architecture of the two chambers is quite remarkable. The two chambers were hewn out of the bedrock and then

fitted with a stone lining over half a meter thick. This totals approximately 840,000 pounds (some 420 tons) of fine limestone—blocks that had to be maneuvered underground, stacked, levered into place from the side, and then smooth-dressed from the top down with copper chisels.

One of the striking elements now fully visible is a series of square mount holes cut into the walls of both chambers. This initially puzzled me but now that we have fully exposed the walls it is easy to see the holes were cut by the original builders to install a system of wooden scaffolding used in smooth-dressing the chamber walls. Timber beams bridged the chamber's width and created a series of five superimposed platforms. As the dressing was completed, the scaffolding was removed and the holes filled with patch-stones. Tomb robbers had pried out many of the patch-stones in order to check for any connections to hidden chambers; conveniently, these holes served as recesses for oil lamps as the telltale soot patches indicate. However, some recesses with their patch-stones remain in place.

The interest in creating a flawless, smooth white surface is also seen on the floor and ceiling where patches of gypsum whitewash still adhere in some areas. These were two austere, white spaces both sealed off by blocked passageways on either side. Why? What could be their

function? A question I would love to answer is what greeted the eyes of the first tomb robbers who broke into this beautifully constructed and carefully sealed space!

Any large objects—whether of stone or other materials—appear to have been stripped away by the initial robbers who penetrated into this part of the tomb. We found the floor clean. However, there are indications in a few areas that some large items must have been maneuvered into these chambers after they were completed. Opposite the entrance to the passageway connecting the two chambers, the smooth-dressed wall face was shaved back slightly to create a little extra space, possibly for turning some long item into the passageway. Based on the width of the room and passageway, this must have been an object over 3.5 meters, some 12 feet, long.

In view of the long, narrow proportions of these two rooms a distinct possibility is they served as chambers for boats. These might either be disassembled functional boats that had served in the king's funerary ceremony

(like the boats of Khufu at Giza which were taken apart and buried in pits adjacent to the Great Pyramid). Alternatively, they could have been specially prepared symbolic boats for the king's netherworld journey—perhaps larger versions of model boats similar to those found in the later tomb of Tutankhamun.

ONWARD TO THE BURIAL CHAMBER

As of the summer of 2013, we completed excavation of both of the twin limestone chambers. We are at an exciting juncture in the tomb project because we are now ready to move from the limestone “outer tomb” to excavate the burial chamber of Senwosret III and other components that together form the “inner tomb.”

Beyond the twin chambers we reach the tomb's most complicated architectural defense against tomb robbers. The original access point to the burial chamber was through a 20-meter long descending passage filled end to end with massive granite blocking stones. The largest

Restoration Work on the Tomb of Senwosret III

One of the major challenges of excavating the tomb of Senwosret III is the fact that it has no built superstructure. The tomb's rock cut entrance was originally contained within a brick dromos—a long vaulted structure that had a ceremonial staircase at one end—which kept the desert sand back. This structure was only used temporarily and today its remains provide no structural defense against the relentless accumulation of sand in this windy desert landscape. A key step has been the construction of a permanent cover building, fitted to the bedrock that encases the remains of the ancient brick structures, as well as permitting access to the tomb's entrance.

With support from the Antiquities Endowment Fund of the American Research Center in Egypt (established through a grant from USAID), we completed the protective cover building in 2011–2012. The structure is 120 feet long and constructed of fired brick and concrete. Its roof is composed of a series of four brick vaults that bridge its 16-foot width. The building is fitted with skylights, an iron door, and a staircase



that make access to the tomb now as easy as the turn of a key. Inside we have completed selective restoration work on the remains of the brick building. As work is completed in coming years the cover building will serve as a way to open the tomb so that visitors to Abydos can see this remarkable example of Middle Kingdom Egyptian engineering.



Objects from the interior of the Senwosret III tomb include alabaster vessels from the original 12th Dynasty funerary furnishings (top) as well as pottery from the phases of tomb robbery during the Second Intermediate Period (lower left) and Roman Period (lower right).

This is where the actual burial of the pharaoh once lay and where we have the highest potential for retrieval of unwanted small objects discarded as they plundered the tomb. So far, the careful screening of the debris had produced a mix of material relating to the original contents and the phases of tomb robbery. Several small beads of Middle Kingdom date suggest the presence of burial equipment, and a range of fine alabaster vessels imply a finely equipped royal burial assemblage. Pottery dating to two phases, the

late Second Intermediate Period (*ca.* 1550 BCE) and the Roman Period (*ca.* 2nd–3rd centuries CE), suggest tomb robbers entered the tomb on more than one occasion.

The retrieval of small objects is key to understanding the characteristics of the tomb's original contents and the phases of robbery. The chances of finding original artifacts is much higher in the innermost spaces where unwanted objects should have been discarded at floor level. Coming seasons will be devoted to completing the excavation of the inner tomb beginning with the burial chamber itself. Slowly, inch-by-inch, we are working our way into this remarkable royal monument hidden beneath the *Mountain-of-Anubis*. Every hard-won piece of evidence is coming together to help answer why Senwosret III built this unique burial structure at Abydos. Stay tuned; there should be more to tell soon! ●

weighed over 50 tons. This blocked passage was originally concealed behind the limestone lining of the second of the twin chambers. Tomb robbers searching for connections to further passages broke through the lining of the chamber, found the entrance to the blocked passage, and dislodged the first granite blocking stone. They then tunneled through the bedrock under the blocking stones themselves, and hacked a second robbers' passage that broke through the roof of the pharaoh's burial chamber.

The sarcophagus and canopic chest of Senwosret III still sit, dislodged and broken open in the burial chamber cloaked in debris. With the burial chamber we reach what should be considered the actual burial compartments of Senwosret III. Here there is a change in building materials: the three chambers that make up the inner tomb were lined in red quartzite rather than limestone. The inner tomb forms a curving arc and ends in a huge stone-lined chamber that is oriented now in a reverse direction—back towards the east.

Whereas the outer parts of the tomb had been used as areas for stashing the wrecked masonry blocks, which the robbers had pulled from the chamber walls and blocking, the material in the inner tomb is mostly debris from the robbers' exploratory cuttings through the bedrock.

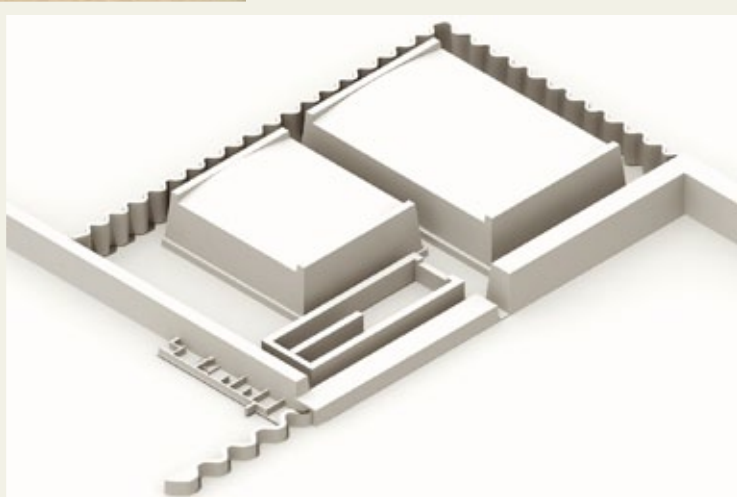
FOR FURTHER READING

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The Enigmatic Dummy Mastabas



LEFT: The dummy mastabas sit within their own enclosure formed by a serpentine wall that attaches to the outside of the Senwosret III tomb enclosure. BELOW: A reconstruction of the dummy mastabas and associated rectangular building. A door that originally linked the dummy mastabas to the Senwosret III enclosure was later bricked up and sealed.

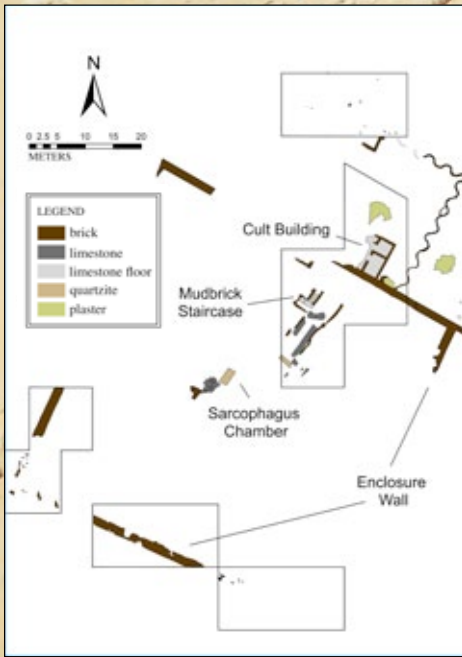


The tomb and enclosure of Senwosret III at *Mountain-of-Anubis* presents us with many questions about what happened there 4,000 years ago. However, the site only begrudgingly provides us with answers from beneath its deep blankets of sand. One of the fascinating areas of investigation is the group of satellite structures that sit adjacent to the Senwosret III enclosure. Two of these are certainly royal tombs: Tombs S9 and S10, which we discuss elsewhere in this issue. More enigmatic are the two so-called dummy mastabas. These two buildings sit together outside the Senwosret III tomb enclosure within their own walled precinct. After extensive excavations from 2010 through 2013 we know exactly what these structures looked like but we are still at a loss to explain what they are or why they were built.

We have discovered that the two mastabas are absolutely contemporary but not identical. They are framed by an impressive serpentine wall joined to the outside of the main enclosure of Senwosret III. One mastaba is nearly square and the other is rectangular. Both contain construction debris—rock chips and flakes—from the tomb of Senwosret III. We have excavated the smaller mastaba entirely, both inside and out. The superstructure is actually preserved to its roof-line which retains part of a brick-vaulted roof. In form,

the smaller mastaba would have resembled a gigantic, brick canopic chest. Adjacent to it is a rectangular brick building that contained many seal impressions, most produced by the necropolis stamp: *Mountain-of-Anubis*.

Could they be tombs? So far, our work has provided no evidence that the buildings have subterranean elements. However, in June of 2013 we found evidence that at some point in the distant past someone had dug a massive pit down on the cliff-facing side of the smaller mastaba. What were they looking for? We still do not know but it seems the dummy mastabas hold some important keys to understanding the tomb of Senwosret III. For the time being at least, these mysterious buildings continue to hold their secrets.



This well-preserved mudbrick staircase was originally covered in whitewashed plaster. It leads from the entrance to the limestone corridors. INSET: During the 2003 and 2011 excavation seasons, our team worked in areas both inside and outside the tomb. The lines shown here denote the 2011 excavation areas.

