

GIZA PLATEAU MAPPING PROJECT

MARK LEHNER | ANCIENT EGYPT RESEARCH ASSOCIATES

We returned to the Menkaure Valley Temple (MVT) in January 2020 to resume our work of 2019.¹ We study and document the temple remains, which George Reisner excavated in 1908 and 1910, with the systematic MoLA method² that we honed for all AERA archaeology at Giza. This season we worked in two areas: the western third of the temple (MVT-W, fig. 1), and at the northeastern corner of the temple in a large hole (NEH, figs. 2–3).

This season, we wanted to focus on the temple foundation, taking advantage of fact that both the NEH hole and “Thieves’ Hole” at the rear, southwestern corner cut down through the entire temple. Reisner wrote that he found the famous dyad statue of Menkaure and a queen at the bottom of Thieves’ Hole. We reached the find spot last season. Now we wanted to expand north into the temple sanctuary, the rooms that Reisner called the Portico (room 1) and Offering Hall (room 2, our space 10,842),³ where he saw evidence that a flash flood breached the western wall and ruined the temple, which probably happened during or after the late Fifth Dynasty. As this was a major event in his narrative and reconstruction of the sequence of occupation and building in the MVT, we wanted to see what he saw. We also were keen to continue to sieve the silty deposits that Reisner dumped into the western part of the temple when he cleared the apartments, bins, and granaries of people who occupied the court over the course of three hundred years. Last season, our dry sieving and wet sieving yielded an abundance of material culture these people left behind—plant remains, animal bone, sealings, and even statue fragments. We regard this discarded material as among the most important finds from our work in the MVT.

We opened the fieldwork on January 27 and ended on March 31. But the coronavirus crisis abruptly halted excavations in mid-March. Most of the non-Egyptian team members left for home between March 12 and 16. Egypt closed Cairo Airport on March 19. By the end of March, the last of the Egyptian team members, all of whom except Mohamed Helmi were working in the AERA field lab, left the AERA villa to go to their homes elsewhere in Egypt. After everyone else left, archaeologist Dan Jones, surveyor Mohamed Helmi, overseer Sayed Salah, inspector Ahmed Hosni, and the workers and I continued on site.

I directed the overall program of the 2020 season. Daniel Jones supervised excavation and recording on site. Sayed Salah Abd el-Hakem (AERA) served as archaeologist and foreman of sixty workers. Mohammed Helmi carried out all survey and coordinated remotely with AERA’s GIS director, Rebekah Miracle, based in Austin, Texas. Greg Viessman (University of Memphis), Vicky Almansa-Villatoro (Brown University), Martina Bardonová (Charles University), and volunteer archaeologists Kathy DeRue and Sarah LaPidus worked on site. Rasha Safan represented the Ministry of Antiquities (MoA) as inspector during the first half of the season and Ahmed Hosni for the second half.

We opened the magazine that serves as AERA’s field lab and storeroom on Sunday, February 9, and closed it on Thursday, March 19. Dr. Claire Malleson directed the lab and storeroom. Mr. Hany Zaki represented the Ministry of Antiquities as inspector. Dr. Richard Redding (AERA director of research), Mohammad Hussein, and

NEXT PAGE: Figure 1. Exposure of the southwestern quarter of the Menkaure Valley Temple during Season 2020. View to the northwest with the Khufu and Khafre Pyramids in the background. Workers remove clean sand from the temple sanctuary at the north end of the exposure.





Shereen el-Morsi analyzed animal bone. Dr. Claire Malleson, Agata Bebel-Nowak, and Essam Ahmed analyzed plant remains. Emmy Malek processed and studied objects. Yasser Mahmoud, Alaa Talaat, and Rasha Mohamed worked as illustrators; Amel Aweida, Mohamed Hamed, and Nourhan Hassan worked as photographers. Samar Mahmoud studied lithics. Ali Witsell studied sealings. Manami Yahata documented and analyzed remains of roofing and plaster. Mohammad Hassan served as lab assistant. Other colleagues who had planned to study material culture could not join us because we had to close the lab early due to the COVID-19 crisis.

BEWARE THE IDES OF MARCH

It was that fateful third week of March when the looming COVID-19 crisis forced us to stop clearing and mapping the MVT and turn the workers to backfilling what we had just spent so much energy excavating. Whether the supermoon that appeared on March 9 and rose for the next three days had anything do to with what followed, I don't know. On March 12, a two-day rainstorm hit Egypt, shutting down Cairo just ahead of the COVID-19 shutdown. Named a "dragon storm" and a cyclone,⁴ the sustained rains threatened devastating effect on the 4,500-year-old mudbrick walls of the temple that we had exposed this season if they dried out too quickly. So, when we resumed after the storm on Saturday, March 14, we scrambled to buttress walls with sandbags and rebury them as the Egyptian authorities began to order everyone off the plateau. For two weeks, our site work was the only activity at the Giza Pyramids. To get the job done quickly, we hired eighty workers (up from sixty previously) and raced to sandbag and backfill what we had just exposed of the temple.

GOING DEEPER IN THE DYAD HOLE

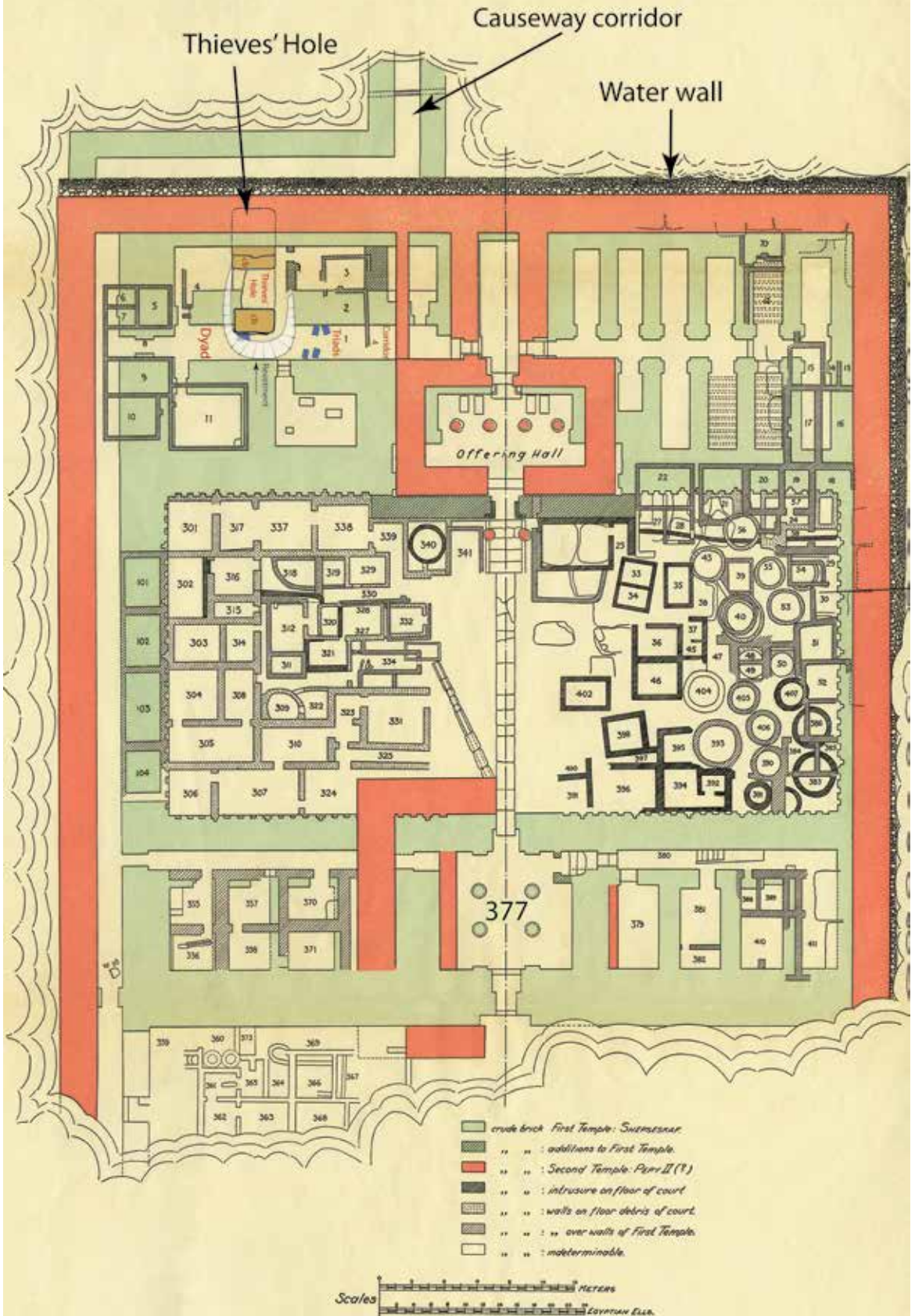
In 2019 we emptied what Reisner called Thieves' Hole. He wrote in 1931 that he found the famous dyad in this hole. In fact, Reisner did not find the dyad in Thieves' Hole, but in a deeper, older hole that someone dug a little father east, in ancient times.⁵ He realized this and wrote about the two holes in his diary shortly after he conjoined them into one oblong trench by excavating what separated them. But when he wrote for publication twenty-one years later, he conflated them as Thieves' Hole.⁶

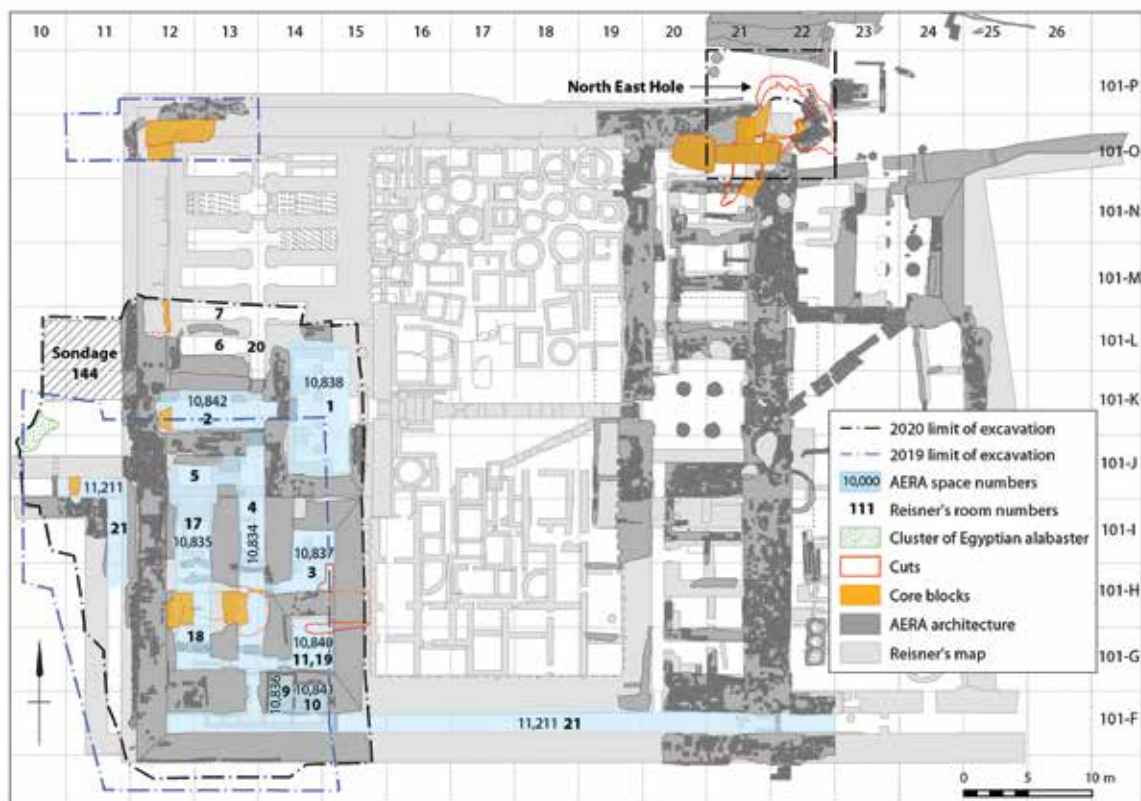
I call the lower hole the Dyad Hole (space 10,834, cut [35,618]). Long before someone dug Thieves' Hole, someone had already buried the dyad in the older hole. Someone dug the Dyad Hole into the crushed limestone foundation that builders had laid down before Menkaure's successor, Shepseskaf, finished the valley temple in mudbrick at the end of the Fourth Dynasty, what Reisner called the First Temple. They may have dug the Dyad Hole after the First Temple lay ruined and abandoned in the late Fifth Dynasty, and before, or when people rebuilt the temple in the Sixth Dynasty—the "Second Temple."

In the Dyad Hole, apparently at a deeper level than where he found the dyad, Reisner wrote that he found "a number of fragments of a slate triad—different from all fragments found as yet. There may be more fragments, possibly statues, in this hole, but as the water runs in very fast, it will be better to leave the hole until May. I have ordered retaining walls built, which will keep the two holes free of debris."⁷ Reisner never came back to excavate deeper in the Dyad Hole. He

RIGHT: Figure 2. Reisner's (1931: plan VIII) multi-phase map of the MVT. Light green: "First (Fourth Dynasty) Temple." Orange: "Second (Sixth Dynasty) Temple." Hachured gray: an intermediate phase (Fifth Dynasty). Black: latest domestic structures. Reisner found the Menkaure triads in the southwest corner (upper left) of the temple, in corridor 4, and the dyad in an older hole under the revetment (white crescent) around the east end of "Thieves' Pit," which cut corridor 4. North is to the right.

THE VALLEY TEMPLE OF KING MYCERINUS





filled the combined holes and the space between his retaining walls with clean sand.

In 2019, after we had removed this sand and arrived at the exact spot where Reisner found the dyad, we excavated Sondage 142 into a silty layer (35,730) that was about level with the bottom of the dyad when it stood upright against a large limestone core block (35,642). We could not be certain that Reisner's workers did not lay down this silty layer when they moved the dyad and built his retaining walls. The silty layer abutted a deeper core block (35,747).⁸

In 2020 we wanted to expand Sondage 142 and dig deeper to see, of course, if we could find more statue fragments, and to get to the bottom of the temple foundation. First, we removed material that had collapsed from the northern side of the sondage last year. Next, on March 10, Martina Bardonová excavated the southern side of Sondage 142 from the exact spot where the dyad had stood to 2 m closer to the south side of the hole, where she left the deposits as a step for workers (fig. 4). Martina first removed inter-

Figure 3. Multi-phase Reisner plan of the MVT georectified (corrected for position with respect to the Giza Plateau Mapping Project grid). Dash-dot lines indicate limits of excavation (LOE) in the 2020 season. Reisner's room numbers are in bold; AERA space numbers are in the 10,000s. Map by Rebekah Miracle from AERA GIS.

Figure 4. Martina Bardonová explains the layers she has just excavated at the bottom of the Dyad Hole, at the exact spot where in 1910 George Reisner found the dyad against the shoulder of the large core block showing at the right. March 10, 2020, view to the south.



layered sand and silt (35,634), which sloped down from the west to the east. Then she removed the thick silt deposit (35,730), which contained more of the irregular limestone pieces that we had found in the layer last year. In his diary entry of January 20, 1910, Reisner wrote that his workers began to move the dyad statue by tilting it from side to side and shoving stones underneath.⁹ His sketch shows stones next to the large “dyad core block” (35,642). We have to think that Reisner’s workers left the stones and the sandy, silty layers from this operation. On the other hand, the silty layer also shows in the northern and eastern sections of the Dyad Hole itself, as we saw when we tried to dig deeper. Under the dense silt, Bardonová could only partially clear a greyish, sandy silt layer (35,733) because ground water flooded the newly excavated side of the sondage.

On March 15 we probed below the level of the ground water, which was 14.95 m above sea level (asl) in 2019 but had risen to 15.427 m asl this season. It probably did not help that we were attempting to go deeper two days after the “dragon storm” dumped so much rain upon the land. We tried to lower the ground water by using a gas-powered pump. As the pump chugged along, the water level slowly fell. Sayed Salah, Ramadan Hamed, Emad Shabaan, and Hani Hussein worked hard clearing the sloppy debris (fig. 5). But it was a race of Alice and the Red Queen. As they dug deeper, reaching down and scooping up mud in their hands, the water streamed in from the northwest and northeast, bringing a sandy slurry that filled the spot. From the slurry, the men brought up small, tantalizing pieces of pottery and worked pieces of several different types of stones: one each of red granite, Egyptian alabaster (travertine), and limestone, and two of greywacke—the stone of Menkaure’s dyad and triads. Eventually, the flow outpaced the pump. At 14.76 m asl, we gave up, after 66 cm below the level of the 2020 water table but only 19 cm below the 2019 level. We did not reach the bottom of the lower course of limestone core blocks.

The water table has risen and fallen over recent years in this low part of the Giza Pla-

Figure 5. Sayed Salah (on ladder), Ramadan Hussein (left), and Emad Shabaan (center) work with the pump at the bottom of the Dyad Hole. View to the east.



teau. A de-watering system installed between 2008 and 2010 was designed with the potential to lower the ground water to 12 m asl in an area from the Sphinx to the Khentkawes Town and along the Heit el-Ghurab site. Unfortunately, in the last few years it has not been operating anywhere near that optimum, and the water is nearly as high as before the system was installed. We hold out hope that when it is working well again, we can get to the bottom of things in the Dyad Hole.

OFFERING HALL

As we began to backfill most of what we had cleared, three weeks sooner than planned, Dan and I decided to un-fill Reisner's clean sand from the portico (room 1, our space number 10,838) and the offering hall (room 2, space 10,842, see fig. 3).¹⁰ In the end, we had time only to clear the offering hall.

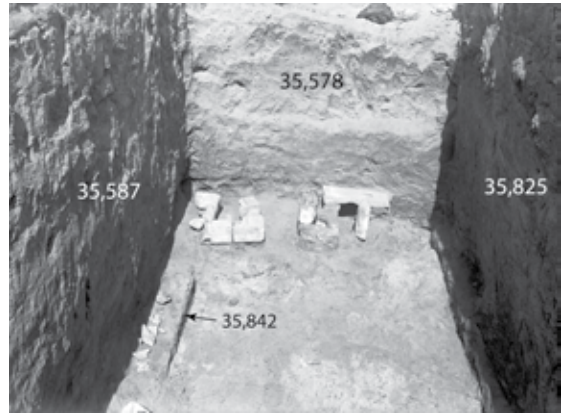
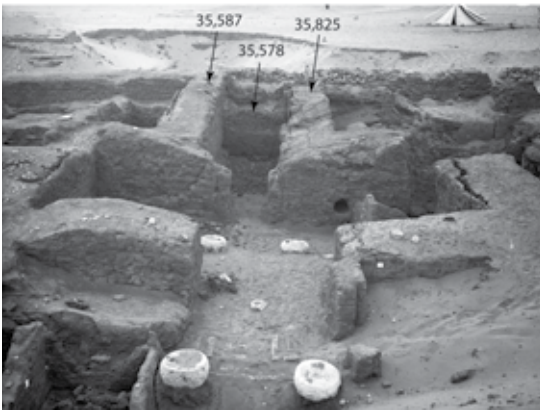
We especially wanted to look at the back, western wall of the offering hall. Here, Reisner saw evidence of a flash flood that caused people to abandon the First Temple (green in fig. 2), leaving a "surface of decay,"¹¹ on which people later built the walls of the Second Temple (orange in fig. 2). In the eastern vestibule (room 377), he found a limestone stela inscribed in the name of the Sixth Dynasty Pharaoh Pepi II in his biennial "counting year" 31,¹² which would be around the last third of his ninety-four-year reign. This is probably when people partially rebuilt the temple, adding thick walls around the north, west, and south sides, around the portico and offering hall, and around the eastern entrance vestibule (Reisner's room 377). These walls are all coded orange in his map, reproduced here as figure 2. We wanted to see the evidence of the temple-killing punch through the western wall.

It turned out to be complicated, not only because of temple building and rebuilding over three centuries, but because Reisner tore out the floor of the Second Temple, removed most of its northern wall, and, as elsewhere, trenched the floor along the base of the walls to trace the lines of the First Temple.

Reisner already knew from his first plunge into the western side of the temple between July 7 and 25, 1908, that the temple showed two major building phases. He then took sixteen months away from excavating the MVT to work in Nubia and Palestine. He resumed on December 3, 1909, and from this point we can follow his progress and thinking reading his diary, in which he sometimes goes into a little more detail than in his publication and offers clarifying sketches. From a thorough review of Reisner's diaries, photographs, and publications, Dan Jones has begun to sort out a more complicated history than the already-complex history that Reisner documented for the offering hall. I do not know how this would have been possible without the MoLAS method of assigning each and every structure and depositional feature its own numeric identification tag. I use photographs from the Reisner archive and from our work this season to show how we sort out the different "builds" and deposits, and their sequence.

In figure 6, a view to the west across the portico (room 1) into the offering hall (room 2) as Reisner found it when he resumed work in December 1909, the massive Second Temple walls of the portico and offering hall remain mostly intact.

Sixteen months earlier, when he first excavated the offering hall down to its latest floor, Reisner found the remains of the last intentional act in the offering hall (fig. 6). At the back of the room, which measured 2.40 m wide and 7.50 m long, a tiny offering "bench" remained where someone had placed it, probably in the late Sixth Dynasty. It consisted of a worn alabaster slab resting on a mudbrick pedestal (?) and a crude limestone trough (which Reisner left behind for us to find). This seems a diminutive arrangement for the inner sanctuary of a cult that featured a massive temple and, at least in the First Temple phase, magnificent statues of Menkaure. Reisner thought such



an offering bench would have been placed in the original offering room.¹³ Two unfinished small statues, two pieces of a third small unfinished statue, and the base of a fourth sprawled on the floor to the south.¹⁴ Did someone put these here intentionally? It appears so, but it is hard to say, because Reisner found statue pieces scattered throughout the temple.

In figure 7, a view of the objects at the west end of the offering hall, note how the interior faces of the north wall (35,825), south wall (35,587), and back, west wall (35,578) of the hall remain intact. An edge of an older south wall (35,842) protrudes above the floor.

Knowing that an older phase of the temple lay below, Reisner next ordered his workers to take out the floor and excavate below. He must have also suspected that the walls masked older walls, because he asked his workers to scrape off the face of the western wall (35,578) and hack a vertical trench into it. Figure 8 shows the offering hall at this stage.

By taking out the floor (fig. 8), Reisner exposed more of what he understood as the earlier (“First Temple”) southern wall (35,842) and perhaps a part of an earlier wall projecting on the north (right). However, this would not be the First Temple north wall, because it was positioned farther north, framing a wider offering hall. At least the lower, southern projecting wall fits with what Reisner wrote: “The southern wall [of the Second Temple offering hall, 35,587] rested on the older southern wall [35,842] with its interior face about 10–15 cm south of the old face. The interior face of the new northern wall, however, was about 70 cm south of the old face, and the northern wall on the inside was founded in a trench cut in the old floor . . .”¹⁵

By taking out the Second Temple floor, Reisner also exposed a limestone core block (35,829) that shows under the back, western wall. This conflicts with his statement that Menkaure’s builders left a gap in the core blocks across the back of the offering hall,¹⁶ but perhaps he meant they left the gap in the higher courses. He did write of a “foundation wall” across the western end:

The western end of the room had been *washed out* previous to the building of the second crude-brick temple, and overbuilt by the later wall. Its examination was, therefore, a matter of considerable difficulty, but we managed to expose the greater part of the foundation wall, which crossed the end of the room in a straight line with no indication of niche or stela.¹⁷

TOP LEFT: Figure 6. View to the west of the portico (foreground, room 1) and offering hall (room 2), December 1909. Part of the south-facing elevation of the north wall (35,825) of room 2 had collapsed during Reisner’s sixteen-month break between 1908 and 1909. Note the fissure in the north (right) wall of the portico. Photo HUMFA_A268_NS, courtesy of Museum of Fine Arts, Boston.

TOP RIGHT: Figure 7. View to the west of the objects at the west end of the offering hall (room 2, space 10842), dated July 18, 1908. Photo HUMFA_A254_NS, courtesy of Museum of Fine Arts, Boston.

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He might have had in mind the core block, and the layer (35,841) that runs several centimeters thick over it (figs. 8–9 below). When they stripped the east face of the back wall and excavated a vertical trench deeper into it, Reisner’s workers exposed the “washing out” of this wall. Tumbled mudbrick fragments, crushed limestone quarry debris, desert clay, and sand (35,830) fill a U-shaped cut through the older, underlying walls. I will delineate that debris in the following photographs.

Next, Reisner had his workers shave off the upper part of the northern wall (35,825) of the Second Temple offering hall (fig. 9). At the spot where the northern wall had attached to the rear, western wall, they dug another vertical trench. Later, he wrote about these operations: “It was thus easy to follow the lines of the old walls under the later ones, although it was necessary in places to cut away the later wall to make sure of the details.” He gives a thumbnail view of the offering hall after his trenching,¹⁸ which I enlarged as figure 9 here, adding our feature numbers. Figure 10 shows the offering hall as we found it this season. The following paragraphs reference these figures.

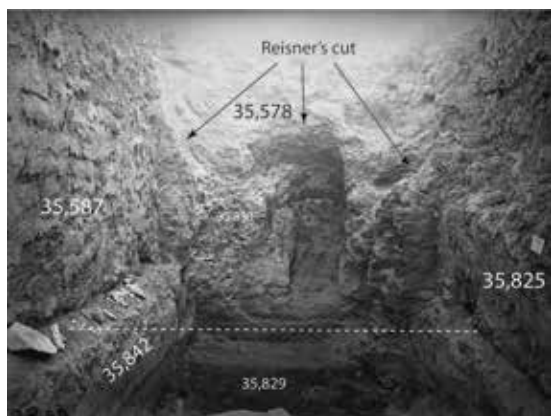
Reisner saw the Second Temple walls of the offering hall as founded on a single earlier “build”—the “First Temple.” We see evidence of two earlier “builds.” The Second Temple south wall (35,587) is based upon the truncation of the earlier wall (35,842), which projects 15 cm or more. But this wall is based on a previous build, wall (35,681), which is at about the same level as the limestone core block (35,841) that Reisner exposed at the base of the rear, western side of the room. Just above this core block, a thin residue of the earliest wall (35, 841) remains, and so does a thinner remnant of the next oldest wall (35,843). The walls of the true “First Temple” would be the lowest remnants on the south and west (35,681 and 35,841, respectively). A “build” intervenes between Reisner’s “first” and “second” temples.

The flash flood cut through the *second, middle phase* (35,843) of the western wall, filling the channel-like breach with sand, clay, and brick debris

BOTTOM LEFT: Figure 8. View to the west showing the offering hall (room 2, space 10,842) after Reisner’s workers removed the Second Temple floor and the face of the west wall (35,578), dug a vertical trench into it, and took away of part of the north wall (35,825). Compare with figure 7 above. Dated February 6, 1910. Photo HUMFA_C2265_NS, courtesy of Museum of Fine Arts, Boston. The dashed line shows the Second Temple floor level.

BOTTOM RIGHT: Figure 9. View to the west showing the offering hall (room 2, space 10,842) after the removal of part of the Second Temple north wall. Compare with figure 7 above. Dated February 6, 1910. Photo HUMFA_C2265_NS, courtesy of Museum of Fine Arts, Boston. Horizontal dashed line shows Second Temple floor level.

(35,830). It is possible a similar event destroyed the earliest walls, but the debris-filled channel that appeared when Reisner scraped off the face of the Second Temple west wall was made by a flash flood that took out the middle-phase wall, leaving a remnant (35, 843) at the bottom of the channel. When builders came to remake the offering hall for the Second Temple, probably in the Sixth Dynasty, they left the flood debris (35,830) filling the channel under the western side, but they cut the debris vertically to install



TOP TO BOTTOM: Figure 10. View to the west of the offering hall (room 2, space 10,842) as exposed in AERA's Season 2020. Photo by Dan Jones.

Figure 11. Dan Jones examines where the builders of the Second Temple cut through the debris (35,830) deposited by a flash flood that broke through the western wall of the offering hall (room 2, space 10,842). They built the new southern wall (35,587) of the offering hall over the cut they made in the debris. Jones later cut a section from the plaster at the base of the wall to confirm two earlier "builds" (35,681 and 35,842) of the southern wall. View to the south.

Figure 12. Fine sand with wavy striations from flowing water adheres to the face of the northern, middle phase wall (35,839) of the offering hall (room 2, space 10,842). View to the north.



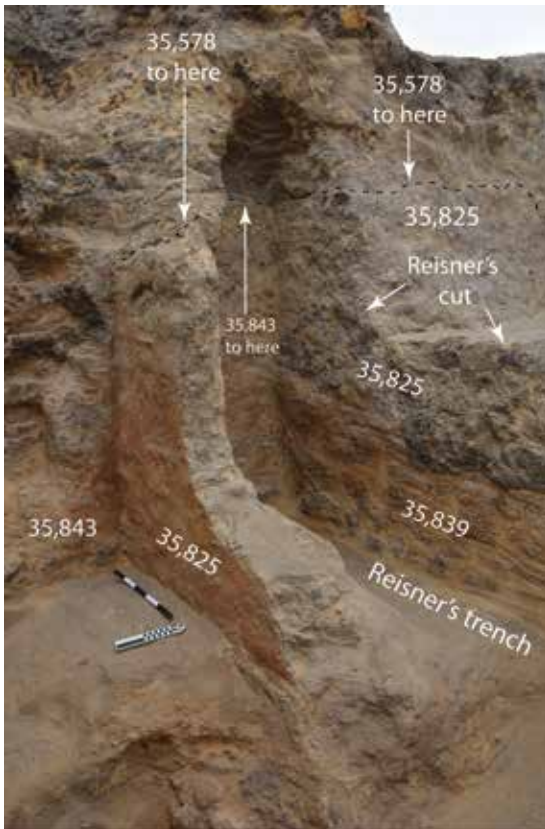
the southern wall (35,587, fig. 11). They made the Second Temple western wall (35, 578) and southern wall (35,587) as one seamless "build" or building event over what remained of the middle phase of the western (35,843) and southern walls (35,842), the way a dentist will fit a crown onto the contours of what remains of the original tooth, although in this case the "dentists" did not remove the "decay," that is, the flood debris (35,830).

On the west, the Second Temple builders brought the face of their new west wall (35, 578) forward 50 cm to the east beyond the face of the older, middle-phase wall (35,843). Dan writes, "...I do believe Reisner got it wrong when he said that the Second Temple west wall (35,578) was built 0.25 m west of the First Temple wall. It is actually the other way around...with a 0.50 cm difference between limits. I think what he is showing on his color-coded, multi-phase map of the MVT for the west limit of the First Temple in room 2 is the east edge of the core block (35, 829)."¹⁹

When Reisner removed the face of the west wall (35,578) of the offering hall, the debris showed like the contents of an over-stuffed closet (figs. 8–10). A powerful stream, from just the kind of sustained rain we experienced on March 12–13, cut the middle phase wall (35,843) and filled the channel with coarse material (35,830). "Room 2 effectively functioned as a gully funneling the flood material into the court, where it pooled."²⁰

On the north side of the hall, the face of the middle-phase wall (35,839), sandwiched between what remains of the earlier (35,840) and later (35,825) walls (see figs. 8–9), shows the effects of water flowing through the hall (fig. 12). The faces of the bricks are rough and pocketed from long exposure. The hall remained unroofed for a long time. Fine sand with wavy striations still adheres to





the face of the wall and fills the seams between bricks. Rain water in shallow flows through the wall brought this finer sediment before a more powerful gush carried the coarse debris (35,820) that shows in the western wall breach. This thin accretion of fine sand was preserved because builders capped and cased the south face of the middle phase wall (35,839) with the latest northern wall (35,825), narrowing the offering hall from 3.10 m to 2.15 m. We see the middle- and early-phase walls thanks to the trench (figs. 8–9) that Reisner cut into the latest-phase northern wall (35,825).

Dan Jones documented evidence that the northern wall (35,825) of the offering hall was built after the middle-phase walls but before the Second Temple. The Second Temple builders simply incorporated it. Unlike its mate (35,587) to the south, the latest northern wall (35,825) is not a seamless build with the western wall (35,578) of the Second Temple. The northern wall abuts to the western wall of the middle phase (35,843) as shown in figures 9–10 and 13. Here, the middle-phase western wall (35,843) was preserved to some height along the northern side of the flood breach.

MAJOR MVT MIDDLE PHASE

We have to recognize a major intermediate phase between Reisner's First Temple, allegedly finished in mudbrick by Shepseskaf at the end of the Fourth Dynasty, and his Second Temple, built in the mid to late Sixth Dynasty. We have seen this significant phase, most probably dating to the Fifth Dynasty and possibly the reign of Niuserre, in the eastern third of the MVT. It was probably then that people repaired the southeastern magazines and added a screen wall across the portico (room 1), a limestone ramp and pathway across the court and across the eastern temple annex, and two sets of alabaster column bases in the vestibule of the MVT proper and in the Annex.²¹ The three main building phases in the offering hall match three phases of occupation in the temple court, as Reisner recognized.²²

From the offering hall we have to conclude that the major flood event Reisner saw breached the west wall of the temple and ended the second phase of the offering hall (walls 35,839, 35,843, and 35,842). This phase might be that of the best-preserved “occupation 2” (Reisner phase b),²³ consisting of five apartments in the southern court. But a similar event could have interrupted the temple in its earliest phase, the true First Temple. The walls of this oldest offering hall survive to only a few centimeters high at the bottom of the sequence. Builders of the middle phase probably leveled what remained of the oldest walls for rebuilding. When the flood ended that middle phase, the hall stood open and abandoned long enough for the bricks of the northern wall (35,839) to develop a crackled crust, and for streaming water to leave fine sand in the seams, before a powerful flood that brought the coarser material. We don’t see the same weathering in the middle-phase southern wall (35,842), because plaster still covers much of what survived of it (fig. 10). It is possible that people who served in the temple during the middle phase added the northern wall (35,825) that functioned later with the Second Temple west wall (35,587) and south wall (35,578). Including the northern wall (35,825), we see three re-builds and, with the first mudbrick temple, four building phases. This contrasts with the eastern end of the offering hall, where the three entrances with

OPPOSITE TOP: Figure 13. View to the northwest showing the abutment of the north wall of the offering hall (35,8250 to the middle phase west wall (35,843), with the Second Temple west wall (35,578) built over both walls (35,843 and 35,825).

OPPOSITE BOTTOM: Figure 14. Sondage 144 at the back wall of the MVT. View to the southeast with Gebel el-Qibli in the background. The “water wall” revetment shows against the Second Temple western, which the team cut to obtain a stratigraphic profile. Photo by Dan Jones.

BELOW: Figure 15. NEH (Northeastern Hole) at the northeastern corner of the Menkaure Valley Temple. View to the south in 2011. The hole cut through the eastern and northern mudbrick casings of the First Temple. Like Thieves’ Hole inside the southwestern corner of the temple, NEH features a revetment of loose irregular stones on the eastern side where the hole cut through the top of the broad Ramp and exposed four tiers of Menkaure’s limestone blocks for the foundation and core of the walls.



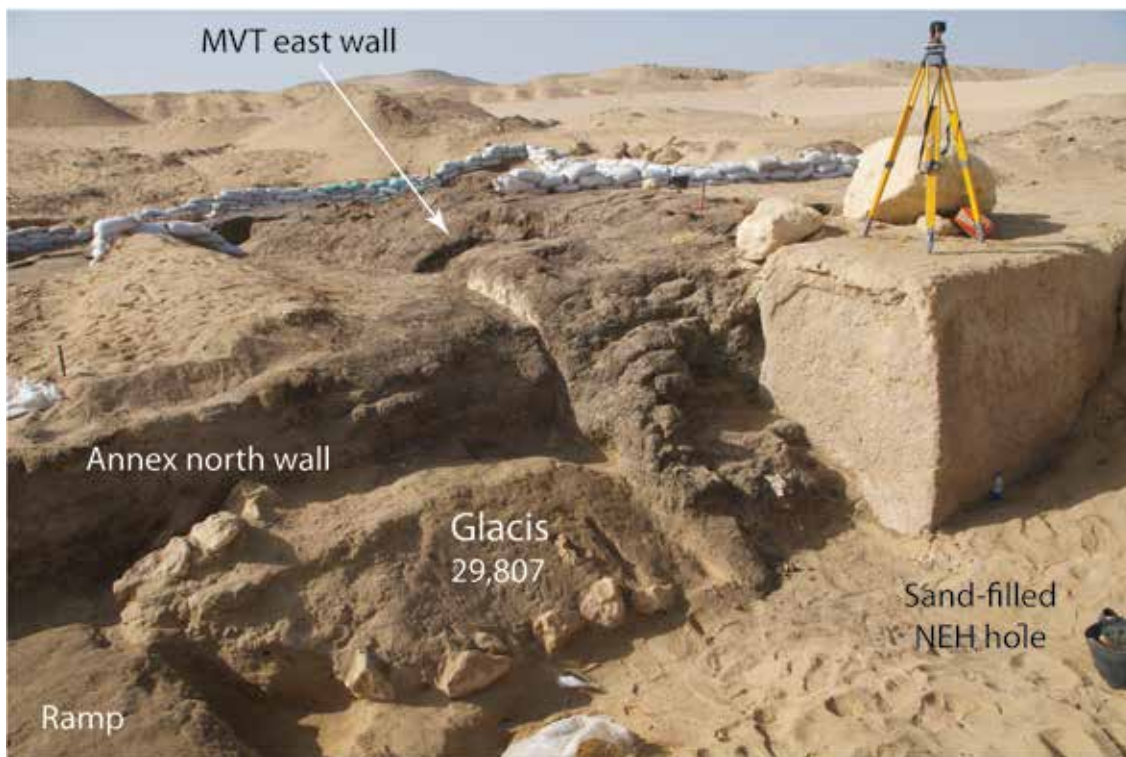


Figure 16. The small glacis fitted into the upper south side of the NEH hole, against the northern wall of the eastern Annex and fitted in between the eastern rim of the hole and the eastern plastered wall of the “First Temple.” View to the southeast in 2008.

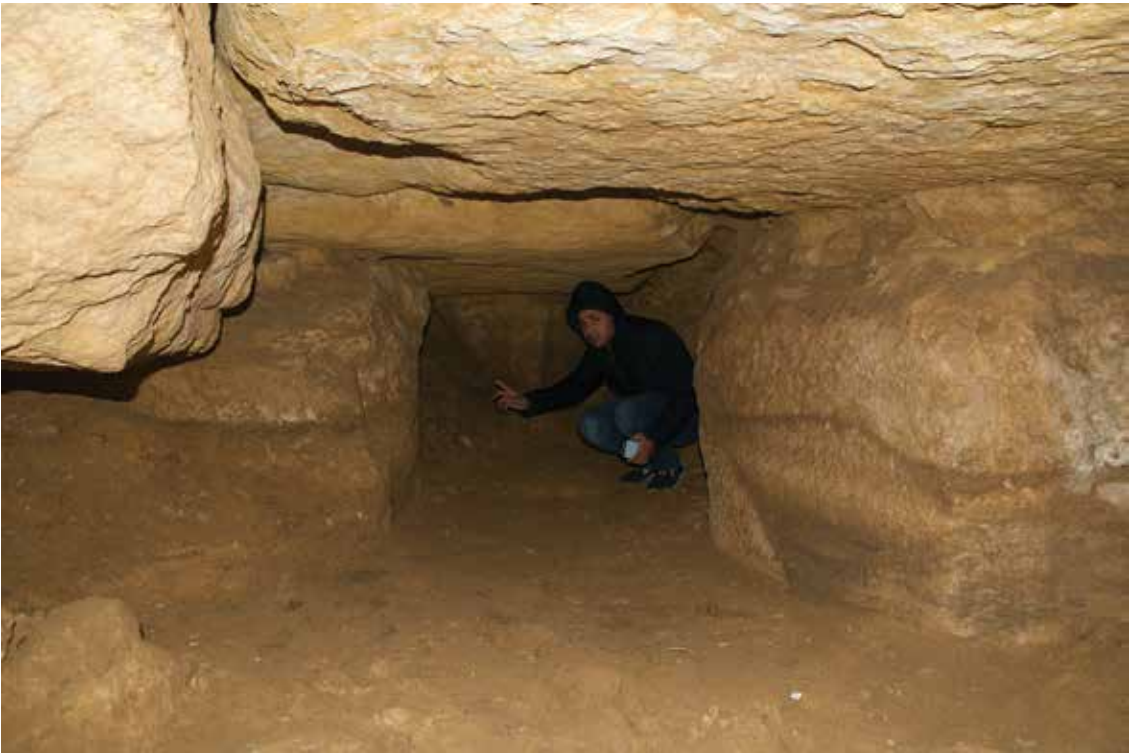
limestone threshold show only the base of the original First Temple walls and one rebuilding.²⁴ We save details for discussion elsewhere.

GETTING BEHIND THE BREACH—SONDAGE 144

In order to get behind the breach in the west wall of the offering hall, we started Sondage 144 (figs. 3, 14). We did not want to locate this excavation immediately west of the breach because we wanted to preserve a mounded sequence of ancient deposits, consisting mostly of mudbrick collapsed from the Second Temple wall against the north wall of the causeway corridor and west wall of the temple. When Reisner cut through this mound to expose the causeway, he left an important south-facing section perpendicular to the back of the temple, which we want to keep as a stratigraphic reference.²⁵ Also, we wanted to move north of a pit someone cut into the top of the mound and against the west wall of the temple, possibly Reisner’s workers in their 1908 probes to find the back wall.

Last season (2019), in sand covering the mound, we found a cluster of broken Egyptian alabaster (travertine) fragments, including parts of statues and vessels, mixed with pottery, flint knives, charcoal, and corroded metal.²⁶ Between 2019 and 2020 we removed 247 kg of alabaster from this area. It is probable that Reisner’s team members left this concentration of material from their on-site sorting of material culture. A photograph in the Reisner archive shows the material in the process of being sorted, along with a basket and trays, in the same location.²⁷

As Reisner did not excavate north of the causeway, our Sondage 144 is the first look at this zone and takes us one step toward our goal of obtaining a better picture of the extramural context



ABOVE: Figure 17. Survey assistant Abass Eid Shabaan points to (ancient?) debris at the far end of the “tunnel” into the foundation of monolithic limestone blocks at the northeast corner of the MVT. The tunnel departs from the bottom of the NEH hole. View to the south.

RIGHT: Figure 18. The NEH hole, view to the southwest, showing feature numbers assigned to the limestone core blocks and the robber-cut into the temple foundation to the south.

of the MVT. Our excavations exposed the west face of Reisner’s “water wall,” a glacis of broken stone with a sloped, clay-plastered face. Reisner thought that people of late Second Temple time built the “rubble embankment,” as he called it, as protection against the flooding that wreaked such havoc in the offering hall.²⁸ Our excavators (Viessman, Almansa-Villatoro, DeRue, and LaPidus) took out a short section of the water wall (35,566) and found that builders had set it down into a channel cut into sand that had banked against the temple west wall. As our team removed this sand across the whole square of Sondage 144,



they exposed a concentration of large limestone pieces, possibly tumbled from a structure like the fieldstone houses we exposed to the north of the MVT in 2008 and 2009.²⁹ Unfortunately, COVID-19 brought excavation to a halt at this point.

NORTHEAST HOLE (NEH)

In 1932, twenty-two years after Reisner stopped his excavations of the MVT, Selim Hassan excavated from the eastern leg of the Khentkawes Town (KKT) to the eastern end of the MVT. He found the broad Ramp³⁰ between the KKT and the MVT and then excavated the MVT eastern Annex and decided it was the “valley temple of Khentkawes.”³¹ At the top of the Ramp, he found a huge hole dug through the northeastern corner of the MVT. While Reisner implied that he saw other thieves’ holes,³² he did not see the NEH because he stopped his excavations just before he reached the northeast corner. On April 8, 1910, in one of his last diary entries for his MVT work, Reisner noted, “Northeast corner of temple washed away.”³³ Reisner saw the “wash out” of the corner, but he did not excavate enough to know that a gaping hole, very much like his Thieves’ Hole, lay below. The multi-phase map that Reisner’s assistant, Clarence Fisher, produced shows big, billowy lines of debris pressed hard over this corner of the temple (fig. 2 here, lower right corner). When Selim Hassan cleared out this hole, he understood it as “the temple well,” constructed by Menkaure “and utilized by Khentkawes.” In 2008, 2009,³⁴ and 2011–2012, AERA teams partially emptied the NEH from sand (figs. 15–16). It was very clear that this huge hole had not been made in the time of Menkaure.

The NEH hole cuts through the top of the broad mud-paved Ramp and through the mudbrick casing on the northeast corner of the MVT, thereby exposing huge limestone blocks of the stone temple that Menkaure had started. Measuring 5.60–5.80 m across, the NEH hole is comparable in size to Thieves’ Hole. Like Thieves’ Hole, NEH descends along the massive limestone core blocks of the temple foundation down to the water table, which was at 15.40 m above sea level in 2008. Like Thieves’ Hole, NEH features a curved revetment of irregular stones against the sloping, eastern side. These, and other similarities suggest the two holes were made at the same time, probably when wind-blown sand encumbered the Second Temple on all sides.

Above the southern rim of the hole, against the northern mudbrick wall of the eastern extension that we call the Annex of the MVT, we found a small glacis (29,807) of broken stone, plastered with clay very much like the “water wall” that we exposed along the outside of the western Second Temple wall in Sondage 114 (fig. 13). The “glacis” fitted in between the eastern rim of the hole and the eastern wall of the main part of the MVT (figs. 15–16). There can be no doubt that this little glacis was built after the NEH hole had been made.

If this little segment of a glacis in NEH is part of the same work as the glacis-like revetment, the “water wall,” against the base of the western and northern walls of the Second Temple, then people must have dug the NEH hole already late in the time of the Second Temple.³⁵ Why would people of Second Temple times, perhaps late in the Sixth Dynasty (sometime after 2153 BC,³⁶ more than 294 years after Menkaure), have dug such huge holes, one right inside the southwestern corner of the temple, the other right through its exterior northeastern corner? As Reisner wrote, the Second Temple became little more than a scruffy village, “a sort of hollow filled with houses,”³⁷ inside a thick enclosure wall on the south, west, and north, with other thick walls (colored orange in fig. 2) enclosing the sanctuary (portico and offering hall) and entrance vestibule. Conditions had become hotter and drier. The harbor basins that fronted the MVT and Khentkawes Town and once connected them to Nile water had sanded up long before.³⁸ The stone-built stepped rectangular basin just north of the Annex entrance had also sanded up.³⁹ The royal house of Pepi II that commanded the MVT

renewal in the early to the middle part of his long reign may have seen its own resources increasingly diminish. So, locals may have felt no qualms about digging deep for ground water, close at hand, right through the old temple walls, to create village wells. The limestone core blocks provided steps up and down. The water-well hypothesis might explain the odd “tethering hole” in the upper edge of the core block (35,642) against which Reisner found the dyad.⁴⁰ People could have tethered a rope to a skin bag or vessel to raise water.

This season, as we cleared the NEH deeper than where we stopped in 2008, we exposed the opening to a horizontal cavity, a “robber’s hole” that someone cut south for 6 m between seven large limestone foundation blocks (figs. 17–18). It must have been at least partially open just prior to AERA’s first work at the MVT because Dan Jones noted 2005 expiration dates on chocolate and potato chip packets. Mounds of crushed limestone and *tafla* on the south and west sides of the tunnel may suggest that the builders filled the space before they raised the First Temple in mudbrick. On the massive blocks we could see lever sockets, chisel marks, and dabs of red paint such as work gangs used to mark stones.

The limestone blocks that Menkaure’s workers placed for the core of his temple are huge. Block numbers 35,759 and 35,760 step out as a kind of platform, the latter measuring 2.90 × 2.50 m (fig. 18). These may belong to the lowest foundation course put down by Menkaure’s builders. Menkaure’s builders seem not to have placed a block at the very corner of this course, or else a block was removed here. The missing block leaves a space with a 90-degree angle between the two blocks. Block 35,754 extends 4.93 m north to south, bridging the “robber’s tunnel.” Blocks 35,754 and 35,755 still belong to the sub-floor foundation, because the floor level of the MVT on the east, and of the eastern Annex, is about level with the tops of these blocks (see fig. 14). The builders intended the uppermost blocks, 29,804 and 35,753, to be part of the first course of the temple wall. As with the foundation, we do not know if Menkaure’s builders set corner blocks. More probably, they left all the corners of all courses undone when they stopped work on the stone temple.⁴¹

Why was it necessary for Menkaure to build such a deep and massive foundation? He clearly wanted to build a big stone valley temple like Khafre’s to the northeast. But his predecessors’ use and exploitation of the plateau constrained Menkaure to position his pyramid complex at the southwestern limit of the Moqqatam Formation. Khufu and Khafre had vastly quarried away the good, layered bedrock to the east to obtain core stone for their pyramids. Menkaure was out of options for good bedrock to carry his causeway to a valley temple near the level of the floodplain and harbor basins. Although we cannot see it, the MVT must be situated deep within a crater-like quarry. The edges remain buried under sand and quarry waste. (And this is why we want to see a wider, extramural context for the temple, and why it is so difficult to do so.) Bedrock once rose in this area as high as the top of the bedrock pedestal for the Khentkawes Monument, which towers 10 m above its floor. We have traced the bedrock slope down to the east to an elevation of about 20 m asl at the northeast corner of the Khentkawes Town. The upper, east edge of NEH, farther downslope to the south, is around 18 m asl at the upper end of the large Ramp, which is built upon quarry debris. We still haven’t reached the bottom of the massive core blocks, more than 3 m lower. So, Menkaure’s builders must have founded his valley temple in a deep quarry. This and the high water table are why we have yet to get to the bottom of it.

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Endnotes

¹ *OI 2018-19 Annual Report*, 59-75 *Aeragram* 20-1, 2-10.

² Museum of London Archaeology Service (MoLAS) 1994.

³ Reisner was not entirely consistent in designating rooms. Note that in his map reproduced as figure 2 here, he labels the portico as "offering hall."

⁴ For the March 2020 Supermoon, see NASA's Science Site on Solar System Exploration: solarsystem.nasa.gov/news/1189/march-2020-the-next-full-moon-is-a-supermoon-crow-moon/.

⁵ As I reported last year, *OI 2018-19 Annual Report*, 67-72.

⁶ *OI 2018-19 Annual Report*, n. 26.

⁷ Reisner Diary, February 8, 1910.

⁸ *OI 2018-19 Annual Report*, 70-71, figs. 13, 15-16

⁹ Reisner's diary entry for January 20, 1910 (giza.fas.harvard.edu/diarypages/3406/full/); see Manuelian 1996, 63-66.

¹⁰ Reisner 1931, 41.

¹¹ Reisner 1931, 54, phase II.9.

¹² Goedicke 1967, 148-54; Strudwick 2005, no. 23, 106-107.

¹³ Reisner 1931, 41.

¹⁴ Reisner 1931, 36.

¹⁵ Reisner 1931, 41.

¹⁶ Reisner 1931, 44.

¹⁷ Reisner 1931, 41.

¹⁸ Reisner 1931, 41, pl. 30e.

¹⁹ Jones 2020, 88 referring to Reisner 1931, 46.

²⁰ Jones 2020, 83.

²¹ Lehner 2015a, 251-62.

²² Lehner 2015b, 233-39.

²³ Reisner 1931, 51-52.

²⁴ Jones 2020, 85-89.

²⁵ *OI 2018-19 Annual Report*, 64, fig. 7 (right) shows this section.

²⁶ *OI 2018-19 Annual Report*, 64, fig. 6.

²⁷ HUMFA_C2320_NS, a view to the east dated February 13, 1910; Jones 2019, 49-50; Jones 2020, 95, fig. 122.

- ²⁸ Reisner 1931, 35, 36, 44, 48.
- ²⁹ *OI 2009–10 Annual Report*, 58–59, fig. 20.
- ³⁰ *OI 2008–2009 Annual Report*, 66–67, fig. 6; 2009–10 Annual Report, 56–62, fig. 18020.
- ³¹ Hassan 1943, 54. Against the idea that the Annex is the valley temple of Khentkawes, see Lehner 2015a.
- ³² Reisner 1931, 18 referred to holes, “like those dug by Arab treasure seekers elsewhere . . .”
- ³³ Reisner 1910 Diary, vol. 2, 41.
- ³⁴ *OI 2008–2009 Annual Report*, 68–69, fig. 8.
- ³⁵ This season, Dan Jones removed this segment (29,807) to get a better look at the relationships between the original eastern wall of the MVT and the northern wall of the MVT Annex.
- ³⁶ The approximate date of the Pepi II decree from the MVT; see n. 13.
- ³⁷ Reisner 1931, 48.
- ³⁸ Lehner et al. 2011, 188, 192.
- ³⁹ Lehner 2011, 55–63. This stepped basin, the bottom of which lies higher than the bottom of NEH, features its own rubble revetment similar to those of NEH and Thieves’ Hole, around the upper perimeter.
- ⁴⁰ See *OI 2018–19 Annual Report*, 68–70, figs. 13–14, and 16.
- ⁴¹ Yet, this would go against the practice of finishing an entire course of core blocks and bringing all the stones of the courses above ground level into place on the embankments level with the course under construction, indicated by the “construction platforms” that Reisner (1931, 76) found and documented in the unfinished southwest corner of Menkaure’s upper pyramid temple.

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