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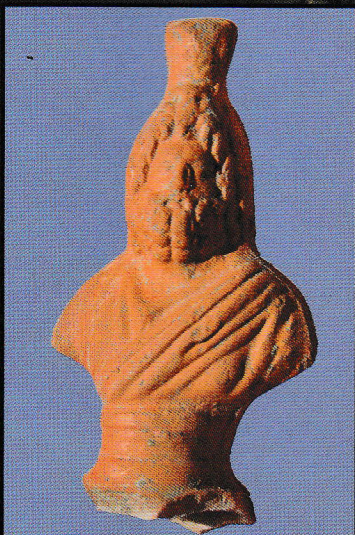
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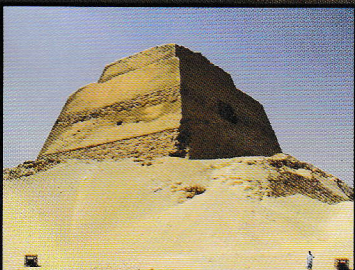
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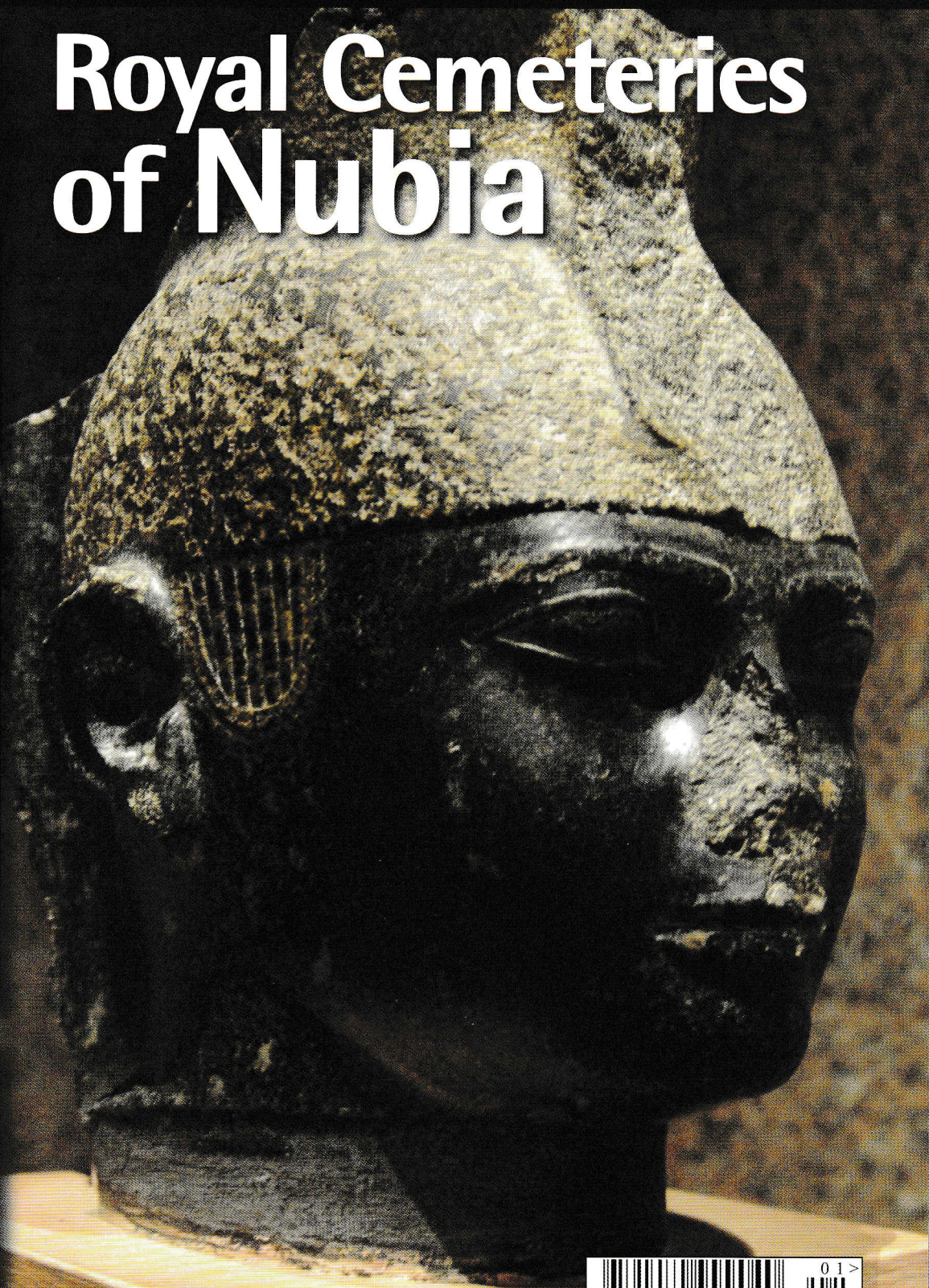
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Excavating in Alex

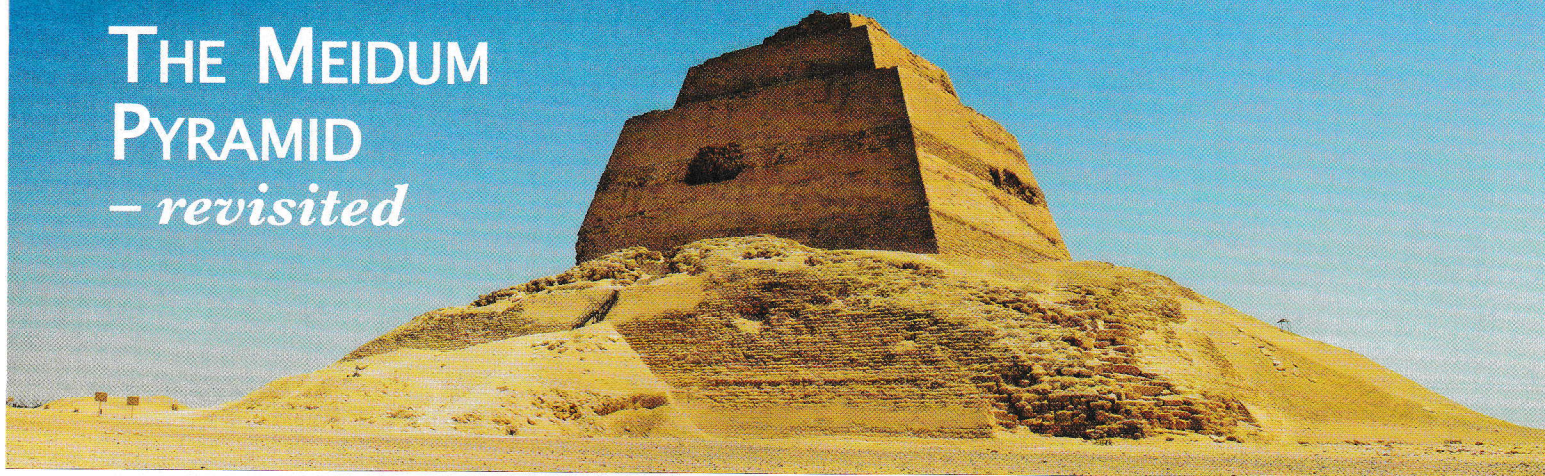


## Royal Cemeteries of Nubia



# THE MEIDUM PYRAMID

– *revisited*



Colin Reader takes a fresh look at the ownership of the Meidum Pyramid and the theory that the Pyramid collapsed in antiquity.

## Introduction

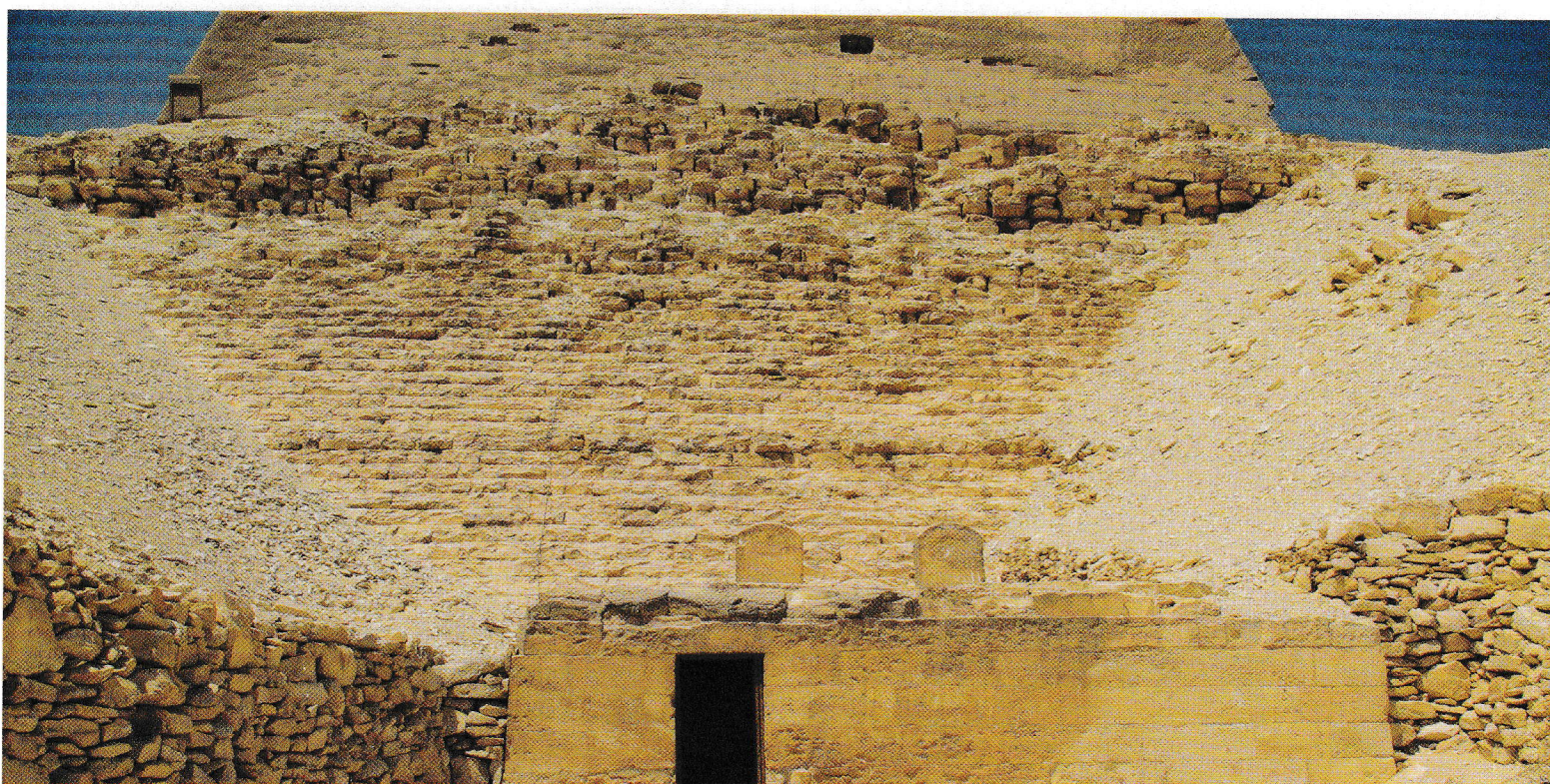
In the Autumn of 2004, Tony Judd and I published an article on Meidum in *ANCIENT EGYPT* Issue 25. Since then I have continued to visit this wonderful site as often as possible and to ponder over its ruinous pyramid. The current consensus amongst Egyptologists seems to be that the Meidum Pyramid was entirely the work of the early Fourth Dynasty Pharaoh, Sneferu (2639-2604 BC). I have always struggled with this attribution, principally because it means that Sneferu built three large pyramids (the two huge pyramids at Dahshur and the Meidum Pyramid) as well as possibly a number of smaller pyramids dotted the length of the Nile. Is it possible that three large pyramids were built in a single reign – a reign which current estimates put at something in the order of thirty years? I think not, and as discussed in 2004, subscribe to the view that the pyramid at Meidum was started by Sneferu's predecessor, Huni and that, if Sneferu had any involvement in the structure, this was limited to the final building phase.

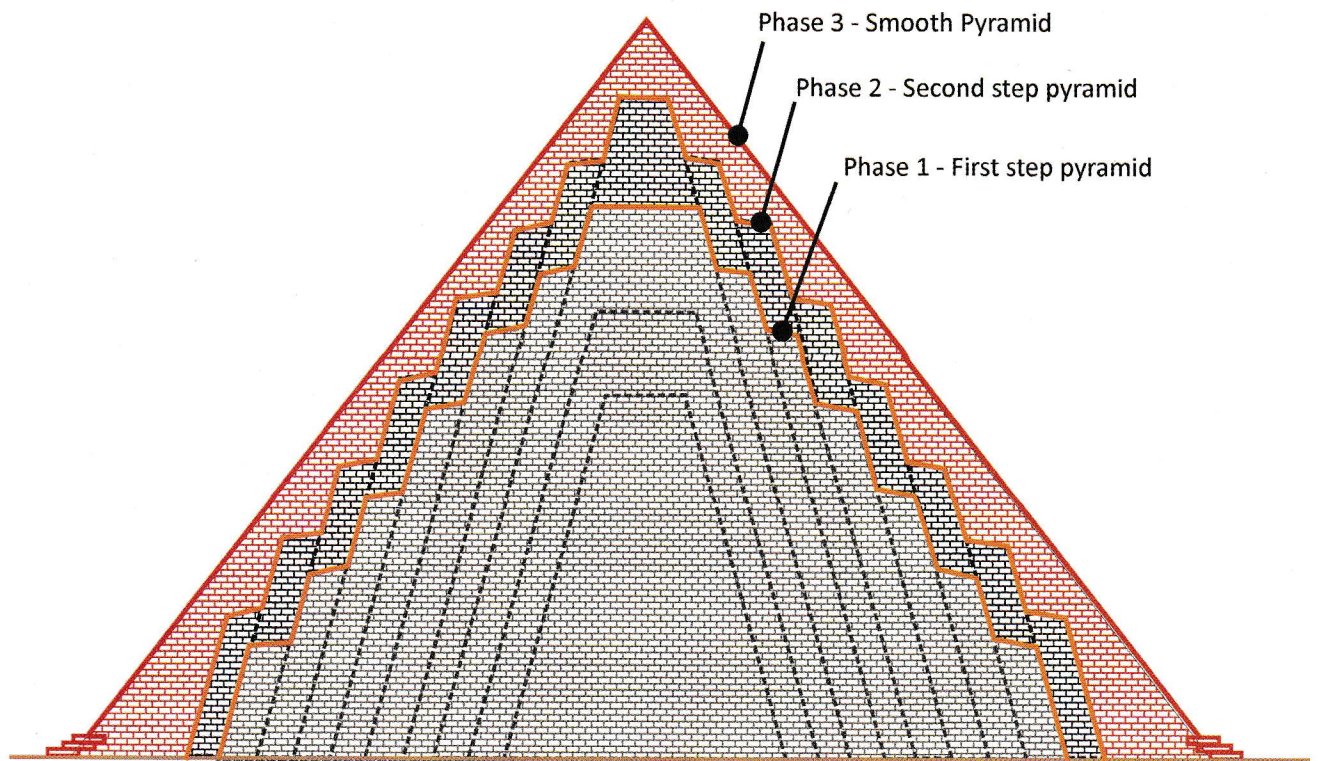
## The Research of Petrie and Borchardt

Thanks largely to the determined work of Petrie followed by the insightful work of Borchardt, it is well established that the Meidum Pyramid was built in three phases (*see Figure 1, opposite, top*): an initial seven-step pyramid (phase 1) which was enlarged to an eight-step structure (phase 2) before an outer casing was added to produce a smooth-sided pyramid (phase 3). It was Borchardt who was the first to recognise that many of the curious features of the pyramid are the result of this three-phase construction; however, simply understanding these building phases cannot explain its current appearance. As the photo above shows, the pyramid resembles a tapering square tower, which appears to sit on an isolated hill. As can be seen in Figure 2 (*opposite*), this 'hill' is actually a mantle of debris that sits around the base of the pyramid.

## The Mendelssohn Theory

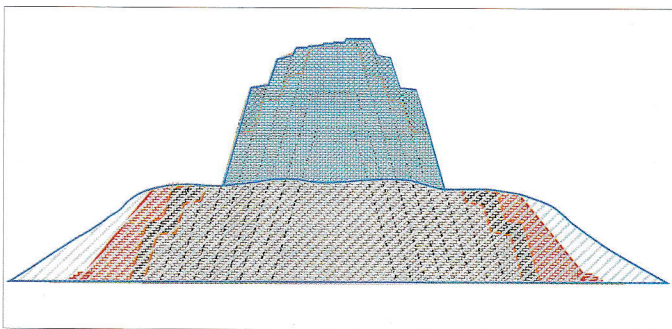
In 1974, Kurt Mendelssohn offered an explanation for the unusual shape of the Meidum Pyramid in his book *The*





ABOVE, FIGURE 1: The three phases of the Meidum Pyramid.

BELOW, FIGURE 2: The Pyramid today.



BELOW, FIGURE 2: The Meidum Pyramid today.

*Riddle of the Pyramid.* Mendelssohn claimed that, during construction, the pyramid collapsed, possibly burying parts of the Old Kingdom workshops beneath the debris that accumulated around the base of the pyramid. Mendelssohn's ideas did not find widespread support and certainly by the time of the 2004 article in *AE*, Mendelssohn's ideas had been largely discredited.

### Support for Mendelssohn?

In 2004, however, I was not aware of the results of work that had been undertaken at Meidum to prepare the site for opening to the public. This work was led by Dr. Ali el-Khouli and published in 1991. Part of the work undertaken at the site was to clear a section of the debris mantle close to the northwest corner of the pyramid. Significantly, beneath a limited section of this debris, the clearance team found over three thousand stone blocks, together with timber fragments, plant remains and fragments of Old Kingdom pottery. The authors of the 1991 report suggested that what they had found beneath the debris was an Old Kingdom workshop, in which blocks of

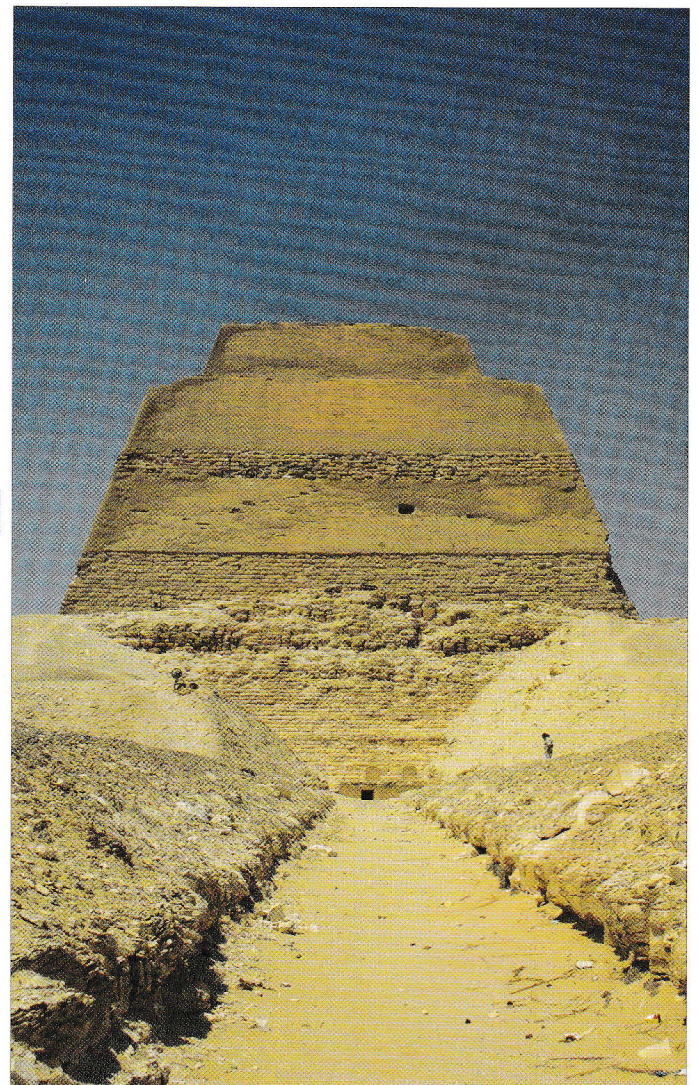
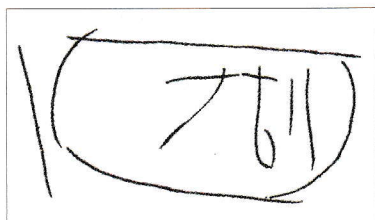
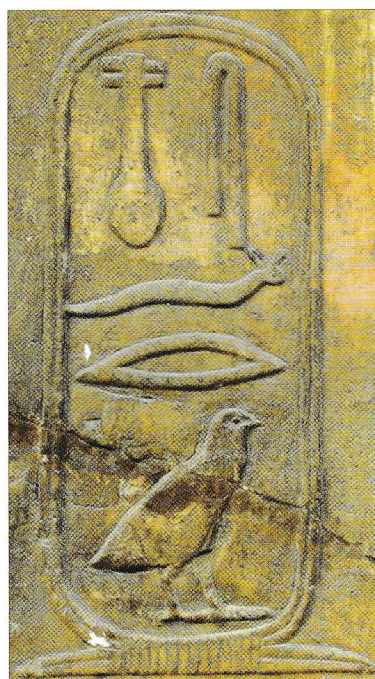


FIGURE 3  
The Meidum Pyramid looking along the remains of the causeway from the east. The entrance to the pyramid temple (see opposite) is visible at the end of the causeway.



**FIGURE 4**  
**ABOVE:** The cartouche found by Petrie in the pyramid temple at Meidum and attributed by Petrie to Sneferu.  
**BELOW:** Sneferu's cartouche from a stela outside the Egyptian Museum, Cairo.



quarried stone were worked and shaped before being used in the building of the pyramid. Was this the Old Kingdom workshop that Mendelssohn predicted? I was intrigued.

Those who do not favour the collapse theory for the Meidum Pyramid argue that the unusual shape of the Pyramid is the result of centuries of stone robbing, with the debris mantle slowly accumulating around the base of the pyramid as stone was removed. Although it is clear that the Meidum Pyramid has served as a quarry, I do not accept that this process alone can explain the pyramid's condition. We know that substantial volumes of stone have been taken from the Giza Pyramids for construction in Cairo, yet the Giza pyramids retain their essentially 'pyramidal' shape. Meidum is in a far less 'urban' setting than Giza.

Where then, has all the stolen stone gone? El-Khouli's work gave another reason to doubt that stone robbing alone was the reason for the Meidum Pyramid's curious shape. If the building work had been abandoned with three thousand blocks of stone left at the foot of the pyramid, these blocks would surely have been the first to have been taken for use elsewhere. The survival of three thousand blocks of masonry over four thousand five hundred years suggests, therefore, that they had been buried rather quickly, which in turn suggests there had been a collapse during the construction works at Meidum – just as Mendelssohn claimed. Although this collapse appears to have been localised, it may have been enough to lead to the project's premature abandonment. If this was the case, we can infer that the Meidum Pyramid never reached the completed state that is often depicted in illustrations such as that given as Figure 1.

### Who Built the Meidum Pyramid?

Yvonne Harpur and Paolo Scremin are best known for their invaluable work recording the decoration of some of the finest Old Kingdom tombs at Saqqara. Again, I was unaware when I was researching the earlier article for *AE* that in 2001 they also published a volume on the mastabas of Nefermaat and Rahotep at Meidum. As part of this study, they explored the genealogy of

these princes, and significantly, explored what this might mean for the ownership of the Meidum Pyramid.

The limited records that have survived suggest that Huni (the last king of the Third Dynasty) and Sneferu (the first king of the Fourth Dynasty) had similar reign lengths. Despite there being at least two major pyramids attributed to Sneferu, however, Huni is not directly linked with any large mortuary structure. The stepped architecture of the early phases of the Meidum Pyramid is consistent with an attribution to Huni, but no direct references to him have been found at Meidum. There are, on the other hand, several references to Sneferu and it is on these that the attribution of the Meidum Pyramid to Sneferu is largely based. When examined in detail, however, this evidence is not as conclusive as many would have us believe.

### Graffiti at the Pyramid

During Petrie's first season at Meidum he discovered and cleared the mortuary temple against the east face of the pyramid. Inside the temple he found a number of references to Sneferu, including graffiti from the Eighteenth Dynasty, texts on a Middle Kingdom statue base and a deeply patinated cartouche incised into the walls of the temple. But, as Yvonne Harpur points out, none of this evidence conclusively identifies Sneferu as the builder of the Meidum Pyramid. The New Kingdom graffiti refers only to the temple in which it was found and as it was inscribed some thousand years or so after the reign of Sneferu, it is questionable whether it can be relied upon to confirm Sneferu's role in the building of the pyramid. The Middle Kingdom statue-base refers only to an estate, perhaps one of the estates established to sustain the cult of Sneferu after his death and the cartouche found by Petrie does not compare well with known cartouches of Sneferu (see Figure 4).

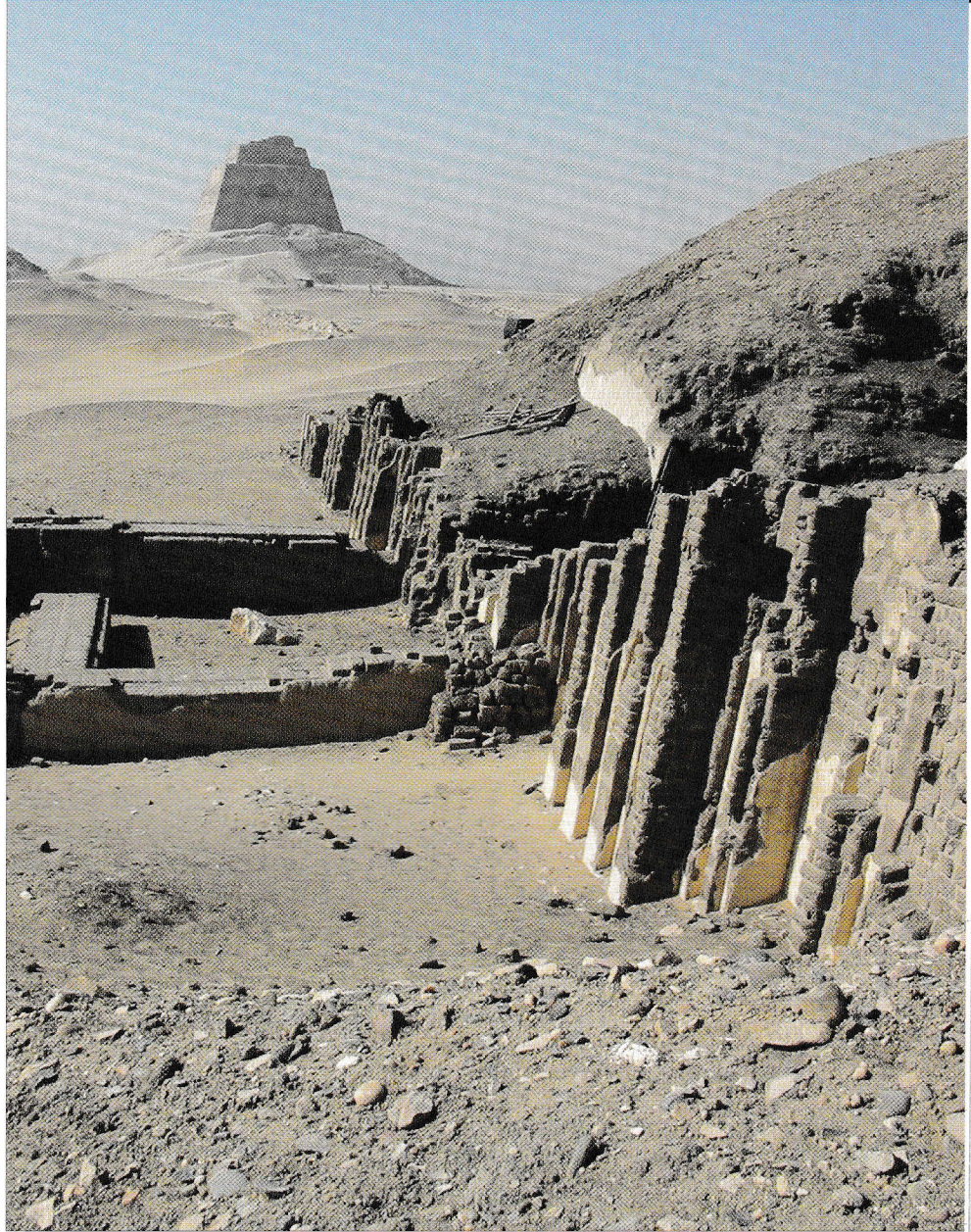
The attribution of the Meidum Pyramid to Sneferu is also based on workmen's graffiti found on blocks of pyramid masonry. Petrie was the first to make records of the graffiti from Meidum and further examples were recorded during el-Khouli's work at the site. Similarities have been identified between the graffiti found at Meidum

and graffiti found on blocks of stone from Sneferu's Red Pyramid at Dahshur, but despite this, in el-Khouli's 1991 publication it was concluded that the two sets of graffiti do not have sufficient features in common to make them directly comparable.

### The Mastaba Tombs at Medium

Close to the Meidum Pyramid is a series of Old Kingdom tombs, which are generally considered to belong to the family of Sneferu. On the basis that the royal family would be buried close to the reigning pharaoh's pyramid, the presence of these tombs has been used to reinforce further the link between the Meidum Pyramid and Sneferu. The most notable of these tombs are those of Nefermaat and Rahotep, which were the focus of Yvonne Harpur's 2001 publication. References to the "King's Eldest Son" and "King's Son of his body" in the decoration of these tombs make it clear that these individuals were members of the royal family. However, none of these titles make direct references to Sneferu. A number of examples of Sneferu's cartouche have been found on these tombs, but, as Harpur points out, these cartouches are further references to estates of the cult of Sneferu, not direct references to the king himself. Furthermore, Harpur provides clear evidence that the references to Sneferu's estates were late additions to the decoration of the tombs.

Most telling is Harpur's examination of the family relationships between Nefermaat, Rahotep and Sneferu. She examined the family relationships of this period by combining information from the decoration of Nefermaat's tomb with other sources relating to the reign of Sneferu and by making a number of reasonable and generally conservative assumptions. In her first model, Harpur accepts the widely held view that Nefermaat was a son of Sneferu, yet demonstrates that if this was the case, Sneferu could not have taken the throne until he was nearly forty years of age and that he would have been at least sixty-three (possibly eighty-four) when he died. Most telling is the conclusion that Sneferu could not have started work on the two huge pyramids at Dahshur until he was fifty-four, a figure that seems too high, given what we under-



stand about life expectancy in the early Old Kingdom. Given these problems, Harpur then re-examined the same family relationships by assuming that Sneferu, Nefermaat and Rahotep were all brothers – sons of Huni. When the calculations were repeated, Harpur concluded that Sneferu ascended to the throne in his early twenties and started work at Dahshur when he was thirty-five or thereabouts – a far more reasonable age to start such a major building programme.

Yvonne Harpur does not appear to extend her conclusions to the issue of the ownership of the Meidum Pyramid, but if we accept the widely-held principal that members of the royal family would have been buried next to the ruling pharaoh's pyramid, Harpur's case for Huni being the father of Nefermaat and Rahotep significantly strengthens the case for the attribution of the Meidum Pyramid to Huni.

FIGURE 5  
The façade of the Tomb of  
Nefermaat, looking towards the  
Meidum Pyramid.

FIGURE 6

Two sections of casing exposed on the eastern debris mantle of the pyramid.



### Building the Meidum Pyramid

The publications of El-Khouli and Harpur gave me no reason to change the views on the attribution of the Meidum Pyramid that were expressed in the 2004 article for *AE* – namely that Huni was largely responsible for building the step pyramid phases of the Meidum Pyramid and that Sneferu's involvement had been limited to the final building phase. For reasons that we may never fully understand, it seems that, after perfecting the form at Dahshur, Sneferu returned to Meidum to transform his father's tomb into a true, smooth-sided pyramid. In a visit to Meidum in August 2012, I came across evidence from the pyramid itself which, I conclude, supports this sequence of construction.

At the top of the debris mantle, above the pyramid temple are two sections of

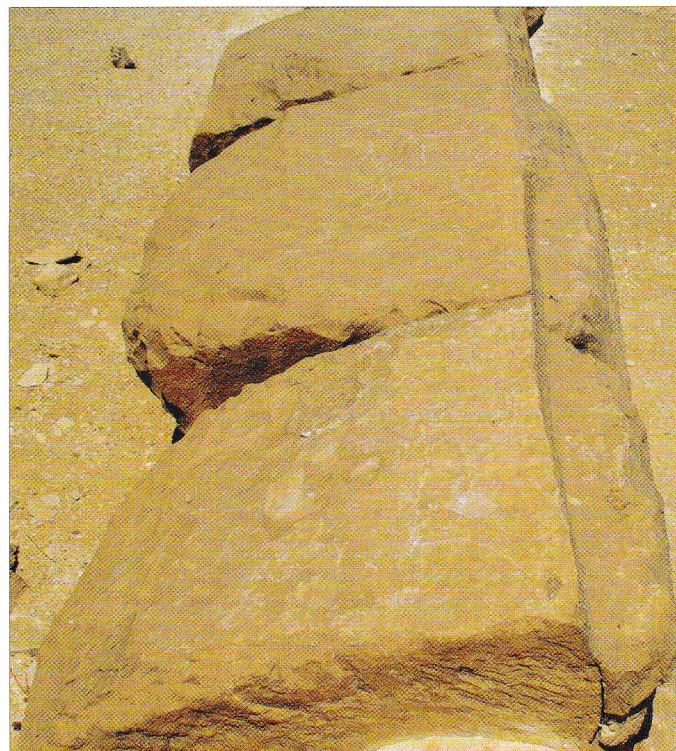
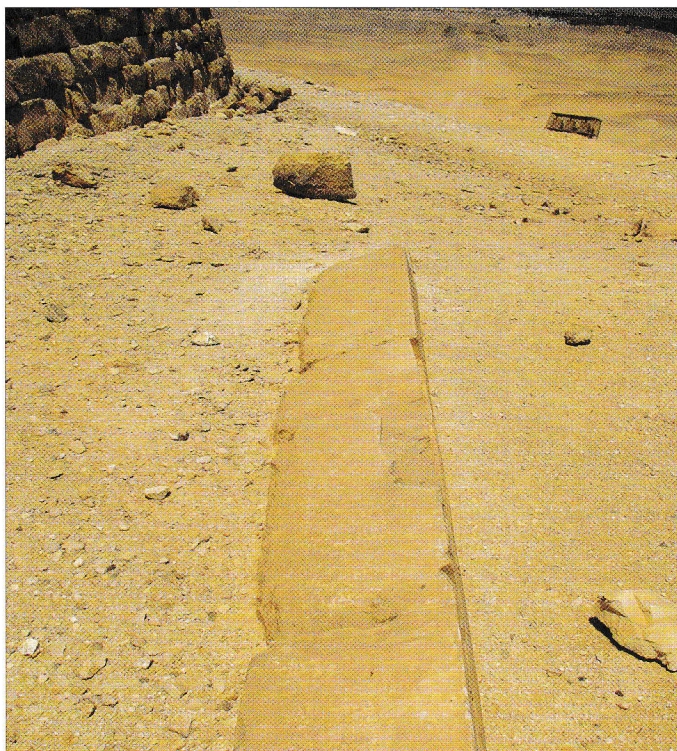
exposed casing (*see Figure 6*). One section is close to the tower-like remains of the pyramid and is clearly part of the first step-pyramid phase. The quality of workmanship at this location is evident from Figure 7 (*below left*) – the face of the casing is well-worked and the joints between each block of masonry are tight and carefully executed. By itself, this masonry does not provide any clues to the builder of the Meidum Pyramid – whether the first phase of the pyramid was built by Huni or by Sneferu, we can assume that the works were completed long before the pharaoh died, allowing the king to prepare for and then embark upon a second building phase. It is the appearance of the phase 2 casing exposed at this location, that is far more informative. As shown in Figure 8 (*below right*), the phase 2 casing appears to be unfinished, with substantial handling

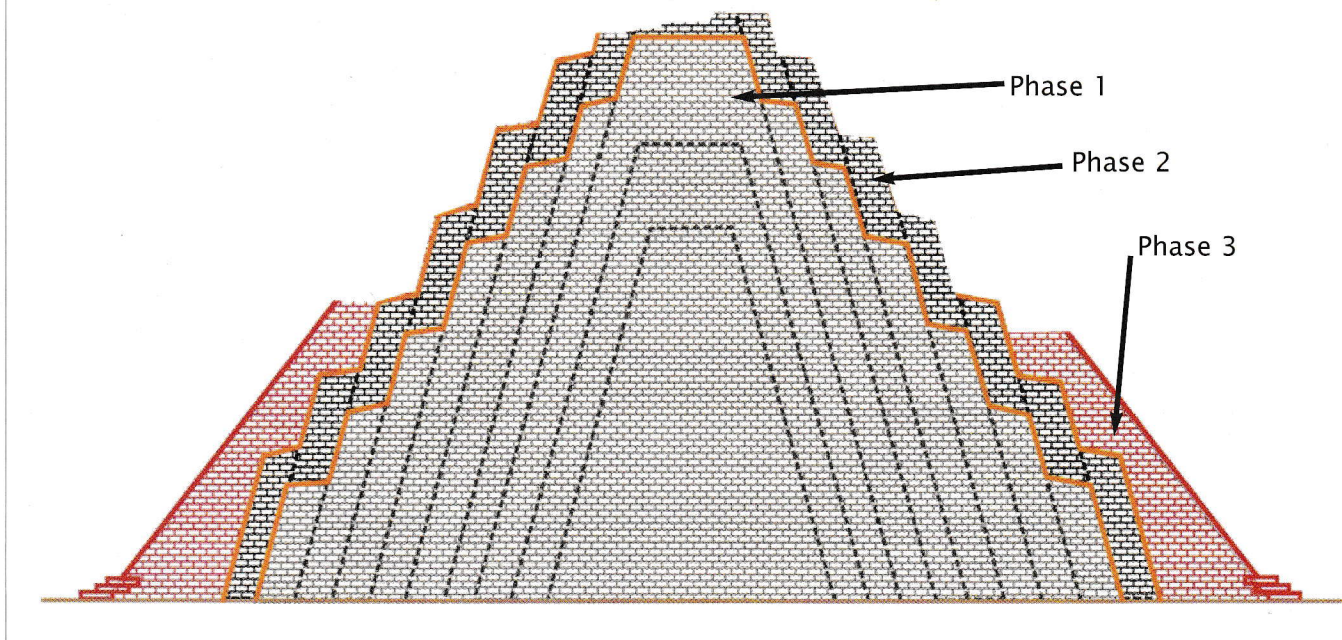
BELOW LEFT  
FIGURE 7

A close-up view of the phase 1 casing, showing the careful workmanship. Note the pyramid masonry at top left.

BELOW RIGHT  
FIGURE 8

A close-up view of the phase 2 casing, showing the poor, hurried appearance of the finish that was applied.





bosses left in place on the face of the casing and wide gaps along the joints between the blocks. Had Sneferu been solely responsible for the building of the Meidum pyramid, it is my view that his workmen would have had the time and resources to finish the casing of phase 2 before the weighty decision was taken to move to Dahshur, and for some inexplicable reason, re-start the pharaoh's pyramid project, effectively from scratch. By contrast, if the two step-pyramid phases at Meidum are attributed to Huni, it seems reasonable to accept that the pharaoh's death towards the end of the second phase meant that work on the pyramid would have been abandoned at that stage. Interestingly, in his book *The Complete Pyramids*, Mark Lehner cites evidence to suggest that although the upper steps of Meidum Pyramid were substantially complete, they were never finished off.

### What Can We Conclude?

Given our current level of understanding about the Meidum Pyramid, it is difficult to draw any firm conclusions about the ownership of the necropolis. I fully accept that the absence of any references to Huni at the site is significant, but Huni was not an ephemeral pharaoh and we can expect him to have been provided with a substantial burial structure. Furthermore, the stepped-pyramid form of the first two phases of the Meidum Pyramid is consistent with what we would expect for Huni's tomb. Although there are references to Sneferu at Meidum, none of these conclusively demonstrate that Sneferu was solely responsible for the building of the pyramid.

When the family relationships explored by Yvonne Harpur are considered alongside the contrasting standards of workmanship of the casing exposed above the pyramid temple, it seems far more probable that it was Huni who started work on the pyramid at Meidum. Having completed phase 1, Huni extended the pyramid by adding the second stepped phase. Huni however, died before this phase was complete and the works were left unfinished until Sneferu returned to Meidum to convert the step pyramid to a smooth-sided structure. During these final modifications, I propose that there was a localised failure of the pyramid which buried part of the Old Kingdom workshops and led Sneferu to finally abandon work at Meidum.

The story of the pyramid of Meidum is, therefore, not a simple one. Various phases of construction, suspension of works and partial collapse have combined with stone robbing to produce the strangely misshapen pyramid that dominates this section of the Nile Valley today.

**Colin Reader**

Colin, a geologist by profession, is Chairman of the Manchester Ancient Egypt Society and a regular contributor to *AE*.

### Further Reading

El-Khouli, Ali 1991 *Meidum*, ACE

Report No 3, Sydney.

Harpur, Yvonne and Scremin, Paolo 2001 *The Tombs of Nefermaat and Rahotep at Maidum*, OEE, Oxford.

Lehner, Mark 1997 *The Complete Pyramids*, Thames and Hudson.

Mendelssohn, Kurt 1974 *The Riddle of the Pyramids*, Thames & Hudson.

All illustrations provided by the author.

### ABOVE FIGURE 9

The form of the Meidum Pyramid at the time of the abandonment of construction work. Although phase 2 had been substantially completed at the end of the reign of Huni, some sections of casing had not been finished. During Sneferu's attempts to add a third phase, partial collapse of the masonry may have led to the final suspension of construction work. (The debris mantle is omitted for the sake of clarity.)