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the oldest SH5 images if decrease of the rate of patination were not taken into account, or if the decrease were in fact slight, would not be incompatible with this result.

Červíček presents estimates of the dates of various classes of petroglyphs from the Nile valley south of Aswan.¹² His results may not be comparable with those presented here, partly because his region is some 150 km from site SH5, and partly because images from few of his categories are present there (as mentioned above there are no giraffes, elephants, cattle or boats, all of which occur frequently in the valley). However, in the cases that can be compared, the suggested dating presented here is not incompatible with Červíček's. In particular his finding that most of the ostrich images date from the New Kingdom suggests that our Group 4 images, with the more realistic animals, are from that period. Similarly his finding that camel images date from after 1070 BC (if a curious anomaly that some appear to be from the Middle Kingdom is overlooked) is compatible with the absence of camels from Egypt before the first millennium BC and is in agreement with a late date for Group 5.

TONY JUDD

Embalming caches

Against the background of KV 63's discovery, evidence for embalming caches of the New Kingdom, both inside and outside the Valley of the Kings, is summarily reviewed. Analysis of the location of those in KV 36, KV 46, and the chamber with the burial of Senenmut's parents below his tomb (TT 71) suggests that all three may represent reburials. A survey of earlier and later embalming caches leads to the rejection of arguments for proposing a connection between them and G 7000x, the so-called tomb of Queen Hetepheres I.

THE discovery of a new 'tomb' in the Valley of the Kings, KV 63, has focused attention on embalming caches, a category of artifacts that had not aroused much interest among Egyptologists until recently.¹ Such deposits comprise the refuse from the embalming process (primarily sacks of natron and soiled linen strips and rags), packed in jars, boxes, or coffins, sometimes accompanied by whatever the corpse may have lain upon² and, rarely, by embalmers' instruments.

Down to this writing, three articles on KV 63 have appeared in *KMT*—a periodical that specialists interested in the Valley of the Kings cannot afford to ignore. Following Denis Forbes's initial notice with informative photographs of the fill in the shaft and the blocking of the entrance to the chamber at its bottom,³ Otto J. Schaden, director of the expedition, has published, together with members of his staff, two articles on the 'tomb' and its clearance, both with several illustrations in colour.⁴ In view of the difficulties that arose concerning responsibility for the expedition,⁵ which now continues work under the auspices of the

¹² Červíček, *Jahrbuch für Prähistorische und Ethnographische Kunst* 23 (1973), 82–7, pls 50–3.

¹ See now J. Budka, 'Deponierungen von Balsamierungsmaterial und Topfnester im spätzeitlichen Theben (Ägypten): Befund, Kontext und Versuch einer Deutung', in J. Mylonopoulos and H. Roeder (eds), *Archäologie und Ritual: Auf der Suche nach der rituellen Handlung in den antiken Kulturen Ägyptens und Griechenlands* (Vienna, 2006), 85–103. Budka builds upon the classification suggested by D. A. Aston, 'The Theban West Bank from the Twenty-fifth Dynasty to the Ptolemaic Period', in N. Strudwick and J. H. Taylor (eds), *The Theban Necropolis: Past, Present and Future* (London, 2003), 153–5.

² Cf. the reference of H. E. Winlock, 'A Late Dynastic Embalmer's Table', *ASAE* 30 (1930), 104, to many examples of 'the bed or the mat on which the corpse was laid during the manipulation of the embalmers', discovered by the Metropolitan Museum of Art Egyptian Expedition at Thebes. F. Janot has compiled a catalogue that includes several embalming caches (but omits others) in his study *Les instruments d'embaumement de l'Égypte ancienne* (BdE 125; Cairo, 2000); however, Janot is not concerned with the issues considered here.

³ 'Mystery Tomb found in the Valley of the Kings: A Preliminary Account of KV 63's Surprising Discovery', *KMT* 17/2 (Summer 2006), 28–32.

⁴ E. Ertman, R. Wilson, and O. Schaden, 'Unraveling the Mysteries of KV 63', *KMT* 17/3 (Fall 2006), 18–27; O. J. Schaden, 'KV 63: An Update. The Final Stages of Clearances', *KMT* 18/1 (Spring 2007), 16–25; excellent colour photographs of the find also accompany an article by B. Partridge, 'A "New" Tomb in the Valley of the Kings', *Ancient Egypt: The History, People and Culture of the Nile Valley* 6/5 (Apr./May 2006), 14–21.

⁵ For a journalist's account, see G. Jaynes, 'The Mummy's Curse: An Archaeological Dispute', *Harper's Magazine* (New York) 316/1892 (Jan. 2008), 54–63.

SCA,⁶ the articles in *KMT* may well represent all the information on KV 63 that will be available in print for some time to come.

The large jars, clearly visible in the first available photographs of the chamber, should have alerted an experienced Egyptologist to the possibility that the 'tomb' was a repository for embalming material.⁷ In the Valley of the Kings, jars filled with embalming and related material have been found not only in KV 54, the so-called embalming cache of Tutankhamun, but they were also recovered from KV 36 (the tomb of the Child of the Nursery Maiherperi)⁸ and from KV 46 where the parents of Queen Tiye were laid to rest.⁹ To account for the contents of KV 54, C. Nicholas Reeves proposes that the jars with embalming refuse, along with what is generally assumed to represent the pottery associated with a funerary banquet, the floral collars worn by the participants, and the scraps from the table, were first left in the corridor of KV 62, Tutankhamun's tomb, and only removed to KV 54 by necropolis officials following on a breach of KV 62 by tomb robbers.¹⁰ Whether this scenario be accepted¹¹ or rejected, the fact remains that the deposit was not made near the king's body in the burial chamber. By contrast, the analogous material found in KV 36 and 46 was discovered *within* the burial chambers of those tombs, close by the mummies.¹²

KV 36 is a pit tomb; there is no corridor where embalming material in jars could have once been deposited. The position of the jars against the far wall of the burial chamber, opposite the entrance and behind the coffins,¹³ indicates that they were among the first items brought into the tomb. KV 46 does possess a sloping corridor; however, the jars with embalming material were not placed there but rather at the far end of the burial chamber.¹⁴ Dylan Bickerstaffe terms the location in both cases 'curious ... perhaps suggesting' that the jars were among the first items brought into KV 46's burial chamber.¹⁵ Obviously this conclusion is sound. The location of the embalming material in the burial chambers of KV 36 and 46, which is indeed anomalous, can be accounted for by proposing that both are the secondary resting places of their respective occupants: Maiherperi and the parents of Queen Tiye were initially interred elsewhere and only subsequently moved to the Valley of the Kings, a suggestion that is not new in the case of KV 46.¹⁶

To date, I have located only one example outside the Valley of the Kings of embalming

⁶ According to a posting dated 12 September 2007 on the expedition's website, <<http://www.KV-63.com>>.

⁷ Cf. the comment of D. Bickerstaffe, 'Embalming Caches in the Valley of the Kings', *KMT* 18/2 (Summer 2007), 46.

⁸ For arguments in favor of dating Maiherperi not later than the reign of Tuthmosis III, see C. H. Roehrig, in C. H. Roehrig (ed.), *Hatshepsut: From Queen to Pharaoh* (New York, 2005), 70–2.

⁹ C. N. Reeves, *Valley of the Kings: The Decline of a Royal Necropolis* (London, 1990), 97, 172, 175, tentatively identifies as many as three more caches of embalming material in the KV, none in a tomb: 13 calcite jars under stones and rubbish near and perhaps relating to the burial of Merenptah in KV 8; KV 'C'; and KV 'P', respectively. As for the embalming material discovered in KV 21, it is apparently a daunting, if not impossible, task to determine which items were deposited where and when in the tomb; see [C.] N. Reeves and R. H. Wilkinson, *The Complete Valley of the Kings: Tombs and Treasures of Egypt's Greatest Pharaohs* (London, 1996), 115.

¹⁰ Reeves, *Valley of the Kings*, 69, 86 nn. 92–101.

¹¹ By S. B. Allen, 'Tutankhamun's Embalming Cache Reconsidered', in Z. Hawass (ed.), *Egypt at the Dawn of the Twenty-first Century: Proceedings of the Eighth International Congress of Egyptologists Cairo, 2000* (Cairo, 2003), 23–9; and by Bickerstaffe, *KMT* 18/2, 49.

¹² Which leads S. T. Smith, 'Intact Tombs of the Seventeenth and Eighteenth Dynasties from Thebes and the New Kingdom Burial System', *MDAIK* 48 (1992), 212, to conclude that storage vessels with embalming refuse were normally placed in the burial chamber of tombs in the Valley of the Kings.

¹³ For the location, see P. Piacentini and C. Orsenigo, *La valle dei Re riscoperta: I giornali di scavo di Victor Loret (1898–1899) e altri inediti* (Vetrine del Sapere 1; Milan, 2004), 271–81 = id., *The Valley of the Kings Rediscovered: The Victor Loret Excavation Journals (1898–1899) and other manuscripts*, tr. S. Quirke (Milan, 2005), 56–60, with a list of the finds and a drawing reconstructing their position in the burial chamber, 276–8.

¹⁴ For the tomb, see Reeves, *Valley of the Kings*, 148–53, 160–5 nn. 93–155, with fig. 57 reproducing Quibell's drawing of the finds *in situ*. Janot, *Instruments*, 108 (no. 18), does not mention these jars, but instead two calcite vessels CG 51105–6, and he confuses (*ibid.*, 108 n. 124) the analysis Alfred Lucas made of the contents of the pottery jars (*Ancient Egyptian Materials and Industries*, 4th edn, revised and enlarged by J. R. Harris (London, 1962), 278 n. 3) with that of the oily residue in CG 51105 (which turned out to be castor oil).

¹⁵ *KMT* 18/2, 49.

¹⁶ See my review of Reeves, *Valley of the Kings*, *BiOr* 49 (1992), 713.

refuse dating to the New Kingdom that was deposited in immediate proximity to a mummy: a 'jumbled mass of dirty, oil soaked bandages' in a basket placed on one of the coffins found in a small chamber (ht. 1.3 m; d. 2.5 m; w. 2.9 m) located down the slope from the entrance to Senenmut's tomb (TT 71). Ambrose Lansing and William C. Hayes described the find as 'a rare example of an embalmers' cache inside a tomb'.¹⁷ The basket was the 'most carefully sealed' of those found in the chamber, which contained the burial of Senenmut's parents along with six anonymous individuals. The excavators believed the refuse it contained came from the mummification of Senenmut's mother Hatnufer, since none of the other finds could be associated unequivocally with the interment of his father Ramose beside her, nor with any of the six persons buried with them, four in one plain coffin and two in the other.¹⁸

Obviously (*pace* Lansing and Hayes) the eight persons did not die at the same time. Nowadays Ramose is presumed to have predeceased Hatnufer, but an accurate estimate cannot be made of how many years elapsed between his death and hers. Their respective ages when they married are not known, and Ramose's age at death is apparently problematic.¹⁹

Despite what Lansing and Hayes considered the mediocre quality of Ramose's anthropoid coffin, it did have a gilt face, ears, and neck. But no jewellery of any kind was found on his body (unlike the anonymous individuals in the plain coffins who wore beaded bracelets and scarabs), and no equipment whatsoever was in the coffin with the mummy. Can the contrast to Hatnufer's carefully mummified and wrapped body with its jewellery, including a heart scarab in a gold setting, be accounted for solely by postulating an improvement in her status (thanks to her son Senenmut) between Ramose's demise and hers?²⁰ Perhaps the discrepancy (and the disarticulated state of Ramose's body) is attributable instead to a robbery. Discovery of the crime when the time came to bury Hatnufer beside Ramose could have prompted Senenmut to provide for the burial of both his parents, along with six other relatives (or dependents?), near his own tomb where work was just getting underway.²¹ Whether or not Ramose's mummy and grave goods had been plundered, it is clear that the chamber below TT 71 contained a makeshift burial.²² The small space was crammed full of coffins and equipment, including the single basket with embalming refuse which was one of the last items deposited.²³ Since the burial presents more than one anomaly, the presence or absence of any items should not be interpreted as evidence for general practice.²⁴

¹⁷ A. Lansing and W. C. Hayes, 'The Egyptian Expedition, 1935-36: The Museum's Excavations at Thebes', *BMMA* 32 Section 2 (January 1937), 27. This basket is not mentioned by Janot, *Instruments*, (103 no. 12); instead he cites jars 'packed in sawdust, natron and linen wadding' which are actually the four canopic jars with Hatnufer's viscera in her canopic chest (Lansing and Hayes, *BMMA* 32, 23-4).

¹⁸ Lansing and Hayes, *BMMA* 32, 22, noted that there were no duplicates among the finds, and all of them were appropriate for a woman; in their view, Hatnufer's coffin and mummy mask marked her as 'the only one rich enough to be consistent with ownership of this large group of fine articles'.

¹⁹ According to Lansing and Hayes, *BMMA* 32, 18, Ramose was an elderly man; *ibid.*, 31: Ramose and Hatnufer appeared 'to have been about the same advanced age'. Initially, P. F. Dorman, *The Monuments of Senenmut: Problems in Historical Methodology* (London, 1988), 169, cited D. Derry's report for Ramose's age at death as 50 or 60 years, but now (in Roehrig (ed.), *Hatshepsut*, 92) he calls Ramose's mummy 'considerably younger than that of Hatnufer'; *ibid.*, 107: Ramose 'seems to have died rather young'.

²⁰ So Dorman, *Monuments of Senenmut*, 168; *id.*, in Roehrig (ed.), *Hatshepsut*, 92.

²¹ The chamber was buried when the artificial terrace fronting the tomb was constructed. The mention of Year 7 on docketts from the equipment would seem to date Hatnufer's death. The ostrakon describing the commencement of a tomb in Year 7—which coincides with the date of the docketts—has traditionally been taken to date the start of work on TT 71, but Dorman points out that in fact there is no way of knowing whether it refers to TT 71 or to another tomb in the vicinity: P. F. Dorman, *The Tombs of Senenmut: The Architecture and Decoration of Tombs 71 and 353* (PMMA 24; New York, 1991), 25. The chamber and its contents are to be published in the same series (*ibid.*, 23 n. 24).

²² Dorman, *Monuments of Senenmut*, 168 with n. 21, citing the earlier literature on this subject.

²³ Such material usually fills more than one jar or basket, as is clear from the finds in KV 36 and KV 46. An embalming cache from the forecourt of TT 71 included three jars and two baskets; Dorman, *Tombs of Senenmut*, 79 (no. 22), suggests no date for it, nor is it likely to be associated with Senenmut himself, since there is no indication that he was laid to rest in TT 71.

²⁴ *Pace*, e.g., Smith, *MDAIK* 48, 204, who concludes that bouquets or garlands were not 'mandatory equipment' in burials of the period, since there were none in the chamber.

With the exception of KV 54, caches of embalming material made before the Late Period have not been studied. At the end of the nineteenth century, a number of finds were made that could qualify as earlier embalming caches, if only more were known about the circumstances of their discovery. One deposit of about 100 little bags, filled with natron, in sealed jars and a wooden chest, was uncovered before April 1895 in an empty tomb chamber at Qurnah 'an dem zum Versteck von Dêr el Bahri führenden Wege'.²⁵ The design on the sealing was recognized even then to date the material to the time span Second Intermediate Period/early New Kingdom.²⁶ But what exactly did the find represent? Schweinfurth and Lewin, who received a single sack for analysis of the contents, proposed three alternatives: 'Todtengaben', a robbers' cache, or 'das Magazin eines Händlers'.

Wilhelm Spiegelberg reported the discovery in December 1895 of a disturbed deposit comprising 20–30 vessels, some filled with little sacks of 'salt' and others with a 'brown mass', along with rolls of linen bandages, 'implements', a large canopic chest, and the remains of a boat, in a rockcut chamber about 12 km north of Dra Abu'l Naga.²⁷ The only finds mentioned from a second, adjacent chamber (which apparently was not cleared) were more pieces of a boat that Spiegelberg proposed were intended for kindling. He thought that this material represented the stock in trade of an embalmer, and he proposed that the same was true for the Qurnah find, as had W. Max Müller shortly before him.²⁸

Between 1911 and 1931, the Metropolitan Museum of Art Egyptian Expedition at Western Thebes discovered several unquestionable embalming caches, but their contents have not been published in detail.²⁹ The earliest, unearthed during the 1921–2 campaign, were associated with the burials of the Vizier Ipy and of Meketre, officials now considered datable to the reign of Amenemhat I.³⁰ Winlock provided only a cursory description of both deposits' contents.³¹ Each was found in a small chamber cut near the entrance to the respective tomb.³²

During the 1923–4 season, two lots of embalming material in shallow holes were uncovered; they were presumed to belong to burials in small pits nearby. The main difference that Winlock noted between these Late Period deposits and the earlier Middle Kingdom ones was the use of a coffin as a container in the Late Period.³³ Whether the discovery of late Eighteenth Dynasty coffins filled with embalming material in KV 63 shows that the practice was earlier (i.e. that the use of the coffins as containers was contemporaneous with their manufacture) must await the final publication of the discovery.

When Winlock published the KV 54 cache after his retirement from the Metropolitan Museum of Art, he recalled discovering 'many earlier and later masses of such material' in the Theban necropolis, ranging in date from as late as 'the end of the pagan period' back to

²⁵ G. Schweinfurth and L. Lewin, 'Der Salzfund von Qurna', *ZÄS* 35 (1897), 142–3; cited by Lucas, *Ancient Egyptian Materials*, 279 n. 4.

²⁶ Cf. the drawing in Schweinfurth and Lewin, *ZÄS*, 35, 142, with e.g. one of the scarabs from Hatnufer's mummy, Lansing and Hayes, *BMMA* 32, 29 (fig. 35 below, centre). This dating suggests that the distinction between two fundamentally different kinds of deposits with embalming material, discernible in the Late Period (see Budka's review of the evidence in Mylonopoulos and Roeder (eds), *Archäologie und Ritual*), may have existed much earlier.

²⁷ W. Spiegelberg, 'Zu dem Salzfund von Qurna', *OLZ* 1 (1898), 259–60.

²⁸ W. Spiegelberg, 'Zum Salzfund von Kurna', *OLZ* 1 (1898), 222–3.

²⁹ Preliminary notices appeared in Section II of successive issues of *BMMA*; subsequently, those campaigns conducted under the direction of H. E. Winlock were republished by him in a single volume, *Excavations at Deir el Bahri, 1911–1931* (New York, 1942). It is this more generally available publication which is cited below.

³⁰ For a summary of the arguments advanced by Do. Arnold, 'Amenemhat I and the Early Twelfth Dynasty at Thebes', *MMJ* 26 (1991), 21–38, see now J. P. Allen, *The Heqanakht Papyri* (PMMA 27; New York, 2002), 128–30.

³¹ *Excavations at Deir el Bahri*, 55–6, 98. An Eighteenth Dynasty chamber of the same kind containing embalming material in pots with docketts, mentioned in passing, *ibid.*, 56, is probably not an embalmers' cache, but rather a shaft tomb where various objects collected over time; see now C. Lilyquist, *The Tomb of Three Foreign Wives of Tuthmosis III* (New York, 2003), 65–6. I am indebted to Christine Lilyquist for drawing my attention to her comments.

³² Allen, *Heqanakht Papyri*, fig. 8 combines the earlier plans, published by Winlock, to illustrate the relationship of both tombs with their caches to each other.

³³ *Excavations at Deir el Bahri*, 98–9, with pl. 94 right (above and below).

the Eleventh Dynasty.³⁴ There had been no claim for earlier examples until 2000 when Hans-Hubertus Münch proposed that G 7000x was not a tomb but a 'funerary deposit', containing 'objects used in the burial ritual' of Queen Hetepheres, Cheops's mother, comparable to the embalming caches of later times.³⁵

Specialists nowadays discount Reisner's scenario to explain the absence of a body from G 7000x, and they agree that the contents do not represent the queen's burial,³⁶ but no one, including Münch, has yet come up with a viable alternative to account for the assemblage. Münch's analysis ignores earlier and contemporaneous evidence for features documented in G 7000x which he considers anomalous.³⁷ While condemning the methodology of Egyptologists who would draw analogies between burial practices of the Old Kingdom and those of significantly later times, he himself does much the same thing when he proposes a connection between G 7000x and embalming caches of the Late Period.

Extensive excavations of Old Kingdom tombs in the necropoleis of Giza and Saqqara have nowhere uncovered material typical of embalming caches with their quantities of 'sacks' filled with natron. Nor do I believe it likely that they ever will. The early Middle Kingdom examples which Winlock found at Western Thebes may well be some of the earliest, for on present evidence it seems that the First Intermediate Period witnessed a fundamental change in the techniques employed to preserve the body. During the Old Kingdom, the standard procedure was to wrap the limbs, trunk, and the head separately in linen bindings, sometimes smeared with resin and enhanced with plaster and paint, to simulate the appearance of a living person.³⁸ To that end, the bandaged corpse was even dressed in the clothing of the living. Only

³⁴ H. E. Winlock, *Materials Used at the Embalming of Tut-ankh-Amun* (MMA Papers 10; New York, 1941), 18.

³⁵ 'Categorizing Archaeological Finds: The Funerary Material of Queen Hetepheres I at Giza', *Antiquity* 74 (2000), 898–908. Münch (ibid., 903) defines these to 'include objects that we identify primarily as tomb equipment, such as coffins or miniature mummy masks'. The only mummy mask found in an embalming cache comes from KV 54; for which see C. N. Reeves, 'On the Miniature Mummy Mask from the Tutankhamun Embalming Cache', *BSEG* 8 (1983), 81–3. To date, Münch's article has been remarked in print only by Y. J. Markowitz, J. C. Haynes, and R. E. Freed, *Egypt in the Age of the Pyramids: Highlights from the Harvard University–Museum of Fine Arts, Boston, Expedition* (Boston, 2002), 42. They reject his proposal out of hand.

³⁶ M. Baud, *Famille royale et pouvoir sous l'Ancien Empire égyptien* (BdE 126; Cairo, 1999), II, 525–7 (no. 162); S. Roth, *Die Königsmutter des Alten Ägypten von der Frühzeit bis zum Ende der 12. Dynastie* (ÄAT 46; Wiesbaden, 2001), 69–81; P. Jánosi, *Giza in der 4. Dynastie: Die Baugeschichte und Belegung einer Nekropole des Alten Reiches, I: Die Mastabas der Kernfriedhöfe und die Felsgräber* (DGÖAW 30=UZK 24; Vienna, 2005), 76, 88–91.

³⁷ Contra Münch, there is archaeological evidence earlier than the reign of Pepy I for the interment of the internal organs with the body from which they were removed from both royal and non-royal burials; see, respectively, A. Dodson, *The Canopic Equipment of the Kings of Egypt* (London and New York, 1994), 8–12, and M. Bárta, *Abusir, V: The Cemeteries at Abusir South, I* (Prague, 2001), 11. For the calcite sarcophagus, compare two intact examples and fragments of as many as three others discovered in the substructure of the Step Pyramid, any one of which probably belonged to a female member of Djoser's family: J. P. Lauer, *La pyramide à degrés: L'architecture* (Cairo, 1936), I, 50–9. These women were as close in time to Hetepheres I as Meresankh II, the original owner of the earliest preserved sarcophagus of red granite, which Münch maintains should be the material of Hetepheres I's sarcophagus, rather than calcite. Evidence in the form of bulls' legs made of ivory exists for furniture as tomb equipment from many Early Dynastic burials, and W. S. Smith cited a bed canopy from a First Dynasty tomb cleared by W. B. Emery at Saqqara, in his discussion of the bed canopy from G 7000x, in G. A. Reisner, *A History of the Giza Necropolis, II: The Tomb of Queen Hetepheres Mother of Cheops: A Study of Egyptian Civilization in the Old Kingdom*, rev. by W. S. Smith (Cambridge MA, 1955), 14–15. Smith also mentioned considerably lighter poles from a subterranean gallery at the Step Pyramid complex; these may indeed have belonged to a funerary canopy, rather than an actual bed-chamber canopy. Smith compared them to the remains of some gold-encased poles and accessories recovered from the shaft of G 7000x. If Münch was looking for furniture with a specifically ritual association, the poles from the shaft are undoubtedly better candidates than those from the chamber itself. Note that at least one Old Kingdom tomb cleared by Reisner at Giza (G 7690B) apparently did yield evidence for the presence of furniture: five complete and seven fragmentary 'girdle knots' made of bone with integral tenons that are believed to come from an armchair: see Markowitz in Markowitz, Haynes, and Freed, *Age of the Pyramids*, 96 (no. 36).

³⁸ For mummification during the Old Kingdom, see the summary of T. Pommerening, 'Mumien, Mumifizierungstechnik und Totenkult im Alten Ägypten—eine chronologische Übersicht', in A. Wiczorek, M. Tellnbach, and W. Rosendahl (eds), *Mumien: Der Traum vom ewigen Leben* (Publikationen der Reiss-Engelhorn-

with the Middle Kingdom did embalmers begin to use natron in quantity for desiccating the corpse which was then padded out and wrapped in several layers of linen bindings to produce the kind of mummy characteristic of Ancient Egypt in the popular imagination.³⁹

As for G 7000x and its contents, the best description may well be simply a 'deposit' but one that differs significantly from the embalming caches of later times.

MARIANNE EATON-KRAUSS

A 'verlan' scribe in Deir el-Bersha: some Demotic inscriptions on quarry ceilings

Three fourth century BC Demotic inscriptions on the ceiling of underground limestone quarries in Deir el-Bersha turn out to be written from left to right with reversed signs. The only parallel for these Demotic reversals is another inscription on a quarry ceiling not far from Ptolemaïs, where parts are also written in mirror script.

THE site of Deir el-Bersha in Middle Egypt is well-known for its Middle Kingdom nomarchal tombs cut in the cliffs, particularly that of Djehutihotep with its representation of the transport of a colossal statue. That the same stratum of high quality limestone used for the tombs was in later periods exploited for quarrying is much less common knowledge. In particular, the quarries on the north and south slopes of the Wadi el-Nakhla have hardly received any attention, despite the numerous Demotic inscriptions on the ceiling reported for several of them.¹

The exploitation of these subterranean quarries is now one of the focal points of the interdisciplinary Deir el-Bersha project under the direction of Harco Willems (Katholieke Universiteit Leuven).² Together with archaeologist D. Depraetere and mining specialists R. and D. Klemm, the quarrying techniques are being reconstructed on the basis of both the Demotic texts on the ceiling and the physical remains *in situ*.

Following a preparatory mission by a small team in January 2002, I was shown some photographs of Demotic inscriptions in red ink on the ceiling of one of the quarries. One of the most intriguing was that shown in fig. 1.

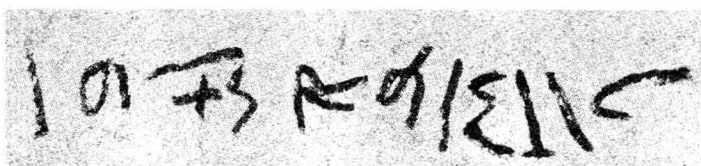


FIG. 1. The enigmatic inscription on a quarry ceiling in Deir-el Bersha as photographed in 2002.

Museen 24; Mannheim and Mainz, 2007), 72–7; and cf., for pre-Old Kingdom times, the review of experiments in mummification provided by E. C. Köhler, 'Ursprung einer langen Tradition: Grab und Totenkult in der Frühzeit', in H. Guksch, F. Hofmann, and M. Bommas (eds), *Grab und Totenkult im alten Ägypten* (Münich, 2003), 14–15 [*Fs. Assmann*].

³⁹ Not coincidentally, the 'mummy' hieroglyph (Gardiner A 53) makes its appearance as a determinative in the writing of *twt*, 'statue' at about the same moment; see the comments with references cited in my *The Representations of Statuary in Private Tombs of the Old Kingdom* (ÅA 39; Wiesbaden, 1984), 81 n. 396.

¹ The most detailed presentation is still J. Clédat, 'Notes archéologiques et philologiques', *BIFAO* 2 (1902), 41–70 (esp. 69), pls 6–7, in which some thirty inscriptions are published in not always very reliable free-hand copies by a non-demotist, who was chastized for this by W. Spiegelberg, 'Demotische Miscellen, XXV–XXIX', *RT* 26 (1904), 154–65, esp. 159–60. A short postscript is also devoted to these inscriptions in D. Devauchelle, 'Notes sur les inscriptions démotiques des carrières de Tourah et de Mâsarrah', *ASAE* 69 (1983), 169–82.

² For details of this project, see its website <<http://www.arts.kuleuven.be/bersha>>, which includes a number of (panoramic) photographs of the quarries and a description of the results of the first excavation seasons, also presented in H. Willems, M. de Meyer, D. Depraetere, C. Peeters, S. Hendrickx, T. Herbich, D. Klemm, R. Klemm, L. Op de Beeck, and M. Depauw, 'Preliminary Report of the 2002 Campaign of the Belgian Mission to Deir el-Barsha', *MDAIK* 60 (2004), 237–83 and H. Willems, M. de Meyer, D. Depraetere, C. Peeters, L. Op de Beeck, S. Vereecken, B. Verrept, and M. Depauw, 'Preliminary Report of the 2003 Campaign of the Belgian Mission to Deir al-Barsha', *MDAIK* 62 (2006), 307–39.