

additional signs—only some of which are related to known hieroglyphs—appear in association with dateable Old Kingdom inscriptions (Vandekerckhove and Müller-Wollermann 2001: 65 [inscription N 29]; compare also Inscription N 40, correcting the description in op. cit. 59). Distant desert sites, such as those along the road leading southwest from Dakhla Oasis, can also bear such marks, which may themselves be related to pot marks (cf. Förster 2015: 218). The sum of evidence reveals a consistency of site-marking activities between the Eastern and Western Deserts during the late Old Kingdom—a conclusion that benefits from the excellent scholarship in the volume under review.

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REFERENCES

- Andrássy, P., J. Budka, and F. Kammerzell, eds. 2009. *Non-Textual Marking Systems, Writing and Pseudo Script from Prehistory to Modern Times*. *Lingua Aegyptia, Studia Monographica*, vol. 8. Göttingen.
- Förster, P. 2015. *Der Abu Ballas-Weg: Eine pharaonische Karawanenroute durch die libysche Wüste*. *Africa Praehistorica*, vol. 28. Cologne.
- Haring, B. J. J., and O. E. Kaper, eds. 2009. *Pictograms or Pseudo Script? Non-Textual Identity Marks in Practical Use in Ancient Egypt and Elsewhere*. Leuven.
- Vandekerckhove, H., and R. Müller-Wollermann. 2001. *Elkab VI: Die Felsinschriften des Wadi Hilal*. Turnhout.

Divine Creatures: Animal Mummies in Ancient Egypt. Edited by SALIMA IKRAM. Cairo: THE AMERICAN UNIVERSITY IN CAIRO PRESS, 2015. Pp. xxi + 274, illus. \$24.95 (paper).

The second edition of *Divine Creatures* retains the original concept of the first as “. . . an initial attempt to begin to understand the Egyptian phenomenon of mummifying animals.” It begins with the four types of animal mummy that appear in ancient Egypt—pet, victual, cult, and votive—alongside contextual explanations of these. As an introduction to animal mummies, this section is succinct. The second edition would have benefitted from an explanation, however brief, of those animal mummies which do not seem to fit into these categories (McKnight et al. 2015). In addition, usage of the phrase “ancient fakes” (see this volume pp. 14, 203) to describe those animal mummies without a single, complete individual could be considered a little dated. Ikram’s evidence for the “trickery of the priests” derives from the Archive of Hor (Ray 1976), textual evidence from a single site, Saqqara. This deserves mention but it could mislead new readers to think that this was the case for every animal cult in Egypt. Ikram does consider alternative theories, with particular reference to that proposed by Kessler and Nur el-Din (p. 156), but it would be useful to state that animal cults seem to have operated at regional level with well-noted variations occurring at different sites.

Ikram continues with the mummification methods observed in animals, which include post-dispatch bodily treatment through to the final wrapping stages. Relevant comparisons with materials and methods found in human mummies (which, in the history of mummy studies, have been researched much more than those of animals), as well as species and animal mummy type-specific mummification methods, are discussed under five themes: evisceration and desiccation, desiccation and anointment, enemas, defleshing, and immersion.

A brief discussion of victual mummies is welcome here to highlight that while these are indeed animal mummies, they have a different purpose and are thus prepared in a manner appropriate to their purpose. An overview of the last rites, wrapping styles, and orientation evident in animal mummification is based on the findings from Ikram’s research (Ikram and Iskander 2002) as part of the Animal Mummy Project, with particular reference to examples in the Egyptian Museum, Cairo. Importantly, this section is completed by including a valuable discussion of experimental mummification. Again, this is similar

to the first edition and includes materials, methods, and observations from four rabbit mummies, two fish mummies, and two duck mummies. As literature on experimental mummification of animals is limited, this is a valuable contribution to the field of mummy studies. However, this approach is missing important elements, in particular the lack of pre-mummification radiographs to compare with those acquired post-mummification. Importantly, there is no mention of other experimental mummification programs (Atherton and McKnight 2014), which would have proved a useful comparison for Ikram's experimental program. An update of the preservation in 2014 is useful in that not all the mummies were successful in the long term but long-term goals of the project were not yet realized.

The book continues with various chapters covering the many types that animal mummies comprise and their diverse locations, written by experts in their particular fields. The chapters focus on the following areas associated with animal mummies.

The Sacred Animal Necropolis, Saqqara: This site is covered by two chapters which highlight different parts of the Sacred Animal Necropolis. Nicholson provides a comprehensive history of the sacred landscape at Saqqara in relation to the animal cults of the Late–Ptolemaic Periods. This chapter covers the discovery (and later re-discovery by Emery under the auspices of the Egypt Exploration Society) of the baboon, ibis, falcon, and Mother of Apis cults in detail, with a brief introduction to the ongoing excavations of the dog catacombs (Nicholson et al. 2015). Nicholson covers the development and construction of the animal cults and cult places at Saqqara, in addition to the relevance of the finds associated with votive practice in ancient Egypt. To complement this chapter, Zivie and Lichtenberg give an excellent overview of the Bubasteion, which was dedicated to the cats within the sacred landscape of Saqqara. The results derive from radiographic and photographic research, providing much needed zooarchaeological data, as well as the materials and methods used to mummify the animals deposited here.

The Animal Cemetery, Tuna el-Gebel: This very comprehensive chapter covers the site of Tuna el-Gebel, putting the practice of creating votive animal mummies into geographical, historical, and religious context. The authors guide the reader by a chronological framework, through the changing political and economic landscape of the late Third Intermediate–Ptolemaic Periods and how this affected Tuna el-Gebel. What makes particularly interesting reading is the placement of sites close to ecological hotspots capable of supporting the significant numbers of ibises (and other birds and animals) needed for mummification purposes and the demographics of those individuals permitted to enter the galleries. Kessler and Nur el-Din do not mention the direct involvement of pilgrims at this site. The textual evidence shows the involvement of generals, administrators, scribes, priestly offices, and cult servants—i.e., the go-betweens for the “pilgrims” as those responsible for the delivery and deposition of the animal mummies. A list of the species found at Tuna el-Gebel is appropriate as well as information highlighting how mummification techniques evolved at the site, important for dating animal mummies without a findspot.

The mummification and interment of animals other than ibises is mentioned, including baboons, crocodiles, canines and felines, bovids, pigs, and “animals of the earth,” along with the authors' thoughts on their placement at Tuna el-Gebel as part of the sacred landscape and thus worthy of mummification and rejuvenation. This chapter is the longest in the book and should perhaps be taken in two sittings to gain maximum benefit from the wealth of information contained within it.

Bull Cults: Writing a chapter on animal cults where very few animal mummies exist is a challenge, and one faced by two chapters. Dodson reviews the evidence for the three main bull cults in ancient Egypt: the Apis, Mnevis, and Buchis bulls. Each cult is given a brief religious and archaeological history before the tombs themselves are discussed in chronological order, where possible. The presentation on the Apis Bull attempts to use evidence to align Mariette's Apis Number, the Tomb Number, and the Date of the Tomb with particular individuals in the Late–Ptolemaic Period, while retaining the name and date of the Mother of the Apis in question. A similar approach proved suitable for the Buchis and Mother of the Buchis cults, but the lack of surviving archaeological material for the Mnevis cult resulted in a spare review of what evidence remained.

Cult of Sobek in the Faiyum and the Ram of Mendes: While these cults differ in their geographic location and animal type, they are discussed together because they are based the results of excavation by the authors themselves. Bresciani gives a succinct account of the worship of Sobek as a crocodile

in Egypt. She discusses the various surviving aspects of crocodile worship in the Faiyum, drawing on features from different temples at Karanis, Qasr el-Qarun, Lahun, Hawara, and Medinet Maadi, all of which highlight the workings of the crocodile cult in this region with parallels for animal cults in the rest of Egypt.

Redford and Redford discuss the excavation of the necropolis at Mendes, which focuses on the necropolis of the sacred rams worshipped in the vicinity. As with Dodson's chapter on the bull cults, no intact ram burials were found in this necropolis, although the varied designs in the sarcophagi intended for the sacred rams and their placement in this sacred landscape were visualized by way of excavation. In addition, the deposition of fish in cups and jars alongside votive stelae dating to the Twentieth Dynasty was noted at this site. The authors observe that this mass burial may well have been a physical manifestation of the Egyptian conception of divine representation on earth.

The book comes full circle with the study and re-display of the amazing collection of animal mummies in the Egyptian Museum, Cairo, which are compiled in a chapter devoted to the Animal Mummy Project. It highlights the importance of non-invasive imaging as the primary tool for the initial study of this type of material, among many others, held in museum collections. This final chapter is followed by a postscript, which gives an overview of the type of research being carried out on animal mummies in the ten years since the first edition was published. It represents the many facets that are employed on animal mummies, both in the field and in museum collections, with texts, mummies, archaeological survey, excavation, and archaeological science.

The postscript is by no means exhaustive, likely due to a word count versus breadth of content issue, which I take as a good sign of how far the study of animal mummies has come in the past decade. The bibliography, however, is quite extensive and should one wish to garner further information on particular areas of research mentioned in the postscript, this is a good place to start. There is no doubt that this book is a worthy re-edition; better, and more user-friendly, in paperback form and an essential item for those interested in ancient Egyptian animal mummies.

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REFERENCES

- Atherton, S. D., and L. M. McKnight. 2014. The Mummification of Votive Birds: Past and Present. *EXARC 1 (Proceedings of the 7th UK Experimental Archaeology Conference Cardiff 2013)*. Online: <http://journal.exarc.net/issue-2014-1>.
- Ikram, S., and N. Iskandar. 2002. *Catalogue Général of Egyptian Antiquities in the Cairo Museum: Nos. 2408–24056; 29504–29903 (selected); 51084–51101; 61089. Non-Human Mummies*. Cairo: The Supreme Council of Antiquities Press.
- McKnight, L. M., S. D. Atherton-Woolham, and J. E. Adams. 2015. Imaging of Egyptian Animal Mummies. *RadioGraphics* 35: 2108–20.
- Nicholson, P. T., S. Ikram, and S. Mills. 2015. The Catacombs of Anubis of North Saqqara. *Antiquity* 89(345): 645–61.
- Ray, J. 1976. *The Archive of Hor*. London: Egypt Exploration Society.

Scanning the Pharaohs: CT Imaging of the New Kingdom Royal Mummies. By ZAHY HAWASS and SAHAR N. SALEEM. Cairo: THE AMERICAN UNIVERSITY IN CAIRO PRESS, 2016. Pp. xviii + 318, illus. \$59.95.

The history of radiography and mummies is now more than a century old and it is a tale of progress. X-rays of mummies of commoners began at the end of the nineteenth century and by 1903 the mummy of Tuthmosis IV was being driven in a horse-drawn taxi to a Cairo hospital for the first x-ray of a royal