

## Exhibition

### Eight mummies, eight stories

Egyptian mummies have fascinated the world since antiquity. The ancient Greek historian Herodotus was the first to give an essentially accurate account of the process of Egyptian mummification, in the fifth century BC. In medieval Europe, ground-up mummy flesh was supposed to have medicinal properties. During the Enlightenment, mummies were curiosities for antiquarians and scientists. After Napoleon Bonaparte's military and scientific expedition to Egypt in 1798–1801, they became sensational elements of Egyptomania.

When, in 1821, a pioneering exhibition of a facsimile of an ancient Egyptian tomb from the (as yet unnamed) Valley of the Kings was inaugurated in London's Egyptian Hall, the tomb's discoverer Giovanni-Battista Belzoni—a former circus strongman turned flamboyant excavator—appeared before a huge crowd wrapped in mummy bandages. During this year, Belzoni publicly unwrapped three Egyptian mummies, assisted on one occasion by the surgeon Thomas Pettigrew. Throughout the 19th century and beyond, it was common for mummies to be unwrapped by scientists and archaeologists. From the 1830s, Pettigrew—sometimes known as “Mummy” Pettigrew—unwrapped and examined mummy after mummy before distinguished private and public gatherings. In 1875, the British Museum curator Samuel Birch unwrapped an Egyptian mummy for its owner, the Duke of Sutherland. Afterwards, the Duke presented the corpse to the Royal College of Surgeons of England, where the bones were cleaned and articulated and installed in the college's museum, thereby destroying both the mummy and clues to its identity.

Fortunately for today's researchers, the 19th-century trustees of the British Museum turned down requests—

including from Pettigrew—to unwrap their mummy collection, which was left largely undamaged by this fashionable craze. During the 20th century, British Museum mummies were increasingly studied by non-invasive techniques; a radiological survey was done in the 1960s, and from 1991 mummies were inserted into hospital CT scanners. With the introduction of dual energy CT scanners, details hidden within a mummy's cartonnage case can be imaged—for example, wear and tear on bones, tooth decay, and the remains of internal organs, including the brain, which was not extracted from children.

**“The exhibition's CT scans do, indeed, transform the mummies from static objects into animated images that inspire respect, wonder, and curiosity.”**

Dual energy CT images of mummies form the centrepiece of the British Museum's current exhibition *Ancient Lives, New Discoveries*. Such techniques have “virtually eliminated the need to disturb their coverings”, note the curators, Egyptologist John Taylor and physical anthropologist Daniel Antoine, in the exhibition's superbly illustrated catalogue. For the museum visitor, CT scans offer the enthralling, somewhat eerie, experience of virtually unwrapping (or wrapping) several layers of ghostly, exquisitely coloured, computer-generated mummies, merely by rotating one's finger clockwise or anticlockwise on touch-sensitive discs. While doing so, one can simultaneously compare the CT image with the adjacent physical mummy. This interactive technology makes what would otherwise be a predictable, if informative, exhibition into an event that should not be missed.

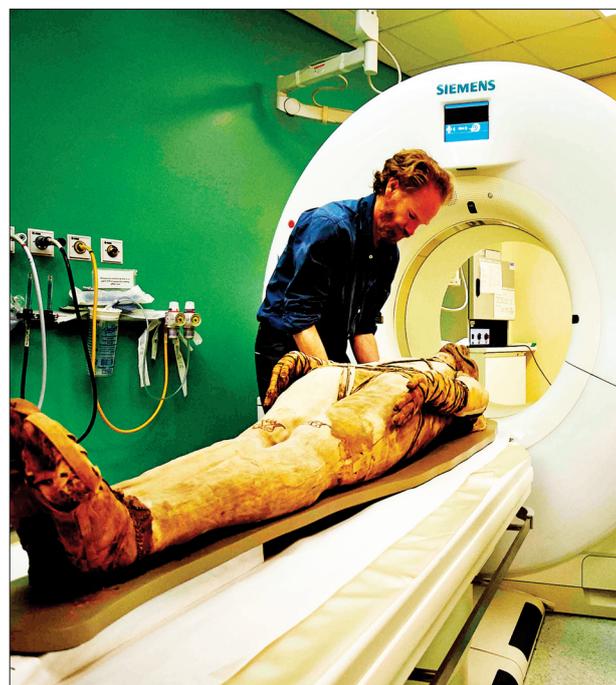
The technology is also an imaginative visualisation of the neatly ambiguous

title of a second publication that accompanies the exhibition, *Regarding the Dead: Human Remains in the British Museum*. In this edited collection, the contributors (predominantly museum staff) consider the much-discussed issues surrounding the conservation, storage, and public display of human remains. A chapter by Taylor surveying the museum's 87 Egyptian mummies concludes that “the potential which they hold as sources of scientific data is still largely untapped”. Antoine insists that “human remains should never be treated or referred to as objects”: their curation should always be done with respect for the once-living individuals. The exhibition's CT scans do, indeed, transform the mummies from static objects into animated images that inspire respect, wonder, and curiosity.

Eight mummies providing as much variety as possible have been selected for virtual exposure. Two of the bodies were naturally mummified by burial in arid ground, so their skeletons are



**Ancient Lives, New Discoveries**  
British Museum, London, UK,  
until Nov 30, 2014  
[https://www.britishmuseum.org/whats\\_on/exhibitions/ancient\\_lives.aspx](https://www.britishmuseum.org/whats_on/exhibitions/ancient_lives.aspx)



A mummy undergoing a CT scan at the Royal Brompton Hospital, London, UK



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CT scan 3D visualisation of the mummified remains of Taysmutengebtiu, also called Tamut, showing her body within the cartonnage

visible; the other six were artificially mummified by embalmers, and are wrapped in cartonnage or enclosed in a wooden coffin painted with a face and mythological scenes. As well as bundles of packing material, the scans reveal fragments of decorative gold leaf and human-made objects, such as coloured glass eyes, amulets, and an embalmer's tool abandoned inside a skull during the extraction of an adult brain. In separate display cases are various real objects, mainly from the museum's collections (others printed in 3D), which resemble the objects visible in the CT scans.

The mummies span the Predynastic period (c 3500 BC) to the medieval period (c AD 655–775), when Christianity prevailed in Sudan. Their ages range from a child of about 2 years to adult females and males, one of whom might have been as old as 50 years when he died. Only three mummies are named, on the basis of their coffin inscriptions: Tamut, the daughter of a high-ranking priest, Padiamenet, a male temple doorkeeper, and Tjayasetimu, a young female temple singer. The names, occupations, and lives of the other five mummies are a matter for speculation, like so much else in ancient Egypt, because of the tendency of funerary inscriptions to concentrate on religious texts such as the *Book of the Dead*, rather than to satisfy our modern desire for personal details of the kind found on gravestones.

Occasionally, we catch a glimpse of the person behind the mummy. The naturally mummified woman's skeleton from Sudan sports a barely visible tattoo on her inner thigh, a monogram of Saint Michael—which is how we know she must have been a Christian. A stone "heart scarab" visible on the chest of Tamut reminds us of the widespread Egyptian belief that this amulet would prevent the owner's heart from revealing his or her sins to the gods when it was weighed at the day of judgment. Doorkeeper Padiamenet's hieroglyphic coffin inscription reveals that he was also Chief Barber, both of the temple of Ra and in the domain of Amun. He probably had plenty of business, since all priests working in temples were required to be shaven-headed to avoid pollution of the divine space with bodily impurities, such as lice. Perhaps, as the exhibition's curators hazard, "we can picture Padiamenet refusing to open the temple doorway until some forgetful priest with sprouting hair and stubble on his chin had submitted to being shaved". Mostly, however, Taylor and Antoine are cautious, sticking to the scientific evidence from the CT scans for their interpretations. This gives information about the gender of the mummy, its age, its pathologies, and, in some cases, its likely cause of death.

Only gender can be unequivocally established. Even here, though, are traps for the unwary curator. In 1888,

the youngest mummy was described by its Egyptologist discoverer, Flinders Petrie, as a little girl "too splendidly got up" in a gilded cartonnage inlaid with semi-precious stones. But a CT scan shows the mummy to be male. Another mummy, dating from the Roman period, with a somewhat androgynous painted face, noticeably prominent breasts, and accentuated thighs, was described as that of a woman in British Museum guidebooks for many years. But recent CT scans of its skull, pelvis, and preserved soft tissues confirm that the individual was an adult male. He could have been overweight, which would account for the many folds in the skin of the legs visible in the scans. The padding of the breasts and thighs was probably an ancient embalmer's attempt to model the man's fleshy appearance while alive.

None of the mummies died from unnatural causes, so far as the curators can tell from the CT scans. But neither do the scans identify the cause of death beyond doubt; in fact, the mummy of the 2-year-old is free of fractures or pathologies. Terrible dental health, including multiple abscesses, may have proved fatal for the Roman-period man, as well as for Padiamenet. The latter also seems to have had atherosclerosis, as does Tamut, judging from the CT evidence of a calcified plaque deposit (an atheroma) in the left femoral arteries of both the temple doorkeeper and the priest's daughter. Other mummies, not in the exhibition, also show arterial plaque under scanning techniques. Hence, cardiovascular diseases might have affected many inhabitants of the Nile valley. Although we do not (yet) know exactly what Padiamenet and Tamut died from, a stroke or a heart attack caused by atherosclerosis could be a possibility. The ancient Egyptians, for all their remote and exotic funerary rituals, apparently suffered from a very familiar modern disease.

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**Further reading**

- Taylor JH, Antoine D, with Vandenbeusch M. Ancient lives, new discoveries: eight mummies, eight stories. London: British Museum Press, 2014
- Fletcher A, Antoine D, Hill JD, eds. Regarding the dead: human remains in the British Museum. London: British Museum Press, 2014