Manchester Museum Mummy Project

Multidisciplinary Research on Ancient Egyptian Mummified Remains

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A. Rosalie David
Manchester, 1978

Introduction

In 1907, Dr Margaret Murray, Egyptologist at the Manchester Museum, undertook one of the earliest scientific investigations of Egyptian mummies when she unwrapped and dissected the mummies of the Two Brothers at Manchester University. Her experiment was then unique in that she headed an interdisciplinary team whose members were specialists in the fields of anatomy, chemical analysis, and the study of textiles. They all contributed their knowledge to the detailed examination of these mummies, and the results of their investigations were published in the book entitled *The Tomb of the Two Brothers* (1910).

Nearly seventy years later, in 1972, it was decided to undertake a similar investigation, but for this project the whole collection of Egyptian mummified remains at the Museum were examined, and they were subjected to an intensive study using as many modern scientific techniques as possible. The unique situation of the Museum with its ready access to University departments and its physical proximity to hospitals with highly specialized, advanced equipment, ensured that the project had access to considerable resources. A highly specialized team was drawn from various departments and an interdisciplinary approach was achieved; moreover, it was possible to move Museum collections without difficulty to the nearby hospitals for examination under near-ideal conditions. The supportive attitude of the University authorities, and of the Chairman, Committee, and Director of the Museum, was another major factor in enabling the team members to undertake this programme of study and to complete their research. Additional financial aid was granted by the British Academy, and Kodak Ltd most generously supplied much of the x-ray film.

The project had two basic aims. First, the intention was to discover as much information as possible from a specific group of mummies which could be related to existing knowledge of religious and funerary customs, living conditions, the state of physical and dental health, and the process of mummification in ancient Egypt; it was also hoped to identify evidence of disease and, in addition, possible causes of death. The second aim was to establish a methodology, using many different techniques under near-ideal conditions, for the examination of a group of Egyptian mummified remains, which other institutions could adopt and adapt for the investigation of their own collections.

In order to apply as many techniques as possible to one mummy under near-ideal conditions, the decision was eventually taken to perform an autopsy on one of the mummies as part of the overall investigation. For several reasons the mummy known by its museum acquisition number as 1770 was selected for this purpose, and was unwrapped at the Manchester Medical School in June 1975.

The collection in the Manchester Museum includes seventeen human and thirty-one animal mummies; in addition there are a number of mummified human and animal detached heads, limbs and other organs.

The collection spans a period from *c.*1900 B.C. to *c.*4th century A.D., at the time of the Roman occupation of Egypt. It has been acquired from a variety of sources; some of the material is provenanced, originating mainly from sites excavated by Sir Flinders Petrie, but also from the excavations of the Egypt Exploration Society and of Professor Garstang. Other material, mostly acquired from private individuals, is unprovenanced. A major part of the mummy collection, and indeed the entire Egyptian collection, came to the Manchester Museum through the generosity of Dr Jesse Haworth, a Manchester businessman and friend of Sir Flinders Petrie. Other mummies have been acquired through the British School of Archaeology in Egypt, the Egyptian Research Account, the Egypt Exploration Society (via the British Museum), various museums and private collections, and from individual donors.

Extensive examination of this collection has recently been undertaken by the team of specialists already listed in the Acknowledgements, and the results of their researches form the basis of this book. The various techniques employed have included a radiological survey and study of all the mummies. This method, being non-destructive, could be applied to all the mummies in the collection, and radiographs were also used, in addition to visual examination, in the survey undertaken of the teeth of the human mummies and the detached heads. Where mummified soft tissue or organs were preserved and available for study, a range of techniques in the field of pathology were applied in an attempt to identify disease in the human mummies. These included the rehydration and processing of mummified tissue to enable satisfactory histological sections to be prepared for examination by light microscopy and electron microscopy. The insects found in the mummies and their wrappings were also examined and identified by means of electron microscopy.

Some techniques were applied specifically to the mummy (1770) on which the autopsy was performed in 1975. Various methods of analysis, especially chromatography, were used in an attempt to identify the natural products employed in mummification; an analysis of the material of the bandages and other related factors were carried out; Carbon-14 dating techniques were brought in to establish the approximate age of the bones and the bandages of this mummy, and to determine whether or not they belonged to the same period.

Another related study involved the investigation of the actual process of mummification as practised by the ancient Egyptians and as described in the writing of

Herodotus. A summary of the history and development of mummification in Egypt is beyond the scope of this publication and is covered fully elsewhere,[1] but the basic facts are mentioned in connection with these experiments.

Other specialists obtained the fingerprints and toeprints of one of the mummies which had been unwrapped before being acquired by the Museum, and which was particularly well-preserved; this technique assisted in determining the person's age at death, and gave some indication of her lifestyle. It has also been possible to reconstruct the major features of selected mummified human heads from the collection, with some degree of accuracy, thus enabling those viewing the mummified remains to relate more easily to the appearance of these people when alive. Using this technique, it has been possible to produce three-dimensional heads which could serve as models on which to base illustrations for purposes of publication or exhibition.

A. R. DAVID

[1] See *Catalogue of Egyptian Antiquities in the British Museum — Mummies and Human Remains*, pp. vii–xiii, and G. Elliot Smith and W. R. Dawson, *Egyptian Mummies*, pp. 72–132.