EGYPTIAN MUMMIES AND MODERN SCIENCE

Egyptian mummies have always aroused popular and scientific interest; however, most modern studies, although significantly increased in number and range, have been published in specialist journals. Now, this unique book, written by a long-established team of scientists based at the University of Manchester (England), brings this exciting, cross-disciplinary area of research to a wider readership. Its main aim is to show how this team's multidisciplinary, investigative methods and the unique resource of the Egyptian Mummy Tissue Bank are being used for new major international investigations of disease evolution and ancient Egyptian pharmacy and pharmacology. It also assesses the current status of palaeopathology and ancient DNA research and the treatments available for conserving mummified remains. Descriptions of the historical development of Egyptian mummifications and medicine and detailed references to previous scientific investigations provide the context for firsthand accounts of cutting-edge research by prominent specialists in this field, demonstrating how these techniques can contribute to a new perspective on Egyptology.

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Egyptian Mummies and Modern Science

Edited by

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Contents

List of Plates ........................................... vii
List of Figures ........................................... viii
List of Contributors ..................................... xi
Acknowledgments .......................................... xv
Preface .................................................... xix
A. Rosalie David

PART I: AN INTRODUCTION TO THE SCIENTIFIC STUDY OF MUMMIES

1. The background of the Manchester mummy project ........... 3
   A. Rosalie David

2. Egyptian mummies: an overview ........................ 10
   A. Rosalie David

PART II: DIET, DISEASE AND DEATH IN ANCIENT EGYPT:
DIAGNOSTIC AND INVESTIGATIVE TECHNIQUES

3. Imaging in Egyptian mummies ............................ 21
   Judith E. Adams and Chrissie W. Alsop

4. Endoscopy and mummy research ........................... 43
   Ken Wildsmith

5. Dental health and disease in ancient Egypt ................. 52
   Judith Miller

6. Slices of mummy: a histologist’s perspective .............. 71
   John Denton
7. Palaeopathology at the beginning of the new millennium: 
a review of the literature ............................. 83
   Maria Jeziorska

8. The use of immunocytochemistry to diagnose disease
   in mummies ..................................... 99
   Patricia Rutherford

9. DNA identification in mummies and associated material  .... 116
   Patricia Rutherford

10. An introduction to analytical methods ............................ 133
    Andrew P. Giże

11. The facial reconstruction of ancient Egyptians .............. 162
    Caroline M. Wilkinson

PART III: THE TREATMENT OF DISEASE IN ANCIENT EGYPT

12. The ancient Egyptian medical system ........................... 181
    A. Rosalie David

13. Intoxicants in ancient Egypt? opium, nymphaea,
    coca and tobacco .................................. 195
    David J. Counsell

14. Pharmacy in ancient Egypt ...................................... 216
    Jacqueline M. Campbell

PART IV: RESOURCES FOR STUDYING MUMMIES

15. The International Ancient Egyptian Mummy Tissue Bank .... 237
    A. Rosalie David

16. Conservation treatment for mummies ............................ 247
    Antony E. David

PART V: THE FUTURE OF BIOMEDICAL AND SCIENTIFIC
STUDIES IN EGYPTOLOGY

17. Biomedical Egyptology: some future possibilities
    and contributions ................................... 257
    A. Rosalie David

References 263

Index 297
List of Plates

Colour plates follow page 138

I. Histological section of underside of a leaf.
II. Bacteria in gram-stained histological section.
III. Histological section of Serpula lacrymans fungus.
IV. Histological section through the fibrous pleura of the lung.
V. Histological section of the ear of mummified cat.
VI. Histological section of wheat from a tomb.
VII. Histological section of ancient decalcified bone.
VIII. Histological section of bone providing timeline of events.
IX. Histological section of Egyptian bandage.
X. Positive staining of S. mansoni ova within infected mouse liver: lateral spike. ×100.
XI. Positive staining of S. mansoni ova within infected mouse liver. ×100.
XII. Positive staining of S. haematobium within infected hamster liver. ×100.
XIII. Positive staining of mummy bladder tissue. ×100.
XIV. Positive staining of mummy bladder tissue with ova. ×100.
XV. Ultraviolet fluorescence microscopy of hair from a mummy.
XVI. Visible light and infrared images of hair from a mummy.
XVII. Facial reconstructions of ancient Egyptians.
XVIII. Mummy covered with efflorescence and mould growth.
XIX. Hands and torso of the mummy after conservation treatment.
### List of Figures

1. Mummy in gilded cartonnage.  
   *Page 23*

2. AP radiograph of the thoracic region of a mummy.  
   *Page 27*

3. CT scan through the head: layering of resin posteriorly in the skull.  
   *Page 29*

4. Jumbled bones in a mummy.  
   *Page 31*

5. Radiographs of mummy showing metal studs/amulets.  
   *Page 31*

6. AP radiograph showing packages in the right thorax of a mummy.  
   *Page 32*

7. Lateral radiograph and CT scan of a mummy showing packing in mouth.  
   *Page 32*

8. Radiograph and CT scan of a mummy showing false eyes.  
   *Page 33*

   *Page 33*

    *Page 35*

11. Age determination in mummies: AP radiograph showing evidence of epiphyses.  
    *Page 37*

    *Page 39*

13. Radiographs of animal mummies.  
    *Page 41*

14. Severe wear on tooth.  
    *Page 57*

15. Caries in the cervical area of a tooth plus a large interproximal cavity.  
    *Page 59*

16. Periapical destruction caused by the wear shown in Figure 1.  
    *Page 59*

17. Dentition showing horizontal and vertical periodontal disease.  
    *Page 61*

18. Example of teeth that could be removed by digital manipulation.  
    *Page 67*

19. The only example of a possible dental extraction found in Miller’s survey.  
    *Page 69*

20. Maxilla showing two non-physiological defects.  
    *Page 69*
## List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Isomers of $C_4H_{10}$.</td>
<td>135</td>
</tr>
<tr>
<td>22</td>
<td>Diastereomers of cholesterol.</td>
<td>135</td>
</tr>
<tr>
<td>23</td>
<td>The electromagnetic spectrum.</td>
<td>141</td>
</tr>
<tr>
<td>24</td>
<td>Depictions of cyclohexane.</td>
<td>147</td>
</tr>
<tr>
<td>25</td>
<td>The structure of glycine and alanine.</td>
<td>147</td>
</tr>
<tr>
<td>26</td>
<td>Total ion chromatograms of wax coating a pillow (a) and beeswax (b).</td>
<td>153</td>
</tr>
<tr>
<td>27</td>
<td>SEM image of natron crystals in the bladder of a mummy.</td>
<td>159</td>
</tr>
<tr>
<td>28</td>
<td>ESEM image of crystalline wax coating a pillow.</td>
<td>159</td>
</tr>
<tr>
<td>29</td>
<td>Facial reconstruction procedures.</td>
<td>165</td>
</tr>
<tr>
<td>30</td>
<td>The preserved remains of an ancient Egyptian priest, with facial reconstruction.</td>
<td>169</td>
</tr>
<tr>
<td>31</td>
<td>Production of a three-dimensional skull model from two-dimensional data.</td>
<td>169</td>
</tr>
<tr>
<td>32</td>
<td>Facial reconstruction of Ramesses II from the mummified soft tissues.</td>
<td>171</td>
</tr>
<tr>
<td>33</td>
<td>Comparison of facial reconstructions of ancient Egyptians with portraits.</td>
<td>172</td>
</tr>
<tr>
<td>34</td>
<td>Depictions of disease and trauma in facial reconstruction work.</td>
<td>174</td>
</tr>
<tr>
<td>35</td>
<td>Facial reconstructions of the skulls from Tomb KV5.</td>
<td>175</td>
</tr>
<tr>
<td>36</td>
<td>Comparison of the facial reconstructions from Tomb KV5 and Ramesses II.</td>
<td>177</td>
</tr>
<tr>
<td>37</td>
<td>Summary of classification of intoxicants.</td>
<td>197</td>
</tr>
<tr>
<td>38</td>
<td>Total ion chromatogram for juglet number 744.</td>
<td>201</td>
</tr>
<tr>
<td>39</td>
<td>Total ion chromatograms for four Bil-Bil juglets.</td>
<td>203</td>
</tr>
<tr>
<td>40</td>
<td>Summary of provenance and forensic laboratory analysis on Manchester Cypriot Base II Ring Ware collection.</td>
<td>199</td>
</tr>
<tr>
<td>41</td>
<td>Summary of botanical features of ancient Egyptian ‘lotuses.’</td>
<td>205</td>
</tr>
<tr>
<td>42</td>
<td>Phytosterol profile of ancient and modern <em>Nymphaea caerulea</em> compared with petal of <em>Impatiens walleriana</em>.</td>
<td>207</td>
</tr>
<tr>
<td>43</td>
<td>Comparison of hair analysis for cocaine and nicotine in Egypt and South America.</td>
<td>211</td>
</tr>
</tbody>
</table>
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A. Rosalie David
Manchester, December 2006
Preface

A. Rosalie David

The main aims of this book are to show how biomedical and scientific techniques have led to a new understanding of some aspects of ancient Egyptian society, and to demonstrate how the focused, multidisciplinary research of one team, working continuously in this area for more than thirty years, has been able to contribute to this field.

There has been a remarkable and significant increase in the number and range of scientific studies undertaken on mummies over the past couple of decades, and people are now aware of the information that can be derived from such investigations, in terms of explaining the cultural context of human remains and in adding to knowledge of how disease has evolved and developed from ancient to modern times. Much of this work, however, is published in scientific journals or conference papers, and is not readily accessible to the reader who has a general interest in the field.

The Manchester Egyptian Mummy Research Project, established at the University of Manchester in 1973, has conducted pioneering research on the methodology of using scientific techniques to investigate ancient Egyptian mummified remains. It has run the longest continuous research programme in the field of biomedical Egyptology, and this has led to the establishment (in 2003) of a university specialisation and a dedicated facility – the KNH Centre for Biomedical Egyptology in the Faculty of Life Sciences at the University of Manchester (UK).

The earliest phase of this project was published in A. R. David (ed.), The Manchester Museum Mummy Project (1979). The team has made major advances since then, and mummy studies in general have progressed and taken advantage of the many new techniques that can contribute to this field. This book provides the first opportunity to present the complete picture of the Manchester team’s more recent studies. The contributors have not adopted a uniform approach: some chapters provide detailed descriptions...
of techniques, others concentrate on the significance of results, and some assess the current role and status of the various fields of interest. Taken as a whole, we hope this book will demonstrate how scientific studies on mummies can provide new insight into the ancient Egyptians’ attitudes to life and death.

The book is divided into five parts. The first, *An introduction to the scientific study of mummies*, considers the aims, methods and development of the Manchester Mummy Project within the wider context of scientific studies on Egyptian mummies; it also provides a brief introduction to the prehistory and history of ancient Egypt and a summary of why and how Egyptian mummies were produced.

The second part, *Diet, disease and death in ancient Egypt: diagnostic and investigative techniques*, describes the Manchester studies on human and animal remains, with particular reference to disease, and demonstrates how a wide range of scientific techniques can be developed and used as diagnostic tools in this research.

The third section, *The treatment of disease in ancient Egypt*, uses information derived from the Manchester studies to explore the ancient Egyptian medical system and the role of medical practitioners, and to assess the extent to which these analytical studies can confirm the ancient literary evidence. It also considers the ancient Egyptian use of narcotics and pain relief in religious, medical and social contexts, and presents the latest research on the scope and possible therapeutic efficacy of their pharmaceutical treatments.

The fourth part, *Resources for studying mummies*, describes the establishment and role of the International Ancient Egyptian Mummy Tissue Bank, and surveys the conservation methods available for the treatment of Egyptian mummified remains. The final section, *The future of biomedical and scientific studies in Egyptology*, provides a summary of the contributions that biomedical and scientific techniques can make to the study of ancient Egypt, and considers some of the directions that this field of research might take in the future.

Each chapter is written by an expert in the relevant field, scientists at the cutting edge of this research who, working together as members of the Manchester Mummy Project, have conducted this original work themselves. Although this is primarily a firsthand account of the group’s own research and results, the investigations are described within the wider context of mummy studies, and an extensive list of references to other work in this field is included.
Preface

Much of the research undertaken at Manchester in recent years has involved the application of new techniques. To provide sufficient space in the book for explanation and discussion of these new techniques, we have decided to omit techniques (such as serology and finger-printing) described in our earlier publications that are no longer part of mainstream mummy research.