Advances in Human Paleopathology

Ron Pinhasi and Simon Mays (eds.)
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Advances in Human Paleopathology is a comprehensive book exploring several different overarching themes that form the basis for the discipline of paleopathology. In their edited book, Pinhasi and Mays have assembled the contribution of fourteen authors (including themselves), creating a cohesive volume of information by some of the leading paleopathological researchers. Each has provided a detailed overview of their subject with case studies to not only illustrate their argument but also to call attention to the vast amounts of knowledge that can be gained from archaeologically derived material.

The book has been divided into two parts, with the first exploring analytical approaches, and, the second detailing diagnosis and interpretation. Overall however there is a theme of the importance of multi- and interdisciplinary collaboration. The significance of contributions of other disciplines and their approach and technologies are highlighted in a number of chapters including Pinhasi and Turner's chapter (3) on medical epidemiology and its place in paleopathology and Mays' chapter (5) on the benefits of radiography and the various technologies used to uncover skeletal health. Chapter 6, by Lynnerup, explores the use of CT scanning and 3D imaging, Turner-Walker and Mays (7) emphasize the use and applications of histology, and Donoghue (8) discusses the newly acquired information about understanding the evolution and detection of infectious disease through ancient DNA and molecular techniques. It is clear from these chapters that paleoapthology has become an amalgamation of disciplines as we have incorporated the best of modern medicine and diagnostics, chemistry, biology, archaeology, and anthropology in our quest to understand the past, which will hopefully, ultimately inform our future with regards to the complex interaction between people and their environments.

This multi-disciplinary approach was put into practice in several of the chapters from Part 2. Mays (11) applies macroscopic analysis, radiography, and histology to the diagnosis and understanding of metabolic bone disease, while Brothwell (12) applies those same techniques to studying tumours and tumour-like processes in bone and archaeologically derived mummified tissues. Bennike (14) used the collaboration between anthropology and forensics to understand the mechanisms behind trauma, while Barnes (15) and Pinhasi (16) each discuss the need for more interdisciplinary collaboration with modern clinicians and anthropologists to gain a better understanding of the range of expressions and prevalence of congenital anomalies and the mechanisms and the relationship between non-specific and specific stressors with growth, respectively. Ogden (13) highlights the importance of this clinical collaboration in the creation of new methods and scoring assessments in teeth and jaw pathologies and stresses the importance of a continued exchange of ideas and recent advances in both disciplines.

Beyond the multidisciplinary approach that has become commonplace in our discipline, the text also underscores the need for and the continued use of the basics in diagnostics and reporting of paleopathology. Chapter 1, by Turner-Walker focuses on the importance of understanding the effects of diagenesis and taphonomic processes on the skeleton in the burial environment to fully and accurately uncover the pathologies of an individual, while Pinhasi and Bourbou (2) discuss the skeletal assemblage itself and, with the osteological paradox (Wood et al. 1992) ever-present, the realistic representation that it may or may not be of a once living population. Grauer (4) concentrates on the most basic, yet also the most important aspect of paleopathological diagnosis, the macroscopic assessment and the need to retain and insist on a rigorous analysis and diagnosis, and White (9) looks at the discipline of paleopathology and the place of the database as it forms a very important link between museums and potential researchers. It is this aspect of paleopathology, along with macroscopic analysis, that must become standardized in form and function, if we are to improve our understanding of the health and well being of individuals and groups in history.

One final theme, which has become a very timely concern, is the results of political processes in the United States and Australia that have not only caused the repatriation of human remains, some no doubt dubiously acquired, but also the rethinking by curatorial institutions all over Britain and Europe about allowing destructive techniques and methodologies to be carried out on their skeletal assemblages. White (9) discusses this within the context of databases, as laws such as NAGPRA required a public declaration of human remains holdings at museums. Although it may mean certain samples are no longer available for research, it has also meant a more detailed, accessible inventory, which, in the past was lacking. This has enabled new assessments and new projects to be carried out and has enabled what may have been previously ignored skeletons to be used in innovative ways by students and academics alike. This concern also extends to the destructive techniques of analysis. As human remains are a limited

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resource, many institutions dissuade research that may result in imperfect samples for future generations. Turner-Walker and Mays (7), as well as Donoghue (8), discuss this within the context of histology and molecular analysis, respectively, and contend that although a certain amount of destruction is necessary in order to apply these techniques, the reluctance on the part of institutions has meant a reformatting of said techniques to minimize damage. This has resulted in a review of methodology and, what will benefit present and future paleopathologists, a refinement in research objectives to consider the lasting effects of such testing within the framework of the potential knowledge that may be gained. As a result, it is this interest in non-invasive methods that led to the re-emergence of radiography (5) and the new application of CT scanning and 3D imaging (6) to be applied to samples that are especially vulnerable to destruction, namely bog bodies and mummies. It is this continued reconfiguration in techniques, research questions, and methodologies that has altered the field of paleopathology over the past century and in response to political changes throughout the world, the discipline has not only been able to contribute, but also has managed to evolve and become that much more collaborative.

Overall, each chapter provides a summary of the history and current state of affairs for each of their subject areas. They all include extensive references, which are ideal for further work. The index to the entire volume, written by Neil Manley, is an excellent addition. Unlike other works in which an index may have been hastily assembled, here it is very detailed and one of the better organized this reviewer has come across. Clearly a lot of work went into its preparation and it will no doubt prove useful for future readers. The authors also supply examples of practical application and the accompanying photographs and illustrations offer the reader a visual expression of the given disease or technique. The one chapter, however, that could have done with photographic evidence was Barnes "Congenital Anomalies" (15). Instead, she had illustrations of the various skeletal manifestations, which, although informative, could not compare to the skeletal elements themselves. As the illustrations were based on actual skeletal assemblages, it is unfortunate the reader has been left to look elsewhere for those real-life examples.

While £76 may be a lot for a textbook, upon inspection of other edited volumes and even other extensive osteological or paleopathological books, it is in fact relatively mid-range in price for its content. The cost may make it difficult to appeal to an undergraduate consumer who is faced with a heavy reading list, however, this reviewer feels it should be pitched at post-graduates and academics, as the detail, scope, and relevancy is much better suited to those with an understanding of the potentials and limitations of our discipline. Overall this is an informative, timely, and extensive book on the recent *Advances in Human Paleopathology* and as such it should be added to one's repertoire of books to rely upon for explanations of how we arrived at our present state today and where our discipline can and should go in the future.

REFERENCE

Wood J.W., G.R. Milner, H.C. Harpending, and K.M. Weiss. 1992. The osteological paradox: Problems of inferring prehistoric health from skeletal samples. *Current Anthropology* 33: 343–370.