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Review: A Companion to Paleopathology by Laura M. Whitehouse

Grauer, A. L. eds. (2012). *A Companion to Paleopathology*. West Sussex. Blackwell Publishing Ltd.

A Companion to Paleopathology is a welcome addition to the literature covering ancient disease. Three sections separate thirty helpful and insightful chapters discussing theories, methods, and categories of disease. There is also a keen focus within many of the chapters on the future potential of the discipline. The wide-ranging subjects are all tied together with an overarching theme for each section, the first of which being theories and approaches, both past and future, within the discipline. The second provides information on practical applications within paleopathology, leaving the final section to group chapters on specific diseases and conditions. The book, however, offers an added dimension to human disease with several chapters on complementary topics such as animal paleopathology and paleoparasitology. Overall, this collection of works presents a palatable synthesis of the most recent themes in the world of paleopathology, providing insights into the development, study, and complications involved with ancient disease.

The first chapter (pages 1-14), written by the editor, Anne L. Grauer, provides a clear introduction to the breadth of paleopathology, how far the discipline has come, and its future potential. The chapter begins with a brief set of useful definitions to guide the reader through the following chapters, along with a basic history and future of paleopathological research in order to provide a framework upon which the other contributions can build. The introduction also provides an insight into the nature and use of a 'Companion' work and details how the *Companion* should be used in conjunction with the most influential paleopathological publications.

The eleven chapters within Part I (pages 15-224) are carefully organised to enable the reader to flow from one highly perspicacious topic to another. Chapters 2 through 7 provide a look into the theoretical progression that the discipline of paleopathology has gone through in recent years.

The second chapter (pages 17-33), by Patricia M. Lambert, examines ethical considerations, sensitivity, and codes of practice used when handling human remains. It adds a social and political dimension to the discipline that many researchers may not immediately be aware of, as well as posing many questions over the legal and ethical rights of the dead.

Chapter 3 (pages 34-57), by Molly K. Zuckerman, Bethany L. Turner, and George J. Armelagos, focuses on the role of evolutionary thought and the integration of the biocultural approach within paleopathology.

The value and rewards of integrating bioarchaeology into paleopathological research form the foundations for chapter 4 (pages 58-75), by Michele R. Buzon. This section illustrates the benefits of merging archaeological approaches to recovery, sampling, and cultural analysis with traditional paleopathological techniques.

In chapter 5 (pages 76-96), by James H. Gosman, the reader is introduced to the molecular biological approach to paleopathology where laboratory procedures can be used to better understand the intricacies of disease morphology.

Ecology is the focus of chapter 6 (pages 97-113), by M. Anne Katzenberg, which examines the environmental aspects of ancient disease. The chapter discusses how disease can be shaped by environmental factors as opposed to human-centric analyses.

This is followed very smoothly by chapter 7 (pages 114-132), by Jesper L. Boldsen and George R. Milner, who discuss the examination of ancient disease on a population level instead of being part of an individual's post-mortem assessment. Epidemiology is discussed in terms of its integral role in understanding paleopathology.

This biological trend in previous chapters peaks with chapter 8 (pages 133-151), by Mark Spigelman, Dong Hoon Shin and Gila Kahila Bar Gal, when DNA analysis is detailed and evaluated in terms of its value and importance to paleopathological

research. It is made very clear, however, that DNA analysis techniques must be appropriated correctly and with caution.

The next three chapters within Part I are used to highlight the contribution certain subjects have made to the field of paleopathology, from mummified remains by Michael R. Zimmerman (pages 152-169), parasites by Katharina Dittmar, Adauto Araújo, and Karl J. Reinhard (pages 170-190), and animals by Beth Upex and Keith Dobney (pages 191-213). Each of the three topics is comprehensively examined, with strong emphasis being placed on the need to widen the scope of paleopathology in order to accept the advancements in many symbiotic disciplines.

The final chapter in Part I, by Mary Lucas Powell and Della Collins Cook (pages 214-224), provides a suitable close for the previous topics as well as a positive projection for the future of paleopathology. It details the history of the discipline in terms of approach and problems faced in the past. The chapter also serves to remind the reader of the potential for paleopathology and the positive outlook for the future of the discipline.

Part II (pages 225-356) complements the previous section's approaches and theories with hard, practical considerations within paleopathology. The seven chapters in this group all serve to further the reader's knowledge of paleopathological techniques, methods of investigation, disease classification, and data collection.

The opening chapter within Part II (pages 227-249), by Bruce D. Ragsdale and Larisa M. Lehmer, argues the need for histological analyses of disease. The chapter discusses the value of cellular identification of paleopathological specimens in order to improve the success of disease classification.

Chapter 14, by Donald J. Ortner (pages 250-267), mimics the outcome of the previous chapter in that it tackles the problems of disease classification. However, the author does offer additions to modes of paleopathological classification, along with cellular investigation and cause determination.

Following the topic of paleopathological techniques, the next chapter, by George R. Milner and Jesper L. Boldsen (pages 268-284), examines the importance of disease identification and effect when ageing and sexing a skeleton.

Inter-disciplinary practices are highlighted in chapter 16 (pages 285-309), with the author, Simon Mays, introducing the connection between paleopathology and the clinical sciences. This chapter details how clinical research and case studies have and will continue to aid the development of paleopathology.

Chapter 17 (pages 310-323), by Piers D. Mitchell, seeks to bridge the gap between paleopathology and social history. The reader is introduced to the difficulties faced when using historical sources to supplement paleopathological data.

Paleoimaging and the integration of physics into paleopathology research is the topic for the next chapter by Johann Wanek, Christina Papageorgopoulou, and Frank Rühli (pages 324-338), which offers a review of the potential and possible difficulties with merging these techniques.

The final chapter in Part II, by Ann L. W. Stodder (pages 339-356), gives a discussion of data analysis within paleopathology along with the exponential effect certain decisions have on the outcome of paleopathological studies.

Part III (pages 357-581) of the *Companion* provides a chaptered reanalysis of several well-researched conditions and afflictions within paleopathology. The opening chapter by Margaret A. Judd and Rebecca Redfern (pages 359-379) proceeds to break down and reconstruct the popularized topic of trauma. The authors set out to reaffirm correct approaches, possible difficulties, and potential interpretations that can be taken from the paleopathological observation of trauma.

Chapter 21, by Ethne Barnes (pages 380-400), assesses the extent to which human skeletal variation is charted through developmental disorders. The authors seek to examine how the term 'disorder' is applied in more obvious cases of developmental defects.

The following chapter (pages 401-419) by Tomasz Kozłowski and Henryk W. Witas evaluates the effect of nutrition and deficiency on the skeleton in terms of paleopathologically identifiable endocrine and metabolic conditions.

Chapter 23, by Don Brothwell (pages 420-433), uses case studies to detail the paleopathological approaches recreated to identify tumours on human skeletal remains.

The next chapter, by Charlotte Roberts (pages 434-457), sits well after the preceding topic as it concerns the use of bioarchaeological advancements to further the understanding of tuberculosis from various perspectives, including the analysis of historical and economic factors.

Chapter 25, by Niels Lynnerup and Jesper Boldsen (pages 458-471), provides a detailed account of the epidemiological and clinical research additions to paleopathological study which have focused on leprosy, both in the past and the present.

Chapter 26, by Della Collins Cook and Mary Lucas Powell (pages 472-491), follows suit and offers a clinical and social evaluation of the paleopathological work that has been conducted on treponemal disease.

Periosteal reactions and non-defined infection is the focus of the next chapter, by Darlene A. Weston (pages 492-512), which concentrates on the background to bone production in respect to physiological and biochemical factors. This chapter was designed to illustrate and critically examine how this type of analysis can be used to research infection within the skeletal system.

Joint disease is the topic of chapter 28, by Tony Waldron (pages 513-530), which provides a general outline and evaluation of the varied ways this disease can be identified on the skeleton.

Chapter 29, by Robert Jurmain, Francisca Alves Cardoso, Charlotte Henderson, and Sébastien Villotte (pages 531-552), provides the reader with an insight into a popular trend for paleopathological research at the moment: the study of activity from human

remains. This chapter discusses the reason for controversy within this research; whether paleopathological observation can really provide activity, stress, or mechanical indicators as clearly as is advertised.

The closing chapter, by John R. Lukacs (pages 553-581), within this friendly *Companion*, focuses on dental disease and its paleopathological background. The chapter gives a very neat introduction to the subject, but also asks for caution when examining the finer details of oral health and the ramifications of misdiagnosis.

The *Companion* offers a very well constructed base for interested readers who can take the advice that is offered on past developments, present research, and future potential and benefit from the knowledge of experts in the field. An element of caution runs through many of the chapters because of the accepted chance of error when interpreting paleopathological specimens. However, hope is also offered that one day soon the paleopathological forays into inter-disciplinary partnerships will produce worthwhile results.

A Companion to Paleopathology is a welcome bookshelf addition for any researcher, academic, or curious mind wanting to absorb the most recent revelations in paleopathological theory and practice.