BOOK REVIEW

Bioarchaeology of Southeast Asia (Cambridge Studies in Biological and Evolutionary Anthropology, No. 43).

This volume provides the first comprehensive and synthetic treatment of key issues in the bioarchaeology of Southeast Asia. This extraordinary region of the globe exhibits ecological and biogeographic diversity and an array of modern and prehistoric cultures. Over time, this varied eco-bio-cultural base contributed to the kaleidoscope of human genetic and phenotypic adaptations that comprise the subject matter of this volume. The editors believe that research into the bioarchaeology of post-Pleistocene human populations in SE Asia, has been eclipsed by research on the fossil evidence of Homo erectus. Combine these factors with the inter-related goals of: a) creating a regional synthesis of bioarchaeology, b) highlighting the role of human skeletal remains in addressing issues of population history, micro-evolution and adaptation, and c) bringing the SE Asian evidence to a global audience, and you have the primary stimuli for producing the volume.

The book begins with an introductory chapter that provides the neophyte with basic geographical and theoretical contexts, yet offers more experienced readers a satisfying review of the development and current status of the bioarchaeology of SE Asia. Contributions are thematically organized into two main sections of six chapters each, with Part One devoted to morphological diversity, evolution and population relationships, and Part Two focused on health, disease and quality of life. Each section of the volume offers a range of theoretical foundations, analytical approaches, and satisfying variety of subject matter.

Contributions to Part One are theoretically grounded in contrasting models of modern human origins: replacement (recent single African origins) versus regional continuity. A component of these investigations evaluates the relative contribution that ecology, genetics, migration, and isolation make to human phenotypic diversity in Holocene and modern SE Asia. For example, the diversity and biodistance section includes analyses that focus on single populations—the Orang Asli of the Malaysian Peninsula (Bulbeck and Lauer) and the Batak of Palawan Island in the Phillipines (Turner and Eder)—and use comparative samples to better understand how microevolution, immigration and adaptation lead to variation in cranial architecture, tooth size and morphology, and stature. Alternatively, in the other four chapters, investigators employ skeletal and dental morphology and metrics (Matsumura), or cranio metric data of modern and/or prehistoric samples (Pietrusewsky, Hanihara, Demeter) derived from as many as 73 Asian groups to address population affinities through space and time. Collectively, contributions to part one find close similarity between Northeast and Southeast Asians, offer greater support for biological continuity than for population replacement, and reveal significant distinctions between coastal and inland groups. While Matsumura’s analysis of skeletal and dental morphometrics (Chapter 2) stands out as the main supporter of a ‘Two-layer’ or ‘Agricultural Demic Expansion’ model, most analyses provide evidence for significant evolutionary continuity from earlier to later populations in SE Asia and do not favor significant amounts of migration in association with the rise of agriculture in the region.

Part Two offers a similar range of diversity in topics addressed and analytical approaches used. For example, some chapters focus on a particular site—the relationship between dental health and subsistence at Non Nok Tha, Thailand (Douglas)—or on a single fossil specimen of Homo erectus, diagnosing the etiology of cranial lesions in Ngandong 7 (Indriati). By contrast, other investigators adopt a comparative population approach to health, culture change, and subsistence in local context (Mun River Valley, Northeast Thailand: Domett and Tayles) or in broader regional settings (mainland SE Asia: Oxenham et al.). The primary theoretical underpinnings for this portion of the book derive from Cohen and Armelagos’ (1984) Paleopathology at the Origins of Agriculture in which contributors documented changes in demography and stature, as well as a decline in skeletal and dental health, with the origin and intensification of agricultural subsistence. Evidence from SE Asia was conspicuous by its absence from that 1984 volume. As research extends to new areas of the globe, a more complex interplay between agriculture and health status in antiquity is being revealed (Cohen and Crane-Kramer, 2007; Lukacs, 2007). The well-established association of poorer dental health with the adoption of agriculture documented for native North Americans does not hold for SE Asia. Initial recognition of this ‘anomaly’ among rice agriculturalists by Tayles et al. (2000) receives further confirmation in this volume by Douglas for Non Nok Tha; by Domett and Tayles for Bronze and Iron Age sites; and by Oxenham et al., who include new data for Vietnam in their analysis.

Pathological lesions of the dentition comprise a key form of evidence in many chapters dedicated to health, disease and quality of life. Sex differences in diet and health is a sub-theme found in several chapters and investigated with evidence from dental pathology (Douglas; Oxenham et al.) and stable isotopes (King and Norr). Buckley’s review of the epidemiology of malaria in the south Pacific and use of enamel hypoplasia and cribra orbitalis as proxies for malaria-induced stress yields very different demographic scenarios for Near and Remote Oceania. Though distinct from other contributions to the health and disease section of this book, Indriati’s detailed description and cautious differential diag-
nosis of the cranial lesions in Ngandong 7, blends a mix of paleontology, taphonomy and paleopathology, and adds to our knowledge of Homo erectus lifeways.

The volume concludes with a concise summation and analysis of the contributor’s findings. This final chapter synthesizes and contrasts the compatible and disparate interpretations of the data on population history and morphological diversity, as well as grappling with the complex inter-relationship of subsistence, culture and health. The editors do an excellent job of highlighting concordances and discrepancies and of integrating diverse topics and approaches into a unified work. They conclude by asking, “What’s next?”

More ancient DNA and stable isotope analyses? The monsoon climate of southern Asia has a significant diagenetic impact on skeletal preservation and does not bode well for research in bone chemistry or genetics. The discovery of Homo floresiensis has reawakened interest in SE Asia as a human evolutionary hot spot and has stimulated creative and provocative research designs dealing with human evolution and adaptation in insular environments (Jacob et al., 2006). This volume brings to the forefront studies focusing on Holocene and recent human populations and is an important addition to our understanding human adaptation and diversification across the diverse geographic and cultural landscapes of SE Asia.

I enjoyed this book for several reasons. I learned a lot about new approaches and perspectives on population history in SE Asia and was pleased to discover that some investigators find the dental pathology profile a useful construct for their research (Lukacs, 1989). All contributors provide abundant and useful references to relevant current literature as well as to historical sources in paleoanthropology and bioarchaeology, a feature of the book that will be appreciated by students and researchers alike. The mix of authors contributing to the volume is well balanced. The contributions of experienced investigators with long careers devoted to the analysis and interpretation of Southeast Asian biological variation and population history is appropriately accompanied by new methods, larger and diverse study samples and fresh perspectives offered by early and mid-career researchers based in East, Southeast and Austral Asia.

In terms of production, I found the volume of high quality overall. However, I found many of the graphical plots, in 2 and 3 dimensions, of canonical variates and Mahalanobis generalized distances difficult to read, and several of the photographs were either poorly exposed or lacking sufficient contrast to examine relevant details. Bibliographic entries were found to be accurate and complete and copy-editing was thorough and meticulous. I found only two errors: in the footnote on page 14 of the Introduction the species name of Homo floresiensis is misspelled, and, on page 289, the author of Biostatistical Methods is J.H. Zar (not Z.H. Zarr). These are minor faults in an otherwise well-edited and well-produced volume.

The hardback price of $140 will undoubtedly prevent most graduate students, and perhaps some faculty and researchers, from purchasing this landmark volume on the bioarchaeology of SE Asia. A paperback edition should be published soon and will facilitate use of the volume as a text in advanced courses in ancient health and bioarchaeology.

References

John R. Lukacs
Department of Anthropology, University of Oregon, Eugene, OR 97403-1218, USA

Published online 19 December 2006
in J-STAGE (www.jstage.jst.go.jp) DOI: 10.1537/ase.06br04
© 2006 The Anthropological Society of Nippon