

Book Reviews

BAN CHIANG, A PREHISTORIC VILLAGE SITE IN NORTHEAST THAILAND, I: THE HUMAN SKELETAL REMAINS. By Michael Pietrusewsky and Michele Toomay Douglas. Philadelphia. University of Pennsylvania Press. 2002. 493 pp. ISBN 0-924171-92-8. \$100 (cloth).

The Ban Chiang site in northeast Thailand has been the focus of bioarchaeological and archaeological study for nearly 30 years. The site has a prominent part to play in our understanding of Southeast Asian prehistory, and the publication of this much-anticipated volume on the study of its human remains will now begin to make its impression on the future direction of the bioarchaeology and prehistory of this region of the world.

The Ban Chiang site dates from ca. 2100 B.C. to A.D. 200, spanning the Pre-metal, Bronze, and Iron Ages. At the early end of the sequence, populations were proficient, albeit nonintensive, rice agriculturalists. Later, rice production increased via the adoption of paddy cultivation and use of the water buffalo as a traction animal. Building upon the general themes of subsistence, lifestyle, and population history, this monograph seeks to 1) characterize morphology and pathology in the Ban Chiang skeletal remains in particular and the region in general, 2) document the impact of agricultural intensification on health and lifestyle, and 3) identify patterns of social change in relation to health and other biological parameters.

The first three chapters outline the context of the site and general goals of the investigation; the methods of data collection and analysis and processes of inventory, sex and age determination, measurement, nonmetric observations, and paleopathology; and the condition of the skeletal remains and taphonomic considerations. The core of the monograph presents various analyses in individual chapters on paleodemography, cranial morphology, dental morphology, dental paleopathology, tooth use and modification, postcranial morphology, and postcranial pathology.

For each chapter the authors go to great lengths to present the assumptions underlying the study, such as how potential sampling biases might affect the construction and interpretation of the death sample. Pietrusewsky and Douglas argue that the equal representation of both sexes and the presence of individuals from all age groups indicate that the skeletons are representative of the original living population. The analysis of cranial, dental, and postcranial nonmetric data reveals the likelihood that the population represented by the skeletons is a biological continuum, thus indicating that any temporal changes in health and other areas reflect developments in an evolving population.

The fund of information available for cranial, dental, and postcranial pathology provides a comprehensive retrospective on the history of health. Contrary to other prehistoric agricultural settings around the world (especially in the Americas), the authors found low frequencies of caries and other pathologies of infectious origin. Pietrusewsky and Douglas attribute the low frequencies of caries to the presence of a dietary regime that was broadly based on a range of domestic and nondomestic resources. This interpretation is a sound one, but I would also suggest that rice may not be as cariogenic as other starches, a notion borne out by bioarchaeological analyses from other settings of Southeast Asia (e.g., Oxenham, 2000; Tayles et al., 2000). The analysis also reveals no evidence of infectious lesions that could be attributed to specific endemic diseases (e.g., tuberculosis or treponematoses), and the frequency of nonspecific periostitis (periosteal reactions) was also quite low. The only pathological condition to show an appreciable change over time was an increase in hypoplasias, which the authors attribute to possible increased physiological stress as agriculture intensified. This finding is consistent with many other settings that have been analyzed by bioarchaeologists. However, the overwhelming lack of temporal change in pathology suggests that the intensification of agriculture did not occasion a decline in health for this setting.

Pathology associated with activity and workload (degenerative joint disease, enthesiopathies, and related conditions) is present in appreciable levels, suggesting that life for the prehistoric inhabitants of Ban Chiang was physically demanding. Like most other skeletal samples from archaeological settings, males display more evidence of activity-related pathology than females. Numerous fractures are present, but all appear to reflect injuries sustained through accidental rather than violent means.

Comparisons with other series from Thailand (Non Nok Tha, Non Pa Kluay, and Khok Phanom Di) show that Ban Chiang is not unusual in having relatively low frequencies of pathologies of infectious origin. On the other hand, the single coastal series (Khok Phanom Di) shows evidence of more pathology, which may reflect important differences in health and quality of life in comparing coastal and inland settings. This and other issues relating to variation in health in prehistoric Southeast Asia remain to be investigated.

This is an important book. It provides the first comprehensive study of its kind for the earlier inhabitants of this area of the world. Owing to the publication of this volume, we now know a lot more than we did before about this region of Asia. The book contributes a wholly new window onto environmental, social, and biological factors surrounding

the intensification of agriculture and onto alterations in subsistence patterns and technology. Importantly, this study opens our eyes to the strong likelihood that the intensification of agriculture did not result in a uniform decline in human health. Still to be learned is the impact of the shift from foraging to farming in this region on health and quality of life.

The book is also important because it presents a comprehensive overview of the skeletal remains, not only in individual chapters but also in the presentation of an amazing body of comparative information in the five appendices, including an easy-to-use CD-ROM containing the raw data. Finally, the book presents a thorough context for the study, analysis, and interpretation of findings.

It is clear that the authors put a great deal of effort into the production of this handsome mono-

graph. This is a must-read for anyone interested in archaeological human skeletons and the information they provide about the human past.

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LITERATURE CITED

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GENETICS OF CASTES AND TRIBES OF INDIA. By M.K. Bhasin and H. Walter. New Delhi, India: Kamla-Raj Enterprises. 2001. 516 pp. ISBN 81-85264-26-0. \$60.00 (cloth).

Consisting of nine chapters (divided into four parts, called units) and three appendices, this volume presents a synopsis of patterns of biological variation within as well as between the different populations of India. In this sense, the title of the book is somewhat narrowly defined, since the content goes far beyond simply the description of genetic variations in the different populations of the Indian subcontinent. For example, almost the entire first part (Unit I), comprising more than a quarter of the book, is devoted to descriptions of the populations of India by their ethnic, linguistic, and religious criteria, along with their demographic as well as health profiles. While the different types of data (blood groups, serum protein and red cell enzyme systems, dermatoglyphics, and anthropometrics) that are considered for analyses are introduced in this part of the book, these are revisited in Unit II, with summary data presented in the form of maps individually for each system, through computations of weighted mean frequencies of the variables analyzed. The third part (Unit III) is a composite analysis of data on the entire country, in the form of genetic distances and dendrograms, from which summary characteristics of biological variations in Indian populations are outlined. For these analyses, the populations are divided by regions and major ethnic groupings within regions. The three chapters of Unit IV present patterns of genetic variation in tabular form for several serum protein and red cell enzyme systems, including human leukocyte antigen (HLA), that are less extensively studied on the subcontinent. The subject of DNA polymorphism is

discussed in less than 2 pages at the end of this final part of the book. The three appendices consist of listings of scheduled castes and tribes (scheduled as well as primitive), and of political districts within each state of the country. The volume ends with extensive references of the source materials used in the data analysis.

The basic data used in this volume were previously published in Bhasin et al. (1992), and most of the bibliography constitutes another publication of the lead author (Bhasin, 1988). In this sense, the present work should be regarded as a companion volume to these two previous publications by the same authors. Nonetheless, with Indian populations constituting nearly one sixth of the world population, this volume should serve the purpose of a useful reference for researchers as well as beginning students who are interested in the subject of human genome diversity. Compilation and synthesis of the vast amount of materials covered is admittedly a difficult task, and for this reason, the authors are to be commended for their data summarization and concise presentation. However, the tools of genome diversity studies have undergone a dramatic shift in the post-genome sequence era, namely, researchers are now resorting entirely to DNA-based polymorphism studies. As a consequence, the data and materials covered in this volume appear to be dated and somewhat obsolete.

Of course, the historical accounts of the country as well as the ethnohistoric descriptions of the different populations of India (particularly chapters 1 and 2) are materials that should be equally useful for the biological as well as anthropological interpretation of classical and DNA-based polymorphism studies on this subcontinent. In this vein, chapter 2, discussing the demographic and health profiles of the country, should have contained invaluable reference in-