

## Paleonutrition

Mark Q. Sutton, Kristin D. Sobolik, and Jill Gardner. 2010. University of Arizona Press, Tucson. Pp. 384, black-and-white illustrations. \$75.00 (hardback). ISBN 9780816527946.

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*Paleonutrition* is touted by the publisher as “A definitive volume on ancient diets”. *Paleonutrition* should not be considered the “definitive volume” on the study of ancient nutrition and health, but it does have some good points. The book is divided into two general sections. The first section covers a short history of paleonutrition research (Chapter 1), but is devoted almost entirely to descriptive and methodological concerns (Chapters 2-4). The weakest part of the book, Chapter 5, briefly outlines a limited number of models used in subsistence-related research. The second section (Chapter 6) is devoted to five case studies, utilizing various aspects of paleonutritional research.

*Paleonutrition* is predominately methodological in scope. Most of the book is devoted to descriptive and methodological summaries of how nutritional data may be gleaned from an imperfect archaeological record. The case studies, too, are largely descriptive interpretations. As a taphonomist who has devoted some time asking how archaeologists can interpret descriptive facts accurately from the archaeological record, I am quite sympathetic to these concerns. However, the general lack of treatment of explanatory frameworks used in the study of ancient diets relegates the book to a general textbook manual most appropriate for undergraduate anthropology students.

*Paleonutrition* and I got off on the wrong foot in the Introduction when the book boldly exclaims that “...the acquisition of food ...is the driving force of human evolution” (page 1). That statement is decidedly deductive and explanatory in nature, and it would have been interesting if the authors had carried this postulate forward with concrete evidence supporting it. In fact, it can be argued that discussions on the use of subsistence remains in elucidating ancient sociopolitical organizations, while poorly developed in Chapter 5 (pp. 164-166), call into question the authors’ own postulate.

There is much more to the history of paleonutrition research than alluded to in Chapter 1. For example, the American Anthropological Association incorporated a human nutrition interest group in 1974, called the Council on Nutritional Anthropology (now known as the Society for the Anthropology of Food and Nutrition) (American Anthropological Association 2006). Within two years of this founding, Wm. C. Brown Company published two general texts on the anthropology of nutrition related research (Underwood 1975; Little and Morren 1976). Students reading this text should not come away with the idea that this portion of the book, including the two-page treatments of the history of zooarchaeology and paleopathology, represent the depth of the historical development of all of these subdisciplines. Additionally, Chapter 1 states (p. 6) that the most significant development in the history of paleonutrition research was the New Archaeology concept that developed in archaeology in the 1960s. This is debatable; perhaps the most significant development in the history of both the nutrition sciences and the application of nutritional principles to the ancient past (paleonutrition) was the discovery of the organic and inorganic micronutrients in the 1920s and 1930s (e.g., Carpenter 2003; Carpenter et al. 1997). Without these discoveries, paleonutrition would be solely focused on an energy-imperative paradigm with or without the principles imbedded in the New Archaeology.

Chapters 2-4 do an overall good job at summarizing a wealth of previous studies related to the interpretation of descriptive patterns of health and disease in the ancient past. This is the book’s strength. Nevertheless, readers should be aware of the following points when reading these chapters: (1) human coprolites or paleofeces are given the lofty distinction of being “direct” evidence for ancient diets rather than “indirect” evidence (such as faunal remains), but nowhere is it mentioned that, in many western North

American caves and rockshelters where these items are typically found, fragments or pieces of human and nonhuman feces are often found mixed together; methods to distinguish them are not discussed; (2) the goals stated for the analysis of faunal remains (p. 69) are (a) the reconstruction of subsistence and (b) the reconstruction of paleoecological settings; zooarchaeologists have much more on their minds than this, but the explanatory goals of the subdiscipline are not mentioned, such as explaining why changes occur in the type and density of animals procured through time; (3) Chapters 2-4 are liberally referenced except between pages 100-150 (during the discussions of taphonomy and zooarchaeological analysis), when references are in short supply; and (4) the difficulties of ascertaining stone tool cut marks from other markings, particularly trampling damage, is inadequately presented (p. 116).

In Chapter 5 is the only portion of the book that attempts to go beyond basic method and description in paleonutrition research. Unfortunately, only 12 pages of the 372-page volume are devoted to answering the higher-order “Why?” questions. For those limited models that are discussed, readers are told: “Within evolutionary theory, optimization models appear to be the best, if not the only, current way to explore the interaction between people and their environment” (p. 158). This book would have been better balanced if it had included expanded summaries of models that focus on human cognitive endeavors such as political power and how paleonutritional studies can elucidate the consequences of these behaviors, as well as models than directly challenge the optimization (cost-benefit) paradigm, such as nutritional ecology (Hockett and Haws 2003, 2005; Hockett 2007). Informing readers that the only way to investigate interactions between humans and their environment is through optimization models is counterproductive. All higher-order models in archaeology, including the application of nutritional principles to the ancient past, currently have issues with testability and an imperfect archaeological record, so broadening the scope of this section of the book would have made it more useful to a larger group of students and scholars.

While the case studies present in Chapter 6 are useful, the conclusions drawn are sometimes as misleading as those a case study purported to fix in the first place. For example, the case study involving the study of pinyon pine seed use in the Great Basin ends with, “much of the interpretation of the region is based on the premise that there was some sort of cultural continuity in the central Great Basin for the past 5,500

years.” In fact, there is much cultural continuity that underlies a great deal of cultural change in the Great Basin in material remains and behavioral patterns that span many millennia.

In sum, I would recommend *Paleonutrition* be used in undergraduate courses with the caveats mentioned above. Use of the book in graduate level courses, in particular addressing the “why” of studying ancient nutritional patterns, will need to be heavily supplemented with journal articles.

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