

accessible throughout, even in the more statistically demanding sections. The book is attractive, with readable type; ample tables, charts, and photographs; extensive, if not exhaustive, bibliographies; and occasional expressions of dry wit.

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LITERATURE CITED

- Hirsch J. 1981. To unfrock the charletans. *Sage Race Relat Abstr* 6:1–65.
 Vitzthum VJ. 2003. A number no greater than the sum of its parts: the use and abuse of heritability. *Hum Biol* 75:539–558.

DOI 10.1002/ajpa.20326
 Published online 19 December 2005 in Wiley InterScience
 (www.interscience.wiley.com).

A PREHISTORY OF THE NORTH: HUMAN SETTLEMENT OF THE HIGHER LATITUDES. By John F. Hoffecker. New Brunswick, NJ: Rutgers University Press. 2005. 225 pp. ISBN 0-8135-3469-0. \$29.95 (paper).

Beginning with the initial hominid dispersal from Africa into subtropical and temperate latitudes, John Hoffecker synthesizes a vast amount of fossil, archaeological, and ethnohistoric evidence in chronicling the history of human high-latitude settlement. The sheer breadth of information covered in this ambitious project necessitates a picture painted in broad brush strokes. Hoffecker provides an important contribution, as no one has previously surveyed these diverse lines of evidence to reconstruct the story of human movement into northern environments.

Hoffecker concentrates on the adaptive shifts (cultural and biological) that enabled humans and earlier hominids to settle high-latitude regions, and successfully cope with a unique suite of stressors such as extreme cold, marked seasonality, and low energy availability. In addition, Hoffecker weaves in detailed climatic and ecological threads to illustrate how environmental oscillations have affected settlement patterns and subsistence strategies. A recurring theme emerges: in northern regions, relatively minor fluctuations in temperature can dramatically affect human lifeways.

A Prehistory of the North is organized into seven chapters, loosely following Hoffecker's five stages of high-latitude settlement. In Chapter 2, after providing a brief summary of hominid origins, Hoffecker details the early Pleistocene expansion of *Homo erectus* from Africa into middle latitudes (to 42° North).

Chapter 3 describes the subsequent dispersal (Stage 2) of later hominids into Western Europe (to 52° North). This expansion occurred principally during the warm interglacial periods beginning 500,000 years ago, and is associated with *Homo heidelbergensis*.

Chapter 4 focuses on the expansion, by Neandertals, into Eastern Europe and southern Siberia, during the last 130,000 years (Stage 3). While Neandertals lived at latitudes similar to those of *Homo heidelbergensis*, they settled previously uninhabited locales to the east, where the moderating effects of the Atlantic gulf gave way to colder and drier climates.

Chapters 5–7 are the most original and, perhaps, most useful to biological anthropologists. These chapters focus on the final two stages of northern settlement: first, the initial dispersal (about 45,000 years ago) of modern humans into subarctic Eurasia (to 60° North) (Stage 4), and second, the colonization of previously uninhabited

arctic and subarctic Eurasia and North America (Stage 5) within the last 20,000 years.

Hoffecker raises two issues of critical importance to studies of the biology of circumpolar populations: 1) the combined effects of technological and biological adaptations in coping with environmental stressors; and 2) the relationship between contemporary circumpolar populations and past populations.

Reconstructions of the modern human expansion into high-latitude regions generally emphasize the role of technological developments (e.g., sophisticated clothing) and dietary strategies for coping with the myriad environmental stressors that occur in circumpolar areas. Yet these studies often downplay the importance of biological adaptations (although the converse is true for Neanderthal studies). This largely reflects the dramatic expansion of material culture among modern humans and, in particular, technology clearly related to cold protection. In addition, evidence that early modern humans in Europe had a postcranial morphology similar to that of living tropical groups (i.e., a linear build with relatively long limbs and low body mass), combined with the lower-latitude naissance of these populations, has led some to dismiss the importance of biological adaptations.

This perspective neglects the wealth of evidence of biological adaptations among past and present human populations. Further, it oversimplifies a complicated history of northern expansion, in which early modern humans were limited in geographic range. In fact, the deteriorating climate of the Upper Pleniglacial appears to have forced a range contraction among modern humans. Following this period, fossil evidence documents a shift in body size and proportions to a form consistent with contemporary cold-living humans (i.e., a compact build with a relatively long trunk and short limbs, and a large body mass). Further, contemporary northern inhabitants display a variety of physiological adaptations for heat conservation and heat production. While humans in high-latitude regions are dependent on cultural and behavioral mechanisms to cope with environmental stressors, these work in concert with biological adaptations in an *additive* fashion. In fact, as Hoffecker suggests, the evolution of these biological adaptations, operating in tandem with cultural strategies, may have enabled later modern human populations to permanently settle previously uninhabited regions.

A second point concerns high-latitude settlement within the last 7,000 years. One underappreciated issue that Hoffecker raises is the extent of human population movement and replacement during the Holocene. This is a critical issue, because certain northern populations, such as the Inuit, are often used as the quintessential

circumpolar residents. The use of Inuit biology and culture as the model arctic adaptation fails to recognize the diversity of adaptive strategies among past and present northern groups and the relatively recent expansion of the Inuit into the Arctic. In fact, the full development of arctic maritime economies occurred within only the past few thousand years, and the major phase of Inuit expansion occurred within just the last 1,000 years. Ironically, the Medieval Warm Period climatic amelioration contributed to both the Inuit expansion into northern Greenland and fueled early European (i.e., Norse) arctic settlement. An appreciation of this high-latitude settlement history is important not only for deciphering circumpolar adaptations but also for understanding the health effects of recent lifestyle changes that have affected northern populations in the past several decades.

A book of this scope is certain to contain omissions; these are minimal in *A Prehistory of the North*, although a few deserve note. An expanded discussion of the diversity of biological adaptations and cultural strategies among contemporary circumpolar groups would help frame past adaptive shifts, especially given the wealth of

information on northern populations in Eurasia and North America. In addition, an expanded discussion of fossil remains and archaeological sites would allow a more nuanced understanding of the heterogeneity of adaptations among past populations. Although these omissions could be viewed as shortcomings, Hoffecker's goal was not to provide a comprehensive treatment of high-latitude fossil and archaeological sites. Instead, he has provided us with a well-written, extensively cited, and accessible introduction to the history of human settlement of northern regions, and for that he has done us a great service.

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DOI 10.1002/ajpa.20339
 Published online 19 December 2005 in Wiley InterScience
 (www.interscience.wiley.com).

AN ECOLOGY OF HIGH-ALTITUDE INFANCY. By Andrea S. Wiley.
 New York: Cambridge University Press. 2004. 245 pp.
 ISBN 0-521-83000-1. \$80.00 (cloth).

Studies of high-altitude populations have made important contributions to knowledge about human adaptation since the early 1960s, when Paul Baker and his students began work in the Peruvian Andes. The subsequent unexpected finding, that different adaptations occur among indigenous populations of the Tibetan as compared with the Andean Plateau, suggested that there are multiple ways to adapt to the same stress of high-altitude hypoxia. Therefore, data on a population that has not been studied raise expectations of a possibly different pattern of adaptation. Andrea Wiley's book describing her study of birth weight in Ladakh, India, deals with a little-studied population living on the northwestern Tibetan Plateau.

This volume in the Cambridge Studies in Medical Anthropology series "weaves together several lines of inquiry within a comparative; biocultural perspective on reproductive health in Ladakh" (p. 16) to "contribute in significant ways to a variety of existing anthropological projects in reproductive ecology, high-altitude adaptation, and the ethnography of Ladakh" (p. 17).

Chapter 1 ("Introduction") provides the larger context for studying reproduction and high altitude. It describes the four core concepts of the biocultural model used: the population/the body, environment, health, and adaptation. Chapter 2 ("Challenges of High-Altitude Living") briefly reviews studies of hypoxia and birth weight, child health, infant mortality, and fertility. Chapter 3 ("Contextualizing Reproductive Health Research in Ladakh") covers geography, history, and culture. A section titled "Reflexivity in Human Biology Research" describes what

it was like to do fieldwork at the Sonam Narboo Memorial Hospital on the outskirts of the city of Leh.

Chapter 4 ("Big Mountains and Small Babies") describes the results of analyses of information collected from 168 newborns and their mothers, and comprising the empirical core of the study. It reports a very low mean birth weight of 2,764 g (compared with a value of 3,500 g cited for sea-level Europeans), and then focuses mainly on maternal weight and maternal activity as the main determinants of intrapopulation variation in birth weight. The analyses of collected data are followed by general descriptions of women's workloads, ethnicity, and institutional management of pregnancy and birth that cite some published literature and some information about Ladakh that is based on unspecified samples and methods of data collection.

Chapter 5 ("An Ecology of Infancy in Ladakh") addresses the determinants of infant mortality, based partly on information about seven infants in the sample known to have died in their first year of life. A section of this chapter called "The Ecology of Infant Health and Death" reviews some literature on factors influencing infant survival, and presents descriptions of infant diets and child care practices in Ladakh, based on unspecified samples and methods of data collection.

Chapter 6 ("Comparative Perspectives on Reproductive Health in Ladakh") compares the results of the Ladakhi study with mountain populations from the New World, the Himalayas, and other populations in India. It concludes that Ladakhi infants have low birth weights and high neonatal mortality relative to other populations due to poorer maternal nutritional status, heavier work during pregnancy, and a shorter population history of residence at high altitude.

Chapter 7 ("Toward Relevant Research: Adaptation and Policy Perspectives on Maternal-Infant Health in