from an etic and/or emic perspective); 4) culture-bound syndromes exist as externally imposed categories for which no justification can be found; and 5) meaningful discussion is impossible because of the nature of the data upon which discussion has been based to date and the variability in the application of labels to disparate behaviors. In fact, as these selections show, each of these positions may be appropriate with regard to one or more of the syndromes. "Cannibal compulsion" or *windigo,* for example, is rejected altogether by Marana (and by Simons) as a culture-bound syndrome and described instead as an etic category imposed upon behaviors that appear, upon closer examination, to be logical or normal responses to conditions of resources deprivation. Hughes attempts a DSM-III assessment of a putative prototypic case while admitting to the possibility that incidences of *windigo* may have been "grossly exaggerated."

Major questions concerning the verifiability of culture-bound syndromes, the occurrence of physiological changes during episodes of abnormal behavior, and the etiology and diagnostic categorization of the syndromes are generally not resolved here. That was not the intent of the editors. Rather, critical issues are resurrected and reframed and, in several instances, new data or interpretations offered. This important contribution to the study of the culture-bound syndromes serves to highlight not only areas of mutual interest to researchers in various disciplines but also the several dilemmas that make further advancement in the study of these syndromes problematic. I suggest that the reader who wishes to pursue the general subject further also review the recent excellent symposium, "New Approaches to Culture-Bound Mental Disorders" introduced by Michael Kenny and published by *Social Science and Medicine* (1985).

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HUMAN HEMOGLOBIN GENETICS: By George R. Honig and Junius G. Adams III. New York: Springer-Verlag. 1986. xv + 452 pp., figures, tables, index. $76.50 (cloth).

The explosive increase in our knowledge of genetic mechanisms in the last 15 years has been so great that it is difficult for anyone to keep abreast of it. Human hemoglobin has continued to be in the forefront of these advances. We know more about the genetics of hemoglobin and its relationship to structure and function than any other human gene. Given the breadth and depth of knowledge about hemoglobin, there has been an increasing need for a book to summarize all this new information that comes from a variety of disciplines. *Human Hemoglobin Genetics* is just what was needed.

The book begins with as brief history of the discoveries of the genetics of hemoglobin from the first suggestions that sickle cell anemia and thalassemia were inherited, through the identification of a defect in hemoglobin as the cause of these diseases, to the amino acid structure, and finally the DNA sequences of the chromosomal segments that code for the peptide chains that comprise the various kinds of hemoglobin. Aside from the brevity of the book, which necessarily does not include all the advances made and individuals who contributed, it is timely and interesting. However, contrary to the authors, Beet's original study of the sickle cell phenomenon did include more than one family.

Hemoglobin structure and function and the genes coding for hemoglobin are next outlined, followed by hemoglobin synthesis and regulation and the known human hemoglobin mutations. These chapters, together with a further one on the formal genetics of the hemoglobin loci, are the major focus of the book and its most useful contribution. They are as up to date as possible for a rapidly advancing field and are extremely well written and understandable to nonspecialists.

The chapter on the hemoglobin genes reviews the various loci that combine to form the various types of hemoglobin that an individual synthesizes during his lifetime. It contains a section on the new methods for determining the DNA sequencing of these

loci and the total DNA sequencing of the hemoglobin loci. It also has a brief discussion of the evolution of hemoglobin in the last 450 million years.

The chapter on the formal genetics of hemoglobin also contains data on the genetic structure of the hemoglobin loci as revealed by recent work with restrictiion endonucleases and the many restriction fragment length polymorphisms (RFLPs) known for human hemoglobin. The chapter on hemoglobin mutations is organized by the various kinds of mutations that have been known since DNA was discovered to be the replicating unit. Many of these possibilities were theoretical for a number of years, but hemoglobin mutations of every kind have been found and outlined in this chapter. An appendix, which contains all the human hemoglobin mutations including the thalassemias, supplements this chapter and is an excellent source that will be useful for a number of disciplines. It contains the DNA and amino acid changes for each mutation, its approximate frequency in human populations, and geographical location.

There are other chapters on the clinical syndromes caused by hemoglobin abnormalities, on the geographical distributions of hemoglobin variants, which includes a discussion of the malaria hypothesis, on screening techniques for hemoglobin variants including antenatal diagnosis and genetic counseling, and, finally, on the treatment of hemoglobin disorders. More complete reviews of these subjects are available, but the chapters in this book are excellent introductions to the subjects, which can be explored in more detail by consulting the references.

This book covers all of the ramifications of hemoglobin genetics. It is recommended for anyone wanting to know the current status of knowledge of hemoglobin genetics and also for anyone interested in the current status of genetic knowledge in general, since human hemoglobin is the best known genetic system. It is especially useful for anyone wanting to understand the recent discussion on the use of hemoglobin RFLPs to determine the origin of *Homo sapiens.*

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MAJOR TOPICS IN PRIMATE AND HUMAN EVOLUTION. Edited by Bernard Wood, Lawrence Martin, and Peter Andrews. New York: Cambridge University Press. 1986. x + 364 pp., figures, tables, index. $39.50 (cloth).

Major Topics in Primate and Human Evolution is the result of a symposium cosponsored by the Anatomical Society of Great Britain and Northern Ireland and the Primate Society of Great Britain. The theme of the symposium stressed defining primate taxa and examining their relationships, especially in terms of major branching points in evolution.

Except for organizing the symposium and authoring papers, the editors are not in evidence. Typographic errors are few, but the editors provide only a page and a quarter of preface, consisting of acknowledgments, and no summary paper, introductory statements before each chapter, or reports of symposium discussions. Hence, major trends or patterns in primate evolution are not delineated, and differing conclusions among authors are not highlighted or reconciled. Each paper has an annoying division in the reference section between key and subsidiary references, and the coverage of primate evolution is not balanced, because eight of the 18 papers deal only with hominids.

R.D. Martin begins by attempting to define the primates, using only neontological data, and rejecting the study of radiations. Hence, "primates of modern aspect" are examined in a steady-state array, and plesiadapiform primates, which do not conform to definitions based on living species, are viewed as having tenuous relationships with other primates. Martin's attempt to remove the plesiadapiform primates from the order is not accompanied by any discussion of primate origins, although all modern primates are viewed as descendents of an ancestral species with the basic features (unspecified) of *Microcebus, Galago,* and *Tarsius.*

Except for hindlimb domination, a distinctive primate trait does not seem to exist. The primate retinotectal system, which Martin stresses, has recently been shown to exist in