

## African Hemoglobins

**Abnormal Haemoglobins in Africa.** J. H. P. Jonxis, Ed. Davis, Philadelphia, 1965. xvi + 477 pp. Illus. \$20.

This excellent volume contains papers and discussions from a symposium which was sponsored by the Council for International Organizations of Medical Sciences (CIOMS) and held at Ibadan, Nigeria, in March 1963. It is interesting to compare this volume with the one that covered the first CIOMS symposium on abnormal hemoglobins, which was held at Istanbul in 1957. The first symposium was largely concerned with the characterization of hemoglobins and their distribution throughout the world. The present volume is mostly concerned with African data and African problems, although there are contributions by workers in Europe and America. The main emphasis is on clinical manifestations and on population genetics, but there are several more general discussions, including useful and critical reviews on the forms of thalassemia (Fessas), on glucose-6-phosphate dehydrogenase deficiency (Motulsky), and on population genetics (Allison).

The incidence of abnormal hemoglobins is reviewed, and new data are provided for northwestern Africa (by Cabannes), for the Congo and Rwanda-Burundi (by Vandepitte and Stijns), and for the Sudan (by Vella). The distribution of S and C hemoglobins in Africa begins to be well mapped, but the incidence of thalassemias is less clear, partly because of the lack of a single entirely suitable screening test.

The quantity of clinical material available for study in Africa is vast, and as the more acute problems of parasitic and infectious disease are brought under control, it is becoming possible to collect observations on the abnormal hemoglobin syndromes in large numbers of patients. Thus from Ibadan it is noted, almost in passing, that at University College Hospital 668 cases of homozygous sickle-cell disease and 462 cases of SC disease were diagnosed in the 3-year period, 1959 to 1961. The clinical contributions from this center are among the most impressive in the volume. They include an account of the radiological changes in S-hemoglobinopathies (Cockshutt), an analysis of 2435 postmortem examinations in which electrophoretic analysis of the hemoglobin pattern had been performed

(Brew and Edington), and a review of 190 cases of hemoglobin SC disease in pregnancy (Fullerton, Hendrickse, and Watson-Williams).

It is impossible to mention all the main contributions. The 25 papers are amplified and embroidered by the discussions, which have been skillfully edited so that they retain a flavor of spontaneity, despite the 2-year interval that elapsed between their presentation and publication. The final discussion touches on such future problems as the prevention of sickle-cell disease and the possibilities for radical forms of treatment.

The organizers of the symposium, G. M. Edington and J. H. P. Jonxis (the latter also edited the book), are to be congratulated. The only omission is a complete map of Africa, which would have been valuable for reference purposes. The inclusion of a comprehensive map might be considered in planning any future work of this kind.

ROBIN M. BANNERMAN

*Department of Medicine, State University of New York at Buffalo*

## Panamanian Archeology

**Archeological Investigations in the Parita and Santa Maria Zones of Panama** (*Bureau of American Ethnology, Bulletin 193*). John Ladd. Smithsonian Institution, Washington, D.C., 1964 (order from Superintendent of Documents, Washington, D.C.). xii + 291 pp. Illus. \$2.50.

This is a technical report on the excavations of five archeological sites located inland from the Pacific coast of Panama at the base of the Azuero Peninsula. The sites were excavated by Matthew Stirling, Gordon Willey, and their associates. El Hatillo Site consisted of 11 low mounds in irregular arrangement. Extensive trenching of the site produced dwelling refuse and burials, but the primary purpose of the constructions was not made clear. The site was occupied during and after Late Coclé times. A radiocarbon date of  $415 \pm 90$  years ago seems to be too late.

At the Girón locality three test pits made in refuse deposits between 1 and 2 meters in depth yielded a valuable fragment of chronological information immediately prior to the time level of Coclé Polychrome. The Delgado Site

was a shallow midden that gave a sample of Late Coclé and the succeeding Herrera phases.

A shallow hilltop occupation was trenched on the Sixto Pinilla Place. Refuse deposits, caches, and burials, some in chambered tombs, showed that the principal occupation was coeval with the range of the Coclé Periods at Sitio Conte. A similar site was excavated at the Leopoldo Arosemana locality. This was in part contemporary with the Girón occupation.

The principal value of this paper to those who are not specialists in the prehistory of the immediate region is the excellent summary of Panamanian archeology given in the introductory section and the discussion of the relation of the early isthmus cultures to the American Formative. Chronology does not come easily in Panama, and the difficulties seem to be similar to those encountered in highland Colombia. Panamanian cultures have been related to northern South America rather than Mesoamerica for at least 2000 years, and a shared pattern of scattered and transitory dwelling sites seems to be the cause of the archeologists' frustrations; deep deposits of refuse are very rare.

Ladd confirms what the rest of us have strongly suspected. The highly similar and complex block of Neolithic-level cultural traits that, in the second millennium before the Christian era, spread from Peru to the Mississippi Valley did not pass through Panama. This Formative base, from which the later American civilizations developed, was carried by sea as Michael Coe has suggested.

JAMES A. FORD

*Florida State Museum*

## Social Anthropology

**Sorcery in Its Social Setting: A Study of the Northern Rhodesian Cewa.**

M. G. Marwick. University of Manchester Press, Manchester, England; Humanities Press, New York, 1965. xxii + 339 pp. Illus. \$7.50.

The title of this book accurately describes its contents. The book is a study of sorcery in a Northern Rhodesian society, which offers an interpretation based principally on the social relations of the people concerned. As such, the book falls within the mainstream of British social anthropology,

and it is also a substantial addition to the growing body of studies on the subject of social conflict.

Marwick is concerned with a segment, living in the Fort Jameson district, of the populous Ceŵa people. Although altered in various ways by contact with Europeans, the culture of the Ceŵa retains many traditional features. Most of the people continue to live in small communities and gain their livelihood chiefly by simple hoe cultivation of crops. Descent is matrilineal; this is, the Ceŵa trace descent through female lines and take important social affiliations therefrom. As a matrilineal society, the Ceŵa have problems of social relationship which are peculiar to matrilineal groups and different from those of societies that trace descent and form social groups on other principles.

Among the Ceŵa sorcery is a common explanation of misfortune. Marwick analyzes, in considerable detail, 101 actual cases of alleged sorcery, presenting information on the sex, age, and relationships to others of the persons directly involved. He also presents relevant information on internal and external relations of matrilineages, the nature of chieftainship, and recent social changes. Throughout, discussion of these matters centers on sources of tension and conflict.

The principal ideas presented by

Marwick about the nature and sociological significance of sorcery are not new, as he acknowledges. He sees beliefs and practices of sorcery as socially integrative rather than solely disruptive forces. In his own words, sorcery provides a means by which tense relationships may be "formulated" and "redressed." As various scholars before him have done, he also sees sorcery as a force upholding the moral order which operates through fear that failure to conform with social rules will lead either to accusations of performing sorcery and attendant punishment or cause the nonconformist to become the victim of sorcery. Marwick does not come to grips with the question of functional alternatives to sorcery, a subject that he discusses only briefly.

What is unusual and most commendable about this book is its presentation of abundant material on actual cases of alleged sorcery and sources of tension in Ceŵa society. It is at one time both a quantified study of sorcery and a fairly complete ethnography. This wealth of detail and the manner of its presentation make the book best suited for professional anthropologists and sociologists. The general reader will probably find the book difficult going.

EDWARD NORBECK

*Department of Anthropology and  
Sociology, Rice University, Houston*

pecting to find a fairly complete introduction to the problems and promise of modern biology will be disappointed. This text might serve for some very elementary course in high school biology, but it is unlikely that it will satisfy any instructor in college biology who is looking for a text to supplement his lectures in modern biology.

CLAUDE VILLEE

*Harvard Medical School,  
Boston, Massachusetts*

## Classical Mechanical Systems

**Classical Dynamics of Particles and Systems.** Jerry B. Marion. Academic Press, New York, 1965. xvi + 576 pp. Illus. \$11.50.

*Classical Dynamics of Particles and Systems* was written as a text for an advanced, two-semester, undergraduate course in mechanics. More precisely, it was designed as a text for an advanced undergraduate physics course which would prepare the student for studies in quantum physics. This means that emphasis was placed on those areas of mechanics which play an important role in quantum mechanics or provide a demonstration of mathematical techniques useful in quantum theory.

I feel that, on the whole, this is a useful and well-written book. The author has a pleasing literary style, and his exposition of the subject matter is clear and unpedantic. The techniques of mechanics are illustrated by many worked examples, and these techniques are motivated and their limitations are carefully pointed out. A list of references is given at the end of each chapter, and the level of difficulty of each reference is indicated. A sufficient number of problems for the student are also provided at the end of each chapter. The format of the book is pleasing, and the diagrams are numerous and illuminating.

Several chapters are devoted to mathematics. The first two chapters treat vectors and matrices, and I was pleased to see vectors defined in terms of their transformation properties. Another chapter is concerned with the calculus of variations, in preparation for the study of the Lagrangian and Hamiltonian formulation of mechanics. There are also a number of mathematical appendices.

I was particularly pleased with the treatment of the foundations of New-

## Animal Behavior, Adaptation, and Interrelations

**Biology.** Karl von Frisch. Translated from the German edition by Jane M. Oppenheimer. Harper and Row, New York, 1965. xviii + 516 pp. Illus. \$9.50 (text ed.).

This book is a simply and clearly written description of certain aspects of biology. The English translation by Jane Oppenheimer is excellent, and the text reads as though it had been written originally in English. The illustrations are of good quality; almost all of them were drawn expressly for this book, and many of them are in color. In some illustrations the color is simply decorative, but in others it has been used to help clarify a point. The book is attractively designed and well printed, although there are quite a few typographical errors.

The text is organized in nine sections, beginning with cells, and proceeding to tissues, organs, adaptations,

and interrelations amongst organisms and ending with discussions of reproduction, development, heredity, and evolution. The best sections of the book are those dealing with animal behavior, adaptation, and interrelationships. There is very little discussion of plants and their importance in the biological world, nor is there a description of the major kinds of animals. The text introduces many terms without defining them. The major deficits of the book, however, are in the discussions of the functional aspects of biology such as genetics, developmental biology, cellular physiology, plant physiology, and vertebrate physiology. All of these, indeed the discussion of the chemical basis of biology as a whole, are three decades or more out of date. There is little hint in this book of the current excitement in the field of biology.

The reader who opens this book ex-