of man's presumed ancestors. Prof. Dobzhansky stresses that living men form one species, and concludes with a discussion of the evolutionary possibilities that are open to man as being the only animal capable of conceptual thought and therefore able to transmit culture.

There can be little doubt that, for many students, Prof. Dobzhansky's book will provide a stimulating introduction to the genetic basis of the biological variation on which selection acts. The unevenness of his work may well reflect the fact that the very size of the subject precludes any one scholar from being equally competent in all its branches. A companion volume providing an introduction to the elements of developmental genetics, and to the application of genetical principles to the study of palaeontology and comparative anatomy, would prove a welcome addition to present-day evolutionary literature.

E. H. ASHTON

THE LOWER PRIMATES AND EVOLUTION

The Non-Human Primates and Human Evolution. In Memory of Earnest Albert Hooton, 1887-1954. Arranged by James A. Gavan. Pp. v+134 (8 plates). (Detroit: Wayne University Press, 1955.) 3.50 dollars.

IN a symposium at the annual meeting of the American Association for the Advancement of Science in 1953, a series of papers was presented on the relation of studies of the lower Primates to problems of human evolution. These papers were published in the issue of *Human Biology* for September 1954, and have now been republished in the form of a book dedicated to the memory of the distinguished American anthropologist, Dr. Earnest A. Hooton, who died in 1954.

While the title was no doubt suitable as an indication to the contributors of the main theme of their symposium, it is not altogether appropriate for this volume, since it implies to the prospective reader that the subject is treated with some degree of comprehensiveness and in logical sequence. In fact, the book consists of a number of short articles dealing with rather disconnected subjects, not all of which have a very obvious relation to immediate problems of human evolution.

Three essays on the study of behaviour in lower Primates will be found of more particular interest, for the reason that they present some original ideas which, it is suggested, may have a bearing on the mental and cultural evolution of the early Hominidae. Dr. C. R. Carpenter advances tentative generalizations on the grouping behaviour in non-human Primates—generalizations which (he makes clear) are no more than hypotheses to provide a basis for future studies. Dr. H. W. Nissen discusses problems of mental evolution in Primates, and insists that there are no fundamental or qualitative differences between the emotions and motivations of man and the other Primates: "What especially characterizes human motivation is not its initiating goals, but rather the indirection and complexity of its approach to those goals". Finally, in an article by Dr. and Mrs. K. J. Hayes, an attempt is made to relate personal observations on a young chimpanzee (who spent the first six years of her life in their home) to speculations on the

sequence of events which led to the development of cultural behaviour in human evolution.

It is a pity that two of the most interesting papers presented at the actual symposium—interesting because they deal with subjects about which there is so little published information—are only recorded in this book in the form of short abstracts: Dr. G. L. Jepsen, on the fossil Primates of the New World, and Dr. G. E. Erikson, on the comparative anatomy of the New World Primates.

W. E. LE GROS CLARK

PARASITES OF LIVESTOCK

Veterinary Parasitology

By Dr. Geoffrey Lapage. Pp. xvi+964+34 plates. (Edinburgh and London: Oliver and Boyd, Ltd., 1956.) 63s. net.

WHILE the medical man is adequately supplied with text-books on human parasitology in the English language, the veterinarian is less fortunately situated; for there are scarcely any modern books covering the field of animal parasitology, in spite of the economic and public health importance of parasitic diseases in livestock. There is therefore an urgent need for an up-to-date handbook dealing with the parasites and the diseases produced by them in domestic animals. No one could be better qualified to undertake this formidable task than Dr. G. Lapage, who has now provided teachers of animal parasitology and veterinary students with a comprehensive account of the protozoa, helminths and arthropods of veterinary importance.

Two introductory chapters are devoted to the general principles and concepts of parasitism, such as the types of animal associations, the characteristics of parasites, their life-cycles and methods of transmission, their effects upon the hosts and the reactions of the latter to infection. The remaining twenty-eight chapters are divided into four parts dealing (in the order that follows) with nematodes, flat worms, arthropods and protozoa. The description of the species considered in each of these phyla includes their systematics, morphology, life-history, host-parasite relations, control and drug treatment, illustrated by numerous text figures and plates. Among the arthropods are included—in addition to true ecto- and endo-parasites—also vectors of parasitic infections, as well as species which affect the health and well-being of livestock in other ways. Although the parasites are considered mainly from the zoological point of view, the course and epidemiology of the infections are described in some detail; but data on their therapy are only briefly mentioned, while diagnostic procedures are left out altogether. However, since this book does not claim to be a practical guide to clinical parasitology, and its size had to be kept within the bounds of a single volume, omissions could scarcely be avoided. Readers desiring to extend their knowledge of parasitology will find the necessary references in the bibliography, which occupies twenty pages. There is also a useful alphabetical index.

This authoritative and comprehensive text-book, which successfully fills the gap in the literature on parasitology, will be welcomed not only by veterinarians—for whom it is primarily intended—but also by medical workers and zoologists.

C. A. HOARE