Book Reviews

Modern Primatology

The Evolution of Primate Behavior. ALISON JOLLY. Macmillan, New York, 1972. xiv, 398 pp., illus. Paper, $4.25. Macmillan Series in Physical Anthropology.

The development of primate ethology has been hampered not only by the absence of an effective text providing a reasoned and critical review of contemporary knowledge but also by the publication of popular works in which inadequately examined theories have been presented as if they were already parts of general understanding in a scientific community. *The Evolution of Primate Behavior* goes a long way toward providing the kind of text needed for an effective university course in the subject. Alison Jolly provides a simplified yet academically distinguished account of the immense scope of contemporary primatological enquiry and its often controversial content. The book indeed ranges widely, touching upon many aspects of the behavior and intellectual history of man as well as those of our primate relatives.

Jolly originally carried out field research in Madagascar, where, together with J.-J. Petter, she opened up the study of lemurs to modern methods. She is well qualified to comment on modern primate ethology. Her attempt to extend her subject matter to the whole field of primate and human psychology is bold (some would say rash) but, at the level of presentation chosen, effective.

The book consistently attempts to relate material from nonhuman to human studies. It aims at an approach to the understanding of man from the viewpoint of modern ethology. The three main sections, Ecology, Society, and Intelligence, succeed in treating all the main topics of modern theory and present in both tabular and textual form a great deal of carefully collated material. The account of taxonomy, ecology, social organization, communication, and sexual and agonistic behavior is thorough, well balanced, and instructively organized. A great deal of modern ethology, not necessarily originally developed with primates but rather with birds and other animals, is well woven into the text. The author's debt to Lorenz, Tinbergen, and more recently emerged ethologists is considerable. The chapters on developmental psychology, cognition, language, social learning, and intelligence present all the key figures in contemporary debate for brief examination and review. Piaget, Harlow, Chomsky, and others are all introduced in appropriate places. Placed within the context of the book's total endeavor these chapters make instructive reading for undergraduates, yet there is no real attempt at a critical evaluation or synthetic theory. Some sections, for example the chapter on warfare, are exceedingly brief, and many points of view remain undeveloped or inadequately examined. The book lacks a final section that could attempt some integration of all this material.

Perhaps the main strength of the book, its comprehensive coverage, is also its prime weakness. Although she does not hesitate to present opposing points of view, Jolly often seems to rush us rather breathlessly from one intellectual thrill to another before enough material for digestion and assimilation has been given. A stronger integrative theme and personal theoretical commitment would have been a help rather than a hindrance here. For example, in chapter 4 we are told that the most important predators of primates are other primates. Only a page later we are examining a major theory based on the reactions of adult primates to nonprimate predators and the importance of these adaptive responses for social organization. Here too are quoted cases that make nonsense of the assumption that predation is of little importance in the evolution of these animals. Such cases are certainly as numerous as those available for monkey-eating monkeys. The whole issue thus lacks theoretical balance. Again in chapter 2 Jolly points out that artiodactyl social organizations differ from those of primates in the less frequent inclusion of males into social structures. This is dismissed as some phylogenetic accident—"some legacy of the ur-ungulate and ur-primate ancestors." Yet the rich material presented elsewhere in the book would allow a more heuristic statement than this were the author more involved in evolutionary theory as such. The title of the book is in fact misleading. While the work as a whole has an evolutionary theme showing how environment, social organization, and the development of intelligence and intellectual operations in education are progressively related, this cannot be construed as a contribution to theory. The book is not so much a contribution to evolutionary studies as a comprehensive review of primate studies organized around a developmental theme. The probable path to the emergence of human characteristics is thereby traced.

Jolly's book will be warmly welcomed in universities and colleges as a basic textbook around which a number of courses involving primate studies in relation to man can be organized. In its capacity for dealing with a wide and controversial subject matter it is first and foremost in its field and deserves considerable success.

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Bird Populations

Populations in a Seasonal Environment. STEPHEN D. FRETWELL. Princeton University Press, Princeton, N.J., 1972. xxiv, 218 pp., illus. Cloth, $12.50; paper, $4.95. Monographs in Population Biology.

Winter is a time of relatively heavy mortality for many temperate-zone birds. Using a graphical approach, Fretwell here develops the notion that population sizes in the majority of such avian species are regulated more strongly by availability of wintertime food than by food supplies or events occurring during the breeding season. He suggests that most temperate-zone open-nesting birds experience relatively little competition for food during the breeding season and that both winter food supply and nest predation levels