Reviews

Behavior

THE BIOLOGY OF BRAINS, ed. by W. B. Broughton. 1974. Institute of Biology Symposium Number 21. Halsted Press, New York. 290 p. $19.95 (hardback).

This small volume reports on the proceedings of a symposium held in London in 1972 with over 30 prominent investigators from England, Scotland, Germany, and the U.S. as participants.

The sessions were divided into four parts which included cells, inputs and integration, outputs and behavior, the human brain, and brain evolution—past, present and potential. Each part had three contributions (chapters) followed by highlights of the discussion which ensued. An introduction by Broughton of the Neurophysiology and Acoustic Behavior Unit of the City of London Polytechnic sets the stage by comparing this symposium (number 21) to earlier ones held by the Institute of Biology (Optimum Population for Great Britain, Aggression, Biology and Ethics, and so on.). He further gives what he considers the highlights, controversies, and ferments of the present symposium.

The lowly slime molds are shown to respond to signals from a single source. It is suggested that slime mold signalling controlling development appeared early and later underwent considerable adaptive radiation which may have resulted in nervous tissue of multicellular organisms.

Auditory communication between crickets as studied in Germany is described in considerable detail but the investigator stressed the many gaps which behaviorists, physiologists, and those trained in cybernetics have yet to fill. A reassessment of ethology shows that behaviors cannot be easily separated into those learned and those that are innate. Emphasis is given to ways that external and internal causal factors affect behavior. One of the examples used is the extensive work of Baerends involving herring gull behavior.

The limits and possibilities of psychiatry in studying the brain are demonstrated. The difficult problem faced by psychiatrists in weighing the consequences of changing patients or changing the families and societies in which patients live is considered. This is particularly important because of the increasing ability to alter patient response both chemically and surgically.

The final two chapters, on brain evolution and the biological basis of human behavior, stress cranial capacities, evolutionary rates, skull morphologies, dietary changes, behavioral and territorial modifications, and social systems.

Each chapter has a complete set of references for the reader who wants to go further. An author index and a subject index are also included. This volume will be of particular interest to the ethologist, the neurophysiologist, and others interested in brain biology. The vocabulary level and many of the concepts seem beyond the level of most secondary school readers but biology teachers who can afford the high cost will find it challenging.

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BIOLOGICAL BASES OF HUMAN SOCIAL BEHAVIOR, by R. A. Hinde. 1974. McGraw-Hill Book Co., New York. 477 p. $7.95.

This book concerns itself with human behavior as it relates to lower animal forms—nonhuman primates. The author has successfully circumvented the hackneyed ecological-evolutionary approach and adheres to cause and development. This not only makes the subject matter more relevant but also makes the material understandable to students other than biology majors. The book is suitable for use in a senior undergraduate or beginning graduate level course related to behavioral development in either biology, psychology, or sociology. The references are outstanding, making this an excellent resource book.

The author leaves no doubt about his knowledge of the subject matter. He presents—and documents—both sides of controversial areas while clearly expressing his own viewpoints. He accomplishes his objectives for each chapter, and chapters 18 and 19 (on socio-sexual behavior) are excellently presented. The charts, tables, and graphs are clear and effective. However, in many cases the legends should have been expanded. The reader often must search throughout the chapter in order to decipher the total meaning of a figure.

I found the summary and conclusions at the end of each chapter particularly helpful. Another outstanding feature of the book are the author's numerous admonishments to avoid making too many generalizations about observed social behavior in lower animals as related to humans.

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Ecology and Environmental Biology

BIRDS OF THE WORLD: A CHECK LIST, by James F. Clements. 1974. Two Continents Publishing Group, Ltd., New York. 540 p. $15.00 (hardback).

Professional and amateur students of birds have long felt the need for a manageable way to catalog the birds of the world. They have wanted a systematic solution to the problem of recording species sighted and the dates and locales of such sightings on a worldwide scale. At last this need is filled.

For the first time, all the known species of the world are listed under one cover. In systematic order both scientific and best known common names and general distribution are given. The book is designed to allow the reader to record his personal avian sightings with space provided for the exact locale and date. A generic index, a list of families by common name, and a "how to" section by the author facilitate the use of this book. Its value is enhanced by a good bibliography and a list of the major field guides and references used to compile the check list. Another plus is the color-keyed map of the major zoogeographical regions printed on the end sheets.

Birds of the World belongs on the desk of every serious bird student, from professional ornithologist to amateur birdwatcher. I highly recommend this much needed comprehensive work.

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