

Book Reviews

Emmett L. Wright
Department Editor

BEHAVIOR

ANIMAL PLAY BEHAVIOR

by Robert Fagen. 1981. Oxford University Press (New York). 701 p. \$14.95 softback, \$29.95 hardback.

In this, the first single-authored book on play behavior, Robert Fagen does a first class job of bringing past, present, and future research together. He summarizes past research with a chapter on the natural history of play and a comprehensive reference listing which includes previously overlooked work. He places present research into perspective and attempts to redirect future studies along a more theoretical line. Theory as the basis of future research, rather than the result of experimentation, is questionable, but Fagen insists that we have reached the limits of the experimental approach. The author writes comfortably from years of experience studying and communicating on the subject of play. He presents well-thought-out positions on controversial questions supported by an evolutionary approach common to current behavioral thought.

The only glaring weakness of the

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book lies in the illustrations. There are no pictures of birds exhibiting play, and the remaining class of studied players, mammals, is pictured sparingly. The author laments the shortage of publishable photographs of play and then includes several from his personal collection which are of only marginal quality. If this were not such a visible aspect of the book it could probably pass unnoticed behind the overall excellence of the work.

Fagan does not shirk the responsibility of being the first author of a comprehensive book on play. *Animal Play Behavior* is a landmark summary of the status of play study. In nine appendices the author lists and explains terms, models, characteristics, and definitions of play followed by lists of studied species. The appendices, along with the extensive tables, careful and complete index, and exhaustive reference listing make this an excellent resource book. The writing style could be followed by advanced high school students, but the material would be most appropriate for college students with a behavior background. The book lends itself ideally to a seminar course as the author's well-supported views would make interesting discussion topics. He includes references for both sides of each question allowing a class to retrace his research and draw its own conclusions. The quality and scope of *Animal Play Behavior* make it a must for the library.

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DEVELOPMENT

DEVELOPMENTAL BIOLOGY

by Leon W. Browder. 2nd ed., 1984. Saunders College Publishing (383 Madison Ave., New York, NY 10017). 748 pages. Price not given.

This excellent textbook portrays developmental biology as the study of progressive changes that occur within cells, tissues, and organisms during their life span.

Research has contributed much new information about development in the four years since the first edition of this book appeared. Much of the recent progress is a result of utilizing recombinant DNA to problems of development, and the application of new techniques.

Key experiments upon which our current understanding of development is based, are discussed. As the

preface points out, the text has resulted from the author's experience in teaching developmental biology to upper division undergraduate students who normally have a background in cell biology and genetics.

The format of this book is designed for easy access to the information it contains. Several features of this book make it well organized for all levels of readers. References follow each of the five parts and an extensive index and glossary follows the entire text.

Teachers will find very useful the several boxed essays with details on experimental procedures and other topics relating to the material included in the text.

The author selected material illustrating the major principles of developmental biology. However, individual instructors will find that the textbook lends itself to the introduction of other topics and additional examples.

The author has demonstrated a good understanding of his subject and its relationship to other biological sciences.

This textbook is comprehensive, up-to-date, and accurate, with illustrations that will serve as excellent learning aids conveying understanding to the students.

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ECOLOGY

THE ECOLOGY OF A SUMMER HOUSE

by Vincent G. Dethier. 1984. University of Massachusetts Press. 133 p.

With seeming innocence, the summer bungalow becomes an enchanting host to a group of residents with which the reader becomes intimately familiar. In deference to the title, the author's summer residence in Maine is the study site wherein every nook and cranny reflects the dynamism which is sometimes sought in remote study areas.

As the author guides the reader through a season in the bungalow, it is apparent that it is the human interloper who is at the mercy of the fauna in residence. The wit and ease with which the author recounts this fairy tale-like relationship within the bungalow endears all of the residents to the reader. Drawing from a rich background in entomology, the author's natural curiosity is raised to an art form.

This novel would appeal to the naturalist in us all. It is delightfully entertaining and informative. It is certain that this will be perched on my bookshelf for future leisure reading as well as for reference. Perhaps the greatest reward in reading this book is the inspiration to look with greater introspection at the world with which we cohabitate in our daily lives.

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GENETICS

GENETICS

by Charlotte J. Avers. 2nd ed., 1984. PWS Publishers (Statler Office Bldg, 20 Park Plaza, Boston, MA 02116). 644 p. Hardback.

The second edition of *Genetics* by Charlotte Avers reflects a significant improvement in presentation and content over the first edition. This is an excellent textbook for a first semester course in genetics. The text is composed of 16 chapters, glossary, index, and answers to questions and problems. Though the author has taken a "chronological" view going from Mendelian to cellular to population genetics, which is a little confusing, all of the various aspects of genetics are presented for the reader. The material is clearly presented, with all important terminology appearing in bold print and defined in the glossary. All subheadings and several illustrations are presented in red ink on a high contrast glossy background.

The questions at the end of each chapter stress a problem solving approach to enhancing and examining a student's understanding of the material in each chapter. Though some of these questions may test even the best of genetics students the author has provided the answer to each question so that all students can benefit from the problem solving approach to demonstrating an understanding for genetics.

The only criticism of the textbook is the extent of material devoted to quantitative and geographic mechanisms of speciation. But, the extreme clarity of presentation and attention to modern events in genetics more than compensate for this minor flaw in an otherwise excellent introductory genetics textbook.

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MEASUREMENT

YARDSTICKS OF THE UNIVERSE

by Owen Bishop. 1st ed., 1984. Peter Bedrick Books (125 East 23rd St., NY 10010) 130 p. \$10.95 hardback, \$5.95 softback.

Owen Bishop has written an excellent account of the history of measurement, with emphasis on the importance of accurate and precise measurement to the advancement of scientific knowledge.

In the first chapter, the author presents an overview of early yardsticks in measurement and points to the difficulties encountered because of the lack of standards. Origins of various terms are explained. In each succeeding chapter, one of the following topics is explored from the earliest attempts at its measurement to the current state of the art. These topics include measuring the earth, measuring the universe; measuring the speed of light, measuring the imponderable, and measuring the infinite. The classic experiments of each are described as they relate to the technique of measurement of scientific data. The book concludes with a somewhat small glossary, but extensive index.

One of the outstanding chapters deals with the role of human senses in measurement. There are several simple but graphic experiments that can be used in the classroom to illustrate the need for precise instruments when measuring for the sciences.

Good photographs and illustrations of early measuring devices are included. In addition, there are directions for constructing some of these devices including a sundial, pendulum clock, astrolabe, sextant, and steelyard.

The book should provide interesting reading for high school age and above. I would recommend it for all science teachers. Not only can the book serve to enhance one's historical background, but it can provide a resource of activities which may spark curiosity in topics that are often omitted due to a lack of knowledge and interest. The low price and sturdy construction of the soft cover edition should make this a must for science teachers and school libraries.

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NEUROBIOLOGY

FROM NEURON TO BRAIN

by Stephen W. Kuffler, John G. Nicholls, and A. Robert Martin. 2nd ed., 1984. Sinaur Associates, Inc. (Sunderland, ME 01375). 670 p. \$30.00 hardback.

From Neuron to Brain begins with the structure and function of individual neurons and traces their pathway from sensory organs through the mediating structures of the brain, explaining their relationship to perception. It interrelates data from neurophysiology with brain function in a way that is impressive in its scope and depth. Evidence cited is individually footnoted making the bibliography extensive. Supplementary readings are also suggested. The material presented has obviously been thoroughly researched and documented.

The level of presentation is senior college through postdoctorate—an excellent reference and sourcebook for the graduate library or personal collection. Their style of writing is clear without pretension. Chapter 7, Neurons as Conductors of Electricity, may require some background in electronic principles. The illustrations, electron micrographs and line drawings are of excellent quality and an appropriate elaboration of the text.

The authors are to be commended for an outstanding job of gathering strands of experimental data and fusing them into a meaningful sequence.

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PRIMATE STUDIES

A COMPLETE GUIDE TO MONKEYS, APES, AND OTHER PRIMATES

by Michael Kavanagh. 1984. The Viking Press (New York, N.Y.), 224 p. \$19.95 hardback.

Meet the red-faced, bald uakari of Brazil, and Borneo's proboscis monkey, which puts Mr. Durante to shame, the ghost-faced Doucs of Vietnam, and many more of our primate relatives.

In this handsome volume, illustrated with about 100 excellent and superbly-printed full-color photographs, is a description of the 51 genera of living primates in 14 families, the most ubiquitous of all animal orders.