

sort of natural birth control process, similar to abortion, but far less traumatic. Naturally the starved, underprivileged rabbits are retarded in growth, subject to disease and early death. How similar this is to the human world when overpopulation is rampant!

Lockley concludes his book with a summary which he calls "The Rabbit Wild and Free." Here he reviews the reproduction, life history, and social structure in a wild rabbit community. This chapter contains all you ever wanted to know about rabbits but didn't know whom to ask. After reading the book, one is inclined to agree with the author that, "Rabbits are so human. Or is it the other way around—humans are so rabbit."

Philip Goldstein
Miami, Fla.

LISTENING IN THE DARK, by Donald R. Griffin. 2nd ed., 1974. Dover Publications, Inc., New York. 424 p. \$4.00.

The book is primarily a history of the research on echolocation in bats, but about 65 pages are devoted to orientation in other taxa—aquatic beetles, fish, nocturnal birds, whales, porpoises, and humans. The popularized title to the contrary, this is not light passive reading. It is a comprehensive account of the details of comparative studies of echolocation in several families of bats. Readers with casual interest or teachers preparing a general lecture on the subject might more profitably read summarized accounts. A cursory reading would be almost meaningless; the reader must follow the line of thought closely, perhaps make notes, to comprehend the significance of most data and calculations.

Biologists with a genuine interest in specific mechanisms of animal orientation will find the book well written with a researcher's enthusiasm and a teacher's skill in explanation. Griffin was the first to confirm high frequency echolocation in bats; and after 35 years of research, he is the world authority on his subject. Writing in first person and in conversational tone, he gives the reader a first-hand view of the problems, methods, and discoveries as they unfolded.

The book was interesting to me in terms of research design, practical execution of experiments, and interpretation of data. The author is imaginative in formulating hypothesis and methods, but conservative in interpreting data. I would recommend parts of the book to advanced undergraduate and graduate students as an introduction to research.

The major disappointment is that the 1974 edition is a reprint of the 1958 edition with only a new preface and bibliography to update it. Knowing that

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Edited by
Arnold B. Grobman

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Additional statements are given by Vincent Dethier, Martin Schein, Haven Kolb, David Denker, Lawrence Mann and others. This book is available now from the National Association of Biology Teachers for only \$1.95.

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much more research has been completed, it is disconcerting not to know which statements have been superseded. Even so, the book is valuable to those interested in delving into the acoustic theory to obtain a basic background in this unfamiliar anatomical and behavioral adaptation.

Sharon Young
Bethany (Okla.) Nazarene College

For Young Readers

LIVING THINGS: AN INTRODUCTION TO NATURAL HISTORY, by Donald M. Allred. 1974. Brigham Young University Press, Provo, Utah. 143 p. \$9.95.

Natural history is defined as encompassing all of the biological and physical forces related to living organisms in their natural environment and therefore the first six chapters of this slim volume review basic biological information, such as physiology, genetics, and taxonomy. While the book purports to be for laymen, particularly children, it is doubtful that these fundamental concepts can be understood when they are discussed in so little depth. Chapters 7-11, however offer a review of the various types of organisms and are especially noteworthy for the dramatic illustrations of relationships between living things. The entire book is beautifully illustrated with color plates that have been tastefully selected and arranged; at times the photos overshadow the text, however. Chapters 12 and 13 introduce the reader to the current problems in conservation and ecology which seem especially important after seeing nature at its best in the previous pages.

This artistic book is a beautiful addition to anyone's library and is sure to be an enjoyment to any child who peruses its pictures.

Sylvia S. Mader
Massachusetts Bay Community College
Wellesley

Games and Simulations

THE CELL GAME. 1974. Tecolote Press, Tombstone, Ariz. \$2.95.

The purpose of this game for four players is to familiarize students with the structures and functions of cell organelles and inclusions. Each player begins with an equal supply of components (for example, ATP and H₂O), which are each worth a set point value. Moves for each player are determined

by spinning a pointer on a circular card containing a variety of moves; for example, "diffuse one molecule of water." The winner is the first to build a complete cell by attaining a certain number of points.

Six to eight of my students offered the following observations about the game's instructional value. It is particularly useful for students with English as a second language. Although instructions are clear, they all felt some previous knowledge of cellular biology is required. The game fosters sustained retention through group participation and discussion. It helps clarify the concept of diffusion and emphasizes the cell as a dynamic and functioning unit. In addition, my students found the game novel, fun, stimulating, and an important reinforcement aid.

In my opinion, the game is an excellent supplementary instructional tool for high school and introductory college biology courses. Its greatest asset is the invitation to inquiry it offers through participation and discussion.

Norma M. Martof
Northern Virginia Community College
Alexandria

Books Received

FOOD CHAINS AND ECOSYSTEMS: ECOLOGY FOR YOUNG EXPERIMENTERS, by George I. Schwartz and Bernice S. Schwartz. 1974. Doubleday and Co., Garden City, N.Y. 120 p. \$4.50 (hardback).

CHI: A NEO-TAOIST APPROACH TO LIFE, by R. G. H. Siu. 1974. MIT Press, Cambridge, Mass. 351 p. \$10.00.

LIFE SCIENCE, by Gerard J. Tortora and Joseph F. Becker. 1972. Macmillan Co., New York. 779 p. Price not given.

ANIMAL AGENTS AND VECTORS OF HUMAN DISEASE, by E. C. Faust, P. C. Beaver, and R. C. Jung. 4th ed., 1975. Lea & Febiger, Philadelphia. 488 p. \$15.00.

BIOLOGY AND MEDICINE, vol. 1, 2, and 3: **ADVANCES IN RADIATION RESEARCH**, ed. by J. F. Duplan and A. Chapiro. 1973. Gordon and Breach, New York. 995 p. \$36.00, \$42.00, and \$42.00, respectively. Set, \$108.00.

GRAY'S ANATOMY, ed. by T. Pickering Pick. 1974. Running Press, Philadelphia. 1257 p. \$7.95 softback.

RADIOLOGICAL FACTORS AFFECTING DECISION-MAKING IN A NUCLEAR ATTACK. NCRP Report No. 42. 1974. National Council on Radiation Protection and Measurements, Washington, D.C. 66 p. Price not given.

FACTORS AFFECTING DISPERSAL DISTANCES OF SMALL ORGAN-

ISMS, by D. O. Wolfenbarger. 1975. Exposition Press, Hicksville, N.Y. 237 p. \$15.00.

A VISIT FROM A TURTLE, by Gene Deitch. 1974. Franklin Watts, New York. 34 p. Price not given.

A STORYBOOK from Tomi Ungerer. 1974. Franklin Watts, New York. 92 p. Price not given.

LET'S FIND OUT ABOUT HOUSES, by Martha and Charles Shapp. Rev. ed., 1975. Franklin Watts, New York. 40 p. \$4.90.

LET'S FIND OUT ABOUT WATER, by Martha and Charles Shapp. Rev. ed., 1975. Franklin Watts, New York. 41 p. \$4.90.

LET'S FIND OUT WHAT'S LIGHT AND WHAT'S HEAVY, by Martha and Charles Shapp. Rev. ed., 1975. Franklin Watts, New York. 48 p. \$4.90.

COLOR 'N' LEARN TIDE POOL LIFE, by Carol M. Burton and Paul C. Burton. 1974. Creative Classroom, Temple City, Calif. 33 p. \$3.00.

HOW TO READ THE NIGHT SKY, by W. S. Kals. 1974. Doubleday & Co., Garden City, N.Y. 172 p. \$4.95.

LET'S FIND OUT ABOUT THE SUN, by Martha and Charles Shapp. Rev. ed., 1975. Franklin Watts, New York. 48 p. \$4.90.

LETS FIND OUT ABOUT COLOR, by Ann Campbell. Rev. Ed., 1975. Franklin Watts, New York. 48 p. \$4.90.

TEXTILES, by Roz Abisch and Boche Kaplan. 1975. Franklin Watts, New York. 72 p. \$3.90.

THE ASTEROIDS, by Alan E. Nourse. 1975. Franklin Watts, New York. 72 p. \$3.90.

LET'S FIND OUT ABOUT THE MOON, by Martha and Charles Shapp. Rev. ed., 1975. Franklin Watts, New York. 48 p. \$4.90.

AQUARIUMS, by John Hoke. 1975. Franklin Watts, New York. 80 p. \$3.90.

THE LOCUST, by Robert Barrass. 2nd ed., 1974. Transatlantic Arts, Levittown, N.Y. 80 p. \$6.95.

STICK AND LEAF INSECTS, by J. Y. Clark. 1974. Transatlantic Arts, Levittown, N.Y. 73 p. \$6.95.

INTELLECTUAL FUNCTIONING IN THE AGED, by R. D. Savage, P. G. Britton, N. Bolton, and E. H. Hall. 1973. Barnes & Noble Books, New York. 197 p. \$17.00.

ELECTRON MICROSCOPY OF ENZYMES: PRINCIPLES AND METHODS, vol. 3, ed. by M. A. Hayat. 1974. Van Nostrand Reinhold Co., New York. 191 p. \$17.50.

GLOSSARY OF MOLECULAR BIOLOGY, by A. Evans. 1974. Halsted Press, New York. 55 p. \$6.95.

AMERICAN SOCIETY IN TOCQUEVILLE'S TIME AND TODAY, ed. by Richard P. Taub. 1974. Rand McNally College Publishing Co., Chicago. 594 p. Price not given.

THE SOCIAL MEANINGS OF RELIGION, ed. by William M. Newman. 1974. Rand McNally College Publishing Co., Chicago. 373 p. Price not given.

VASCULAR PLANT SYSTEMATICS, by A. E. Radford, W. C. Dickinson, J. R. Massey, and C. R. Bell. 1974. Harper & Row Publishers, New York. 891 p. \$19.95 hardback, \$9.95 softback.

PLANT SCIENCE: AN INTRODUCTION TO WORLD CROPS, by Jules R. W. Schery, F. W. Woods, and V. W. Ruttan. 2nd ed., 1974. W. H. Freeman & Co., San Francisco. 748 p. \$14.50.

INSECTS AND THEIR YOUNG, by Ross E. Hutchins. 1975. Dodd, Mead & Co., New York. 125 p. \$5.50.

WONDERS OF THE WORLD OF BEARS, by Bernadine Bailey. 1975. Dodd, Mead & Co., New York. 64 p. \$4.95.

LET'S FIND OUT ABOUT BABIES, by Charles and Martha Shapp and Sylvia Shepard. Rev. ed., 1975. Franklin Watts, New York. 48 p. \$4.90.

LET'S FIND OUT WHAT ELECTRICITY DOES, by Martha and Charles Shapp. Rev. ed., 1975. Franklin Watts, New York. 48 p. \$4.90.

LET'S FIND OUT ABOUT SOUND, by David Knight. 1975. Franklin Watts, New York. 48 p. \$4.90.

LET'S FIND OUT ABOUT EARTH, by David C. Knight. Rev. ed., 1975. Franklin Watts, New York. 48 p. \$4.90.

SCIENCE MAGIC WITH CHEMISTRY AND BIOLOGY, by Ted Johnston. 1975. Arco Publishing Co., New

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