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WANTED

A biologist with considerable teaching and/or administrative experience to develop with present staff a science curriculum and to teach in a private coeducational school (grades K-12). Research experience and graduate degree(s) desirable. This position is for a flexible and vigorous experimentalist who understands and can articulate the role of teaching biology in an integrated and open innovative science program. Salary open. Send references and resume to:

Dr. William J. Alston
Science Department
The Maret School
3000 Cathedral Avenue, N.W.
Washington, D.C. 20008

dynamic science. For the most part the manual does fulfill those claims. I do have some reservations about how much insight into experimental physiology the student will gain as a result of completing the exercises.

The experiments and demonstrations are representative of an elementary course in human physiology. There are alternate experiments for the instructor to select from, and some of the experiments can be modified so that they can be used with other equipment; for example, in some experiments that are described in terms of the physiograph a kymograph could be used. Some of the experiments require surgery on rats, such as the removal of the thyroid or the adrenal glands; others require injections. There is a demonstrator's manual available that will give directions on how to prepare for every demonstration and experiment, and I assume that this manual gives specific directions for the performance of the required surgery.

Each experiment has prepared data-sheets, which are well organized. For some of the more empirical experiments there is a sample data-sheet with sample calculations. The sample calculations should prove extremely helpful to the student, as well as to the laboratory instructor who may have forgotten the details of such calculations. The appendices include representative class data for selected experiments obtained from previous classes.

The manual is well written and is organized so that it can be used in any sequence desired by the instructor. The directions in each experiment are clear, and if the student follows the directions he should have no difficulty in setting up the exercise. I can recommend this laboratory manual to instructors teaching human physiology in community colleges.

Frank M. O'Kelley
Rio Hondo College
Whittier, Calif.

Radiation Biology

IONIZING RADIATION AND LIFE, by Victor Arena. 1971. C. V. Mosby Co., St. Louis. 547 p. \$13.50 (hardback).

A textbook for advanced students; a handbook for the radiation biologist; a sourcebook for the researcher who wishes to use radiation as a tool: Arena has given us a well written, comprehensive book that is all of these.

His systematic presentation is built on a review of the physics and chemistry of radiation. The chapter on the electromagnetic spectrum is a classic. The various kinds of ionizing radiation are covered in great detail. His descriptions (with diagrams) of the x-ray machine and the nuclear reactor are complete yet easy to follow. The chapter on

dosimetry considers mechanics and procedures as well as theory.

About half the book is devoted to radiation and its effects on man. The dangers from exposure, the medical uses, and the physiologic effects are treated extremely well; in addition the effect on human life of using radiation and radioactive materials as research tools and the knowledge gained by this means in many fields are covered very well. Arena points up the humane qualities of those who have contributed to research in radiology, especially in the early years.

The important fields of research are covered in sufficient depth for the general student, and the material presented could easily lead to further study. The references are well chosen, and the appendices are pertinent. The book is accurate and easy to read. The chapter outlines should be very helpful. The author carefully explains terms and abbreviations. The format is pleasing; print and diagrams are clear. The book is well worth its reasonable price, and the author is to be congratulated on his ability to include so much excellent material in a single volume.

Sister Rosemary Connell
Fontbonne College
St. Louis, Mo.

Textbooks

BASIC BIOLOGY: A FIRST COURSE, by Stewart M. Brooks. 1972. C. V. Mosby Co., St. Louis. 298 p. \$8.90 (hardback).

The author's experience has been in the teaching of basic science to junior-college and nursing students; one assumes that this textbook has been prepared for similar students. The author strives for what he calls "readable and enjoyable English." He includes an excellent annotated list of persons who have made significant contributions to biology. There is an extensive bibliography, but the entries are not tied to specific passages in the book. Another feature is a review of basic chemical and physical principles.

In all other features, including general organization, appearance, and reliance on black-and-white illustrations, this book reminds me of the traditional general-biology textbooks. A detracting feature is the small print, which makes reading rather difficult. Brooks emphasizes taxonomic biology and the products of science; he pays little attention to the processes of scientific thought and the interaction of conflicting ideas. He evokes the personalities of biology as historic benchmarks rather than as catalysts for student discussion and debate. The relationships among the biologic sciences and today's social and environmental issues have been omitted in favor of taxonomic objectivity.

This traditional textbook would serve well as an objective presentation of descriptive general biology. I can recommend its use only as a comprehensive resource book for the beginning student. It is not a book that would inspire the student to view the biologic sciences as dynamic or as having immediate social consequence.

Wendell F. McBurney
Indiana University
Bloomington

BIOLOGY TODAY. [Author or editor not named.] 1972. Communications Research Machines, Inc., Del Mar, Calif. 1,051 p. \$14.95.

If Ringling Brothers and Barnum & Bailey had ever decided to put together a biology book, it might have looked something like this. A fantastic phantasmagoria of psychedelic posters illuminates each of the 45-count 'em, 45-chapters. In all the rings something is going on at the same time. Darwin's finches vie with fuzzy photographs of phenobarbital tablets. Fraternal fetuses float like astronauts outside an orbiting spaceship—but with real umbilical cords. A full page of penises tumefy and detumefy in pinkness that puts Rubens to shame. Aging prostitutes on the streets of New York; the daughters of Bilitis engaging in homosexual horseplay; a drawing of Noah's Ark in which animals two by two are doing what animals two by two normally do. Something for everyone. Illustrated instructions on how to insert a diaphragm; a five-page foldout on DNA; and the world's largest printed mitochondrion.

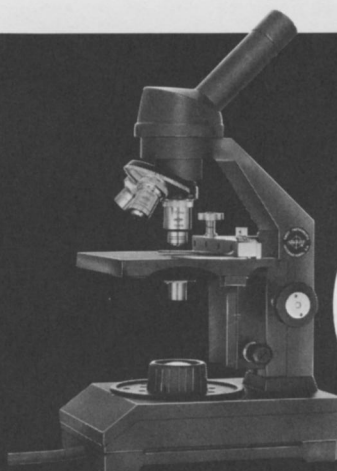
The lavish use of artwork in color and the medley of typographic effects make this the first biology textbook that you could place on your coffee table as a conversation piece. Its big (8½-by-11-inch) format gives plenty of room for the white space that book designers seem to love; it is used so profusely that many two-page spreads contain only one column of type. A "now" book; a "right on" book; a "relevant" book! It's a superior production job; but, in trying to present too much, it is likely to leave the student with the pleased, confused, disorganized euphoria of a youngster who has tried to watch all five rings at the circus while drinking too much soda pop and eating too much popcorn.

The writing is frequently turgid or telegraphic. The following sentences, from the chapter "Building Blocks of Nervous Systems," are illustrative:

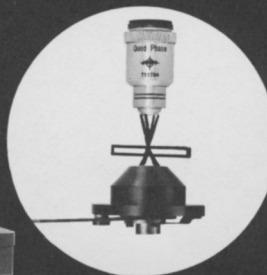
In the cells of the spinal column, the effect of an IPSP lasts only about 8 ms, slightly less than the 10 ms duration of an EPSP. In the brain, however, the effects of an IPSP last for 100-200 ms or more; in the neurons of the brain, a single activation of an inhibitory synapse may counteract many suc-

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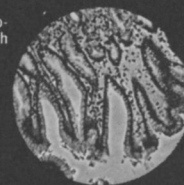


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cessive activations of excitatory synapses.

As a multivisual experience this volume is without peer, although much of it may be considered artsy-craftsy or, at the very least, of more value to an artist than a biologist. On page 169, for example, there is an artistic interpretation of a pandemic which does very little to explain pandemics, although the varicolored concentric circles make a pleasing pattern. The artistic interpretation of the web of dependency, on page 699, is more confusing than helpful and is never referred to in the text. Annoyingly, the captions often are displaced from the art: most frequently one finds captions

in the upper and outer corners of the pages and the related photographs or drawings somewhere else. Page 777, for example, has 10 pictures and six captions that are not easy to relate; and the illustration of the clam is not accounted for in any of the captions.

Although artwork is heavily emphasized, some of it is unclear, some confusing, and some just poor. On page 628 one is referred to a grid supposedly overlying a prairie dog town; but only fragments of the grid are visible, and these overlies only the darker portions of the diagram. Chapter 2 contains an extensive color parade of living organisms—with no indication of size; the ant is about as big as the alligator, and