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.

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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 sytematic 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.

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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.