series "a distinguished example of science journalism." So is the book. The 13 chapters cover the physical history of the world, from the birth of the earth, and the universe of which it is a part, through geologic change and biological evolution, to the world of today with the varied life forms of its major climatic regions. In an introduction Vannevar Bush calls it a "lucid, interesting and withal accurate account of the world we live in . . . [it] will captivate the imagination of millions of non-scientific people who would otherwise not concern themselves with its subject matter. No pains were spared to make it accurate. Many scientists were consulted and gave their best advice to make its statements true and accurate in scale. The result is a natural history in modern dress . . . which should delight as well as instruct a vast number of people."

Indeed many scientists were consulted, some 250 of them from the United States and other countries, plus a dozen and a half scientific institutions.

The *Illus.* in the bibliographic citation is a pale understatement of the scores and scores of excellent photographs and paintings. In black and white and in color, from a few square inches in size to double-page spreads, the illustrations are the heart of the book and its justification. The text explains, sometimes amplifies, and gives continuity. But the illustrations catch the eye first and will probably be turned to again and again after the text is read.

The book is not only excellent science journalism but appears likely to become one of the most successful of all ventures in this field. *Life* received more than 400,000 requests for reprints of the magazine articles and reported an advance sale of approximately half a million copies of the book. The success is deserved, for the authors, photographers, painters, and publishers have done an excellent job.—D.W.

Introductory Nuclear Physics. David Halliday. Wiley, New York; Chapman & Hall, London, ed. 2, 1955. ix + 493 pp. Illus. $7.50.

In a rapidly expanding field of research such as nuclear physics, textbooks must be frequently revised to include new information and new theoretical ideas. The second edition of Halliday's book on nuclear physics, first published in 1950, has been substantially improved. The book is designed for an advanced undergraduate course and introduces the student to the entire field of nuclear physics. Shortened by 65 pages with the elimination of much experimental detail and the frequent use of small type, the new edition is made more valuable by the extended treatment of theoretical ideas underlying nuclear physics. The experimental information has been brought up to date, and the author has continued his practice of making many references to original articles. Thus the book is valuable as a reference as well as a textbook. The author has included many good problems and has retained his easy informal style that makes the book a pleasure to read.

Although a considerable familiarity with the basic ideas of atomic and nuclear physics is assumed, a chapter on the elements of quantum mechanics has been added to allow a more thorough treatment of nuclear theory as the various problems arise. Several results of theory that were simply stated in the first edition are explained in greater detail in the text or in a series of appendixes treating aspects of wave mechanics and other theoretical problems. The subject of gamma radiation and internal conversion has, for example, been expanded from a few pages to a full chapter.

Other new chapters are concerned with two-nucleon systems and the passage of charged particles and gamma rays through matter. The chapter on cosmic rays has been condensed and a new section has been added on subnuclear particles. The chapters on detectors of nuclear particles and accelerators, brought up to date in this edition, will be useful to beginning research students.

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Radioisotopes in Biology and Agriculture: Principles and Practice. C. L. Comar. McGraw-Hill, New York–London, 1955. xiii + 481 pp. Illus. $9.

There are now in existence many books covering applications of radioisotopes to biological studies. The inclusion of details of typical experiments on large domestic animals and on plants and fertilizers is the main feature that distinguishes *Radioisotopes in Biology and Agriculture* from other books in this field. For this reason it should be attractive to investigators in agricultural biology.

The sections dealing with general principles of radiotechniques are well organized and presented with sufficient simplicity and clarity to be understandable to a beginner. The chapter entitled "Basic difficulties in tracer methodology" is especially well presented and covers the problems of purification, radioactive decomposition, and isotope effects that should be emphasized to students in this field.

One of the surprising features of this average-sized book is the amount and nature of the reference material. Included are a glossary of terms in nuclear science, tables of solvent systems and reagents for paper chromatography and for column chromatography, a table comparing various commercial filter papers, and a table listing various ion-exchange resins and their properties. The latter are accompanied by discussions of principles and operation of chromatography. Although these excellent sections on chromatography are intended to serve as handy reference sources, they may unfortunately find little use, since few investigators may think of referring to a text on radiotechniques for detailed information on chromatography.

I was somewhat surprised to find that so few of the illustrating experiments presented deal with C^{14}, since it is the radioisotope most used in biological studies.

Radioisotopes in Biology and Agriculture is an excellent book. To researchers in agriculture it offers something hitherto unavailable. As far as general biology is concerned it is now one of many good textbooks on radiotechniques.

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New Books

The Coast Salish of British Columbia. Homer G. Barnett. Univ. of Oregon, Eugene, 1955. 320 pp. $5.

Vector Analysis. Homer E. Newell, Jr. McGraw-Hill, New York, 1955. 216 pp. $5.50.

The Geometry of Geodesics. Herbert Busemann. Academic Press, New York, 1955. 422 pp. $9.

Éléments de Mécanique Quantique. Ph. Pluvinage. Masson, Paris, 1955. 547 pp. Broche, F. 4000; cartonné toile, F. 4600.

Actions Chimiques et Biologiques des Radiations. M. Haissinsky, Ed. pt. 1, *Aspects Physiques de la Radiobiologie*; L. H. Gray. pt. 2, *Chimie des Radiations des Solutions Aqueuses. Aspects Actuels des Resultats Experimentaux*; M. Lefort. pt. 3, *Modern Trends in Radiation-Biochemistry*; W. M. Dale. Masson, Paris, 1955. 254 pp. F. 2800.

A Century of Progress in the Natural Sciences, 1853–1953. Published in celebration of the centennial of the California Academy of Sciences. California Acad. of Sciences, San Francisco, 1955. 807 pp.

Biochemistry and the Central Nervous System. Henry McIlwain. Little, Brown, Boston, 1955. 272 pp. $9.50.

An Introduction to Reactor Physics. D. J. Littler and J. F. Raffle. McGraw-Hill, New York; Pergamon, London, 1955. 196 pp. $4.50.

How to Make Cacti Flower. E. Lamb. Pitman, New York, 1955. 80 pp. $1.95.

Family and Fertility in Puerto Rico. A study of the lower income group. J. Mayone Stycos. Columbia Univ. Press, New York, 1955. 332 pp. $6.