English pink, bubalinus, luteolus, electrinus, most of which would not be understood by the average reader, yet they are all "moderate yellows" in the same sense as the first group of words.

The final section (pages 85–158, three colums to a page) is what the authors call the heart of the color names dictionary. It consists of an alphabetical listing of all of the color names studied, each followed by its equivalent ISCC-NBS designations and a key letter denoting its field of application. Synonymous names are indented under the main color names, and the whole is cross-indexed in detail.

In their summary the authors dedicate the method to everyone who has found it difficult to make his color descriptions intelligible, in the hope that it will eventually find such wide use that it will serve as a common denominator in the varied color terminology used in science, art, and industry. To this hope I breathe a fervent amen.

DOROTHY NICKERSON
U.S. Department of Agriculture

Actions Chimiques et Biologiques des Radiations. M. Haissinsky, Ed. Masson, Paris, 1955. 52 pp. F. 2800.

This is the first of an anticipated series to be published on the effects of radiations on matter, both living and nonliving. The volume is divided into three sections: "Aspects physiques de la radiobiologie," by L. H. Gray; "Chemie de radiations des solutions aqueuses. Aspects actuels des resultats expérimentaux," by M. Lefort; and "Modern trends in radiation biochemistry," by W. M. Dale.

L. H. Gray presents in a very readable fashion the fundamental concepts of radiation interaction with matter, from soft x-rays to supervoltage x-rays and gamma rays as well as neutrons and heavy charged particles. Methods and reliability of dosimetry are discussed. For many of the subjects discussed, biological data related to the subject are given. Lefort presents a well-organized account of present knowledge of the radiation chemistry of aqueous solutions. The last chapter on oxidation of organic compounds should be interesting to the radiobiologist. Dale, in his concluding chapter, shows the application of the fundamental principles discussed by Gray and Lefort in modern radiobiology. The indirect action of radiation is discussed progressing from the molecular level through living cells to the whole animal.

This volume is exceedingly well organized, with enough overlapping to make the transition very smooth from chapter to chapter. This volume, along with the other anticipated volumes, should be a real aid to the teacher as well as research worker in this field. The editor and authors should be congratulated on the publication of this collection.

GEORGE E. STAPLETON
Biology Division,
Oak Ridge National Laboratory

Radiocarbon Dating. Willard F. Libby. University of Chicago Press, Chicago, ed. 2, 1955. ix + 175 pp. Illus. $4.50.

The first edition of this important book by the developer of the carbon-14 method of dating was published in 1952. The second, revised edition describes subsequent improvements in the measurement technique and also includes a detailed list of the dates obtained in the author's laboratory prior to the fall of 1954.

These dates, which occupy more than one-third of the text, number 356. Thirty-four relate to Egypt, the Near East, and Western Asia, 34 to Western Europe, 217 to the United States, Canada, and Alaska, 22 to Mexico and Central America, 20 to South America, 27 to various other areas (Manchuria, Japan, Hawaii, Oceania, and Africa), and 2 to tree-ring samples. Many of the dates will be of interest only to professional archeologists; but some are undoubtedly of more general interest. Thus, the famous Florisbad skull from Orange Free State, South Africa, is dated as older than 41,000 years; the Folsom culture at Lubbock, Texas, at 9883 ± 350 years; the first phase of Stonehenge at 3798 ± 275 years; the Dead Sea scrolls at 1917 ± 200 years; and the prehistoric city of Zimbabwe, in South Rhodesia, is given a date of A.D. 574 ± 107 on the Christian calendar.

A chapter on the significance of radiocarbon dates by Frederick Johnson, an archeologist, has been revised and expanded. Johnson observes that where various sorts of evidence, archeological and/or geological, lead to real conclusions concerning chronology, the radiocarbon dates are in general agreement; the major difficulties involve situations where archeologists or geologists do not agree among themselves. He thinks that the results of the carbon-14 dating method are, in general, sound, and that—barring mistakes by collectors and laboratory workers—most of the errors can be traced to the process of selection and collection of samples.

Libby's book will undoubtedly appeal to a varied audience. But it is a "must" for those, such as archeologists and anthropologists, who are particularly concerned with the dating of prehistoric remains and artifacts.

WILLIAM L. STRAUS, JR.
The Johns Hopkins University

Miscellaneous Publications

(Inquiries concerning these publications should be addressed, not to Science, *but to the publisher or agency sponsoring the publication.)*

Society of Biological Chemists, India, Silver Jubilee Souvenir, 1955. The Society, Bangalore, India, 1955. 262 pp. $3.

The Institute of International Education, 1955 Annual Report. The Institute, New York, 1956. 48 pp.

Prenatal and Paranatal Factors in the Development of Childhood Behavior Disorders. Martha E. Rogers, Abraham M. Lilienfeld, Benjamin Pasamanick. Johns Hopkins University Press, Baltimore, Md., 1955. 157 pp.

Preliminary Report on Financial Protection against Atomic Hazards. Arthur W. Murphy *et al.* Atomic Industrial Forum, Inc., New York, 1956. 37 pp.

Sand Variation at Point Reyes Beach, California. Tech. Memo. No. 65. 1955. 86 pp. *Factors Affecting the Economic Life of Timber in Coastal Structures.* Tech. Memo. No. 66. 1955. 23 pp. *A Model Study of the Run-Up of Wind-Generated Waves on Levees with Slopes of 1: 3 and 1: 6.* Tech. Memo. No. 67. 1955. 19 pp. *Wave Action and Sand Movement near Anaheim Bay, California.* Tech. Memo. No. 68. 1956. 21 pp. Beach Erosion Board, Office of Chief of Engineers, Washington 25.

The National Formulary 1955, First Amendment 1956. Pharmaceutical Press, London, 1956 (order from Rittenhouse Bookstore, Philadelphia). 6 pp. 6d.

The Effect of Water Impurities on the Flavor of Brewed Coffee. Publ. No. 6. Ernest E. Lockhart, C. L. Tucker, M. C. Merritt. Coffee Brewing Institute, New York, 1956. 11 pp.

Instrumentation and Methods for Radioactivity Detection in the Mineral Industry. Quart. Colorado School of Mines, vol. 51, No. 1. James O. Milmoe and Stephen P. Kanizay. Colorado School of Mines, Golden, 1956. 97 pp. $1.

Studies in Cheremis: the Supernatural. Viking Fund Publ. in Anthropology, No. 22. Thomas A. Sebeok and Frances J. Ingemann. Wenner-Gren Foundation for Anthropological Research, New York, 1956. 357 pp. $5.

Mathematics in an Industrial Economy. Industrial Mathematics Society, Detroit, Mich., 1955. 15 pp.

American Society for Artificial Internal Organs, Transactions. vol. 1. The Society, Los Angeles 29, 1956. 106 pp. $3.

Commercial and International Developments in Atomic Energy. Proceedings of a meeting for members and guests, 27–29 Sept. 1955, Sheraton-Park Hotel, Washington, D.C. Atomic Industrial Forum, New York, 1956. 598 pp. $8.50.