anists, and such portraits are very difficult to locate. Any historian of botany who is searching for illustrations should certainly consult the Hunt Botanical Library.

Finally, the volume contains some informative bibliographical notes, which clarify the usage of such technical distinctions as "edition, issue and state" and the difference between "uncut and unopened copies." The contributors are listed and identified, and the index is adequate.

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New Science Yearbooks

The standard encyclopedias—*Americana, Britannica, Collier's*, and *World Book*, for example—publish yearbooks or "annuals" that include feature articles or summaries of recent occurrences, update some of the articles in the parent work, or provide for the first publication of new articles that eventually will be incorporated in a major revision. Reflecting the tremendous popular interest in science and technology and the annual progress in scientific and technical research and development, two new science yearbooks have been inaugurated: **Encyclopedia Science Supplement, 1965** (Grolier Incorporated, New York, 1965. 440 pp., $7.95; to schools and libraries, $5.95) and **The World Book Science Annual, 1965** (Field Enterprises, Chicago, Ill., 1965. 393 pp., $6.95).

Encyclopedia Science Supplement, 1965 is intended to serve those who use *Americana, Encyclopedia International, Grolier Encyclopedia*, and other Grolier sets. The volume contains 54 articles, mostly written by professional specialists. The major headings and the number of articles are as follows: Archeology, four; Biology, seven; Earth Sciences, six; Man and his World, six; Physical Sciences, five; Psychology, six; Space Exploration, eight; Technology, six; and Projects and Experiments, six. Each section or group of articles is preceded by a brief summary of the current developments that are discussed in the individual papers. For example, the preface to the biology section summarizes the classical view of life and tells of the advent of biochemical and biophysical research and the consequent present view of life, emphasizing the insights that have resulted from developments in cellular and molecular biology. In the psychology section the preface and articles indicate the broad and complex nature of psychological studies, the use of computers in psychological research, the relation of physiological disturbances to mental disorders, the role of drugs and hormones in mental disturbances, and the recent trend toward a physiological orientation in dream research which originally was the province only of the psychologist.

The section on space exploration reviews developments in radio astronomy, electronic photography, orbiting observatories, satellites and space probes, and the accomplishments in manned space flight. The coverage in other divisions is equally current and timely. The concluding section, on projects and experiments, is especially worthwhile, for the widespread interest of students in individual science projects and activities demands a constant flow of new and increasingly sophisticated ideas and procedural suggestions. The illustrations, all black-and-white, are of average quality, with some use of brown background tones. The text, which is in good informational and popular science style, will appeal primarily to secondary school students and nonspecialist adults. The index is adequate.

The content of *The World Book Science Annual, 1965* is of the same quality and reading level as the Grolier volume, but because it contains 216 outstanding illustrations in full color it is certain to have much greater popular appeal. The book begins with a series of colored photographs and short notes that describe the world of the scientist. In the introductory essay, "The science explosion," Harlow Shapley tells us that "the outburst of information about the universe and ourselves is the most spectacular phase of this explosion." Next we have a series of "special reports" chosen for their importance and timely interest: "Mission to Mars," by Robert Johnson and Mark Perlberg; "Midway to the moon" by William R. Shelton; "The Soviet space program" by Joseph L. Zygielbaum; "Man in nature" by Paul B. Sears; "The mysteries of plant growth" by John Barbour; "The beleaguered lung" by Edwin Diamond, followed by a "Trans-Vision" that shows the progressive development of lung cancer; "A heart for a heart" (progress in transplantation of organs) by Arthur J. Snider; "Unraveling the code of life" by Isaac Asimov; "The quest for quarks" by Malcolm D. Ferrier; "Beam of the future" (with colored illustrations of the laser) by Arthur L. Schawlow; "Continental engineering" (possibilities for using atomic energy in major construction projects) by Ralph E. Lapp; "Early man in the New World" by Loren C. Eisely; "The frozen frontier" by Richard S. Lewis; and "Best of the fair" by Foster P. Stockwell.

World Book then presents the Science File, a collection of short signed articles arranged in alphabetical order, in which contributors summarize developments in various fields, beginning with "Agricultural technology" and "Anthropology," and ending with "Science legislation," "Veterinary medicine," and "Zoology." The file contains a varied fare—a list of outstanding books for the layman published during the preceding year, an account of the progress in the development of new science curricula, and reports on activities of the National Academy of Sciences, NASA, NIH, and NSF. For dessert there is "Men of science," which features a brief account of Harold Urey's research and teaching (by William R. Shelton), and a list, including descriptions and other material, of the major scientific awards and prizes, as well as biographical notes on the winners. An analytical index concludes the volume.

The two yearbooks complement—rather than duplicate—each other. True, the same basic developments and ideas dominate much of both, but in each the approach, the organization, and the treatment are different. Libraries are likely to need both volumes, but the individual will probably find that the World Book volume has the stronger appeal.

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Quantum Theory, 1900 to 1930

In this delightful book, **Thirty Years That Shook Physics** (Doubleday, Garden City, N.Y., 1966. 239 pp., $5.95), George Gamow, who is professor of physics at the University of Colorado, presents the development of quantum theory from 1900 to 1930 in a popular and anecdotal way.

Gamow treats the introduction of the idea of quanta into radiation by Planck