

Books of the Week

For the editorial information of our readers, books received for review since last week's issue are listed. For convenient purchase of any U. S. book in print, send a remittance to cover retail price (postage will be paid) to Book Department, Science Service, 1719 N Street, N.W., Washington 6, D. C. Request free publications direct from publisher, not from Science Service.

THE ABC'S OF MODERN PLASTICS: Basic Facts on the Sources and Production of Plastics, Their Spectacular Growth and Importance in Everyday Living—*Bakelite Company*, rev. ed., 45 p., illus., paper, free upon request direct to publisher, 300 Madison Ave., New York 17, N. Y.

THE AIRCRAFT YEARBOOK 1955: Official Publication of the Aircraft Industries Association of America—Fred Hamlin and Eleanor Thayer Miller, Eds.—*Lincoln Press*, 37th ed., 479 p., illus., \$6.00 plus postage. A review of outstanding events and developments in the field, and a directory of information sources.

ALPHONSE BERTILLON: Father of Scientific Detection—Henry T. F. Rhodes—*Abelard-Schuman*, 238 p., illus., \$3.75. Bertillon was one of the first men to establish the value of fingerprints for identification and he also developed the anthropological "Bertillon" method of identification by body measurements.

ANESTHESIA FOR OBSTETRICS: Labor, Delivery, Infant Care—Robert A. Hingson and Louis M. Hellman—*Lippincott*, 344 p., illus., \$12.50. For the anesthesiologist and obstetrician, showing them how they can cooperate for the patient's benefit.

THE CHEMICAL PROCESS INDUSTRIES—R. Norris Shreve—*McGraw-Hill*, 2d ed., 1004 p., illus., \$11.50. A college text and also a reference work for practicing chemical engineers and chemists.

EXPLORING AMERICAN CAVES: Their History, Geology, Lore and Location; A Spelunker's Guide—Franklin Folsom—*Crown*, 280 p., illus., \$5.00. Men have conquered the surface of the earth, the author explains, they use the air above as a highway, they have mastered the Seven Seas and probed deep ocean waters, but caves are still largely in the realm of the unknown.

HISTORICAL AND BIOGRAPHICAL ALBUM WITH SIXTEEN POSTER STAMP ILLUSTRATIONS OF THE LIFE OF BENJAMIN FRANKLIN—*Herman Jaffe*, 30 p., illus., paper, \$1.00.

INTRODUCTORY CHEMISTRY—Otto W. Nitz—*Van Nostrand*, 520 p., illus., \$5.75. A text for college students interested in chemistry for cultural purposes rather than as preparation for a career as a chemist.

THE MENNINGER STORY—Walker Winslow—*Doubleday*, 350 p., illus., \$5.00. The story of a remarkable physician and the clinic he founded, which naturally includes the story of his three famous sons, two physicians and one journalist.

MENTAL HYGIENE: A Survey of Personality Disorders and Mental Health—D. B. Klein—*Holt*, rev. ed., 654 p., illus., \$6.75. For the serious student of mental hygiene and also the reader looking for help in connection with personal problems.

UNDERFOOT—Dora E. Worbs and Eva L. Gordon—*New York State College of Agriculture*, Cornell Rural School Leaflet, Spring 1956, 32 p., illus., paper, 20 cents. The soil you walk on is not just plain dirt, it is a living world of plants and animals. This booklet will help you explore it.

UNDERSTANDING HUMAN BEHAVIOR—James L. McCartney—*Vantage*, 258 p., illus., \$3.50. Explaining to laymen the physical and emotional basis for man's behavior and what can be done to help the maladjusted individual.

Science News Letter, June 9, 1956

INVENTION

Glass Shielding Devised For Nuclear Reactors

➤ A GLASS SANDWICH that protects atomic scientists from deadly radiation and, at the same time, permits the scientists to see what is happening in a nuclear reactor has been invented.

Its development may spell an end to the use of thicker lead and concrete shielding now used to protect atomic workers from dangerous radiations. Its use could also simplify some steps in reactor operation, because scientists could see more quickly when the reactor needed charging or the fuel slugs needed replacing.

The glass shield is a laminate of two special glasses, separated by a third thin sheet of transparent glass with a high melting point. One layer, that closest to the atomic reaction, is made of the oxides of beryllium, lithium and boron. It slows down fast neutrons and captures slower neutrons. The second layer is a dense lead-boro-silicate glass that absorbs beta and gamma radiations. Both layers are transparent.

The shielding was awarded patent No. 2,747,105. Its inventors, John V. Fitzgerald and George S. Bachman of New Kensington, Pa., assigned the patent rights to the Pittsburgh Plate Glass Company.

Science News Letter, June 9, 1956

ASTRONOMY

Average Comet Diameter Nine Times That of Earth

➤ THE AVERAGE COMET has a diameter nine times that of earth, Dr. N. T. Bobrovnikoff of Ohio State University has calculated.

Because any one comet can be studied for only a short time, he analyzed nearly 7,600 observations of 300 comets to learn about their changing brightnesses and sizes. The diameters ranged from 3,600 miles to 600,000 miles, the average being 66,000 miles, Dr. Bobrovnikoff found. A single comet's size varies as its distance from the sun changes.

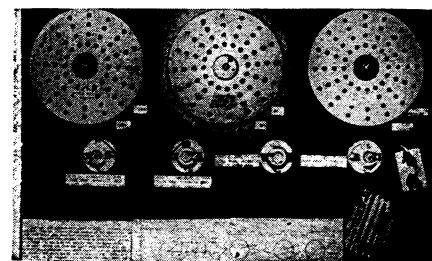
Very few comets are discovered with diameters less than 30,000 miles, according to a report of his work in *Sky and Telescope* (June).

Many small comets escape discovery, Dr. Bobrovnikoff states, and the number of comets inside the orbit of Jupiter at any time may be far greater than the number actually observed.

Comets differ both from stars, which shine by their own, self-generated light, and planets, which shine by reflected light. They are called comets, from the Latin coma, or hair, because one bright enough to be seen by the naked eye looks like a star surrounded by a luminous fog. Usually it has a large tail of hazy light.

Science News Letter, June 9, 1956

Can you think faster than this Machine?



Control Panel of GENIAC set up to do a problem in check valve research.

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