

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.

ABOUT EARTHQUAKES—G. A. Eiby—*Harper*, 168 p., illus., \$3.00. The author is geophysicist at the Seismological Observatory at Wellington, New Zealand and he here answers the questions commonly asked him by visitors.

ALFRED P. SLOAN FOUNDATION REPORT FOR 1955-1956—Alfred P. Sloan, Jr., president—*Alfred P. Sloan Foundation*, 163 p., illus., paper, free upon request direct to publisher, 630 Fifth Ave., New York 20, N. Y. This foundation does not itself engage in education or research activity, but it does provide support for approved projects administered by educational, scientific and charitable institutions.

ANNALS OF PHYSICS: Volume 1, Number 1, April 1957—Philip M. Morse, Ed.—*Academic*, 111 p., diagrams, monthly, \$3.00 per issue, \$22.00 for 1957. Providing a medium for original works of broad significance written so as to be understandable to all.

ASPECTS OF THE BIOLOGY OF POMATIOPSIS LAPIDARIA (SAY) (MOLLUSCA: GASTROPODA: PROSOBRANCHIA)—Dee Saunders Dundee—*Museum of Zoology, University of Michigan*, Miscellaneous Publications No. 100, 37 p., illus., paper, \$1.00. This snail is considered a potential host of the fluke that causes schistosomiasis.

AUTOMOBILES AND MOTORCYCLES IN THE U. S. NATIONAL MUSEUM—Smith Hempstone Oliver—*Smithsonian*, 157 p., illus., paper, \$1.00. America's first automobile, built in 1805, was amphibious and designed as a steam-operated dredge to be used in the Philadelphia harbor.

CHEMISTRY CREATES A NEW WORLD—Bernard Jaffe, introduction by Glenn T. Seaborg—*Crowell*, 321 p., illus., \$4.50. To tell adults who never had a course in chemistry about some of the more remarkable achievements of the science in recent years.

THE EFFECTS OF NUCLEAR WEAPONS—Samuel Glasstone, Ed. *Govt. Printing Office*, prepared by the U. S. Department of Defense and published by the U. S. Atomic Energy Commission, 579 p., illus., paper, \$2.00. The effects of information given here are calculated for yields up to 20 megatons and the scaling laws for hypothetically extending the calculations beyond this limit are given. (See p. 55.)

ELEMENTARY SOIL AND WATER ENGINEERING—Glenn O. Schwab and others—*Wiley*, 296 p., illus., \$6.25. A college-level text for those with no previous training in engineering.

GASIFICATION OF PULVERIZED COAL IN SUSPENSION—C. G. von Fredersdorff, E. J. Pyrcioch and E. S. Pettyjohn—*Institute of Gas Technology*, Sponsored by the Gas Production Research Committee of the American Gas Association, 71 p., illus., paper, \$5.00. Reviewing the methods for producing a satisfactory natural gas substitute.

AN INTRODUCTION TO AUTOMATIC DIGITAL COMPUTERS—R. K. Livesley—*Cambridge University Press*, 53 p., illus., \$1.75. To help engineers and others to judge whether the electronic brain is suitable for use in their own tedious numerical work.

JOHN AND WILLIAM BARTRAM'S AMERICA: Selections from the Writings of the Philadelphia Naturalists—Edited with an introduction by Helen Gere Cruickshank, foreword by B. Bartram Cadbury—*Devin-Adair*, 418 p., illus. with drawings by Francis Lee Jacques, \$5.00. In letters and diary notations, you can here learn of early America through the eyes of naturalists.

1957 MEDICAL PROGRESS: A Review of Medical Advances During 1956—Morris Fishbein—*Blakiston*, 367 p., \$6.00. One of the outstanding

achievements of the year was the continued development and use of the tranquilizers.

READING THE LANDSCAPE: An Adventure in Ecology—May Theilgaard Watts—*Macmillan*, 230 p., illus., \$4.75. A charming book that will make your travels more interesting and your stays at home more instructive.

SOME ASPECTS OF THE CHEMISTRY AND TOXIC ACTION OF ORGANIC COMPOUNDS CONTAINING PHOSPHORUS AND FLUORINE—Bernard Charles Saunders with foreword by Sir Alexander Todd—*Cambridge University Press*, 231 p., illus., \$6.00. Besides their use in biological warfare, these compounds are useful to biologists in the investigation of enzyme systems and to physicians in the treatment of glaucoma and other illnesses.

TEACHERS OF CHILDREN WHO ARE MENTALLY RETARDED: A Report Based on Findings From the Study: Qualification and Preparation of Teachers of Exceptional Children—Romaine P. Mackie, Harold M. Williams and Lloyd M. Dunn with others—*Govt. Printing Office*, Office of Education Bulletin 1957, No. 3, 97 p., illus., paper, 45 cents.

WATER FLUORIDATION: FACTS, NOT MYTHS—Louis I. Dublin—*Public Affairs Committee*, Public Affairs Pamphlet No. 251, 28 p., illus., paper, 25 cents. Telling why this "most effective and least costly preventive dental health measure available" is so bitterly opposed by some people.

WILLIAM HARVEY: His Life and Times, His Discoveries, His Methods—Louis Chauvois with foreword by Sir Zachary Cope—*Philosophical Library*, 271 p., illus., \$7.50. In addition to his great and original discoveries in medicine, William Harvey showed the correct place of experiment in scientific advance.

Science News Letter, July 27, 1957

ANIMAL PSYCHOLOGY

A Full Stomach Stops Weaned Puppy's Eating

► **WHEN A PUPPY** stops eating it is because his stomach is stretched to the limit, not because he has tired of gulping the food down.

In this the weaned puppy differs from the nursing puppy, Drs. W. T. James and T. F. Gilbert of the University of Georgia, Athens, observe in *Psychological Reports* (June). Dr. James had previously found that when food is injected by tube directly into the stomach of the nursing puppy, he goes right on sucking.

Sucking is a reflex, the investigators explain. The nursing puppy goes right on sucking until he stops because of reflex fatigue or because he goes to sleep.

As soon as the puppy is weaned, however, the stomach takes over control of the animal's intake of food.

Seven mongrel puppies were used in the experiment. On one day the puppies were allowed to eat until they could eat no more. Then, after an interval of from two to five minutes they were offered food again. Every one of the puppies who had eaten to capacity refused the second helping.

On alternate days, instead of letting the puppies eat from a pan, milk and strained

Purina Dog Chow were injected directly into the stomach. The amount was always more than the puppy ate the day before. The stomach was filled until food ran out the mouth. Again the puppies refused a second feeding from the pan.

At the beginning of the experiment, it took only 40 grams to fill the stomach, but after 16 days about 300 grams was injected before the stomach was filled.

Science News Letter, July 27, 1957

TECHNOLOGY

Mirror Landing System Designed to Save Lives

See Front Cover

► **ONE "MEATBALL"** is all U. S. Navy pilots will want aboard aircraft carriers, providing the "meatball" is in the right place.

The "meatball" is the key to the Navy's mirror landing system. Evolved during a nine-year period and incorporating developments made by the British who first used the system, it will become standard operating gear on all Navy carriers.

The system promises to cut pilot accidents by more than one-third and save taxpayers approximately \$20,000,000 annually.

The lifesaving mirror system, developed by Libbey-Owen-Ford Glass Company, Patuxent River, Md., works like this:

A curved mirror about four feet by four feet is mounted on the port side of the ship in an automatic stabilizing frame that compensates for the roll of the carrier. Four bright lights are beamed into the mirror from an aft position, forming a "meatball," as shown in the lower left of the large mirror in the photograph on the cover of this week's SCIENCE NEWS LETTER.

The "meatball" is reflected to the pilot of an approaching aircraft. If the pilot is in the optical glide beam provided by the "meatball" the spot will be centered between a row of stationary green "datum" lights. If he is too high, the "meatball" will move up. If too low, it will move down.

The new system gives a pilot 20 seconds to position his craft correctly. When waved aboard under the old system by a landing signal officer, the pilot had only three to four seconds.

Science News Letter, July 27, 1957

FOOD TECHNOLOGY

Glaze Protects Fish During Freezer Storage

► **A GLUCOSE** salt brine that greatly improves looks and flavor of frozen fish has been developed by the U. S. Branch of Commercial Fisheries, a part of the Fish and Wildlife Service.

Fish frozen in the refrigerated brine acquire a lasting crack-free glaze that protects them against drying or discoloration, report fisheries scientists. The glucose based glaze apparently prevents loss of moisture from the fish and keeps oxygen from getting at it.

Science News Letter, July 27, 1957