

Books of the Week

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THE ADVANCEMENT OF SCIENCE—*British Association for the Advancement of Science*, 130 p., illus., paper, six shillings. Addresses delivered at the annual meeting of the BAAS in Newcastle upon Tyne, August 31 to September 7, 1949.

APPLIED PRACTICAL RADIO-TELEVISION—Coyne Technical Staff—*Coyne Electrical & Radio-Television School*, 392 p., illus., \$4.25. Covers practical procedures with a chapter on color television. For radiomen interested in getting into television.

THE AXONOMETRIC METHOD OF DESCRIPTIVE GEOMETRY—William Henry Roever—*Edwards Brothers*, 75 p., illus., paper, \$3.00. For those interested in pictorial representation of the objects of space upon a plane.

DECAY OF TIMBER AND ITS PREVENTION—K. St. G. Cartwright and W. P. K. Findlay—*Chemical*, 294 p., illus., \$7.50. A reference book dealing with the problems of timber decay and preventive methods.

FOR THE CHILDREN'S BOOKSHELF: A Booklist for Parents—Federal Security Agency—*Gov't. Printing Office* (Publ. N. 304), 41 p., illus., paper, 15 cents. A list of a few books of each kind, grouped into classes with references to children's interests and to their varying levels of development.

MACHINERY'S HANDBOOK—Erik Oberg and Franklin D. Jones, Eds.—*Industrial Press*, 14th ed., 1911 p., illus., \$7.00. A basic reference containing data and formulas for use in either designing or building any type of machine or other mechanical device.

MUSICAL APTITUDE TEST (series A): For Grades 4 through 10—Harvey S. Whistler and Louis P. Thorpe—*California Test Bureau*, 23 p., illus., paper, \$3.00. (I. B. M. cards: four cents). Provides a diagnostic analysis of po-

tential ability in the field of music. Given directly from a piano keyboard.

A NEW ADIANTHINE LITOPTERN AND ASSOCIATED MAMMALS FROM A DESEADAN FAUNULE IN MENDOZA, ARGENTINA—George Gaylord Simpson and Jose Luis Minoprio—*American Museum of Natural History*, 27 p., illus., paper, 15 cents. A brief description of a few fossil mammals.

A NEW OLIGOCENE RODENT GENUS FROM PATAGONIA—Albert E. Wood—*American Museum of Natural History*, 54 p., illus., paper, 15 cents. A report on two nearly complete and largely articulated rodent skeletons.

ORGANIZATION AND SUPERVISION OF ELEMENTARY EDUCATION IN 100 CITIES—Federal Security Agency—*Gov't. Printing Office*, 84 p., illus., paper, 25 cents. An analysis of a study made by staff members of the Division of Elementary Education.

REPORT OF PROCEEDINGS—Advisory Council on Industry-Science Teaching Relations—*National Science Teachers Association*, 24 p., paper, free upon request to publisher, 1201 16th St., N. W., Washington 6, D. C. Addresses presented at the regional conference in Pittsburgh, Pa., September 30, 1949.

SOILS: Their Physics and Chemistry—A. N. Puri—*Reinhold*, 550 p., illus., \$7.00. The author presents his views of the structure and chemical behavior of soils.

X-RAY TREATMENT: Its Origin, Birth and Early History—Emil H. Grubbe—*Bruce*, 153 p., illus., \$3.00. The author presents his views upon the origin and birth of X-ray therapy.

YOUR FARMHOUSE HEATING—United States Department of Agriculture (Misc. Publ. No. 689)—*Gov't. Printing Office*, 23 p., illus., paper, 15 cents. A technical report.

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to planes, and the installation of very high frequency radio ranges to guide pilots across country.

Neither the instrument landing system, developed and advocated by the Civil Aeronautics Administration and known as ILS, nor the radar-radio Ground Control Approach (GCA) pushed by the military was deemed adequate alone by the RTCA. The plan devised for immediate use combines both.

The very high frequency (VHF) radio range proposed sends static-free communications to pilots. With this omnirange, as it is called, a pilot can fly a radio course to or from any station with relatively simple and inexpensive equipment in his plane. Also the pilot may have in his cockpit an instrument that will tell him continuously in miles how far he is from the station to which he is tuned.

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ASTRONOMY

Explosion on Star Puzzles Astronomers

► ASTRONOMERS are pondering the significance of a violent explosion which they observed by pure chance on a cosmic neighbor of the sun.

The speculation of University of California astronomers at Lick Observatory, Mt. Hamilton, Calif., is that the phenomenon may be a mechanism of nature similar to the release of atomic energy.

Dr. and Mrs. Gerald E. Kron, of the astronomical staff, observed the explosion while they were doing routine work with photo-electric equipment attached to the observatory's 36-inch telescope.

In the space of 15 minutes the star flared to twice its normal brightness and then returned to near normal brightness. The star, known as Cin 20 1224, is not a nova, or exploding star. It is actually fainter, redder and smaller than the sun, which is a rather ordinary star.

Dr. and Mrs. Kron's calculations indicate that only a small spot on the star was involved in the explosion. This spot probably had a diameter about equal to that of the earth.

The whole star has a diameter about 60 times that of the earth. The astronomers calculated that in order to cause a two-fold increase in light received from the star, the amount of light emanating from the affected spot must have increased 2000 times, its temperature rising from 5,000 degrees to 20,000 degrees Centigrade.

A similar flare-up was recently observed by Dr. W. J. Luyten, of the University of Minnesota, who found such a phenomenon on a photographic plate, and this is the fourth of the sun's neighbors known to flare up. The star observed by Dr. and Mrs. Kron was the first of this type to be observed and carefully measured during the actual act of flaring up.

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AERONAUTICS

Trophy to Commission

► THE highly-prized Collier Trophy, America's number one aviation award, will go this year to a government commission, rather than to an individual. The Radio Technical Commission for Aeronautics will receive the trophy from the President of the United States on Jan. 10, 1950, the presentation being in the executive offices of the White House.

This commission, known as RTCA for short, is receiving the trophy for developing a system of air navigation and traffic control now officially adopted for American use by the U. S. Civil Aeronautics Administration, the U. S. Air Force and the Navy. Facilities for its use are being rapidly installed. It will probably become international in the near future.

The RTCA, a cooperative association of all government agencies and industry or-

ganizations concerned with aeronautical telecommunications, in developing its plan had to reconcile the policies and ideas of seven government agencies, including the Air Force, the Navy and five civil organizations. All these are directly concerned with air traffic problems.

It is the first time in aviation history that the military and civilian aviation leaders, as well as government regulatory groups, have reached general agreement on the over-all system of navigation and landing aids which all believe should be developed and installed in the United States.

The system of air navigation and traffic control to facilitate safe and unlimited aircraft operations under all weather conditions includes the use of an instrument landing system, radar-radio ground control approach apparatus, the use of very high frequency in radio communications