

Books of the Week

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ANGORA RABBIT WOOL PRODUCTION—Thora M. Plitt Hardy and Ethel H. Dolnick—*Govt. Printing Office*, 22 p., illus., paper, 10 cents. Reports of investigations at Beltsville.

BASIC FISH COOKERY—Rose G. Kerr—*Fish and Wildlife Service*, 26 p., illus., free upon request to the Fish and Wildlife Service, U. S. Department of the Interior, Washington 25, D. C. Clear photographs show how to clean and prepare fish in appetizing ways that will probably be new to you.

CHEMISTRY: A History of the Chemistry Components of the National Defense Research Committee, 1940-1946—W. A. Noyes, Jr., Ed.—*Little-Brown*, 524 p., illus., \$6.00. The story of chemistry in the war includes the dramatic chapter of explosives, gas warfare, the more soothing story of insecticides and repellents, flame throwers, antifouling paints and mold prevention.

DIRECTORY OF ACTIVITIES OF THE BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING, 1947—*Govt. Printing Office*, 157 p., paper, 30 cents. A very interesting summary of all the researches now under way with a list of the personnel engaged in them.

EATING FOR HEALTH—Pearl Lewis—*Macmillan*, 119 p., illus., \$2.25. A practical book for use in meal planning and preparation.

ELEMENTARY INDUSTRIAL ELECTRONICS—William R. Wellman—*Van Nostrand*, 371 p., illus., \$3.20. A book for students and workers in the electrical and plant maintenance fields.

ESSENTIALS OF PUBLIC HEALTH—William P. Shepard, Charles Edward Smith, Rodney Rau Beard, and Leon Benedict Reynolds—*Lippincott*, 600 p., illus., \$5.00. A condensed handbook for the physician in private practice or the medical student.

THE FIRST 25 YEARS OF THE NAVAL RESEARCH LABORATORY—A. Hoyt Taylor—*Navy De-*

partment, 75 p., illus., paper, limited number free upon request to the U. S. Naval Research Laboratory, Washington 25, D. C. The story of the birthplace of many modern instruments of war.

INFLUENCE OF PARTICLE SIZE IN DUST EXPOSURE—Theodore Hatch and W. C. L. Hemeon—*Industrial Hygiene Foundation*, 8 p., paper, free upon request to the Mellon Institute of Industrial Research, University of Pittsburgh, Pittsburgh 13, Pa.

LIFE HISTORIES OF NORTH AMERICAN NUT-HATCHES, WRENS, THRASHERS AND THEIR ALLIES—*Arthur Cleveland Bent—Govt. Printing Office*, 475 p., illus., paper, \$1.75. The sixteenth in a series of the life history of North American birds prepared by the United States National Museum.

MINING GEOLOGY—Hugh Exton McKinstry and others—*Prentice-Hall*, 680 p., illus., \$10.00. Gathering together from its scattered sources in human minds and the literature much of the lore, the "art" or the common knowledge of the profession.

SIERRA POPOLUCA SPEECH—Mary L. Foster and George M. Foster—*Govt. Printing Office*, 45 p., paper, 40 cents. A project of the Interdepartmental Committee on Scientific and Cultural Cooperation. Describing the language of four small groups of Indians of Mexico.

UNDERSTANDING SCIENCE—William H. Crouse—*McGraw-Hill*, 190 p., illus., \$2.20. Important modern developments explained for high-school students and the general reader.

X-RAY DIFFRACTION ANALYSIS OF CRYSTALLINE DUSTS—Harold P. Klug, Leroy Alexander and Elizabeth Kummer—*Industrial Hygiene Foundation*, 6 p., paper, free upon request to the Mellon Institute of Industrial Research, University of Pittsburgh, Pittsburgh 13, Pa.
Science News Letter, July 31, 1948

Captured German documents indicate that the Germans were starting cancer research along ultrasonic lines before V-E day. The Soviet and Japanese scientists have also published some reports of similar studies.

Ultrasonic apparatus is now being constructed on the campus of the University of Washington, with war surplus radar and sonar equipment. Sonar equipment, used during the war to detect submarines, employs ultrasonic waves which will echo from the sides of water-submerged vessels. The cancer-fighting apparatus is expected to have greater frequency ranges than any other in the nation.

Dr. Carlson said that the equipment will also be used to study the effects of ultrasonics on the central nervous system and in experiments in biology and physics.

Science News Letter, July 31, 1948

AERONAUTICS

Jets To Conduct Maneuvers Over Continental Europe

See Front Cover

► SIXTY-TWO U. S. Air Force jet fighting planes, which are to conduct maneuvers over central Europe, are shown on the cover of this week's SCIENCE NEWS LETTER in a practice flight in formation over the Caribbean Sea before being shipped by aircraft carrier to Scotland.

They are the famous fast Lockheed Shooting Stars, F-80Bs in military parlance. They are manned by the Air Force 36th Fighter Wing, which before departure was located in the Panama Canal Zone. The picture shows what is probably the largest group of jet fighters ever photographed.

Science News Letter, July 31, 1948

MEDICINE-PHYSICS

Ultrasonics Fight Cancer

► DISINTEGRATING BEAMS of high frequency sound waves will be focussed on deadly cancer cells in a new attack on this dread disease.

University of Washington scientists, physicists, electrical engineers, physiologists, and pathologists will join in a combined effort under Dr. Loren D. Carlson, assistant dean of the School of Medicine, in conducting the investigation of this method of fighting cancer. This research has been made possible by funds from a \$25,000 grant by the Damon Runyon Memorial for cancer research.

Ultrasonic rays of high frequency sound waves whose wavelength is too short to be heard by human ears are expected to be superior to X-rays in treating cancer in that they can be focussed on a small point and do not spread over a larger area,

attacking harmless cells.

Ultrasonic apparatus can launch an attack on cancer cells on three fronts. Cells will die from the heat caused by the friction of the rays passing through them. Chemical reactions within the cells may be speeded up by the rays and cause the cells to destroy themselves. Cancer cells, it is expected, will also be destroyed by ray-induced cavitation in which bubbles form in the cells and kill them.

Six years ago the possibility of killing cancer cells with ultrasonic sound waves was investigated by Drs. John C. Krantz, Jr., and Francis F. Beck at the University of Maryland. This research was held back by the fact that not until three years later was a method found of focussing the ultrasonic rays so that they would not harm normal tissue.

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