

Books of the Week

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ADVANCES IN BIOLOGICAL AND MEDICAL PHYSICS, VOLUME I—John H. Lawrence and Joseph G. Hamilton, Eds.—*Academic Press*, 484 p., illus., \$8.60. Discussing the use of radioisotopes in medical research and the protection of workers and others against injury from radioactive materials and the atomic bomb.

FIRST LOVE—Joseph Greene and Elizabeth Abell, Eds.—*Bantam*, 242 p., paper, 25 cents. A collection of stories by well-known authors. A book for young people wondering what first love is like and for their elders who like to be reminded. The tales seem to say, as the editors comment "that there might be clearer, straighter, less chancy ways of first encounter."

FLAK BAIT: The Story of the Men Who Flew the Martin Marauders—Devon Francis—*Duell*, 331 p., illus., \$5.00. "Flak Bait," was the name of a bomber which flew 202 combat missions and was hit by flak 1,000 times. But it was also a symbol.

THE INSECT GUIDE: Orders and Major Families of North American Insects—Ralph B. Swain—*Doubleday*, 261 p., illus., \$3.00. An authoritative work, beautifully illustrated in black and white and full color by SuZan Swain.

AN INTRODUCTORY COURSE IN COLLEGE PHYSICS—Newton Henry Black—*Macmillan*, 3d ed., 800 p., illus., \$5.00. Preserving the historical order with simple machines treated in the first chapter; atomic fission in the last.

JOHN GOFFE'S MILL—George Woodbury—*Norton*, 245 p., \$3.00. The delightfully written account of how a "reformed professor," anthropologist of a museum, rebuilds his inherited mill and its industry along with his own life.

NATURAL SCIENCE THROUGH THE SEASONS: 100 Teaching Units—J. A. Partridge—*Macmillan*, 520 p., illus., \$3.00. A text for all grades from one to eight which contains lots of practical "how-to-do-its" and experimental material. By a Canadian author.

NATURWISSENSCHAFTLICHE RUNDSCHAU, VOLUME 1, NUMBER 1—H. W. Frickhinger, Ed.—*Wissenschaftliche Verlagsgesellschaft*, 48 p., illus., quarterly, 6 DM per year, 2 DM per copy. A new magazine devoted to scientific news.

PRINCIPLES FOR PUBLIC ACTION ON PROBLEM DRINKING: A Guide to Model Legislation—*Research Council on Problems of Alcohol*, 16 p., paper, 15 cents.

THE STARS ARE YOURS—James Sayre Pickering—*Macmillan*, 264 p., illus., \$3.95. A book for laymen introducing our nightly companions in the heavens.

A TEXTBOOK OF HISTOLOGY—Alexander A. Maximow and William Bloom—*Saunders*, 5th ed., 700 p., illus., \$8.50. A well-known text revised and with new illustrations.

THE TRES ALAMOS SITE ON THE SAN PEDRO RIVER, SOUTHEASTERN ARIZONA—Carr Tutthill—*Amerind Foundation*, 88 p., 36 pl., paper, free to universities and graduate anthropologists on request direct to Amerind Foundation, Dragoon, Ariz.

WOOL WAX—D. T. C. Gillespie—*Hobart Pub-*

lishing Co., 94 p., paper, \$5.00. Reporting research at the Australian Council for Scientific and Industrial Research on the uses and derivatives of this byproduct of the wool industry.

Science News Letter, August 28, 1948

PSYCHOLOGY

Ant Is Made Neurotic By Frustration

► ANTS, like their larger four-legged and two-legged kindred, may "get the jitters" if they run into a situation that is too much for them. The story of such a neurotic ant is told in the journal, *NATURE* (July 10), by Dr. Derek W. Morley of the Institute of Animal Genetics in Edinburgh.

Dr. Morley maintains a colony of ants in his laboratory. To test their intelligence he puts them through a maze, similar to the larger apparatus used with rats and other mammals.

One time he put one of the most intelligent of his ants back into the maze within five minutes after she had successfully completed a run through it. This time she lost her way and presently was in a dead-end alley.

Instead of immediately retracing her steps and trying to find the right path, the ant remained at the dead end, feeling around the three walls and showing continually rising excitement. Especially noticeable symptoms were jerkiness in movements of legs and antennae.

Finally she faced the other way, but seemed to have lost control of herself. With her legs still jerking, she staggered around backwards in a circle.

Dr. Morley rescued her, ran cold water over her for a few seconds, and then put her back into the nest, where she soon recovered and ran around normally.

Science News Letter, August 28, 1948

ENGINEERING

Use Surplus Gas Turbines For Coal-Burning Tests

► TWO AMERICAN gas turbine engines, one of which was once destined for Russia under the lend-lease program, are now to be used in this country in conducting two notable experiments in the coal-burning field.

The first is in connection with the use of pulverized coal as a fuel for gas turbine locomotives. The second is in the use of gases for fuel which are obtained by burning underground thin layers of coal just as they occur in nature.

These two gas turbines now belong to the U. S. Bureau of Mines. They were obtained from the War Assets Administration

after being declared surplus by the State Department. The one which was to be shipped to the Soviet Union is a 40,000-cubic-feet-per-minute unit. The other is a 23,000 c.f.m. turbine, and it is this one which will be used with the underground burning of coal experiment.

The gas turbine engine, now becoming more popular in America and other countries because of its efficiency, is similar to the steam turbine but utilizes gases of combustion under high pressure against the vanes on the shaft of the engine to cause its rotation. High-pressure steam is used in the steam turbine. One great advantage of the gas turbine is that it requires no water. Therefore it can be used where water is scarce, in desert country and in mines, and it can be used in locomotives.

The larger of these two units is to be located at Dunkirk, N. Y., in a laboratory of the Locomotive Development Committee of the Bituminous Coal Institute. Scientists of the organization, working at Baltimore and using funds provided by a group of American railroads, have already successfully used pulverized coal as fuel to operate a gas turbine. Two locomotives are now under construction which will be powered by coal-burning gas turbines. The use of this turbine will further the studies of the scientists.

The experiment in burning bituminous coal as it occurs in underground seams is being conducted at Gorgas, Ala., by the U. S. Bureau of Mines and the Alabama Power Company in collaboration this year for the second time. Holes are drilled down through the coal seam, and an incendiary is dropped into one. Constant air pressure is then applied to support combustion. Gases formed are recovered from the other drill holes. They are suitable for firing a furnace or can be used to make synthetic liquid fuels.

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