• Books of the Week •

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BASIC PRINCIPLES OF PSYCHOANALYSIS—A. A. Brill—*Doubleday,* rev. ed., 298 p., $3.45. A well-known work almost completely rewritten by Dr. Brill before his death in 1948.

BIRD DOGS IN SPORT AND CONSERVATION—Ralph E. Yeatter—*Illinois Natural History Survey Division,* 64 p., illus., paper, free upon request direct to publisher. Telling how to select and train your dog.

CONSERVATION IN THE UNITED STATES—A. F. Gustafson, C. H. Guise, W. J. Hamilton, Jr., and H. Ries—*Comstock,* 534 p., illus., $5.00. Important information on a vital subject.

FOUNDATIONS OF MODERN PHYSICS—Thomas B. Brown—*Wiley,* 2d ed., 391 p., illus., $5.00. Includes new material on electronics, microwaves and nuclear physics. For the student who has already studied elementary college physics.

KANSAS ROCKS AND MINERALS—Laura Lu Tolsted and Ada Swineford—*State Geological Survey of Kansas,* 54 p., illus., paper, 5 cents. A beautifully illustrated booklet in nontechnical language especially for the amateur collector.

LAWN LABORATORIES—E. Laurence Palmer—*N. Y. State College of Agriculture,* 32 p., illus., paper, 20 cents. A Cornell Rural School Leaflet giving interesting information not only about the grasses of your lawn but the fauna found there, too.

PROBLEM BOOK IN THE THEORY OF FUNCTIONS: VOLUME I, PROBLEMS IN THE ELEMENTARY THEORY OF FUNCTIONS—Konrad Knopp—*Dover,* 1st American ed., 126 p., $1.85. Translated by Lipman Bers.

READINGS IN THE CLINICAL METHOD IN PSYCHOLOGY—Robert I. Watson, Ed.—*Harper,* 740 p., $4.50. Contains 50 papers by specialists in various fields of clinical psychology. For the shelf of the student of psychology or the practicing clinical psychologist.

SCIENTISTS AND AMATEURS: A History of the Royal Society—Dorothy Stimson—*Schuman,* 270 p., illus., $4.00. The Royal Society, like the Philosophical Society in this country had its way paved when learned men got together to talk over their problems and enthusiasms. The Royal Society was chartered in 1662.

SONS OF SCIENCE: The Story of the Smithsonian Institution and Its Leaders—Paul H. Oehser—*Schuman,* 220 p., illus., $4.00. The story of the Smithsonian Institution leaders is, to a large extent, the history of scientific development in this country from the days of Joseph Henry who was the first secretary.

THE STRATIGRAPHY AND STRUCTURAL DEVELOPMENT OF THE SALINA BASIN OF KANSAS—Wallace Lee, Constance Leatherock and Theodore Botinelly—*University of Kansas,* 155 p., package of plates, paper, 25 cents. Report of a cooperative investigation by the State Geological Survey of Kansas and the U. S. Geological Survey.

WHAT'S HAPPENING IN INDUSTRIAL HEALTH?—John F. McMahon—*Mellon Institute,* 4 p., paper, free on request to publisher at University of Pittsburgh, Pittsburgh 13, Pa.

WOMEN—AND THEIR MONEY—Maxwell S. Stewart—*Public Affairs Committee,* 32 p., illus., paper, 20 cents. Advice and information about living expenses and investments.

Science News Letter, January 22, 1949

GEOLOGY

Hawaii's Volcano Harmless

➤ RELAX, and don't waste any sympathy on the Hawaiians who have just had the world's largest mountain begin pouring out hot lava over their largest island. Unlike Vesuvius and other famous volcanoes, the eruption of a Hawaiian volcano is not a disaster but a rather profitable and generally harmless show.

Tourist trade always booms following a nice eruption by Mauna Loa or one of the other Hawaiian volcanoes, and this is no small industry in our statehood-ambitious islands. Scientists who risk death getting closeups of some volcanic eruptions have a safe field day charting lava flows in Hawaii.

No one has ever been killed by the eruption of Mauna Loa. This, despite the fact that "long mountain" is the biggest volcano in the world.

Not so tall as its twin volcano, Mauna Kea, Mauna Loa is actually the largest mountain in the world, in total volume.

Hawaiian eruptions are spectacular and violent, but they are not so much so as the more dangerous skyward fumings of most other active craters. Molten lava pours out at a great rate—more lava flows from Mauna Loa than any other volcano.

But there are none of the dangerous showers of ash, stones and hot mud which make most erupting volcanoes a pretty hazardous spot for sightseeing.

The present eruption seems to have come as a surprise. So closely studied are the Hawaiian craters that volcanologists usually can predict an eruption. Dr. T. A. Jaggar of the University of Hawaii has even worked out a cycle for forecasting Mauna Loa's frequent outbursts.

But officials of the U. S. National Park Service in Washington said this eruption came as a surprise. The Hawaiian volcanoes have been a national park since 1916.

To predict eruptions, scientists use two different methods. One is a tilt measurement, made with a plumb bob suspended over a calibrated scale. When a sharp tilt is noted toward the center of the crater, it means that the volcano is falling away a bit. But when a sharp tilt is noted outward, pressure is rising in the crater and an eruption may be forthcoming.

Seismographs which register earthquakes also tip off most eruptions of the crater. Relatively large numbers of small shocks around Mauna Loa are recorded most of the time. When these become more intense, it generally indicates that lava soon may pour forth again.

Between the tilt and tremor calculations, scientists can usually let the world know sometime ahead of an eruption that the big mountain will be active soon.

Main danger from Mauna Loa is that lava flows may hit villages on the island or its main city, Hilo. But this can now be averted by bombings which are used to break up the channels formed by the molten lava.

A few relatively small bombs have successfully diverted the flow from Hilo before. This incidentally, does not mean that bombs can set off a peaceful volcano, a tactic suggested during World War II. Scientists do not think it would be practical.

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