

# 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. books in print, send a remittance to cover retail price (postage will be paid in U. S.) to Book Department, Science Service, 1719 N Street, N.W., Washington 6, D. C. Request free publications direct from publisher, not from Science Service.

**ADF RADIO COMPASS STATIONS:** A Concise and Convenient Guide to More than 2500 Radio Stations Throughout the U. S. Suitable for Automatic Direction Finding—*Lear*, 36 p., paper, \$1.00. For the airplane owner.

**ANNOTATED BIBLIOGRAPHY OF VITAMIN E, VOLUME II, 1950 and 1951**—Philip L. Harris and Wilma Kujawski—*National Vitamin Foundation*, 106 p., paper, \$2.00. Contains 643 entries with author index.

**THE CHEMICAL ELEMENTS**—Helen Miles Davis, Ed.—*Science Service*, 160 p., \$2.00. This basic book brings up to the minute your knowledge of the chemical elements, old and new. Much is in the original words of the worker who made the discovery. (See p. 366.)

**EXPLORATORY WELLS DRILLED OUTSIDE OF OIL AND GAS FIELDS IN CALIFORNIA TO DECEMBER 31, 1950**—Gordon B. Oakeshott, Lewis T. Braun, Charles W. Jennings and Ruth Wells—*California Division of Mines*, Special Report 23, 77 p., paper, \$1.25. Contains an economic mineral map.

**GAMBLING AMONG THE YAKIMA**—Gerald R. Desmond—*Catholic University of America Press*, 58 p., illus., paper, 75 cents. A doctor's dissertation which tells of gambling among this

Indian tribe of Washington state. Popular were the bone game and horse racing, but although practically all adults gambled, no one got rich quick and no one suffered ruinous losses.

**GEOLOGY OF BURRUEL RIDGE, NORTHWESTERN SANTA ANA MOUNTAINS, CALIFORNIA**—James F. Richmond—*California Division of Mines*, Special Report 21, 16 p., illus., paper, 50 cents.

**GEOLOGY OF LAS TRAMPAS RIDGE, BERKELEY HILLS, CALIFORNIA**—Cornelius K. Ham—*California Division of Mines*, Special Report 22, 26 p., illus., paper, 75 cents.

**GEOLOGY OF THE LEBEC QUADRANGLE, CALIFORNIA**—John C. Crowell—*California Division of Mines*, Special Report 24, 23 p., illus., paper, 75 cents. Two of California's great faults, the San Andreas and the Garlock, cross the Lebec quadrangle and meet about a mile to the west.

**GEOLOGY OF THE SOUTHERN RIDGE BASIN, LOS ANGELES COUNTY, CALIFORNIA**—Peter Dehlinger—*California Division of Mines*, Special Report 26, 11 p., illus., paper, 50 cents.

**GEOLOGY OF THE SUPERIOR TALC AREA, DEATH VALLEY, CALIFORNIA**—Lauren A. Wright—*California Division of Mines*, Special Report 20, 22 p., illus., paper, 50 cents. One of the nation's important sources of talc.

**GRANULAR ADSORBENTS FOR SUGAR REFINING: Some Factors Affecting Porosity and Activity in Service**—Elliott P. Barrett, L. G. Joyner and P. P. Halenda—*Mellon Institute*, 7 p., paper, free upon request direct to the publisher, 4400 Fifth Ave., Pittsburgh 13, Pa.

**HOW TO RESTORE AND DECORATE CHAIRS**—Roberta Ray Blanchard—*Barrows*, 128 p., illus., \$4.95. Step-by-step instructions for a very pleasant hobby.

**HUMAN PROBLEMS IN TECHNOLOGICAL CHANGE: A Casebook**—Edward H. Spicer—*Russell Sage Foundation*, 301 p., \$4.00. In these days, many programs are devoted to bettering the lives of other people. If this is done blindly without awareness of the possible effects on the humans involved, disaster may result. This study in applied anthropology, intended to minimize the hazards, is based on actual experiences.

**LEONARDO DA VINCI ON THE HUMAN BODY: The Anatomical, Physiological and Embryological Drawings of Leonardo da Vinci with Translations, Emendations and a Biographical Introduction**—Charles D. O'Malley and J. B. de C. M. Saunders—*Schuman*, 506 p., illus., \$25.00. These drawings, reproduced here complete with Leonardo's notes in mirror writing, were done with the accuracy of a scientist and the rare skill of a great artist.

**THE LEGEND OF THE NAHA STONE**—Recorded in Hawaiian and translated by Stephen Desha—*Hawaii Natural History Association*, 12 p., illus., paper, 25 cents. The Naha Stone was

once the entrance pillar of the great temple Pinao.

**MECHANICS: Lectures on Theoretical Physics, Vol. 1**—Arnold Sommerfeld, translated by Martin O. Stern—*Academic Press*, 289 p., illus., \$6.50. Here is written out the part on mechanics of the author's course on theoretical physics which he gave regularly for 32 years at the University of Munich.

**NEW GAMES FOR 'TWEEN-AGERS**—Allan A. Macfarlan—*Association Press*, 181 p., illus., \$3.00. First aid for parents in providing fun for rainy days or for children's parties. This up-to-the-minute book includes instructions for a game of flying saucers made to fly to "Mars," and rocket ships that go to the "moon."

**PROCEEDINGS OF THE INDIANA ACADEMY OF SCIENCE, Volume 61, 1951**—Alton A. Lindsey, Ed.—*Indiana Academy of Science*, 455 p., illus., paper, \$3.00. Research reports from various fields of science.

**ROCKS AND STRUCTURE OF THE QUARTZ SPRING AREA, NORTHERN PANAMINT RANGE, CALIFORNIA**—James F. McAllister—*California Division of Mines*, Special Report 25, 38 p., illus., paper, 75 cents. These bare mountains around Death Valley are a magnificent display of rocks from the pre-Cambrian to the Cenozoic.

**SCIENCE CLUBS OF AMERICA SPONSOR HANDBOOK**—Margaret E. Patterson, Ed.—*Science Service*, 1953 ed., 64 p., illus., paper, \$1.00. Aid in starting and operating a science club for students or adult hobbyists, how to conduct a Science Fair and how to compete in the National Science Talent Search.

**SCIENCE MAGIC**—Kenneth M. Swezey—*McGraw-Hill*, 182 p., illus., \$3.75. These "tricks," although amusing, are more than just entertainment—they explain many of the wonders of the modern world. You can perform the experiments yourself with simple articles from your kitchen or bathroom.

**THE SULFAPYRIMIDINES: Sulfadiazine, Sulfamerazine, Sulfamethazine**—Lawrence H. Sophian, David L. Piper and George H. Schneller—*A. Colish*, 180 p., free upon request to Lederle Laboratories, 30 Rockefeller Plaza, New York 20, N. Y. For physicians and others concerned with the nature of the new sulfa drugs and their use in treating infections.

**THERMAL DIFFUSION IN GASES**—K. E. Grew and T. L. Ibbes—*Cambridge University Press*, 143 p., illus., \$4.50. The study of thermal diffusion is one of the best means of investigating the nature of the forces exerted by one molecule on another. It is this aspect which is here treated most fully.

**TRAILSIDE PLANTS OF HAWAII NATIONAL PARK**—Douglass H. Hubbard and Vernon R. Bender, Jr.—*Hawaii Natural History Association*, 29 p., illus., paper, 25 cents. To help in identification, plants are shown photographed against inch-square cross-section paper.

**VOLCANOES OF HAWAII NATIONAL PARK**—Gordon A. MacDonald and Douglass H. Hubbard—*Hawaii Natural History Association*, 40 p., illus., paper, 50 cents. Kilauea and Mauna Loa are among the largest of the world's volcanic mountains and are among the most active. Yet they are easy and safe to visit.

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**WHAT IS RACE?: Evidence From Scientists—**Diana Tead—*UNESCO (Columbia University Press)*, 87 p., illus., paper, \$1.00. With ingenious diagrams and simple text, this booklet tells the story of human genetics and race. It is intended to give facts which will dispel blind race prejudice, but parts of the book are likely to lead to controversy and may offend the very readers the booklet is intended to influence.

**THE WHOOPING CRANE—**Robert Porter Allen—*National Audubon Society*, 246 p., illus., paper, \$3.00. The author literally lived with the cranes to collect the information here reported on their habits. "A whooping crane flock in migration," he says, "must be classed with the Grand Canyon and Yosemite among the Great Natural Wonders of North America."

**WORKING WIVES AND MOTHERS—**Stella B. Applebaum—*Public Affairs Committee*, 32 p., illus., paper, 25 cents. To help solve the modern wife's problem—to work or not to work, and giving suggestions on managing both household and job.

Science News Letter, December 6, 1952

## DENTISTRY

## Cleft Palate Problem

► **THE CHILD** with a cleft palate needs help as much as the child crippled by polio or disabled by any other cause, in the opinion of Dr. P. C. Lowery, dental surgeon in Detroit and president of the Pierre Fauchard Academy.

He calls for a central research unit in the U. S. Public Health Service to be devoted to this problem.

The cleft palate population is estimated at 200,000 with 4,600 new cases each year. Cleft palate is a condition in which the palate, or roof of the mouth, does not close through the center before the baby is born. As a result, the child born with this condition has trouble in chewing, swallowing and talking. Freak tooth arrangement may also result.

Surgical operations to correct the condition are not always successful, in Dr. Lowery's opinion. Patients may need to be fitted with an artificial palate. Dentists, he believes, can, from their experience in making false teeth, do much to aid the cleft palate victim.

In a report to *Dental Survey* (Dec.), he says a central research unit on cleft palates would have the following advantages: 1. a post-graduate school for cleft palate prosthesis; 2. improved efficiency and economy; 3. opportunity for the dentist to pool his skill with the plastic and maxillofacial surgeon, the sculptor, the artist, the engineer, the speech and voice instructor for re-education and correction; 4. the merging of inter-professional principles; 5. establishment of a special group to inquire and disseminate knowledge of a specific nature concerning a problem which dentists have been interested in and have contributed to for many years; 6. the complete rehabilitation of valuable and useful citizens.

## BIOCHEMISTRY

## Examine Catalase Role

► **A CLUE** to the mystery of the functioning of catalase, one of the important enzymes in plants and animals, has been suggested by a University of California at Los Angeles plant nutritionist.

Dr. David Appleman says that catalase may be a factor in the synthesis of two of the most prominent protein pigments in life processes—chlorophyll and hemoglobin.

"It seems significant that practically all catalase activity in the green plant cell and in the blood is localized in the chloroplast and the red blood cell, respectively," Dr. Appleman says. Chloroplasts are the center of chlorophyll synthesis, and hemoglobin is a major component of the red blood cell.

Dr. Appleman's research has revealed that when rapid chlorophyll synthesis takes place in the green plant cell, catalase activity decreases, and that when chlorophyll synthesis is blocked, catalase activity rises rapidly.

It has also been observed that catalase activity in livers of rats was decreased by pregnancy or a growing tumor, and that anemia often accompanied these conditions.

"Just what role the enzyme plays in the synthesis of the two major pigments of protoplasm is not yet known," Dr. Appleman says. "But the enzyme appears to bear a significant relationship to the green pigment which is so vital in energy-producing processes, and the red pigment so important to utilization of energy by animals."

Science News Letter, December 6, 1952

Engineers can reduce the hazard of *coal-dust explosions* from 70% to 90% in some mines by drilling holes in the coal beds and forcing water through the holes several days before the beds are mined.

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"During the fiscal year 1951," Dr. Lowery points out, "an average of \$457 was spent on each handicapped civilian helped under the state-federal vocational rehabilitation system, according to the recent annual report of the Office of Vocational Rehabilitation, Federal Security Agency. The various state governments contributed over \$9,000,000 and the federal government \$21,000,000 to this rehabilitation program.

"This much needed congenital cleft palate rehabilitation unit could easily be established and maintained with federal and state funds by the simple expedient of allocating for the use of our most tragic civilian casualty, the same per capita amount as spent on other civilian casualties during 1951."

Science News Letter, December 6, 1952

## BIOCHEMISTRY

## Drug Starts Gland Chain Reaction

► **A DRUG** which starts one of the body's gland chain reactions has been found. The drug is neostigmine, used in some disorders of muscles and nerves, such as myasthenia gravis.

It apparently stimulates the pituitary gland to cause a release of the female sex hormone from the ovaries, Dr. C. Frederic Fluhmann of Stanford University School of Medicine reported to the Pacific Coast Obstetrical and Gynecological Society.

His findings were made in experiments with immature female rats. He thinks, although further study is needed to be sure, that this same drug may also stimulate release of other hormones by other of the body's glands.

Science News Letter, December 6, 1952