

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

ATOMS FOR PEACE—David O. Woodbury—*Dodd, Mead*, 259 p., illus., \$3.50. A science writer tells of the brighter side of what the new force, atomic energy, may contribute to our future.

BETTER HOMES AND GARDENS DIET BOOK—Donald G. Cooley and Foods and Book Editors—*Meredith Publishing Co.*, 253 p., illus., \$2.50. A readable book to help you take off any extra pounds without pain.

DAMMAR AND MASTIC INFRARED ANALYSIS—Robert L. Feller—*Mellon Institute*, 2 p., illus., paper, free upon request direct to publisher, 4400 Fifth Ave., Pittsburgh 13, Pa.

THE DEVELOPMENT OF THE CONCEPT OF ELECTRIC CHARGE: Electricity from the Greeks to Coulomb—Case 8 of the Harvard Case Histories in Experimental Science—Duane Roller and Duane H. D. Roller—*Harvard University Press*, 97 p., illus., paper, \$1.60. Tracing the interesting story of the beginnings of our knowledge of a most important scientific phenomenon.

THE EFFECTIVENESS OF DELINQUENCY PREVENTION PROGRAMS—Helen L. Witmer and Edith Tufts—*Govt. Printing Office*, Children's Bureau Publication Number 350, 50 p., paper,

25 cents. We are on our way, the authors conclude, toward learning what does and what does not prevent delinquency, but we still have far to go.

EMOTIONAL PROBLEMS AND WHAT YOU CAN DO ABOUT THEM: First Aid to Wiser Living—William B. Terhune—*Morrow*, 190 p., \$3.00. Advice by a psychiatrist on what to do about your own problems and those of your family and your friends.

GENERAL SCIENCE—Victor C. Smith and W. E. Jones—*Lippincott*, 504 p., illus., \$3.80. A textbook for use with pupils who have had little or no previous science study.

GENERAL SCIENCE WORKBOOK—Victor C. Smith and W. E. Jones—*Lippincott*, 187 p., illus., paper, \$1.60. A book of experiments and demonstrations to accompany any complete one-year general science textbook.

AN INTRODUCTION TO PSYCHOLOGY—Harry W. Karn and Joseph Weitz—*Wiley*, 315 p., illus., \$3.90. A textbook for students in a single-semester course in schools of education, engineering, business administration or other fields.

THE LOST VILLAGES OF ENGLAND—Maurice Beresford—*Philosophical Library*, 445 p., illus., \$12.00. Sites in England existing as communities in the Middle Ages which have since vanished except for hollows and vegetation variations visible now to the aerial camera.

MAGNETIC AMPLIFIERS—H. F. Storm and others—*Wiley*, 545 p., illus., \$13.50. For electrical engineers and graduate students.

MANPOWER RESOURCES IN THE EARTH SCIENCES—Solomon Shapiro under the direction of Helen Wood—*Govt. Printing Office*, National Science Foundation Publication, 75 p., illus., paper, 45 cents. A study of questionnaires filled out by more than 12,000 earth scientists.

PETROLOGY FOR STUDENTS: An Introduction to the Study of Rocks Under the Microscope—Alfred Harker—*Cambridge University Press*, 8th ed., 283 p., illus., \$3.50. Written to serve as a guide to the study of rocks in thin slices, and addressed to geology students who are not specializing in petrology.

PREPAYMENT AND THE COMMUNITY: Volume 2 of Financing Hospital Care in the United States—Harry Becker, Ed.—*McGraw-Hill*, 356 p., illus., \$4.50. A second report of the Commission studying the problem of medical care.

THE RADIO AMATEUR'S HANDBOOK—Headquarters Staff of the American Radio Relay League—*American Radio Relay League*, 32d ed., 541 p., plus 67 p. of Vacuum-Tube data, illus., paper, \$3.00 plus postage. A how-to-do-it and reference work for radio "hams" and those who want to learn about radio set-ups.

SOCIOLOGICAL THEORY: Its Nature and Growth—Nicholas S. Timasheff—*Doubleday*, 328 p., \$4.50. A study of the history of ideas and what certain leaders have contributed to the advancement of sociological theory.

TWO EARS OF CORN, TWO BLADES OF GRASS—D. H. Killeffer—*Van Nostrand*, 139 p., illus., \$4.00. Unlike our material resources which must surely one day be exhausted, our creative intelligence and the products of science grow as they are used.

WHEN THEY WERE BOYS: Sixteen Boyhood Stories of Famous Men—Patrick Pringle—*Roy*, 224 p., illus., \$3.00. These sketches include

boyhood biographies of such famous scientists as Leonardo da Vinci, Benjamin Franklin, Michael Faraday and Joseph Lister.

YOUR MONEY'S WORTH IN CLOTHING AND TEXTILES—Jules Labarthe—*Mellon Institute*, 5 p., paper, free upon request direct to publisher, 4400 Fifth Ave., Pittsburgh 13, Pa.

Science News Letter, February 19, 1955

MEDICINE

Bone Growth Pressure Equals Body Weight

► **BONES GROW** with a pressure equal to the weight in pounds of the growing animal or child. In some cases this may total 300 pounds or more.

This finding, important to surgeons correcting bow legs, knock knees and some other deformities, was announced by Drs. L. J. Strobino, Paul C. Colonna, Thomas Leinback and R. S. Brodey of the University of Pennsylvania, Philadelphia, at the meeting of the American Academy of Orthopaedic Surgeons in Los Angeles.

The studies were made on 10 Holstein calves. In one part of the work, the scientists found that bone growth under controlled conditions broke 3/32 inch steel staples.

They said it would take 900 pounds to break such a staple under direct pull.

Surgeons sometimes equalize leg lengths in a child by arresting the growth of the long bones in one leg. Sometimes this is done by mechanical obstruction. In some cases, surgeons have tried to stimulate growth in the short bone.

The studies showed that after bone growth had been arrested mechanically, normal growth process could start again.

In one experiment reported, a tension spring instrument was inserted in the leg of a 150-pound calf. The force of the growing bone was stopped completely by the tension instrument.

Readings were made at regular intervals by X-rays which penetrated the instrument and showed the degree of compression.

After growth had been stopped for as long as six or seven months, which is equivalent to three to four years in the human being, the instrument was removed. The bone growth resumed then at an accelerated rate sufficient to catch up with the opposite normal leg of the animal.

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