# Books of the Week

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THE ACANTHACEAE OF COLOMBIA, I—Emery C. Leonard—*Govt. Printing Office.* Contributions from the United States National Herbarium, Volume 31, Part 1, 117 p., illus., paper, 50 cents. The Acanthaceae include many showy and beautiful plants which are or should be in cultivation. The family is especially well developed in Andean America.

ANATOMY IN SURGERY—Philip Thorek—*Lippincott,* 970 p., illus., $22.50. Providing an important part of the training of the young surgeon. Lavishly illustrated.

ANIMAL EVOLUTION: A Study of Recent Views of Its Causes—G. S. Carter—*Sidgwick and Jackson,* 368 p., illus., $4.50. Presenting a modern theory which will not be at variance with the findings of zoology.

CHEMISTRY OF MUSCULAR CONTRACTION—A. Szent-Gyorgyi—*Academic Press,* 2d ed. rev., 162 p., illus., $4.50. Reports results of the author's pioneering research conducted in Hungary under Nazism, in underground hiding places and under troubled conditions together with later research completed in the United States.

COMMUNICATION: The Social Matrix of Psychiatry—Jurgen Ruesch and Gregory Bateson—*Norton,* 314 p., illus., $4.50. A psychiatrist and an anthropologist collaborate to make this contribution to the new science of communication. This is a non-mathematical work attempting to show how value theory, psychiatric thinking and observations about American culture are intimately connected.

THE COMPONENTS OF THE BITUMEN IN ATHABASCA SAND AND THEIR SIGNIFICANCE IN THE HOT WATER SEPARATION PROCESS—D. S. Pasternack and K. A. Clark—*Research Council of Alberta,* 14 p., paper, 15 cents.

GEOLOGY AND MINERAL RESOURCES OF THE NEENACH QUADRANGLE, CALIFORNIA—John H. Wiese—*California Division of Mines,* 53 p., illus., $1.75. Accompanied by a set of maps, including geologic map in color. This section has famous earthquake fault zones and deposits of important minerals.

GEOLOGY OF THE BLUE LAKE QUADRANGLE, CALIFORNIA—George A. Manning and Burdette A. Ogle—*California Division of Mines,* 36 p., illus., paper, $1.50. A description of a very little known region. Report is accompanied by a set of geologic and other maps.

INTERPLANETARY FLIGHT: An Introduction to Astronautics—Arthur C. Clarke—*Harper,* 164 p., illus., $2.50. The assistant secretary of the British Interplanetary Society describes the problems that must be solved before you can take off on an "all-expense tour" of outer space.

AN INTRODUCTION TO MODERN PSYCHOLOGY—O. L. Zangwill—*Philosophical Library,* 227 p., illus., $3.75. Providing for self instruction an outline of the science from the biological standpoint.

LEARNING TO SUPERVISE SCHOOLS: An Appraisal of the Georgia Program—Jane Franseth—*Govt. Printing Office,* 50 p., paper, 30 cents. A study of the Office of Education.

THE LIFE AND OPINIONS OF A COLLEGE CLASS—*Harvard University Press,* 98 p., $2.50. The class of 1926 take stock of themselves 25 years after graduation, counting gray heads and bald pates, incomes and achievements, all of which is reported in an entertaining way. Included is what the wives think of Harvard men in general and their husbands in particular.

MANUAL OF MASSAGE AND MOVEMENTS—Edith M. Prosser—*Lippincott,* 388 p., illus., $5.00. A British trained nurse and physiotherapist describes for students all the different movements in massage and medical gymnastics, their effects and purposes.

NUTRITION FRONTS IN PUBLIC HEALTH—Icie G. Macy and others—*National Vitamin Foundation,* 168 p., paper, $1.50. Proceedings of a symposium held at Yale University.

POLYPHASE COMMUTATOR MACHINES—B. Adkins and W. J. Gibbs—*Cambridge University Press,* 230 p., illus., $4.00. A book by British designers for students and engineers.

PRINCIPLES OF HUMAN GEOGRAPHY—Ellsworth Huntington, revised by Earl B. Shaw—*Wiley,* 6th ed., 805 p., illus., $6.25. This well-known work by the late Dr. Huntington has been reorganized and re-written to make it more practical for teaching purposes.

ROCKETS, MISSILES, AND SPACE TRAVEL—Willy Ley—*Viking,* 436 p., illus., $5.95. An authority on rockets discusses flight in space and indulges in flights of fancy, proposing, for example, a military base on the moon. Some material appeared previously, much is new.

WHAT TO MAKE WITH CONCRETE: A Complete Guide to Concrete Work for Home and Farm—*Popular Mechanics Press,* 112 p., illus., $2.00. A how-to-do-it book for the home craftsman. Things to make include outdoor fireplaces, dry cellars, and even swimming pools.

Science News Letter, June 30, 1951

ASTRONOMY

## Twin Systems of Stars Betray Mass of Universe

➤ TWIN SYSTEMS of stars provide the best means available for determining the mean density of the universe, Dr. Thornton Page of Yerkes Observatory of the University of Chicago told members of the American Astronomical Society meeting at the National Bureau of Standards in Washington.

The average double galaxy is only about as massive as 50 trillion suns, Dr. Page reported. This means the universe as a whole can boast of little matter, only about one pound in the space occupied by 30,000 earths. Actually, Dr. Page calculates there is only .000,000,000,000,000,000,000,000,000,01 (decimal point, 28 zeros and the number 1) gram of matter per cubic centimeter of space.

Just as the masses of double stars can be approximated, so can the total mass of double systems of stars and nebulae be estimated by calculating their distance apart and the speed with which these huge aggregations of stars swing around each other.

Dr. Page studied 20 systems of twin galaxies close together and believed to be rotating around each other. Applying the techniques used on double stars, he computed the total mass of each twin system, with the possibility of the value found being at least one-third too large or too small. This is the only direct means astronomers have for determining masses of stars or galaxies in the universe.

Science News Letter, June 30, 1951

Most *flashlights* can be used under water without damage.

*Streptomycin* production in the United States was over 190,000 pounds in 1950.

### ERRATA, Vol. 59, Nos. 1-26, January-June, 1951

| PAGE | TITLE BEGINS | CORRECTION |
|---|---|---|
| 9 | Plan To Develop | First 2 lines, *read* The mineral known as pegmatite is to be mined. . . . |
| 16 | New Machines | Bulletin 551 *for* 552. |
| 23 | Caption | Line 3, "u" *for* "n." |
| 24 | Wrong-Way Pigeons | Par. 3, line 7, two hours *for* a year. |
| 103 | Improved Artificial Hands | *Delete* last two sentences, beginning "Above-knee" and ending "satisfactory fit". |
| 165 | X-rays at the Front | Par. 5, Second sentence, *read* Development of it for practical X-ray purposes was done by Polaroid engineers in consultation with Picker X-ray Corporation who will manufacture the cassette and processing unit. |
| 203 | Celestial Time Table | Line 19, 7:17 a.m. *for* 7:17 p.m. |
| 219 | Military Experience | Par. 6, line 4, four *for* five. |
| 223 | Arctic Floating Islands | Col. 2, line 6, Dr. Emery now at University of Southern California. |
| 294 | Heart Can Absorb | Par. 3, line 4, Conrad S. Fischer *for* Conrad C. Fisher. |
| 306 | Faint Double Star | Par. 2, line 8, 2,500 *for* 500; col. 2, par. 2, line 1, trillion *for* million. |
| 328 | Antihistamines Cause | Par. 5, *add* Results do not necessarily hold true for other antihistamine drugs which are different chemical compounds. |
| 329 | Inexpensive Smokeless | Par. 3, line 5, 2,549,788 *for* 2,549,778. |
| 341 | Chain Reaction | Par. 2, lines 3-4, *read* awarded second place in the 1951 Van Meter prize competition of the . . . |

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