

theoretical stellar models. The probable nuclear reactions that generate stellar energy have been elaborated, and theorists have turned to stellar interiors as the place of nucleosynthesis.

Bits of a new picture of the evolution of stars and galaxies are emerging from this harvest of techniques and theory. Of course, they are emerging stubbornly, for, as Armin Deutsch puts it in *Stars and Galaxies*, the evolutionary changes of a typical star during all of recorded human history corresponds to the ageing of a man in five minutes.

The purpose of *Stars and Galaxies* is to make the present state of astronomical research more widely known. The book had its origin in a symposium sponsored by the Frontiers of Science Foundation of Oklahoma, at Oklahoma City, in 1961. The Committee on Education in Astronomy of the American Astronomical Society chose the speakers and their topics, and each of the seven contributors is an astronomer who has helped to bring astronomy to its present state. The symposium was held for selected high school students and science teachers; consequently this expanded account uses a wealth of analogies, diagrams, and lucid description in getting at the fundamental problems that occupy astronomers today.

The result is very likely the best description, of its kind, of the present moment in astronomy. The book will serve as excellent collateral reading for an introductory course in astronomy. Or, for that matter, it will provide excellent reading material for anyone who would like to know about the direction that astronomy has taken in the past dozen years.

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## Crystal Structure

**Structure Reports for 1953.** vol. 17. W. B. Pearson, General Editor. Section Editors: W. B. Pearson (metals), J. Wyart (inorganic compounds), and J. Monteath Robertson (organic compounds). Published for the International Union of Crystallography by Oosthoek's, Utrecht, 1963. viii + 863 pp. Illus. \$33.50.

This valuable series of annual reports on crystal structures, begun about 15 years ago by the International Union of Crystallography (IUCr), as a continu-

ation of the former *Strukturbericht*, is still about 10 years late in appearing. The present volume, which covers 1953, appears about 15 months after volume 18 which covered the work for 1954; thus, for the moment it seems that the lag in publication is becoming worse. The IUCr Commission on Structure Reports has stated that it "has been greatly concerned with the problem of reducing the time-lag in the production of *Structure Reports*, and also in the question of the extent of the subject matter which is to be reported."

In volume 17 the section on metals occupies 305 pages, inorganic compounds 292, and organic compounds 206. The scope is very broad. Not only are there reports on atomic arrangements, mostly based on x-ray diffraction (with some based on electron or neutron diffraction, Raman spectra, infrared absorption, and other techniques), but in the sections on metals and on inorganic compounds there is much material not concerned with crystal structure in a strict sense. This includes phase diagrams, properties of mix-crystal systems, and various other matters that are more or less remote from the main subject of the series. Limitation of scope and perhaps a more modest format seem to be indicated to reduce both the lag in publication and the very high price of these volumes.

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## New Books

### Biological and Medical Sciences

**Annual Review of Medicine.** vol. 14. Arthur C. DeGraff and William P. Creger, Eds. Annual Reviews, Palo Alto, Calif., 1963. 476 pp. Illus. \$8.50.

**Biochemical Clinics.** An integrated series of international symposia. No. 1, *The Heart*. I. Newton Kugelmass, Ed. Donnelly, New York, 1963. 366 pp. Illus. Paper.

**Brain Lipids and Lipoproteins, and the Leucodystrophies.** Proceedings of a symposium (Rome), September 1961. J. Folch-Pi and H. Bauer, Eds. Elsevier, New York, 1963. 225 pp. Illus. \$11.

**Chemical Exploration of the Brain.** A study of cerebral excitability and ion movement. Henry McIlwain. Elsevier, New York, 1963. 215 pp. Illus. \$7.

**Comparative Biology of Calcified Tissue.** Harold E. Whipple, Ed. New York Acad. of Sciences, New York, 1963. 410 pp. Illus. Paper, \$6.

**Comparative Pathology in Monkeys.** B. A. Lapin and L. A. Yakovleva. Trans-

lated from the Russian (*Ocherkl Stravnitel'noy Patologh Obez'yan*, Moscow, 1960) by the U.S. Joint Publications Research Service. Thomas, Springfield, Ill., 1963. 288 pp. Illus. \$10.

**Comprehensive Biochemistry.** Section 2, vol. 9, *Pyrrole Pigments, Isoprenoid Compounds, and Phenolic Plant Constituents* (284 pp. \$12.50); vol. 11, *Water-Soluble Vitamins, Hormones, Antibiotics* (255 pp. \$11.50). Marcel Florkin and Elmer H. Stotz, Eds. Elsevier, New York, 1963. Illus.

**The Cultivation of Animal and Plant Cells.** Philip R. White. Ronald, New York, ed. 2, 1963. 236 pp. Illus. \$9.

**Disorders of Blood and Blood-Forming Organs in Childhood.** H. S. Baar, Stella Baar, K. B. Rogers, and E. Stransky. Hafner, New York, 1963. 912 pp. Illus. \$60.

**Elementary Genetics.** W. Ralph Singleton. Van Nostrand, Princeton, N.J., 1962. 496 pp. Illus.

**Emotions and Emotional Disorders.** A neurophysiological study. Ernst Gellhorn and G. N. Loofbourrow. Harper and Row, New York, 1963. 508 pp. Illus. \$12.

**Entomologie.** Appliquée à l'Agriculture. vol. 1. *Coléoptères. Caraboidea, Staphylinidea, Hydrophiloidea, Scarabaeoidea, Dascilloidea, Cantharoidea, Bostrychoidea, Cucujoidea, Phytophagoidea (Cerambycidae et Bruchidae)* (592 pp., 1962, F. 132); vol. 2, *Coléoptères. Phytophagoidea (suite et fin) (Chrysomelidae, Curculionidae, Attelabidae, Scolytidae, et Platypodidae)* (876 pp., 1963, F. 162). A. S. Balachowsky, Ed. Masson, Paris. Illus.

**Funktionelle und Morphologische Organisation der Zelle.** P. Karlson, Ed. Springer, Berlin, 1963. 257 pp. Illus. Paper, DM. 36.

**The Human Body.** Its anatomy and physiology. C. H. Best and N. B. Taylor. Holt, Rinehart, and Winston, New York, ed. 4, 1963. 766 pp. Illus. \$8.75.

**Limnology in North America.** David G. Frey, Ed. Univ. of Wisconsin Press, Madison, 1963. 752 pp. Illus. \$8.50.

**Man and the Biological World.** A laboratory manual. Shelby D. Gerking. Burgess, Minneapolis, ed. 2, 1963. 139 pp. Illus. Paper.

**Marine Microbiology (Deep Sea).** A. E. Kriss. Translated from the Russian by J. M. Shewan and Z. Kabata. Interscience (Wiley), New York, 1963. 554 pp. Illus. \$19.75.

**Medical Behavioral Science.** A selected bibliography of cultural anthropology, social psychology, and sociology in medicine. Marion Pearsall. Univ. of Kentucky Press, Lexington, 1963. 144 pp. \$4.

**A Monograph of the Immature Stages of Australasian Timber Beetles (Cerambycidae).** E. A. J. Duffy. British Museum (Natural History), London, 1963. 243 pp. Illus. Plates. £5 5s.

**Pesticide Handbook, 1963.** Compiled and edited by Donald E. H. Frear. College Science Publishers, State College, Pa., ed. 15, 1963. 312 pp. Paper, \$2.50; cloth, \$3.50.

**Physiological Pharmacology.** A comprehensive treatise. vol. 1, *The Nervous System*; pt. A, *Central Nervous System Drugs*. Walter S. Root and Frederick G. Hofmann. Academic Press, New York, 1963. 719 pp. Illus. \$22.