

tures, such as textures and mineral associations, described in the book. The quality of the translation is generally good, sometimes awkward where the translation has been excessively literal, but rarely incomprehensible.

The section of the genetic classification is heavily slanted toward the igneous origin of ores and ignores the recent work on sedimentary origins. There is little effective use of physical chemistry in the discussion. Except for the part on metamorphism, which is more worthwhile although qualitative, the material in this section is not significantly different from similar material in textbooks of economic geology published 25 years ago.

The true worth of the book appears in the section on ore textures. The author is the outstanding man in this field, and in writing this section he has drawn heavily on a specialized experience and personal observations made over a span of 45 years. The section is illustrated with more than 250 figures, consisting mainly of well-documented photographs of textures described in the text.

The additions, corrections, and other changes that have been made for the English edition lie mainly in the areas of the author's greatest competence and special interests. Some of the material in the book is therefore now at least 12 to 15 years out of date. This is particularly evident in the final section, which sets out to give a systematic description of the ore and gangue minerals. The discussions of physical chemistry and paragenetic position take little account of recent experimental work. For example, the phase diagram for the system $\text{Cu}_2\text{S}-\text{CuS}$ (which is one of the few phase diagrams found in the book) was derived in 1941. The opportunity was not taken to systematically update the powder x-ray data, and the data of Harcourt (1942) are still given for some common minerals. No use is made of known relations, in some mineral groups and series, between chemical constitution and lattice dimensions to define composition. On the other hand, the author's continuing study of ores in polished section and his interest in developing improved polishing techniques have resulted in more than a hundred new and replacement photographs in this section.

This book is not a modern text in mineral deposits geology. I find it disappointing that the prominent scientists listed as translators did not do more to modernize the subject matter in these areas in which they themselves

are so well qualified. On the other hand, no one with a serious interest in ore minerals can afford to be without the book. It is and will remain the classic reference work in ore microscopy and is a tribute to one of the world's greatest ore microscopists.

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Books Received

Addendum 1969 to the British Pharmacopoeia 1968. Published for the General Medical Council by Pharmaceutical Press, London, 1969. xx + 100 pp., illus. 65s.

Advances in Protein Chemistry. Vol. 24. C. B. Anfinsen, Jr., John T. Edsall, and Frederic M. Richards, Eds. Academic Press, New York, 1970. xx + 572 pp., illus. \$24.50.

America's Changing Environment. Roger Revelle and Hans H. Landsberg, Eds. Houghton Mifflin, Boston, 1970. xxxviii + 314 pp., illus. \$6.95. Daedalus Library, vol. 15.

Annual Report of the Laboratory of Algalogy for the Year 1968. J. Nečas and O. Lhotský, Eds. Institute of Microbiology, Czechoslovak Academy of Sciences, Tréboň, 1969. 208 pp., illus. Paper.

Apollo 11 Lunar Science Conference. Papers presented at Houston, Texas, January 1970. AAAS, Washington, D.C., 1970. 364 pp., illus. \$14; to members (with payment), \$12.50. Reprinted, with indexes and errata, from *Science* 167, pp. 449-784 (30 January 1970).

Atlantic-Pacific Oceanographic Laboratories. Collected Reprints, 1968. Environmental Science Services Administration, U.S. Department of Commerce, Washington, D.C., 1969 (available from the Superintendent of Documents, Washington, D.C.). Unpagged, illus. Paper, \$3.25.

Automation de la perception. Yves Jamati. Hermann, Paris, 1970. 32 pp., illus. Paper, 12 F.

Biological Conservation. David W. Ehrenfeld. Holt, Rinehart and Winston, New York, 1970. xii + 228 pp., illus. Paper, \$3.50. Modern Biology Series.

The Case History Method in the Study of Family Process. Committee on the Family of the Group for the Advancement of Psychiatry. GAP, New York, 1970. Illus. Paper, \$4. Vol. 6, Report No. 76, pp. 237-380.

Chemical Systems. Energetics, Dynamics, Structure. J. A. Campbell. With special chapters by Tad A. Beckman and seven others. Freeman, San Francisco, 1970. xvi + 1118 pp., illus. \$12.50. A Series of Books in Chemistry.

Comparative Physiology of the Heart: Current Trends. Proceedings of a symposium, Hanover, N.H., September 1968. F. V. McCann, Ed. Birkhauser, Basel, Switzerland, 1969. 272 pp., illus. \$14.92. Experimentia Supplementum 15.

Current Injection in Solids. Murray A.

Lampert and Peter Mark. Academic Press, New York, 1970. xiv + 354 pp., illus. \$18. Electrical Science.

The Davenport Conspiracy. Marshall McKusick. University of Iowa Press, Iowa City, 1970. xii + 144 pp., illus. Cloth, \$5; paper, \$3.

Derivation and Martingales. C. A. Hayes and C. Y. Pauc. Springer-Verlag, New York, 1970. viii + 208 pp. \$13.20. Ergebnisse der Mathematik und ihrer Grenzgebiete, vol. 49.

The Determination of Organic Peroxides. R. M. Johnson and I. W. Siddiqi. Pergamon, New York, 1970. x + 122 pp. \$6.95. Organic Functional Group Analysis, vol. 4.

Diagnostic. Des pièces rachidiennes des Téléostéens et des Chondrichthyens. Vol. 1, Gadides. Georges Desse and Marie-Henriette Du Buit. L'expansion, Paris, 1970. 72 pp., illus. Paper.

Dictionary of Scientific Biography. Charles Coulston Gillispie, Ed. Scribner, New York, 1970. Vol. 1, Pierre Abailard—L. S. Berg (xiv + 626 pp., illus. \$35); vol. 2, Hans Berger—Christoph Buys Ballot (xii + 628 pp. \$35).

Differential Thermal Analysis. R. C. Mackenzie, Ed. Vol. 1, Fundamental Aspects. Academic Press, New York, 1970. xvi + 776 pp., illus. \$33.

Disadvantaged Children. Health, Nutrition and School Failure. Herbert G. Birch and Joan Dye Gussow. Harcourt, Brace and World, New York; Grune and Stratton, New York, 1970. xiv + 322 pp., illus. \$7.50.

Disaffiliated Man. Essays and Bibliography on Skid Row, Vagrancy, and Outsiders. Howard M. Bahr, Ed. University of Toronto Press, Buffalo, N.Y., 1970. xiv + 428 pp. \$9.50.

The Drainage of the Somerset Levels. Michael Williams. Cambridge University Press, New York, 1970. xvi + 288 pp. + plates. \$18.50.

Ecological Groups of Deep-Sea Animals off Southern California. Alfred W. Ebeling, Richard M. Ibara, Robert J. Lavenberg, and F. James Rohlf. Los Angeles County Museum of Natural History, Los Angeles, 1970. vi + 46 pp., illus. Paper, \$2.50. Bulletin of the L.A. County Museum of Natural History: Science, No. 6.

Electron-Photon Shower Distribution Function. Tables for Lead, Copper and Air Absorbers. H. Messel and D. F. Crawford. Pergamon, New York, 1970. vi + 1514 pp. \$67.

The Elements of Chemistry. Lawrence P. Eblin. Harcourt, Brace and World, New York, ed. 2, 1970. xx + 492 pp., illus. \$9.95.

Elements of Protein Synthesis. A Guide to the Instructional Model. Thomas Peter Bennett. Freeman, San Francisco, 1970. 40 pp., illus. Paper, 75¢. Cardboard model for assembly and pamphlet, \$3.

Essays in Evolution and Genetics in Honor of Theodosius Dobzhansky. A Supplement to *Evolutionary Biology*. Max K. Hecht and William C. Steere, Eds. North-Holland, Amsterdam; Appleton-Century-Crofts, New York, 1970. xviii + 594 pp., illus. \$16.

Experimental General Chemistry. W. T. Lippincott, Devon W. Meek, and Frank H. Verhoek. Saunders, Philadelphia, 1970.

xxiv + 342 pp., illus. + teacher's guide. Paper, \$5.95.

Frequency Conversion. Part 1, Common Conversion Devices. J. Thomson. Part 2, Light Conversion Devices. W. E. Turk. Part 3, Masers and Lasers. M. J. Beesley. Wykeham, London, 1969 (U.S. distributor, Springer-Verlag, New York). viii + 208 pp., illus. Paper, \$3.50.

Fundamental Concepts of Biology. Gideon E. Nelson, Gerald G. Robinson, and Richard A. Booloottian. Wiley, New York, ed. 2, 1970. viii + 390 pp., illus. \$8.95.

Fundamentals of Automatic Control. Someshwar C. Gupta and Lawrence Hasdorff. Wiley, New York, 1970. xviii + 590 pp., illus. \$15.95.

International Review of Cytology. Vol. 28. G. H. Bourne, J. F. Danielli, and K. W. Jeon, Eds. Academic Press, New York, 1970. xx + 388 pp., illus. \$21.

Interns. From Students to Physicians. Emily Mumford. Harvard University Press, Cambridge, Mass., 1970. xiv + 298 pp., illus. \$8.50. A Commonwealth Fund Book.

Introduction to Atomic and Molecular Structure. Jack Barrett. Wiley, New York, 1970. xvi + 328 pp., illus. \$12.50.

An Introduction to Experimental Aerobiology. Robert L. Dimmick, Ann B. Akers, Robert J. Heckly, and H. Wolochow, Eds. Wiley-Interscience, New York, 1969. xviii + 494 pp., illus. \$23.95. Environmental Science and Technology.

An Introduction to the Laplace Transformation. With Engineering Applications. J. C. Jaeger and Gordon Newstead. Methuen, London; Barnes and Noble, New York, ed. 3, 1969. viii + 152 pp., illus. Cloth, \$6.50; paper, \$3.50. Methuen's Monographs on Physical Subjects. Science Paperbacks.

An Introduction to X-Ray Crystallography. M. M. Woolfson. Cambridge University Press, New York, 1970. x + 382 pp., illus. \$13.50.

Investigations into Health and Nutrition in East Africa. H. Kraut and H.-D. Cremer, Eds. Weltforum Verlag, Munich; Humanities Press, New York, 1969. 342 pp., illus. Boards 18.75. Afrika-Studien, No. 42.

Liquid Metals and Vapours under Pressure. R. G. Ross and D. A. Greenwood. Pergamon, New York, 1970. Illus. Paper, \$3. Progress in Materials Science, vol. 14, pp. 173-242.

Marine Aquiculture. Selected papers from a conference, Newport, Ore., May 1968. William J. McNeil, Ed. Oregon State University Press, Corvallis, 1970. 172 pp., illus. \$6.

The Maxwell Equations. Non-Relativistic Derivations from Electron Theory. S. R. de Groot. North-Holland, Amsterdam, 1969 (U.S. distributor, Wiley-Interscience, New York). 180 pp. Paper, \$8.95. Studies in Statistical Mechanics, vol. 4.

McGraw-Hill Yearbook of Science and Technology. Comprehensive Coverage of the Important Events of 1969 as Compiled by the Staff of the McGraw-Hill Encyclopedia of Science and Technology. McGraw-Hill, New York, 1970. xiv + 478 pp., illus. \$24.

Mechanics, Waves, and Thermal Physics. R. L. Armstrong and J. D. King.

Prentice-Hall, Englewood Cliffs, N.J., 1970. xii + 564 pp., illus. \$9.95.

Medicine in Medieval England. C. H. Talbot. Oldbourne, London, 1970 (U.S. distributor, Elsevier, New York). 222 pp. + plates. \$6.75. Oldbourne History of Science Library.

Mental Health Book Review Index. An Annual Bibliography of Books and Book Reviews in the Behavioral Sciences. Cumulative Author-Title Index, volumes 1-12, 1956-1967. Council on Research in Bibliography, New York University, New York, 1969. vi + 178 pp. \$15.

Methods in Cell Research. August Ruthmann. Translated by the author from the revised text of the original German edition (Stuttgart, 1966). Cornell University Press, Ithaca, N.Y., 1970. 368 pp., illus. \$9.50.

Methods in Food Analysis. Physical, Chemical, and Instrumental Methods of Analysis. Maynard A. Joslyn, Ed. Academic Press, New York, ed. 2, 1970. xxii + 850 pp., illus. \$35. Food Science and Technology.

Microbiologie Pratique. Jean-Paul Larpent and Monique Larpent-Gourgaud. Hermann, Paris, 1970. 204 pp., illus. Paper, 27 F. Collection Méthodes.

Mind, Matter, and Gravitation. A Theoretical and Experimental Study. Haakon Forwald. Parapsychology Foundation, New York, 1969. vi + 74 pp., illus. Paper, \$3. Parapsychological Monographs, No. 11.

The Morphology and Pathogenicity of the Bladder Worms. *Cysticercus cellulosae* and *Cysticercus bovis*. Jaroslav Slaiss. Junk, The Hague; Academia, Prague, 1970. 144 pp. + plates. \$11.10.

The Myxomycetes. G. W. Martin and C. J. Alexopoulos. Illustrated by Ruth McVaugh Allen. University of Iowa Press, Iowa City, 1969. x + 566 pp., illus. \$30.

1970-1971 Directory of Science Resources for Maryland. Maryland Department of Economic Development, Annapolis, ed. 4, 1970. xxii + 218 pp. Paper, \$3.

Ordonnement et Potentiels. Méthode MPM. Michel Louis Dibon. Hermann, Paris, 1970. 160 pp., illus. Paper, 36 F. Collection Actualités scientifiques et industrielles, No. 1344.

Ostracoda in Texas Bays and Lagoons: An Ecologic Study. Charles E. King and Louis S. Kornicker. Smithsonian Institution Press, Washington, D.C., 1970 (available from the Superintendent of Documents, Washington, D.C.). ii + 94 pp., illus. Paper, \$1. Smithsonian Contributions to Zoology, No. 24.

The Papers of Robert H. Goddard. Including the Reports to the Smithsonian Institution and the Daniel and Florence Guggenheim Foundation. Esther C. Goddard and G. Edward Pendray, Eds. McGraw-Hill, New York, 1970. Vol. 1, 1898-1924 (xx + 560 pp., illus.); vol. 2, 1925-1937 (x + pp. 561-1104, illus.); vol. 3, 1938-1945 (x + pp. 1105-1708, illus.). Boxed, \$150.

Phase Transformations and the Earth's Interior. Proceedings of a symposium, Canberra, Australia, January 1969. A. E. Ringwood and D. H. Green, Eds. North-Holland, Amsterdam, 1970. xii + 520 pp., illus. Paper, \$33.60. Upper Mantle Project Scientific Report No. 26. *Physics of the*

Earth and Planetary Interiors, vol. 3 (1970).

Photographic Atlas of Reconstructive Arterial Surgery. Reinier J. A. M. Van Dongen. Springer-Verlag, New York; Kroese, Leiden, Netherlands, 1970. xvi + 360 pp. \$37.50.

Physique des dispositifs à semiconducteurs. Vol. 1, Electronique du silicium homogène. A. Vapaille. Masson, Paris, 1970. xii + 340 pp., illus. Paper, 150 F. Monographies d'électronique.

Plant Agriculture. Readings from *Scientific American*. Selected and introduced by Jules Janick, Robert W. Schery, Frank W. Woods, and Vernon W. Ruttan. Freeman, San Francisco, 1970. x + 246 pp., illus. Cloth, \$10; paper, \$4.95.

The Prehistory of Salts Cave, Kentucky. Patty Jo Watson. With major contributions by Richard A. Yarnell. Illinois State Museum Society, Springfield, 1969. x + 86 pp., illus. + map. Paper, \$2.50. Reports of Investigations, No. 16.

Principles and Methods of Plant Biosystematics. Otto T. Solbrig. Macmillan, New York; Collier-Macmillan, London, 1970. xiv + 226 pp., illus. \$9.95. Macmillan Biology Series.

Probabilistic Systems Analysis. An introduction to Probabilistic Models, Decisions, and Applications of Random Processes. Arthur M. Breiphof. Wiley, New York, 1970. xviii + 352 pp., illus. \$12.95.

Problems and Prospects of the Chemical Industries in the Less Developed Countries: Case Histories. A symposium, New York, September 1969. Nicky Beredjick, symposium chairman. Division of Chemical Marketing and Economics, American Chemical Society, Washington, D.C., 1970 (order from P.O. Box 607, New York 10017). vi + 152 pp., illus. Paper, \$9.50.

Proceedings of the 27th Annual Meeting of the Electron Microscopy Society of America. St. Paul, Minn., August 1969. Claude J. Arceneaux, Ed. Claitor, Baton Rouge, 1969. xviii + 430 pp., illus. \$12.50.

Proceedings of the 1969 CERN School of Physics. Held at Leysin, August-September 1969. CERN, Geneva, 1969. x + 208 pp., illus. Paper.

Progress in Thin-Layer Chromatography and Related Methods. Vol. 1. A. Niederwieser and G. Pataki, Eds. Ann Arbor-Humphrey Science Publishers, Ann Arbor, Mich., 1970. xvi + 224 pp., illus. \$15.

Talent, Opportunity and Career. A Twenty-Six Year Follow-Up of 1500 Individuals. Torsten Husén, with the assistance of Ingemar Emanuelsson, Ingemar Fagerlind, and Robert Liljefors. Almqvist and Wiksell, Stockholm, 1969. 312 pp. 45 Kr.

Thermolasticity. Basic Theory and Applications. A. D. Kovalenko. Translated from the Russian by D. B. Macvean. With an appendix on Thermoelastic Stability by J. B. Alblas. Wolters-Noordhoff, Groningen, Netherlands, 1969. xii + 252 pp., illus. \$11.

Worlds in the Making. Probes for Students of the Future. Maryjane Dunstan and Patricia W. Garlan. Prentice-Hall, Englewood Cliffs, N.J., 1970. xiv + 370 pp. + plates. Cloth, \$8.95; paper, \$4.95.