

to studies of sedimentology, rock deformation, and planetary phenomena.

The emphasis is on the megascopic invertebrates, as may be gauged from a rough census of illustrations: 140 of these deal with the larger invertebrates, 24 with vertebrates, 7 with algae, 6 with protozoans, and 4 with higher plants.

This adds up to a paleontological smorgasbord, enhanced by well-chosen and beautiful illustrations. Although isotope and trace element analyses of fossils have been consciously omitted, this book has no rivals as a view over the general problems and directions in paleontology.

Such breadth of coverage is bought at the expense of coherence: the topics covered are not linked by a continuous thread of thought. Also the discussion of many topics has been reduced to bare essentials, in order to keep the size and cost of the book within reasonable limits. That aim has been achieved, but at some sacrifice—not only in subject matter, but also in readability and in challenge. The flat style of simple sentence-statements, while clear and precise, rarely hints either at the riches remaining in the primary literature or at the challenges of discoveries yet to be made.

The treatment of ontogeny of colonies (p. 65) seems all too brief—hardly a beginning. The listing of bibliographic sources (p. 152) could have included a few more significant items, such as Sherborne and the abstract journals. I noted some inaccuracies, but all in all the book is remarkably free of errors.

Principles of Paleontology is an attractive book that fills a major vacuum in paleontology. Of two advance copies, one disappeared very shortly, and the other has been in constant demand by students and colleagues.

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Lithic Process

Rock Weathering. DOROTHY CARROLL. Plenum, New York, 1970. xvi, 204 pp., illus. \$15. Monographs in Geoscience.

Without rock weathering the earth could not support higher forms of life. Rock weathering helps produce the all-important soil cover on the continents as well as releases to the

hydrosphere critical nutrients for aquatic life. Rock weathering is, therefore, of interest not only to geologists and soil scientists, but also to limnologists, oceanographers, and most biologists. Dorothy Carroll has written her book with this wide audience in mind.

The strongest emphasis in the book is on the relation between rock weathering and soil formation. Although only 2 of the 12 chapters are devoted specifically to soils, the remaining chapters are integrated closely with this important topic. Numerous tables of chemical data are found throughout the book, and the bibliographic citations are relatively complete for the period covered. A very useful list of publications which pertain to the relationship between climate and weathering of various rock types is found in an appendix. Although the book contains many broad generalizations, it should prove useful to researchers in such fields as sedimentation, soil genesis, geomorphology, and water chemistry.

Dorothy Carroll died when her book was in the final stages of preparation. If she had lived, she would have been pleased with its attractive appearance. Also, I am sure she would have been able to correct a number of unfortunate errors. For example, on the first page we are told that shale is 16 times as abundant as limestone in the lithosphere. This figure is evidently based on Clarke's early calculations. Most modern estimates of the abundance of shale are much lower.

The book is, unfortunately, not up to date. Important citations of the literature are largely from publications in the period from 1930 to 1960. Citations of the recent literature are scattered and poorly integrated into the text.

One of the weakest chapters of the book treats "Time and weathering." A vast body of data resulting from carbon-14 dating and modern Pleistocene stratigraphy could have been studied in order to give specific information concerning rates of weathering and soil formation. These topics are treated superficially in the book. In contrast, one of the best chapters is concerned with "Trace elements in weathering." Although lacking citations of many recent publications, it is still an interesting and useful summary of the topic.

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Books Received

Chemistry. Reactions, Structure, and Properties. Clyde R. Dillard and David E. Goldberg. Macmillan, New York, 1971. xvi, 654 pp., illus. \$10.95.

Classical Scientific Papers. Chemistry, Second Series. Papers on the Nature and Arrangement of the Chemical Elements. David M. Knight, Ed. Mills and Boon, London, and Elsevier, New York, 1970. xiv, 442 pp., illus. \$15.

Climates of Northern and Western Europe. C. C. Wallén, Ed. Elsevier, New York, 1970. xii, 254 pp., illus. \$35.25. World Survey of Climatology, vol. 5.

Coherent Light. A. F. Harvey. Wiley-Interscience, New York, 1970. xxxvi, 1330 pp., illus. \$47.50.

Comparative Spermatology. Proceedings of a symposium, Rome and Siena, July 1969. Baccio Baccetti, Ed. Accademia Nazionale dei Lincei, Rome, and Academic Press, New York, 1971. xii, 572 pp. + plates. \$22.50.

Computers and Brains. J. P. Schädé and J. Smith, Eds. Elsevier, New York, 1970. xii, 264 pp., illus. \$25.75. Progress in Brain Research, vol. 33.

Conductive Rubbers and Plastics. Their Production, Application and Test Methods. R. H. Norman. Elsevier, New York, 1970. viii, 278 pp., illus. \$13.75.

Cortisone. Edward C. Kendall. Scribner, New York, 1971. xiv, 176 pp. + plates. \$7.95.

Cybernetics for the Modern Mind. Walter R. Fuchs. Translated from the German edition (Munich, 1968) by K. Kellner. Macmillan, New York, 1971. 358 pp., illus. \$6.95.

Differential Forms on Electromagnetic Networks. N. V. Balasubramanian, J. W. Lynn, and D. P. Sen Gupta. Butterworth, London, and Davey, Hartford, Conn., 1971. xiv, 186 pp., illus. \$14.50.

Diseases and Pests of Ornamental Plants. Pascal P. Pirone. Published for the New York Botanical Garden by Ronald, New York, ed. 4, 1970. xii, 546 pp., illus. \$12.

Disordered Minds. The First Century of Eastern State Hospital in Williamsburg, Virginia, 1766–1866. Norman Dain. Colonial Williamsburg Foundation, Williamsburg, Va., 1971 (distributor, University Press of Virginia, Charlottesville. xiv, 208 pp., illus. \$5.95.

A Dissertation on the Poor Laws. By a Well-Wisher to Mankind. Joseph Townsend. University of California Press, Berkeley, 1971. viii, 86 pp. \$6.

Doctors in Hospitals. Medical Staff Organization and Hospital Performance. Milton I. Roemer and Jay W. Friedman. Johns Hopkins Press, Baltimore, Md., 1971. xiv, 322 pp. \$12.50.

The Drama of Man and Nature. Sanat K. Majumder. Merrill, Columbus, Ohio, 1971. viii, 136 pp., illus. Paper, \$1.95.

Dynamo II User's Manual. Alexander L. Pugh, III. M.I.T. Press, Cambridge, Mass., 1970. x, 74 pp., illus. Paper, \$5.95.

Electric Energy Systems Theory. An Introduction. Olle I. Elgerd. McGraw-Hill, New York, 1970. xxii, 564 pp., illus. \$16.50.

Electron and Ion Beam Science and Technology. Proceedings of the fourth

international conference, Los Angeles, May 1970. Robert Bakish, Ed. Electrochemical Society, New York, 1970. xii, 666 pp., illus. Paper \$15.

Electronic Optics. O. Klemperer. In collaboration with M. E. Barnett. Cambridge University Press, New York, ed. 3, 1971. xiv, 506 pp., illus. \$27.50.

Electronic Design Data Book. Rudolf F. Graf. Van Nostrand Reinhold, New York, 1971. viii, 312 pp., illus. \$17.95.

Electronic Switching, Timing, and Pulse Circuits. Joseph M. Pettit and Malcolm M. McWhorter. McGraw-Hill, New York, ed. 2, 1970. xvi, 290 pp., illus. \$12.50.

Electronics Pocket Book. J. P. Hawker and J. A. Reddihough, Eds. Newnes-Butterworth, London, ed. 2, 1970 (U.S. distributor, Transatlantic Arts, Levittown, N.Y.). viii, 306 pp., illus. \$6.50. Reprint of the 1967 edition.

Emerging Methods in Environmental Design and Planning. Proceedings of a conference, Cambridge, Mass., June 1968. Gary T. Moore, Ed. M.I.T. Press, Cambridge, Mass., 1971. x, 410 pp., illus. \$22.50.

Essays in Biochemistry. Vol. 6. P. N. Campbell and F. Dickens, Eds. Published for the Biochemical Society by Academic Press, New York, 1970. xii, 176 pp. + plates. Paper, \$4.50.

Essentials of Medical Genetics. Charles G. Crispens, Jr. Harper and Row, New York, 1971. xii, 202 pp., illus. \$9.95.

Estimation Theory. With Applications to Communications and Control. Andrew P. Sage and James L. Melsa. McGraw-Hill, New York, 1970. xii, 530 pp. \$16.50.

Everyday Science. Introducing the Scientific Explanations behind Some Ordinary Phenomena. Daniel Hershey. Doubleday, Garden City, N.Y., 1971. 168 pp., illus. \$5.95.

Everyman's Guide to Ecological Living. Greg M. Cailliet, Paulette Y. Setzer, and Milton S. Love. Macmillan, New York, 1971. viii, 120 pp., illus. Paper, 95¢.

Experimental Astronomy. Jean-Claude Pecker. Translated from the French edition (Paris) by Robert S. Kandel. Reidel, Dordrecht, Netherlands, and Springer-Verlag, New York, 1970. x, 108 pp., illus. \$9.30. Astrophysics and Space Science Library, vol. 18.

Experiments in Plant Physiology. Rancis H. Witham, David F. Blaydes, and Robert M. Devlin. Van Nostrand Reinhold, New York, 1971. viii, 248 pp., illus. Spiral bound, \$6.50.

Food Science. Helen Charley. Ronald Press, New York, 1971. viii, 520 pp., illus. \$8.50.

Fracture. An Advanced Treatise. Vol. 3, Engineering Fundamentals and Environmental Effects. H. Liebowitz, Ed. Academic Press, New York, 1971. xx, 754 pp., illus. \$35.

Functional Analysis and Related Fields. Proceedings of a conference, Chicago, May 1968. Felix E. Browder, Ed. Springer-Verlag, New York, 1970. x, 242 pp. \$16.

Functional Neuroanatomy. Including an Atlas of the Brain Stem, and of the Whole Brain in Coronal and Horizontal Sections. N. B. Everett, with the assistance of John W. Sundsten and Raymond D. Lund. Lea and Febiger, Philadelphia, ed. 6, 1971. x, 358 pp., illus. \$14.50.

The Future of Aeronautics. John E.

Allen and Joan Bruce, Eds. St. Martin's Press, New York, 1971. xiv, 552 pp., illus. \$15.

Hearing. Physiology and Psychophysics. W. Lawrence Gulick. Oxford University Press, New York, 1971. xii, 258 pp., illus. \$10.

The History of Coronary Heart Disease. J. O. Lebowitz. University of California Press, Berkeley, 1971. xviii, 228 pp. + plates. \$8.50.

A History of Poliomyelitis. John R. Paul. Yale University Press, New Haven, Conn., 1971. xx, 486 pp., illus. \$15.

Human Cytogenetics. General Cytogenetics. Vol. 1. John L. Hamerton. Academic Press, New York, 1971. xvi, 412 pp., illus. \$18.50.

Human Factual Knowledge. Mark Levensky, Ed. Prentice-Hall, Englewood Cliffs, N.J., 1971. vi, 218 pp. Cloth, \$6.95; paper, \$2.95.

Human Heredity and Birth Defects. E. Peter Volpe. Pegasus, New York, 1971. 166 pp., illus. Paper, \$1.95. Science and Society Series.

Hypothalamic Control of Lactation. F. G. Sulman, with eight collaborators. Springer-Verlag, New York, 1970. xii, 236 pp., illus. \$14.30. Monographs on Endocrinology, vol. 3.

Immunoglobulins. Biologic Aspects and Clinical Uses. Ezio Merler, Ed. National Academy of Sciences, Washington, D.C., 1971. xii, 404 pp., illus. \$9.50.

The Impact of the Natural Sciences on Archaeology. A symposium, London, June 1968. T. E. Allibone, chairman. Published for the British Academy by Oxford University Press, New York, 1970. viii, 186 pp. + plates. \$24. Also published as Vol. 269, No. 1193, of *Philosophical Transactions of the Royal Society*, series A.

India. The Social Anthropology of a Civilization. Bernard S. Cohn. Prentice-Hall, Englewood Cliffs, N.J., 1971. xx, 164 pp., illus. Cloth \$6.95, paper \$2.95.

Lehrbuch der analytischen und präparativen anorganischen Chemie. (Mit Ausnahme der quantitativen Analyse). Gerhart Janer and Ewald Blasius. Hirzel, Stuttgart, ed. 9, 1970. xxvi, 498 pp., illus. DM 28.

Managing with People. A Manager's Handbook of Organization Development Methods. Jack K. Fordyce and Raymond Weil. Addison-Wesley, Reading, Mass., 1971. xvi, 192 pp., illus. Paper, \$5.95.

Man's Impact on Environment. Thomas R. Detwyler, Ed. McGraw-Hill, New York, 1971. xiv, 732 pp., illus. Paper, \$5.95.

Medical Research. Priorities and Responsibilities. Proceedings of a conference, Geneva, October 1969. Published on behalf of the Council for International Organization of Medical Sciences by the World Health Organization, Geneva, 1970. 156 pp., illus. Paper, \$2.75.

Metabolic Conjugation and Metabolic Hydrolysis. Vol. 2. William H. Fishman, Ed. Academic Press, New York, 1971. xx, 692 pp., illus. \$35.

Natural History and Economic Botany of Nepal. Dibya Deo Bhatt. Ministry of Information and Broadcasting, Nepal, 1970. x, 160 pp. + plates. Paper, Rs 10.

Natural Regulation of Animal Populations. Ian A. McLaren, Ed. Atherton, New York, 1971. x, 196 pp., illus. Cloth, \$6.95; paper, \$2.95.

Nuclear Diplomacy. The First Twenty-five Years. George H. Quester. Sponsored by the Center for International Affairs, Harvard University. Dunellen, New York, 1971. xx, 328 pp. \$10.

Organic Reaction Mechanisms, 1969. An Annual Survey Covering the Literature dated December 1968 through November 1969. B. Capon and C. W. Rees, Eds. Interscience (Wiley), New York, 1971. xii, 712 pp., illus. \$30.50.

Physical Metallurgy. R. W. Cahn, Ed. North-Holland, Amsterdam, and Elsevier, New York, ed. 2, 1971. xxiv, 1334 pp., illus. \$51.50.

Physical Techniques in Biological Research. Vol. 1, Optical Techniques. Part A. Gerald Oster, Ed. Academic Press, New York, ed. 2, 1971. 430 pp., illus. \$19.50.

Physics from the Ground Up. Herman Y. Carr and Richard T. Weidner. McGraw-Hill, New York, 1971. xiv, 710 pp., illus. \$12.50.

Pioneer Settlement in Northeast Argentina. Robert C. Eidt. University of Wisconsin Press, Madison, 1971. xvi, 278 pp. \$15.

Plant Parasitic Nematodes. Vol. 1, Morphology, Anatomy, Taxonomy, and Ecology. B. M. Zuckerman, W. F. Mai, and R. A. Rohde, Eds. Academic Press, New York, 1971. xiv, 346 pp., illus. \$22.

Polymers in the Engineering Curriculum. Proceedings of a conference, Pittsburgh, October 1968. Hershel Markovitz, Ed. Carnegie Press, Carnegie-Mellon University, Pittsburgh, 1971. xiv, 314 pp., illus. Paper, \$4.95.

Population. R. Pressat. Translated by Robert and Danielle Atkinson. Penguin, Baltimore, Md., 1971. xii, 152 pp., illus. Paper, \$1.25.

Practical Catalytic Hydrogenation. Techniques and Applications. Morris Freifelder. Wiley-Interscience, New York, 1971. xxii, 664 pp., illus. \$24.95.

Progress in Parapsychology. J. B. Rhine, Ed. Parapsychology Press, Durham, N.C., 1971. xvi, 314 pp., illus. \$7.

The Psychological Consequences of Being a Black American. A Sourcebook of Research by Black Psychologists. Roger Wilcox. Wiley, New York, 1971. xvi, 492 pp. \$9.95.

Psychological Warfare against Nazi Germany. The Sykewar Campaign, D-Day to VE-Day. Daniel Lerner. M.I.T. Press, Cambridge, Mass., 1971. xxviii, 378 pp. Cloth, \$12.50; paper, \$3.95. Reprint, with a new introduction, of the 1949 edition.

Public Parks on Private Land in England and Wales. Warren A. Johnson. Johns Hopkins Press, Baltimore, Md., 1971. xvi, 136 pp., illus. \$8.

Quantum Theory and Beyond. Essays and Discussions Arising from a Colloquium, Cambridge, England, July 1968. Ted Bastin, Ed. Cambridge University Press, New York, 1971. x, 346 pp., illus. \$16.

Singular Integrals and Differentiability Properties of Functions. Elias M. Stein. Princeton University Press, Princeton, N.J., 1971. xiv, 290 pp. \$11.

Sol and Water. Physical Principles and Processes. Daniel Hillel. Academic Press, New York, 1971. xvi, 288 pp., illus. \$14.

Solid Acids and Bases. Their Catalytic Properties. Kozo Tanabe. Kodansha, Tokyo, and Academic Press, New York, 1971. viii, 176 pp., illus. \$11.50.