

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