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REVIEWS

CONTRIBUTIONS TO THE HISTORY OF GEOLOGY, edited by George W. White, a series of classical works in geology, reprinted in facsimile with introductory biographical and bibliographical commentaries by the editor and other distinguished students of the history of geology. These volumes are handsomely and skillfully reproduced and were carefully selected to make essential but almost unobtainable titles available to students and historians at relatively modest cost. Published by Hafner Publishing Company, Inc., New York and London.

1. THE AMERICAN MINERALOGICAL JOURNAL: being a collection of facts and observations tending to elucidate the mineralogy and geology of the United States of America, conducted by Archibald Bruce, M. D. Volume 1 (all published), New York, 1810-1814 [1968], 270 pp. + index. Introduction by John C. Greene, foreword by George W. White. \$18.00

This journal was the first American publication designed primarily for geologists and mineralogists. It provides a valuable view of American geologic thought and activity in 1810-1814 as almost every active worker interested in geology and mineralogy contributed to its pages.

2. A VIEW OF THE SOIL AND CLIMATE OF THE UNITED STATES OF AMER-

ICA: with supplementary remarks upon Florida; on the French colonies on the Mississippi and Ohio, and in Canada; and on the aboriginal tribes of America, by C. F. Volney. Translated with occasional remarks, by C. B. Brown. Philadelphia, 1804 [1968], 446 pp. + 2 maps, 2 plates. Introduction by George W. White. \$20.00

Volney's classic work was published first in French in 1803. This translation is the earliest significant account in English of the geology of the United States. Volney based his clear descriptions on his own observations rather than preconceived theories. He was personally acquainted with Thomas Jefferson and William Maclure and he freely credited much of his geological information to Samuel L. Mitchell and others. Brown made alterations in the original text and added annotations and explanatory notes to the English version.

3. THE MONTHLY AMERICAN JOURNAL OF GEOLOGY AND NATURAL SCIENCE; exhibiting the present state and progress of knowledge in zoology, botany, mineralogy, comparative anatomy, chemistry, meteorology, physical natural agents, and the antiquities and languages of the Indians of this continent, conducted by G. W. Featherstonhaugh. Philadelphia, 1831-1832 [1969], 576 pp. + 15 plates. Introduction by George W. White. \$25.00

George William Featherstonhaugh [pronounced "Fanshaw"] was one of the most widely traveled and versatile early American geologists. He had intimate experience with English and continental geology and visited localities in the field with both Sedgwick and Murchison. In 1831 he founded this journal which through its brief twelve month existence became noted for its scholarly content and for its penetrating reviews of both American and foreign publications often quite different from those appearing in other journals. A number of authors other than the editor contributed to this journal. Especially significant are William Coopers's paper on Big Bone Lick, Jacob Green's "Synopsis of trilobites of North America" and Featherstonhaugh's paper on the drainage of North America and the origin and retreat of Niagara Falls.

4. THE PRODRAMUS OF NICOLAUS STENO'S DISSERTATION CONCERNING A SOLID BODY ENCLOSED BY PROCESS OF NATURE WITHIN A SOLID, an English version with an introduction and explanatory notes by John Garrett Winter, with a foreword by William H. Hobbs. The Macmillan Company, New York, 1916 [1968], vii, pages 169-283, plates v-xi (University of Michigan Humanistic Studies, Vol. XI, part 2). Introduction by George W. White. \$12.50

The importance of Steno's *Prodromus* is quite well known and requires no elaboration. It was first published in Latin in 1669 and first translated into English in 1671. This modern English translation of 1916 is excellent and definitive and is accompanied by valuable explanatory notes, a brief biography of Nicolaus Steno, a list of his writings, a bibliography of the *Prodromus*, and a most useful index.

A BIBLIOGRAPHY OF AMERICAN NATURAL HISTORY: The pioneer century, 1769-1865, by Max Meisel. Published by the Hafner Publishing Company, New York and London, facsimile reprint of the edition of 1924, 1967, 3 vols., 1734 pp., \$50.00 set

This work by the late Max Meisel is far more than a bibliography. The rise and progress of natural history in the United States

is traced from the formation of the American Philosophical Society at Philadelphia in 1769 to the close of the Civil War in 1865. Volume 1 is an annotated bibliography of publications relating to the history, biography and bibliography of American natural history and its institutions during colonial times and the "pioneer century" published up to 1924. In volumes 2 and 3 the institutional bibliographies are arranged according to the dates of foundation and each is preceded by a brief history of the subject organization. This standard work is an indispensable tool to those doing research in natural history as well as to historians and bibliographers.

AN INTRODUCTION TO THE NATURAL HISTORY OF THE TERRESTRIAL SPHERE principally concerning new islands born from the sea and Hooke's Hypothesis of the Earth on the Origin of Mountains and Petrified Bodies to be further established from accurate descriptions and observations, by Rudolf Erich Raspe, translated and edited by Audrey Notvik Iversen and Albert V. Carozzi; and including a facsimile reprint of *Specimen Historiae Naturalis Globi Terraquei*, the original 1763 edition. Published by Hafner Publishing Company, New York, 1970, \$19.50

Unfortunately, Rudolf Erich Raspe is remembered not for his considerable contributions to geology, but as the author of the celebrated work of fiction "Baron Munchausen's Narrative of his Marvellous Travels and Campaigns in Russia." This, the first English translation of his most important geologic work, should serve to focus attention on his scientific efforts. *Specimen Historiae Naturalis Globi Terraquei* . . . is far more than an expanded illustration of Hooke's work; it blends the concepts of others with his own original contributions to structural geology, a knowledgeable and critical review of newly formed mountains and islands, and produces a theory of the earth which achieved a notable degree of success in its own time.

SIR CHARLES LYELL'S SCIENTIFIC JOURNALS ON THE SPECIES QUESTION, edited by Leonard G. Wilson. Published by Yale University Press, New Haven and London, 1970, lxiv + 572 pp., index, \$17.50

This exciting volume is an extremely important contribution to the understanding of one of the most significant events in the history of biology. It presents the text of the seven notebooks in which Sir Charles entered his notes, his thoughts on the mutability of species, and extracts from his correspondence with Charles Darwin from 1855 until 1861 when he began to write his own manuscript for the *Antiquity of Man*. These notebooks provide intimate insight into Lyell's intellectual struggle with the many complexities introduced by Darwin's concept of natural selection to the interpretation of geological history.

On April 16, 1856, at Down House, Darwin and Lyell discussed the species question for the first time and Darwin explained his theory of natural selection. Sir Charles recorded this discussion including an outline of the main features of the theory in his journal. He immediately and very strongly urged Darwin to publish his theory and continued to do this on subsequent occasions. The journals faithfully record the day by day progress of Lyell's thinking and his response to the theory and to criticisms of Darwin's concepts. It is hoped that this book will lay to rest the irritating, erroneous, and frequently stated idea that Sir Charles obstinately resisted evolutionary theory. He knew full well the dramatic impact that publication of Darwin's work would have on their contemporaries. It seems to this observer that Lyell assumed the role of devil's advocate to stimulate Darwin's response to criticism and thus to polish his exposition of natural selection while continuing to urge him to publish the theory. Lyell's own position is summarized by Dr. Wilson in these words: "In Lyell's cautious judgment, the consequences of Darwin's theory were so comprehensive and staggering that it required an equally comprehensive study of its implications for every aspect of the world of living nature. Moreover, Lyell was sensitive to questions inherent in Darwin's theory that might have escaped a less critical mind."

An extensive introduction precedes the text of the seven notebooks. In it, the editor traces the development of Lyell's thinking on species prior to the first of the journals and recounts the events in his life in the years

during which he wrote the journals. Dr. Wilson's notes which are inserted following each journal are scholarly and exceedingly valuable. This volume is a contribution to the history of science of first rank importance.

THE EARTH IN DECAY: A History of British Geomorphology, 1578-1878, by Gordon L. Davies. Published by American Elsevier Publishing Company, Inc., New York, 1970, xvi + 390 pp., \$16.00

This book traces the evolution of British thought on the origin of the Earth's topography, now termed geomorphology, from the publication of Bourne's *Treasure for Travelers* in 1578 until 1878 by which time the concept of subaerial denudation was firmly established in Britain in essentially its modern context. Of special interest is the elucidation of the amount and scope of pre-Huttonian literature which contains significant geomorphic subject matter. The author has included a bibliography which lists the more important of these early titles, many of which have not previously been considered as source material for study of geomorphology.

THE GEOLOGY OF WESTERN EUROPE, by M. G. Rutten. Published by Elsevier Publishing Company, Amsterdam, London and New York, 1970, xviii + 520 pp., \$22.50

Consideration of the Geology of Europe is complicated by the many countries involved and by the differences in training and viewpoint which geologists of different nationalities possess. Professor Rutten has attempted to produce an overall view of the geology of Western Europe without neglecting to discuss the varied nature of contemporary geological thinking and the present controversies which exist among European geologists. He chose to limit his treatment to discussion of certain areas selected to highlight the main aspects of European geology. This reviewer feels that he has accomplished these purposes quite well. The book is large in format, quite well illustrated and modestly priced for its quality and content.