referred it. This difference in opinion is unimportant, as this is the lowest bed of the Allegheny in the region and is at only 10 to 30 feet above the sandstone which forms the top of the Pottsville.

This supplementary report is merely synoptical and it will be supplemented in turn by county reports giving the structure in detail. The plan and execution of the survey work are admirable; the measurements are very numerous and the correlations have been made with patient study; the analyses are in great part both proximate and ultimate and the number of them is unusually large. The new material, bearing on the origin of coal and the accumulation of coal beds is perplexingly important; if much more of this sort be presented, reconstruction of many familiar hypotheses will be necessary and much fine writing, of which the authors were justly proud, will become merely historical lumber.

JOHN J. STEVENSON

SCIENTIFIC JOURNALS AND ARTICLES

The Museums Journal of Great Britain for October, under the title "Board of Education: Circulation Department," states that the Victoria and Albert Museum contemplates extending the operations of its circulation department which is concerned with the loan of collections to provincial museums. In "Notes on an Eighteenth Century Museum" Thomas Southwell gives much information about the *Museum Boulterianum* a typical institution of its period. This contained many objects brought home by Capt. Cook, including specimens of *Hemignathus obscurus* and *Vestiaria coccinea*. The article on "The Lund Museum for the History of Culture" contains a brief discussion of the extent and character of restorations of art objects.

The American Museum Journal for November contains a brief account of "Cuthbert Rookery," the last of any size left in the state, and information as to "The Stefansson-Anderson Arctic Expedition" which is at work on the northeast coast, while Harlan I. Smith presents some of the results of "The Archeological Reconnaissance of Wyoming." It is noted that the Tuberculosis Exhibit will be opened the latter part of November. The number contains the lecture programs of various courses.

The Bulletin of the Charleston Museum for October notes the installation of the Museum Library in the new building and calls attention to the fact that it is the first free public reading-room in the city. The offices and workrooms are also in the new building and the re-arrangement of the collections is proceeding as fast as is possible.

The Zoological Society Bulletin for October contains an illustrated account of the elephant house soon to be opened to the public, and probably the most complete structure of its kind extant. In a note on "A Large Sea Turtle" (*Dermochelys*) it is stated that "It is not likely that any species of sea turtle exceeds 1,000 pounds in weight." This is probably true; it is surprising how animals shrink before tape line or scales and so far as we know the 840 pounds of this turtle is the maximum actually recorded. Mr. Beebe presents Part I. of an illustrated article on the "New World Vultures." He remarks that they apparently lack the sense of smell, but *per contra* it is to be noted that the olfactory lobes of *Cathartes* are well developed, being much larger than those of other birds. And what are olfactory lobes for but to record smells? Attention is called to the necessity for raising a fund for the purchase of bison for the Montana herd for which the government has provided a range.

THE tenth volume of the *Transactions* of the Texas Academy of Science, including the proceedings for 1907, has just been published. Its contents includes the following papers: "The Resistive Powers of the Animal Organism," the annual address by the president, Dr. James E. Thompson, professor of surgery in the medical department of the University of Texas, Galveston; "A Theory of Ferments and their Action," by Dr. James W. McLaughlin, Austin; "Soil Fertility and Phosphoric Acid," Dr. George S. Frapps, state chemist, College Station; "Lord Monboddo—

A Precursor of the Darwins," by May M. Jarvis, M.A., University of Texas, Austin; "Fossil Tracks in the Del Rio Shale," by Professor J. A. Udden, Augustana College, Rock Island, Ill.; "Some Figures on the Cost of Train Service," by R. A. Thompson, C.E., chief engineer of the Texas Railroad Commission; "The Law of the Fall of Rivers and the Value of the Deduced Curve in River Improvements," by F. Oppikofer, C.E., Tarpon, Texas.

BOTANICAL NOTES

ANOTHER ELEMENTARY BIOLOGY

THE recently published (Macmillan) "First Course in Biology" prepared by Bailey and Coleman is disappointing in that the presentation of the two sides of the subject is very unequal, that relating to plants being much inferior in every way to that relating to animals. Pedagogically, practically, and still more, scientifically the treatment of "Plant Biology" falls far below what we had a right to expect from the author. In the two hundred pages given to this subject there are brought out a great many interesting and useful facts, charmingly told, but they are presented in an unorganized form. There appears to be no orderly sequence in the presentation of the matter contained in the chapters. Thus the pupil is told in the first chapter that "no two plants are alike," which may or may not be important for him at this stage of his education; then next he is asked to consider plant adaptation, followed by two pages devoted to "the survival of the fit." The fourth chapter deals with "plant societies," the fifth with "the plant body," the sixth with "seeds and germination," the seventh and eighth with the root, etc. The twenty-third chapter includes six pages, devoted to "phenogams and cryptogams," a careful study of which must leave the pupil in a good deal of confusion as to the differences between spore-bearing and other plants, and the nature and significance of alternation of generations. The closing chapter consists of "more extended excursions into the cryptogamous orders." The author's unfamiliarity with this portion of the plant kingdom is evident. Witness this description of lichens (p. 195)—"they are thin, gray, ragged objects, apparently lifeless," and "they are now known to be green cells of various species of algæ overgrown and held together (imprisoned) by the mycelium of various kinds of fungi." What idea could a high-school pupil get from such statements? In the preface to the book the author refers approvingly to the "revolt against the laboratory method" and decries the study of botany "without really knowing plants"—but certainly this book in its present form is not likely to remedy these educational abuses. It must be remembered that even though one may intend to be very "practical," and have the gift of entertaining and attractive writing, it is still necessary to be strictly accurate in the statement of facts, and to carefully arrange the sequence in which these statements are presented. It is clear that the botanical part of this book should be revised, rewritten and rearranged before a second edition is issued.

CANADIAN ROCKY MOUNTAIN BOTANY

SOME time last year Mr. Stewardson Brown, the curator of the herbarium of the Academy of Natural Sciences of Philadelphia, brought out a pretty book on the "Alpine Flora of the Canadian Rocky Mountains" (Putnams). The author says it "is meant only as a guide to the rich and interesting flora of the Canadian Rockies and Selkirks, or those portions traversed by the Canadian Pacific Railway between Banff and Glacier." It is thus a tourist's book, but its treatment is such that it becomes a useful book for the botanist, also.

It opens with a glossary of such terms as might puzzle the non-botanical amateur, and following this is a good key to the families. In the text the characterization of the families is brief and non-technical, as are also the descriptions of species. The genera are not characterized further than is done in the keys to the genera given at the beginning of each family. It should be stated that the nomenclature is of the modern kind. At frequent intervals are plates, either half-tones of photographs, or colored reproductions of water-