

petrology has elucidated much of the obscure in the constitution, relations, and origin of rocks.

Moreover, America, from early in the century, has been receiving instruction through the development and parallel progress of the Science in Europe and other lands.

The first edition of this Manual owed much to the advice of the able paleontologist, F. B. MEEK, and also to his skill as a draftsman; and the work still bears prominent evidence of his knowledge, judgment, and scrupulous exactness, traits which give a permanent value to all the results of his too soon ended labors.

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Throughout this volume, the *dates* of papers containing cited facts or views are often stated. If a condensed bibliography, containing in brief form the titles of the most important geological and paleontological works and papers, arranged under the year of publication, were accessible to the student, these dates would be a sufficient means of reference. Without such a Bibliography they may serve as a help in consulting, besides Reports of Geological Surveys, the serial scientific publications. It is best to commence the search with the periodical containing the most geological papers, notes, and book notices, and follow on with the others. The American Journal of Science commenced in 1818; the American Naturalist, in 1868; the American Geologist, in 1888; the Bulletin of the American Geological Society, in 1890; the Journal of Geology, Chicago, in 1893. Then refer to the Proceedings and Memoirs of American Scientific Soci-