

tion of the igneous rocks, geysers and gases of that remarkable region have long been famous. In the same year appeared his paper on the submarine volcano of Val di Noto; while his riper reflections appeared in a memoir on the volcanic rocks of Sicily and Iceland in 1853.

In 1865 he published his views respecting the causes of the change of climate since the commencement of what has been termed the Historic period, and expressed his belief that the interval known as the Ice Age was due to an alteration of the contour of the earth's surface since Diluvial times. His labours, however, were not restricted to the field of Petrology. In 1856 he described what he regarded as a new mineral species from Borgarfjord, parastilbite, differing from epistilbite in some of its angular measurements; and he published about the same time his examination of the crystalline form of boron. In Palæontology, again, we find him actively at work; he described a fragment of a Saurian from the Coal-beds at Zwickau, and that of a fossil snake from Burlington, in Mississippi. It should be stated, moreover, that he was the close friend and ally of Gauss, and wrote the life of this eminent physicist and mathematician, which appeared at Gotha in 1856.

While so ably filling the position of Professor of Mineralogy and Geology in the University of Göttingen, he devoted himself to writing a *magnum opus* on Etna, which occupied him till a short time before his lamented death. The Chair which after the lapse of thirty years now becomes vacant has, it is stated, been offered to Prof. Tschermak, of Vienna.—W. F.

### FIELDING B. MEEK,

PALÆONTOLOGIST, U.S.A.

BORN 10 DEC., 1817. DIED 22 DEC., 1876.

MR. F. B. MEEK was born in the city of Madison, Indiana, U.S. America, Dec. 10th, 1817. His grandparents were Irish Presbyterians, and emigrated to America from the county of Armagh, Ireland, about the year 1768. He spent his early days in Madison, where his father was a lawyer of considerable eminence; but unfortunately died when young Meek was only three years old, leaving his family in very moderate circumstances. From his earliest recollection he was interested in the Silurian fossils so abundant in the rocks of the neighbourhood of his home. He had never heard of Geology, but studied these remains with admiration and wonder as to their origin. On attaining his majority, by the advice of his friends, but against his own wishes, he commenced business as a merchant; but, absorbed in his favourite pursuit, he neglected his avocation, and in the financial crisis of 1847 he lost his small capital, on which he depended.

In 1848 he seems to have really commenced his career as a scientific man, being first employed as assistant to Dr. D. D. Owen, on the States Geological Surveys of Iowa, Wisconsin, and Minnesota.

In 1852 he became the assistant of Prof. James Hall, the eminent palæontologist of Albany, New York. Here he remained until

1858, with the exception of three summers, two of which he spent with the Missouri State Geological Survey. In the summer of 1853 he accompanied Dr. F. V. Hayden in an expedition to explore the "Bad Lands" of Dakota, and brought back very valuable collections. This was the commencement of that long series of successful explorations of all portions of the West, which have continued up to the present time. While at Albany he was constantly engaged in the most important palæontological works, the results of which were published in the proceedings of the learned societies of the United States.

In 1858 he went to Washington, where he resided until the time of his death, leaving the city only for a few months at a time while engaged as Palæontologist for the State of Illinois, Ohio, or in field explorations in the far west, in connexion with the U.S. Geological Survey of the Territories under the direction of Dr. F. V. Hayden.

His publications, aside from the State reports referred to, were very numerous, and bore the stamp of the most faithful and conscientious research. One great distinction between Mr. Meek's palæontological labours and the geological publications of his colleagues on the great Surveys of the States, lies in the fact, that whereas much of their work will require most careful concordance before the grand results accomplished by them can be fully correlated, on account of many of the separate States having adopted purely local or new-coined names for their rock series, Mr. Meek's palæontological work is at once available to his brother-workers all over the world, being written in the same cosmopolitan language.

Mr. Meek was so modest and retiring that he was scarcely known outside a very limited circle of friends. His bodily infirmities prevented him from mingling in society. Although his fame as one of the most eminent palæontologists on the American Continent had been acknowledged among scientific men everywhere, his existence was scarcely known to the world at large. He was a member of the National Academy of Sciences of the United States, and many other prominent scientific associations in America and in Europe.

He died within the walls of the Smithsonian Institution, where he had occupied rooms for eighteen years. He had been connected with the U.S. Geological and Geographical Surveys of the Territories as a salaried officer for the greater portion of the time since its first organization in 1867.

His last great work (Vol. IX.) appeared in 1876, and contains 630 pp. of quarto text, and 45 plates, of which he writes to Dr. F. V. Hayden, "The following is my final Report on the Invertebrate Cretaceous and Tertiary Fossils of the Upper Missouri Country."

His grand palæontological works are his noblest and best monument; yet, as Prof. Dana truly observes, "he is gone before his work was done;" and he adds, "American palæontology has lost (as regards its Invertebrate Department) half its working force at a blow."<sup>1</sup>

<sup>1</sup> These notes were, in great part, communicated by Dr. F. V. Hayden through the kindness of Thomas Davidson, Esq., F.R.S.—*EDIT. GEOL. MAG.*