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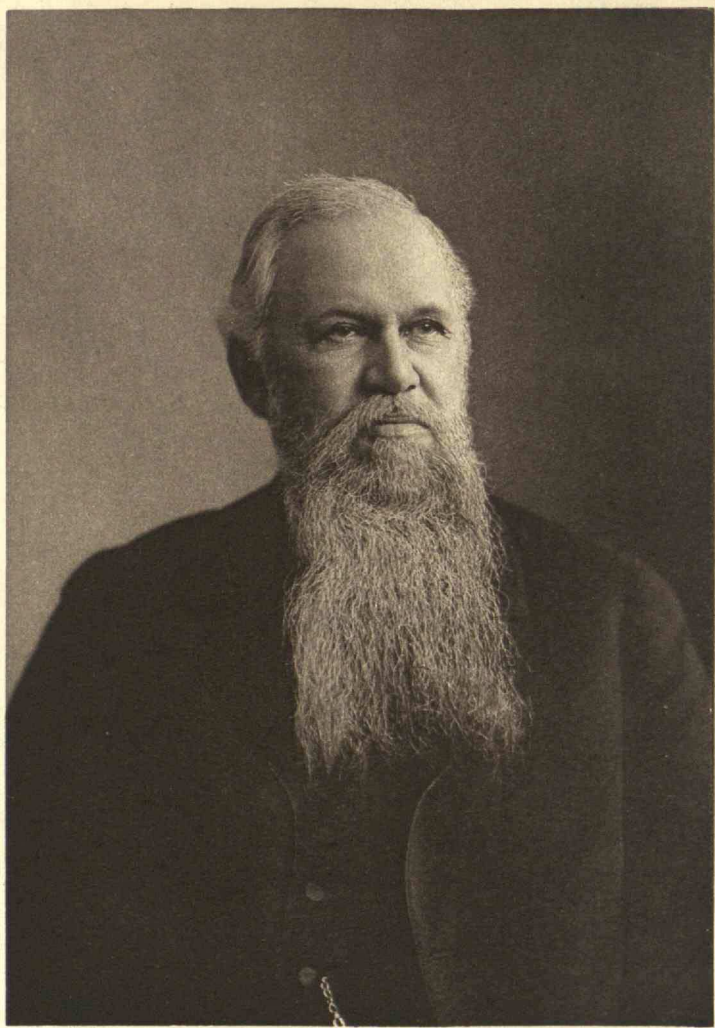
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# The Technology Review

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## WILLIAM HARMON NILES

*S.B. Harvard 1866; Ph.B. Yale 1867; A.M. Wesleyan 1870. Professor of Physical Geology and Geography, 1871-1878; Professor of Geology and Geography, 1878-1902; Professor Emeritus of Geology, 1902.*

He was born at Northampton, Mass.; but, when less than four years of age, his parents moved to Worthington, Mass., where he received his early education in a district school. His father, Rev. Asa Niles, had a remarkably retentive memory; and his mother, Mary A. (Marcy) Niles, was gifted in the use of the English language and was fond of nature. His inherited traits of mind were manifested very early. In boyhood he was fond of collecting minerals and plants in the region of his home, and his subsequent career was foreshadowed by his youthful recreations. At the age of sixteen he had a good collection of the minerals of Worthington and of four neighboring towns, which he had gathered, arranged, and labelled.

He began teaching in Worthington at the age of seventeen, and taught there four consecutive winters, and next at North Blanford two terms, followed by one at North Becket. During the summer seasons he worked regularly upon his father's farm. It was not until he was twenty that he received his first school instruction in any science.

At that time he went to the Wesleyan Academy at Wilbraham, Mass. ; but he could not remain for consecutive terms, as he was obliged to support himself by his own earnings. There he received instruction and encouragement from his uncle, the late Oliver Marcy, LL.D., of Northwestern University, at Evanston, Ill.

It was with Dr. Marcy's advice that he went to Cambridge to become a pupil of the distinguished Professor Louis Agassiz. At the Museum of Comparative Zoölogy his work was largely zoölogical, but geological studies were favorites. It was while there that he developed a decided fondness for physical geography. As a student of the Lawrence Scientific School, he attended two courses of lectures in Comparative Anatomy by Professor Jeffries Wyman, three courses in Botany by Professor Asa Gray, a course by Professor Lovering, and he took two courses in Mineralogy under Professor Josiah P. Cook. His special studies under Professor Agassiz were of the nature of investigations, often without any aid from books. In this way he carefully studied modern corals, and fossil lamellibranch mollusks of the Mesozoic. His most extended and detailed researches were upon the Crinoids, and it was upon the classification and geological distribution of this group that his thesis was prepared. He spent six months in Iowa and Illinois studying the noted Crinoid collections of Charles Wachsmuth, Dr. Thieme, and Rev. W. H. Barrus, and in making various field studies in geology. As agent for Professor Agassiz, he purchased the last-named collection for the Museum at Cambridge. It was through the highly esteemed kindness of Professor Agassiz and the assistance which he granted him from the Thayer Fund that he was enabled to enjoy such opportunities for four years.

He was a room-mate, and for many years a close friend,

of J. A. Allen, now curator of the Department of Mammalogy and Ornithology, at the Museum of Natural History, Central Park, New York City. Other students at the Cambridge Museum with whom he was intimately associated were A. Hyatt, C. F. Hartt, A. E. Verrill, F. W. Putnam, S. H. Scudder, A. S. Packard, Horace Mann, A. S. Bickmore, and O. H. St. John.

Largely by the friendly assistance of Professor A. E. Verrill he was enabled to spend a year and a half as a student in the Sheffield Scientific School at New Haven, from which he was graduated Ph.B. in 1867. He was a working student in Professor Verrill's laboratory. He had mineralogy with Professor G. J. Brush, French and German with Professor W. D. Whitney, lectures in physical geography by Professor Daniel C. Gilman, and in geology by Professor James D. Dana and Professor O. C. Marsh. His most intimate student associates were Sidney I. Smith and William North Rice.

He received the degree of A.M. from Wesleyan University in 1870.

In addition to these preparatory studies and labors, Professor Niles was further qualified for giving instruction at the Institute by his experience as a teacher and lecturer. He taught in several private schools, and was thus associated with the Gannett Institute for several years. Before leaving Cambridge, he had been appointed instructor and lecturer in natural science at the State Teachers' Institutes of Massachusetts. His services in this position were distributed through a period of ten years, lecturing in every portion of the State. When he was invited to teach at the Institute of Technology, he had become widely and popularly known as a lecturer upon geological and geographical subjects. Under the advice and counsel of Professor Will-

iam B. Rogers he was appointed Professor of Physical Geology and Geography in 1871. For eight years his instruction at the Institute was given during the second half of each year, thereby affording him the opportunity of continuing his public lectures.

Feeling that a personal acquaintance with various countries was essential to a teacher of Physical Geology, Professor Niles made journeys to Europe, spending portions of three summers among the Alps. There he visited and studied for himself the districts which had been made famous by the studies of his former teacher, Professor Louis Agassiz, and by the investigations of others. His own observations while there led to the publication of papers upon the "Agency of Glaciers in the Excavation of Valleys and Lake-basins," upon the "Relative Agency of the Glacial and Subglacial Streams in the Erosion of Valleys," and upon the "Occurrence of Zones of Different Physical Features upon the Slopes of Mountains."

He twice visited Holland, that he might observe the peculiar relations there existing between physical features, geological changes, and human life. His observations in that country were very useful in his geographical teaching at the Institute. His illustrated lectures upon "Holland and its People" and upon his experiences among the Alps were so well received and so widely delivered that they yielded an important part of his resources for travel and extended geographical study.

He also gave courses upon scientific subjects before public audiences. Three courses of twelve lectures each were delivered at the Lowell Institute in Boston, "Geological History, Ancient and Modern," "The Atmosphere and its Phenomena," and "Physical Geography of the Land" being the respective titles. Courses were also given by him in

Boston for the Society of Natural History, the Teachers' School of Science, and the Appalachian Mountain Club. He gave two courses at the Peabody Institute in Baltimore, and similar courses at Wakefield, Jamaica Plain, Charlestown, and Framingham. The success of his lectures was such that he was sometimes called to speak from fifty to one hundred times in a single season.

He became interested in the evidences that portions of the rocky crust of the earth usually regarded as stable were really affected by an energy sufficient sometimes to fracture and somewhat dislocate them. As a result the following papers of his were published: "Peculiar Phenomena Observed in Quarrying"; "Effect of Pressure on Rocks"; "Further Notice of Rock-movements at Monson, Mass.;" "On Some Expansions, Movements, and Fractures of Rocks Observed at Monson, Mass.;" and "The Geological Agency of Lateral Pressure Exhibited by Certain Movements of Rocks."

In 1878, when Dr. T. Sterry Hunt retired from the chair of geology, W. H. Niles was appointed Professor of Geology and Geography and W. O. Crosby assistant in Geology. At that time there were no arranged collections, and very few appliances for instruction in that branch. The building up of the present collections has been a work of thirty years. They now represent Structural Geology, Mineralogy, Lithology, Economic Geology, and Palæontology; and they contain thirty thousand specimens which are well arranged, mostly labelled and to a considerable extent catalogued. Great credit is due to Professor Crosby for what he has done in this arduous work. Professor Niles has also been a large contributor, particularly in Palæontology; and he has been steadily active in the formation of the admirable collections which the Institute now possesses. Vis-



itors from other institutions have spoken in terms of high commendation of the adaptation of these collections to the eminently practical instruction given at the Institute.

In response to an official inquiry for the right man to be made president of the Institute, it was Professor Niles who first suggested Francis A. Walker. The reply was that there was no probability that he could be obtained. Professor Niles then requested and obtained permission to inform General Walker of this mention of his name, and went of his own accord to New Haven, the more thoroughly to remove the doubt. General Walker first expressed his surprise, and later replied that he highly esteemed the Institute, and that there was no city he would prefer to Boston as a place of residence. It was this reply obtained and brought to Hon. John Cummings by Professor Niles that opened the way by which the Institute secured President Walker.

Professor Niles has held positions of honor and importance in other connections. He was for five years the president of the Boston Society of Natural History, was three times elected president of the Appalachian Mountain Club, was the president of the New England Meteorological Society, and is now the president of the Lawrence Scientific School Alumni Association. He has been Professor of Geology in the College of Liberal Arts of Boston University from its first class to graduate to the past year. He is still the head of the Department of Geology at Wellesley College where he has been professor for fourteen years.

He is a fellow of the American Academy of Arts and Sciences, fellow of the Geological Society of America, member of the National Geographic Society, corresponding member of the New York Academy of Sciences, etc.

Since his connection with the Institute, Professor Niles has been sought several times for other institutions. He has a letter from the distinguished geographer, the late Professor Arnold Guyot, asking him if he would come to Princeton with the prospect of taking his position when he resigned.

The writer of this sketch first met Professor Niles in 1878, when he was under his instruction at the Massachusetts Institute of Technology. The professor impressed him from the beginning of his acquaintance as a teacher who was specially cordial and helpful to his pupils. He was a most interesting instructor; but, more than this, he was the personal friend of his students. By the logical way in which he developed his subject he made it extremely clear to his hearers, while his own warm interest in what he was teaching gave a peculiar fascination to his lectures, and increased and deepened the love of science which his pupils already possessed. In this way his classes came to think of him as their friend as well as a most valued instructor. He had the rare faculty of inciting his pupils to orderly behavior in the class-room without resorting to any of the devices of the stern disciplinarian.

A former student and present colleague of Professor Niles says:—

Professor Niles was one of the most inspiring teachers under whom I have ever studied. As a lecturer, I have seen few men that I have considered his equal. He not only interested his students in his subject, but inspired them to think and investigate for themselves. I think I did more outside reading in connection with Professor Niles's courses than in connection with any other courses I had at the Institute, and the interest in the subject which he aroused in me was deep and lasting. Professor Niles's