MEMOIR OF JOSIAH THOMAS SCOVELL.

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Josiah Thomas Scovell was born at Vermontville, Mich., July 29, 1841. His parents, Stephen D. and Caroline (Parker) Scovell were of New England stock dating from the 17th century. He was educated first at Ohvet College and later at Oberlin, graduating A. B. in the class of 1866 and M. A. in 1875. While at Olivet he went home to spend a week-end, and in his determination to get back to college for Monday morning, forded a swollen river with his clothes tied in a bundle on his head. In 1864 he served one hundred days in Company K, 150th Ohio National Guards. His comrades speak highly of his services as company cook. defense of Fort Stevens at Washington against the attack of General Early, he was given command of a gun. President Lincoln stood on the parapet beside Scovell's gun to watch the progress of the battle, and was dislodged only by the command of General Wright. uncle living at Lewiston, N. Y., were occasions for a study of Niagara Falls and gorge. A fellow student at Oberlin, now Professor J. E. Todd of the University of Kansas, tells how he and Scovell were overtaken by nightfall in the gorge and compelled to escape by climbing a pine tree and a pole reaching from its top to the edge of the cliff. He had field work in geology at Oberlin with Professor Allen, and in 1867 was one of a party which accompanied Professor Alexander Winchell from Ann Arbor to the mines of Marquette, Houghton and Hancock. He was boss of the crew which secured and shipped the famous boulder of jasper conglomerate from Marquette to the University campus at Ann Arbor. In 1866-7 he took a special course in chemistry and mineralogy in the Medical Department of the University of Michigan and was graduated M. D. from Rush Medical College, Chicago, in 1868. He practiced medicine a year or two at Central City, Colo., then a lumber camp near Middle Park, He found the Garden of the Gods, the over blow of snow from the Pacific slope, the sound of running water under summer snows, the milky glacial streams, a storm in Platte Cañon seen from above, a flood in Cherry Creek, and the phenomena of mountains and forest more instructive than anything at college. In 1871-2 he was instructor in Chemistry at Olivet College, and in

1872 came to the Indiana State Normal School at Terre Haute as head of the Department of Natural Science. He at first taught only physiology and geography. The woman who had been teaching geography had spent four-teen weeks on the Great Western Plains using them as an instrument for teaching μedagegy, "the law in the mind" being illustrated by "the fact in the thing." Scovell had actually seen the Great Plains and was able to arouse greater interest in the facts in the thing. The use he made of pictures and specimens was an innovation and they had to be shown outside the regular class period. With the permission of the Γresident, he introduced some instruction in physics, chiefly in meteorology, using home made apparatus. He also used the Wabash in field lessons on rivers, and his advent at Terre Hau'e marked one of the early inoculations of the Indiana schools with the scientific virus.

In 1873 he joined Todd at Portland, Me., as a volunteer assistant with the U. S. Fish Commission and visited Nova Scotia to study the tides. In 1880 he visited Cuba and Mexico to familiarize himself with tropical nature, corals and Aztec civilization.

He was married in 1876 to Joanna Jameson of Lafayette, who survives him. In 1881 he resigned from the Normal School and during the next ten years was engaged in the business of abstractor of titles at Terre Haute. During this period he acted as friend, companion and guide to a succession of younger men who came to teach and study science in the schools of the city. Among these Jenkins, Evermann, Rettger, Blatchley, Cox and Dryer are well known members of this Academy. Dr. Scovell's buckboard and horse, "Jim" were always ready for a Saturday and Sunday excursion anywhere within fifty miles. Every one of his proteges can testify to the genial, enthusiastic and scientific spirit with which he was thus introduced to the features and problems of the Terre Haute field.

In the summer of 1891 Scovell organized a party for the ascent and scientific study of the volcano, Orizaba, in Mexico.—It consisted of H. M. Scaton, Lotanist, U. O. Cox, ornithologist, A. J. Woodman, ichthyologist, and W. S. Blatchley, entomologist, while Scovell acted as director, topographer, geologist and geographer.—The general expenses were paid from his own pocket, but railroad transportation in the United States was otherwise secured. He was abetted and perhaps financially assisted by Dr. F. C. Mendenhall, then Superintendent of the U. S. Coast and Geodetic Survey.—On Orizaba spirit levels were extended from the railroad up to 14,000 feet, whence

aneroid readings to the summit made the height 18,179 feet. Considerable collections were made by the naturalists of the party and reported in various journals. In April, 1892, Scovell returned to Orizaba, and by triangulation from the 13,000 feet level, determined its height to be 18,314, which was accepted by the Coast and Geodetic Survey. A rather full general report of results was published in *Science* of May 12, 1893.

In the autumn of 1891, Scovell joined Evermann, then of the U. S. Fish Commission, in a study of the rivers of Texas. In 1894 he was sent by the Commission to study the whitefish of Lake Huron, and later assisted Evermann in a study of the spawning habits of salmon in the mountain streams of Idaho. About this time he did some work on the geological survey of Arkansas under Franner.

In 1894 Scovell returned to teaching as the head of the science department of the Terre Hautte High School, a position which he held until his death twenty-one years later.

In 1895 he contributed an elaborate report on the geology of Vigo County to the 21st Report of the Indiana Geological Survey, the result of twenty years of study in that field. He assisted Ashley in his report on the coal deposits of Indiana, published in 1898, and in 1905 made a report on the Roads and Road Materials of Western Indiana.

In 1899 he began his work in cooperation with Evermann on the physical and biological survey of Lake Maxinkuckee, which was carried on for fifteen successive seasons. His best work was done at home in Vigo County and at his summer cottage on Maxinkuckee. He never wearied of the features and problems of his home field and returned to them with fresh interest whenever any one started a new question. The writer was surprised to note after twenty years of study of the Terre Haute field how little he could add to what Scovell had shown him at the beginning.

I can best sum up the estimates of Dr. Scovell contributed by all his intimate colleagues and pupils, among whom I am glad to enroll myself, by saying that he was a naturalist rather than a specialist in any one department of science. He was more deeply interested in botany than in zoology and his interest in plants was more ecological than taxonomic. He had the most complete and beautiful collection ever made of the mussels of the Wabash River, representing forty-seven species. He gave considerable attention to the Indian mounds of western Indiana, and in 1912 sent his notes and collections to the Bureau of Ethnology, which accepted them as

material for a projected Handbook of Aboriginal Remains. The catholicity of his taste was indicated by the collection of minerals, fossils, corals, shells, ferns and implements in his house and the pile of rare glacial boulders in his yard, both of which were well worth going to see. He was most of all interested in topography, land forms and the weather. I should classify him as primarily a geographer of broad sympathies. He was always at his best in the field. "His mind," says one of his most intimate associates, "was essentially analytical and judicial. He was not apt to reach conclusions hastily. After having arrived at a tentative conclusion, he was always disposed to try to discover objections, which he would examine critically and modify his conclusions accordingly. He was a keen observer and his comments on what he saw were always interesting and illuminating. A day spent with him in the field was sure to be a day filled with interest and profit." "In disposition," says another, "he was genial and kindly, and gave freely to his companions of the varied store of knowledge which he had accumulated during his life time of study of the great out-of-doors."

He was a charter member of this academy and at its first meeting gave a resumé of geographical studies in Indiana. He contributed to the programs twenty-two titles, of which ten papers were published in the Proceedings.

In 1874 he published Lessons in Geography which were re-written and reissued as a Commercial Geography in 1910, and in 1879, Lessons in Physiology, all of which had more than local use as text-books. In 1894, he contributed Practical Lessons in Science to the Werner series. In 1912 he prepared an account of Fort Harrison in 1812 for the centennial celebration. He was a student to the last, making credits at the University of Chicago in 1909.

Dr. Scovell's death from pneumonia on May 8, 1915 removes perhaps the last survivor of those who could be called pioneers of science in Indiana. He was one of the "old guard," whose place can never be filled, but whose memory

"Smells sweet and blossoms in the dust".

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Dr. Scovall Terre Haute