

SCIENCE

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FRIDAY, JULY 3, 1903.

J. PETER LESLEY.

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PROFESSOR J. PETER LESLEY, born in Philadelphia, Pa., September 17, 1819, died in Milton, Mass., June 1, 1903.

After graduation at the University of Pennsylvania in 1838, J. P. Lesley served as aid for a year on the First Geological Survey of Pennsylvania. In 1840 he was assigned to independent work in the complicated northeastern area for several months, after which he was associated with Mr. James T. Hodge in the coal region of the southwestern counties. During the next year he made a reconnaissance of the coal deposits in western Pennsylvania and closed the season's work with a revision of Whelpley's studies in the anthracite region.

The abrupt ending of the survey in 1841 scattered the assistants, and Lesley went to Princeton Seminary, where, to use his own words, he 'indulged in the luxury of a course in theology.' But while studying theology he had no opportunity to neglect geology; his skill as a geological draughtsman and his familiarity with the conditions in a great part of Pennsylvania made him indispensable to Professor H. D. Rogers, who was striving to secure publication of the final report. Every hour which could be spared during term time and the whole of the vacations of 1842 and 1843 were devoted to preparation of the Penn-

sylvania geological map, to reduction of vertical sections to a uniform scale and to construction of cross-sections.

Having completed his theological course, Lesley was licensed to preach in 1844 by the Presbytery of Philadelphia and at once went to Europe, where he made a pedestrian tour through France and Germany, which he rounded out with a brief course of study at the University of Halle. Returning to America he undertook colportage work in northern Pennsylvania for the American Tract Society, which he pursued with characteristic energy and success for two years. In December, 1846, Professor Rogers asked him to come to Boston, where for five months he prepared duplicates of the state map and of the geological sections, which were to be deposited in the State Capitol at Harrisburg. While in Boston he received and accepted a call to the pastorate of the Congregational church at Milton, Mass., where he remained until 1851. In this interval his views respecting some theological questions developed along lines not wholly acceptable to his ministerial associates, so that at the end of four years he resigned his charge, abandoned the ministry and returned to Philadelphia, where he began practice as a consulting geologist. At once his services were sought again by Professor Rogers, who had obtained an appropriation for publication of the final report, and for more than a year he was engaged upon revision for that report.

Thenceforward for forty years his labor was incessant; there seemed to be no limit to his capacity for work. He was recognized at once as the most competent of geological experts and his time was fully retained. Yet from 1855 to 1859 he was secretary of the American Iron Association, for which he published in 1859 a huge volume, the 'American Manufacturers'

Guide,' a remarkable compendium of theory, practice and statistics, which even now is of great value. For twenty-seven years he was secretary and librarian of the American Philosophical Society, rarely absent from meetings and seldom failing to present a paper or to take part in the discussions. He made elaborate surveys of the Cape Breton coal field, of the Pennsylvania Coke region, of the Cumberland Valley iron ores, of the Tennessee coal area, of the North Carolina iron ores; while he found abundance of time to learn several languages and to prosecute special studies in various departments of literature and philosophy. In 1872 he was made professor of geology and dean of the faculty of science in the University of Pennsylvania; but in 1878, owing to the pressure of other duties, he resigned the deanship. The Second Geological Survey of Pennsylvania was authorized in 1874, and he was placed in charge of the work. This post he retained until 1893, when sudden and complete failure of health compelled him to relinquish it. He retired to Milton, where he remained until his death.

His labor was unremitting during the twenty years of service upon this survey. He read the report of every assistant and prepared most of the admirable indices which make those reports so available; in many cases he drew the base for the maps and sometimes even transferred the outcrop lines from manuscript sent in by the field assistants. He maintained that there was no other way by which he could acquire complete mastery of the facts contained in the reports. He wrote long prefaces to most of the volumes, discussing the results, and in several cases he rewrote reports that the matter might be presented in a more systematic way. These prefaces and editorial notes did not always seem to the authors to be either necessary or val-

uable, yet, after a score of years, it must be conceded that not a few of the suggestions, which were most unsatisfactory at the time, have proved to be of lasting value. As if these occupations were not enough, he made frequent field studies, delivered many addresses and lectured to the college classes. Such unceasing toil told even on his extraordinary constitution; several times he was compelled to abandon everything abruptly at the close of the winter's work and to flee to Switzerland, where, with Desor and other friends, he would spend two months of absolute freedom from all care—but only to return to work at the same terrific pace, to make ready for another collapse.

The hundred volumes of reports giving the results of the Second Survey are his monument. He gathered around him a group of earnest workers into whom his own spirit was infused; in most instances he gave them free scope and was repaid by honest investigation. At the close of the survey work he undertook to prepare a final report; but the close application, which he deemed necessary, brought on the final break after he had completed the report up to the end of the Lower Carboniferous. In this marvelous compilation he gave a synopsis of every assistant's work, according unreserved recognition to each observer and frequently showing an unselfish neglect of credit due to himself for earlier discovery of facts and determination of principles.

Keen in perception, quick in comprehension, Professor Lesley at times reached conclusions too hastily, but no man was quicker than he to acknowledge an error. His broad reading and tenacious memory made him a well-furnished scholar; his cheery disposition made him an attractive companion. He knew little of the world and cared less for it; he was a typical

student, who in worldly matters never outgrew his college days. Honest and true, he never remembered an injury, he never forgot a kindness. His faults were those of a whole-souled generous man.

For ten years Professor Lesley was laid aside from all labor, but he bore his affliction with more than patience and at last he passed away peacefully, without suffering, literally crossing the threshold in sleep.

In 1849 Professor Lesley married Susan I. Lyman, of Northampton, Mass., who, with two daughters, survives him.

JOHN J. STEVENSON.

AN ASPECT OF MODERN PATHOLOGY.*

It is a truism to assert that the great progress made in pathology during the past century is the result of the study of cellular structure and activity. The close of the nineteenth century has witnessed no lessening of the interest of pursuit of this study; but it has seen arise an endeavor to penetrate more deeply into the nature and properties of cells through which their manifold activities are brought about. Armed with a rich harvest of facts and methods supplied by physiological chemistry, investigators have attacked the question of the internal constitution of the cell with renewed vigor, and the degree of success of this effort is indicated by the strides made within the past two decades in unraveling the phenomena of immunity and allied states. The twentieth century has received from its predecessor a rich heritage of facts and principles relating to the intimate structure and function of cells, which is destined to yield a fruitage of great importance to physiology, pathology and practical medicine.

I find myself in the enviable attitude of dealing with certain topics in experimental

* Read at the annual meeting of the Medical and Chirurgical Faculty of Maryland, April 24, 1903.