

NECROLOGY

WILL E. EDINGTON, DePauw University

SEVERANCE BURRAGE

West Newton, Massachusetts
July 18, 1868

Denver, Colorado
April 11, 1945

Severance Burrage might be considered a pioneer in sanitary science and bacteriology for his life span covered the period during which most of the great developments in those fields have occurred. He was born in 1868, which was just two years before the first filtering plant for water purification in the United States was built at Poughkeepsie, New York. Sanitation was then virtually unknown in the medical profession. Pasteur and Koch were busy with their epoch making experiments that led to the establishment of the germ theory of disease through publications by Koch in 1876. Bacteriology was practically unknown and Lister had not yet made much of an impression on the medical world.

Following the usual public school education Burrage entered the Massachusetts Institute of Technology and received the B.S. degree in 1892. After three years of teaching at the Institute he came to Purdue in 1895 where he devoted the next seventeen years to teaching and organizing and building up a department of Sanitary Science. He joined the Indiana Academy of Science in 1895 and presented his first paper before the Academy that Fall on "Sanitary Science in the Modern College." The following year he gave the results of his studies on the water supplied in Lafayette. At that time purification by filtering was the general method, for studies on chlorination were just beginning in England and it was twelve years later before the first systematic treatment of water supply was made in the United States. Burrage regularly appeared before the Academy with reports on his bacteriological studies, and in 1902 he discussed "Transmissible Diseases in College Towns," and "Sewage Disposal of the Indiana State Reformatory at Plainfield."

In 1912 Dr. Burrage joined Eli Lilly and Company and during the next few years was active in the development of the manufacture of biological products. He returned to the East in 1916 as assistant biologist for the Massachusetts State Board of Health. A year later he served on a Red Cross Medical Commission in Serbia and Greece. On his return he entered the United States Public Health Service and did work at Waco, Texas, and Denver, Colorado. In 1920 he was appointed Assistant Professor of Bacteriology in the School of Medicine of the University of Colorado, then located at Boulder, and when the Medical School was moved to Denver in 1924, Dr. Burrage took up his residence in that city.

He retired in 1936 as Associate Professor of Bacteriology and Public Health, Emeritus, but still kept his office at the Medical School, teaching whenever needed, doing bacteriological work at the Hospital, and lecturing in the School of Nursing. He also taught in several summer sessions of the University of Denver and was teaching in Loretto Heights College at the time of his death.

While in Indiana Dr. Burrage was active in health work and served as president of the Indiana Tuberculosis Society. He was also active in the Indiana Conservation Association. He was vice-president of the Indiana Academy of Science in 1913 and president in 1914. In 1917 he was elected a Non-Resident Fellow of the Academy, having been made a Fellow in 1898. He became a member of the Rotary Club in Indianapolis, continued his membership in Boulder, and was an active member of the Denver Club at the time of his death. He was a Fellow of the American Public Health Association, and of the American Association for the Advancement of Science. He wrote a number of scientific papers and was the author of a book "School Sanitation and Decoration."

A genial and kindly man, he had many friends and was never known to have an enemy. He was popular with his students and was affectionately known to them as "Bugs." He had a high minded sense of duty to his profession and to the people whom he served, both in his teaching and in his public health work. His hobbies were golf, music and dramatics, and he took part in many plays at the Denver Civic Theater. He was also active in the Ben Franklin Club, a discussion group, composed of prominent Denver men.

Dr. Burrage had not been active in the Academy for a number of years. He had planned to attend the Fiftieth Anniversary Meeting in 1934, but the death of a daughter at that time prevented it. He will be remembered in Indiana as one of that group of health scientists which included such members of the Academy as Harvey W. Wiley, John N. Hurty and Robert Hessler.

JEDIAH H. CLARK

Carthage, Indiana
July 30, 1868

Macon, Georgia
September 22, 1946

Dr. Jediah H. Clark was born near Carthage, Indiana, of Quaker parents. Completing his public school education he entered Earlham College, and later graduated from Indiana Medical College at Indianapolis. Following his graduation he joined the staff of the Insane Hospital at Evansville, and later transferred to East Haven Hospital at Richmond, and became recognized as an insanity expert. In 1901 he took up the general practice of medicine in Connersville, where he remained until his retirement in 1937. He and Mrs. Clark then made their home in Winter Park, Florida, but they returned frequently to Indiana, and it was on one of these returning trips that he was fatally injured in an automobile accident near Macon, Georgia.

Dr. Clark was much interested in plants and trees and spent much of his spare time in their study. After his retirement he devoted most of his energy to the culture of subtropical plants, shrubs and trees, and his garden became a show place. His interest in science, particularly bacteriology and botany, led him to join the Academy in 1909, and despite his general medical practice he was occasionally able to attend a spring meeting.

He was one of the leading physicians in his part of the State, and served at one time as president of the Fayette-Franklin Medical Society. He was also secretary of the Connersville Board of Health for a number of years. He had membership in several medical societies and also in the American Association for the Advancement of Science. Active in civic affairs he had been a member of the Rotary Club in Connersville, and he was prominent in Masonry, being a member of the Murat Shrine and Scottish Rite at Indianapolis.

Dr. Clark possessed a charming personality. He loved poetry and could recite long passages from his favorite authors. He enjoyed expressing his own thoughts in poetic form and frequently on programs of the local medical society he gave his part in rhyme. Genteel and soft spoken, Dr. Clark was a man of deep religious convictions whose life was devoted to serving and beautifying, in his quiet way, the world about him.

CORA B. HENNEL

Evansville, Indiana
January 21, 1886

Bloomington, Indiana
June 26, 1947

With the death of Cora B. Hennel Indiana lost one of its finest teachers of college mathematics and one of its most influential college women. For over forty years she was associated with Indiana University. After graduating from Evansville Central High School she entered the University in 1903 and received her A.B. degree in 1907. She held a teaching fellowship the next two years, but completed her work for the Master's degree in 1908. Appointed to an instructorship in the Department of Mathematics, she continued her graduate study and became the first student in Indiana University to receive the Ph.D degree in mathematics, which was conferred on her in 1912. She was promoted to Assistant Professor of Mathematics in 1916, and then to Associate Professor seven years later, and she received the full professorial rank in 1936.

Dr. Hennel had through the years been very active in campus affairs. She had served as the president of the Indiana University chapters of the American Association of University Professors, the American Association of University Women, Women's Faculty Club, Y.W.C.A. Board, and the Cosmopolitan Club. For a number of years she was advisor to foreign students. She had also served on various university faculty committees. She was a member of Phi Beta Kappa, Sigma Xi, Pi Lambda Theta, and Mortar Board.

When the Indiana Section of the Mathematical Association of America was established in 1924, Miss Hennel was one of the charter members and she served as its chairman in 1941. She regularly attended the meetings of the national organization. She was also a member of the American Mathematical Society. Dr. Hennel first joined the Academy of Science in 1913 and, except for a few years, she had been active in the mathematical section of the Academy since that time. She had published a few papers and was co-author with Dr. Harold T. Davis, now at Northwestern University, of a book on "General Mathematics."

Dr. Hennel was well known throughout the State, having addressed numerous Indiana University alumni groups, and various educational, professional and civic organizations.

However, Dr. Hennel's chief contributions were in her excellent teaching and her influence on many students, both native and foreign, who relied on her for friendly advice and wise counseling and guidance. She maintained a sincere and devoted interest in her students and in her quiet and unobtrusive way she encouraged and helped many of them not only through counseling but financially as well. In the words of President H. B. Wells, of Indiana University, "she was one of the persons who made our Alma Mater unique. Her devotion, loyalty, interest in students, and teaching skill made her service a true expression of the Spirit of Indiana."

HUGH MCKENNAN LANDON

Muscatine, Iowa
June 22, 1867

Indianapolis, Indiana
April 2, 1947

Hugh McK. Landon, a member of this Academy and one of the most useful of the citizens of Indiana, passed away in April, 1947. Mr. Landon was born in Muscatine, Iowa, June 22, 1867, and at the time of his death was nearing his eightieth birthday. While young he came to Indiana with his family where he spent most of his life.

He was prepared for college at Phillips Exeter Academy and entered Harvard in the fall of 1888, graduating magna cum laude in 1892. He was chosen class orator, elected to Phi Beta Kappa and received several other scholastic honors.

In the fall of 1892 he came to Indianapolis and became connected with the Manufacturers Natural Gas Company, later with the Indianapolis Water Company where he remained as an official until its sale in 1912. In 1920 he was elected executive vice-president and chairman of the executive committee of the Fletcher Trust Company in which connection he continued until his death.

Mr. Landon was a man of commanding presence and great dignity though modest, sympathetic and gracious in all his relations. Men naturally looked to him for guidance because they could trust his integrity and his judgment.

He was a tower of strength to any institution or cause which enlisted his support. He gave generously of his purse and time to movements for civic betterment. Organizations for the children and young people made a special appeal to him. Boy's clubs, wholesome recreational projects, the Riley Hospital for Crippled Children, Goodwill Industries, and the like owe much to him.

His public service was unselfish, wholehearted and inspiring to others. His interest in educational and cultural institutions was unflinching and he was the recipient of honorary doctorate degrees from both Wabash College and Indiana University.

During foreign wars he served his country on important civic assignments.

In his long business career he acquired an ample fortune, was almost continuously associated with public utilities and large financial institutions, but demonstrated by his life that such relations need not corrode character, nor are they incompatible with unselfish public service.

In Mr. Landon we saw an example of the purpose which John Milton in the 17th century declared a humane education should accomplish, namely, to fit a man "to perform justly, skillfully and magnanimously all the offices, both private and public, of peace and war."

Mr. Landon's passing leaves a void in the ranks of those who labor for the good of the city and the state.

John S. Wright.

ROBERT EDWARD LYONS

Bloomfield, Indiana
October 24, 1869

Bloomington, Indiana
November 25, 1946

The history of science in Indiana is the history of the lives of a few great men. The history of chemistry in Indiana will ever be associated with the names of Harvey W. Wiley, John Ulric Nef, Thomas C. Van Nuys, William A. Noyes, Robert Warder, Alexander Smith, Winthrop E. Stone, Richard B. Moore, Father Julius A. Nieuwland and Robert Edward Lyons. All these men were either pioneers in the development of modern chemistry departments in our colleges and universities or their achievements have brought scientific distinction to the State.

The history of the chemistry department at Indiana University, as we know it, dates back to David Starr Jordan as president and the coming of T. C. Van Nuys to Indiana, but the development of the department to the eminence it now enjoys is due to Robert Edward Lyons.

Robert Edward Lyons was born in Bloomfield, Indiana, October 24, 1869. He entered Indiana University at the age of sixteen, and in 1888, at the age of nineteen, gave evidence of his unusual ability by presenting a joint paper with T. C. Van Nuys before the Indiana Academy of Science. Following his graduation in 1889 he was appointed instructor in chem-

istry, but he continued his graduate study and was awarded the M.A. degree in 1890. He gave further joint papers with Van Nuys in 1890 and 1891 and two papers of his own in 1890. His ability and research promise led to his promotion to an assistant professorship in 1890 and to an associate professorship the following year. He left for Europe in 1892 to spend the next three years in Germany and Denmark as a student in Fresenius' Laboratory in Weisbaden, and in the Universities of Heidelberg, Munich and Berlin, and in Joergensen's Institute for Physiology of Fermentation in Copenhagen. The University of Heidelberg conferred the Ph.D. degree on him in 1894 and he spent a part of the next year at that university as private assistant to Professor Krafft. Upon his return to America in 1895, at the age of twenty-five, he was made Head of the Department of Chemistry at Indiana University and he continued in that capacity until his retirement as Professor, Emeritus, in 1938.

Dr. Lyons not only served Indiana University as head of the Department of Chemistry for forty-three years but he also served the State as Chief Chemist for State Department of Geology and Natural Resources from 1900 to 1915, and as chairman of the Department of Chemistry of the Indiana University School of Medicine at Indianapolis from 1907 until retired. He also conducted research for a number of industrial concerns including the Guggenheim Foundation, and he was the inventor of a number of chemical processes among which are the "Lyons Method" for the amalgamation of platinum and of refractory gold, the recovery of soap from laundry suds, the rapid polymerization and oxidation of drying oils, the recovery of pectin from certain fruit and vegetable wastes, a process for silver and gold mirror decoration, the reduction of nitro compounds, and a process for light and weatherproof coloring of oolitic limestone.

He was the author of numerous research papers on physiological, synthetic, organic and analytical chemistry, published in American and German scientific magazines. He directed the research of numerous candidates for master's and doctor's degrees and encouraged these beginners in science by jointly appearing with them, as he had done with Van Nuys, on programs of scientific societies and in the publication of the results of their joint research. He frequently made use of the Academy of Science in this way as a training ground for these beginners in having them appear before the less critical audiences to be found in the Academy. He was the author of a textbook on "Qualitative Analysis of Inorganic Substances," in 1897, of which a second edition appeared in 1900, and of a "Manual of Toxicological Analysis" which was published in 1899.

Dr. Lyons was a Fellow of the American Association for the Advancement of Science, the American Institute of Chemists, the American Chemical Society, and the Indiana Academy of Science, and a member of the Deutsche Chemische Gesellschaft. He served on the Council of the American Chemical Society in 1909 and was president of its Indiana Section in 1908. He was also a member of Sigma Xi, Alpha Chi Sigma and Nu Sigma Nu. During the war period he served on the State Council of Defense.

The passing of Dr. Lyons removes another one of the very few remaining ties to the glorious scientific past of Indiana University and the Indiana Academy of Science. Dr. Lyons drew his inspiration from David Starr Jordan, Thomas C. Van Nuys and Joseph Swain, and he was able, through the years, to pass on the scientific torch to his many students who are now scientific leaders in this and other lands. Retiring and unostentatious as he was, he nevertheless was kindly and sympathetic in his dealings with others, and he left his scholarly impress in all his work. He has gone to join the "Giants of Other Days."

WILLIAM J. MOENKHAUS

Huntingburg, Indiana

Bloomington, Indiana

January 6, 1871

June 7, 1947

William J. Moenkhaus was one of a distinguished group of Indiana born scientists who graduated from their State University and remained there most of the remaining years of their lives. He was born in Huntingburg, the little community in southern Indiana that also produced the three distinguished Rettger brothers whose sister Dr. Moenkhaus later married. After completing the work offered in the public schools of Huntingburg he entered Indiana University, graduating in 1894 and receiving the Master's degree the year following. He spent the next year at Indiana University as an instructor in zoology and then entered Harvard University for two years of further study. In 1898 he accepted the opportunity to spend a year in Sao Paulo, Brazil, as an assistant director of the State Museum. Upon his return to the United States he taught one year in Williams College and the year following in Rush Medical College. During this latter year he also began graduate study in the University of Chicago from which he received the Ph.D. degree in 1903. In 1901 he was appointed Assistant Professor of Zoology in the School of Medicine at Indiana University. Three years later he was promoted to Associate Professor of Physiology, a year later Junior Professor, and in 1908 he was made Professor and Head of the Department of Physiology which position he held until his retirement as Professor Emeritus in 1941.

Dr. Moenkhaus did a great deal of research and was the author of numerous papers. He was considered sufficiently outstanding by his fellow scientists to receive admission to the group known as the "Starred Men of Science." In his younger days he frequently presented one or more papers before the Indiana Academy of Science. He was a member of the Society of Naturalists and was its secretary for five years. He was also a member of the American Zoological Society. He became a member of the Indiana Academy of Science in 1893, was made a Fellow in 1901, and became its president in 1917. He also served as its treasurer from 1909 to 1913.

For many years Dr. Moenkhaus was the Indiana University faculty representative in the Western Conference, better known then as the "Big Ten Conference." He was deeply interested in athletics and both

at Indiana University and in the Conference he used his influence to maintain standards in amateur athletics. For a number of years he was chairman of the Conference faculty committee.

Dr. Moenkhaus was a sympathetic, inspiring and effective teacher. His lectures were very carefully prepared and his presentations and explanations were clear and convincing, impressing his students with his wisdom and sincerity. He was another one of Indiana's great teachers of science who will be long remembered and revered by the hosts of medical students who sat at his feet through the forty years during which he served his University and his State so faithfully and so well.

HORACE ABBOTT SHONLE

Tuscola, Illinois
May 14, 1892

Indianapolis, Indiana
February 24, 1947

Horace Abbott Shonle, director of the Organic Chemistry Division of the Lilly Research Laboratories, died of pneumonia February 24, 1947 after a brief illness.

Mr. Shonle was born in Tuscola, Illinois, May 14, 1892. He graduated from the Tuscola High School in 1910. The University of Illinois conferred the degree of Bachelor of Science in chemistry on him in 1916 and the Master of Science in chemistry one year later. During 1918 and 1919 he was a research chemist with the Chemical Warfare Service and has seen service with the United States Department of Agriculture and with the Agricultural Experiment Station, Urbana, Illinois. He was employed by Eli Lilly and Company in chemical research in 1919.

Mr. Shonle was responsible for the development of important barbiturates and was an outstanding national authority on the chemistry of the barbiturates. He was joint author of a paper published in 1916, "The Origin of the Nitrates in the Urine," H. H. Mitchell, H. A. Shonle, H. S. Grindley (Univ. Ills.), *J. Biol. Chem.*, 24, 461-90 (1916), covering work carried out during his junior year at the University of Illinois. He was the author of "The Organic Chemist" and was author and joint author of many papers and patents; author of chapter "Manufacture of Pharmaceuticals," 6th Ed., Rogers' Industrial Chemistry. Member of Board of Editors of the *Journal of Organic Chemistry*; past secretary and chairman of Indiana Section of American Chemical Society and Division of Medicinal Chemistry of the American Chemical Society; past chairman of Division of Biological Chemistry, American Chemical Society. Member of Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma, Cosmopolitan Club, American Association for Advancement of Science, American Pharmaceutical Association, Indiana Academy of Science, Sciencetech Club of Indianapolis, Meridian Hills Country Club, Second Presbyterian Church, Indianapolis Literary Club, Century Club. Member of the Board of Mayer Neighborhood House, active in Boy Scout work and taught Sunday School class.

John S. Wright