teaching in the Philadelphia schools. He was in charge of the department of science at West Philadelphia High School from 1912 to the day of his death.

He represents a vanishing type—the true scholar engaged in public secondary education. He collected a library of several thousand volumes on physics, philosophy, mathematics, astronomy and general literature. He read the important languages of Western Europe. He held memberships in many learned societies and was a constant reader of scientific journals. He was one of the first scholars in Philadelphia to sense the importance of the famous Einstein paper of 1916 and to discuss it in public.

In his pupils he assumed the existence of intelligence and intellectual curiosity. To these qualities he appealed. A record of more than forty years of inspiring teaching bears testimony to the genuineness of his educational philosophy.

Joseph M. Jameson, president during 1921–22, died on August 4, 1934. He was a native Pennsylvanian and was educated at Cornell University. He was in charge of physics at Pratt Institute for fifteen years, and from 1913 to his death was vice-president of Girard College. He was the author of "Elementary Practical Mechanics" and edited the Wiley Technical Series. He was active in scientific and educational societies. He wrote numerous articles on problems of science teaching. In recognition of his services to education Temple University awarded him the honorary degree of doctor of pedagogy in 1920.

In his teaching of physics, Dr. Jameson assumed in his pupils an interest in the machines, inventions and appliances of everyday life. He sought to convert this interest into a desire to comprehend the underlying sciences. This was his favorite method. It has numerous adherents in the educational world, and among them Dr. Jameson was recognized as one of its ablest spokesmen.

Edward J. Brady, president during 1925–26, lost his life at sea on the morning of September 8, 1934, in consequence of the burning of the steamship *Morro Castle.* He was educated at Cornell University. For many years he had been in charge of the Physical Laboratory of the United Gas Improvement Company.

He was the inventor of the Brady B.T.U. Indicator, a device used in gas plants throughout the world. For this invention he was awarded the Beal gold medal in 1919. He developed laboratory methods used in testing gas, oils and high temperature refractories.

The laboratory which he directed bears the stamp of his genial and wholesome personality. A member of his staff has said, "A year under his patient and able training was the equivalent of a graduate course in pure and applied physics." He was a member of many scientific and engineering societies. Among them the Physics Club ranked as a favorite hobby.

All three were men of sterling character and attractive personal traits, respected and admired by their associates. Through the death of these men this club has lost some of its most active members, and Philadelphia has lost three of its ablest men of science and three exemplary citizens.

DR. BERTRAM H. BUXTON

1852–1934

A UNIQUE figure passed from the ranks of British and American scientific investigators by the death of Dr. Bertram H. Buxton, which occurred at Devon, England, on December 5, 1934, at the age of 82 years. His life covered two full generations and witnessed the development of most of our modern science.

His work began in the early nineties, on board a cholera ship in New York Harbor, under Commissioner Doty. In 1902 he became pathologist to the Memorial Hospital, where he prepared Coley's toxins for the treatment of inoperable sarcoma. He then became director of the Huntington Fund for Cancer Research. In Cornell University Medical College he worked many years in the Loomis Laboratory, in bacteriology, biology and pathology. He was appointed instructor in bacteriology in 1898, associate professor of biology in 1903 and professor of experimental pathology in 1904. He returned to England in 1912. He made important contributions on the differential diagnosis of paratyphoid fever, on the bacteriology of typhoid fever, and on the physical chemistry of agglutination. He distrusted researches directed toward immediate practical ends. When a series of papers on "Absorption from the Peritoneal Cavity" seemed likely to have practical or commercial importance, he abandoned the field at once, went to Venezuela and produced a remarkable study of the invertebrate eye. He was a pioneer and expert in microphotography, and some of his early work has never been surpassed. His sole diversion was riding the bicycle and his remarkable skill in trick performances was long remembered by the pedestrians on the upper west side of Central Park.

Writing in the London *Times,* Dr. C. G. L. Wolf says: "His beautiful and original researches in the physical chemistry of agglutination laid a foundation of much of the very practical work now being done on the assay of toxins and antitoxins. The perfect charm, breadth of view, and superb technique are memories of Buxton which will not easily be forgotten by his many pupils and associates."

On returning to England he engaged in the study of plant physiology, especially the pigment functions and the production of hybrids. At the John Innes

Horticultural Institution he produced by mutation a giant fertile hybrid of foxglove which was recognized by the Kew authorities as a new species.

He was a pure scientific investigator, an artist in all things, and whatever he undertook he carried through outstandingly well. He was so modest and unassuming that his fine qualities were appreciated only by those closely associated with him.

JAMES EWING

RECENT DEATHS

DR. HERDMAN F. CLELAND, professor of geology at Williams College, was drowned when the steamship *Mohawk* sank on January 24. He was sixty-five years old.

DR. ALBERT MANN, since 1919 research associate in botany at the Carnegie Institution of Washington, died on February 1 at the age of eighty-one years.

DR. GRANVILLE MACGOWAN, formerly professor of surgery at the University of California, died on January 31 at the age of seventy-seven years. He was president of the American Urological Association in 1912.

FREDERICK S. DELLENBAUGH, anthropologist and explorer, died on January 29 at the age of eighty-one years.

MISS ROSALIE B. J. LULHAM, lecturer in natural history at the Froebel Educational Institute and author of "An Introduction to Zoology through Nature Study," died on December 28.

SCIENTIFIC EVENTS

THE PUBLIC HEALTH OF INDIA

THE report for 1931 of Major-General J. D. Graham, Public Health Commissioner with the Government of India, has recently been made public. According to the *British Medical Journal*, General Graham insists on India's need of an organization which shall be capable of framing and conducting a public health policy for the country as a whole. Such a Ministry of Health is found in Canada, Australia and South Africa, and is none the less necessary in India because the executive control of public health has been transferred to the Provinces.

A census was taken in February, 1931, and vital statistics for the year can be more accurately estimated than in the nine previous years, the last census having been taken in 1921. The birth rate for the year in British India was 34.3 per mille, as compared with 33.4 on the estimated population for 1930, and 35.7 for the previous quinquennium (based on the 1921 census). The general death rate was 24.8 per mille, and the death rate for infants under the age of 12 months per 1,000 live births was 178.8, as compared with 180.8 in 1930 and 177.6 in the previous quinquennium. Out of every 190 deaths recorded, forty-three occurred in children below the age of 5, and forty-eight in those below the age of 10. The infantile death rate for British India was nearly 2⅔ times that for England and Wales and South Africa; more than double that for Germany, and nearly 5½ times that for New Zealand. Countries in which the figures compare more closely with those of British India include Rumania, Hungary, Japan, Italy, Egypt and Soviet Russia. The three main causes of infantile mortality are given as congenital and developmental defects, alimentary disturbances and infective disease, the first accounting for nearly all stillbirths and deaths in the first seven days of life, while the two latter affect the older children. Sanitary improvements have operated against the two latter causes, but not against the first, and in the production of these defects prematurity plays an important part.

Antimalarial campaigns continued during the year under review, including cinchonization schemes where funds permitted. Tuberculosis is believed to be generally on the increase, especially in some of the larger and more overcrowded cities, such as Peshawar, Delhi and Calcutta. The anti-tuberculosis campaign has not proceeded very far as yet, but the disease is now notifiable in the Punjab, the Central Provinces, Madras, Baluchistan and in municipal areas in Assam and the Upper Provinces. In Bombay Presidency, out of every 1,000 deaths recorded in 1931, 43.6 were ascribed to pulmonary tuberculosis. In 1931 there was a large fall in the incidence of cholera in British India, apart from the Presidency of Bombay, but high mortality curves were present in Bengal and Bombay. The death rate for plague was, however, twice that in 1930, although lower than that in 1929, the Upper Provinces suffering most.

Leprosy surveys, which had been continued during three and a half years, were ended in 1931. They showed that leprosy was much more prevalent in India than was formerly supposed; probably one million cases would not be an overestimate. The disease was found to be most common among semi-aboriginals or aboriginals, who left their tribal seclusion and hired themselves out to agriculturists or industrial concerns. Infection of the more advanced classes of the community was in the first place largely attributable to the employment of servants in an infectious stage. Movements of the population, which have increased