Malaria was for centuries one of the principal impediments in the development of equatorial regions, and Ross's discovery was a major step towards its control and prevention. This same disease, however, was used as a form of treatment for a more serious one by Julius Wagner-Jauregg (1857-1940), in the researches for which he in turn obtained a Nobel Prize. Wagner-Jauregg, an Austrian neurologist and psychiatrist, introduced inoculation with benign tertian malaria as a treatment for general paralysis, and it was for his success in this field that he received the Nobel Prize in 1927.

An outstanding centenary of the present year is that of the birth of Heinrich Rudolf Hertz, the German physicist, who was the first to detect electromagnetic waves in free space and measure their velocity. His experimental confirmation of the predictions of Clerk Maxwell marks an epoch in the history of electrical science. Twelve of his principal scientific papers were published together in 1892, and a year later were translated into English, appearing under the title "Electric Waves". A preface to this book, by Hertz himself, is a valuable account of the development and progress of his scientific work. Another work, his "Principles of Mechanics", was published posthumously and is a classic in the philosophy of science. Hertz died in 1894, when only thirty-seven years of age, and too soon to take part in the great advances which were to result from his work.

Two well-known Irish scientists were born in 1857. One was Joseph Larmor, born in Magherall, County Antrim, on July 11 of that year, who was Lucasian professor of mathematics in Cambridge during 1903-32. His important series of memoirs on electromagnetic theory appeared between 1894 and 1897, and later formed the basis of his book, "Aether and Matter", published in 1900. During 1901-12 Larmor was a secretary of the Royal Society, and in 1921 received a Copley Medal from the Society. He died in 1942.

His countryman, John Joly, born at Holywood, King's County, on November 1, 1857, was professor of geology in Trinity College, Dublin, for thirty-seven years, but his interests were widespread, and lay in the fields of physics and engineering as well as geology. Joly was particularly interested in the question of the age of the Earth, and as early as 1903 pointed out the significance in this connexion of the discovery of continuous heat production by radium. Joly was also interested in colour photography, and his colour transparencies, shown to the Royal Society in 1895, were the earliest of the kind ever exhibited.

Another scientist skilled in photography was the American astronomer Edward Emerson Barnard (1857-1923), born at Nashville, Tennessee. At the age of nine, left fatherless and destitute by the Civil War, he began work in a photographic studio in Nashville. He became interested in astronomy when he was nineteen, and was afterwards able to devote himself to this science, holding posts at several American observatories in succession. It was while he was at Lick in 1891 that he discovered the fifth satellite of Jupiter, and he later discovered four more satellites of this planet. He was a remarkable observer, and did valuable photographic work, photographing comets and sections of the Milky Way. Barnard died in 1923. His countryman and fellow astronomer, James Edward Keeler (1857-1900), born at La Salle, Illinois, carried out astrophysical research of lasting value, particularly in the field of spectroscopy. One of his most interesting spectroscopic

demonstrations was that of the particulate nature of Saturn's rings. In 1898 he was appointed director of Lick Observatory, but died two years later.

Elwood Haynes (1857-1925) is another American who should be remembered this year. He discovered several important alloys, including tungsten chrome steel, and in 1919 filed a patent for stainless steel, which he had discovered several years before. Haynes was one of the first Americans to build a horseless carriage, which he drove through Chicago.

The question of the inheritance of acquired characteristics has recently received much attention. An early worker in this field of research was the Danish botanist, W. L. Johannsen (1857-1927). One of the founders of modern research in heredity, he introduced the terms 'pure line', as well as 'gene', 'genotype' and 'phenotype'. He also investigated the effect of certain narcotics upon the resting period of plants, obtaining results which have been made use of by horticulturists.

Among others born in 1857 were three organic chemists who were all distinguished for their researches in the structure and properties of nitrogen compounds. These were Theodor Curtius (died 1928), whose name is associated with the 'Curtius reaction', Arthur Hantzsch (died 1935), who studied the stereochemistry of nitrogen and for many years carried on a controversy about the structure of the diazo- compounds with Eugen Bamberger (1857-1932). The latter carried out many investigations on aromatic compounds. In the United States, the chemist J. J. Abel (1857-1938) was known for his researches on the chemical composition of animal tissues.

There are various instances of men who were trained for the legal profession and later became well known as scientists. One of this group was Karl Pearson (1857-1936), who after being called to the Bar in 1882, turned to mathematics, and in particular to the application of statistical methods to biology, a study initiated by Galton. In 1911, Pearson was elected first Galton professor of eugenics in University College, London; but his best-known book, "The Grammar of Science", was based on the Gresham Lectures he gave in the City of London fifteen years before. Pearson founded *Biometrika* and edited it for more than thirty years.

¹ Eyles, V. A., *Geol. Mag.*, **87**, 373 (1950).

OBITUARIES

Sir Lionel Whitby, C.V.O.

THE death on November 24 of Sir Lionel Whitby is a severe loss to the study of medicine and to higher education. Very few men can have equalled him in combining notable scientific research, successful teaching and extensive clinical experience, with great administrative tasks requiring real ability, a capacity for organization, and wide educational interests. Few men can have made themselves so much loved and respected throughout the English-speaking world, since with all his manifold duties he was always ready to give help and advice to students, and to deliver lectures or talks containing much wisdom and common sense as well as information.

Born at Yeovil in 1895, he was educated at Bromsgrove School, whence he gained an entrance scholarship to Downing College, Cambridge, in 1914. But before commencing his university studies he had

attained the rank of major in the Machine Gun Corps, had served in France and the Balkans, had been awarded the Military Cross and had lost a leg. From Cambridge he went to the Middlesex Hospital in London, where he had a brilliant career as a student. After graduation he became assistant pathologist at his Hospital, and at once showed his ability in research and teaching. He afterwards became bacteriologist on the staff of the Middlesex, and, for a period, pathologist at the Hampstead Hospital for Children. In addition to routine bacteriology and pathology, a steady stream of research came from his laboratory. He himself made important contributions to the study of pernicious anaemia and empyema, and in 1936 he began a long investigation on the effect of sulphanilamide derivatives on animals infected with pneumococci. This led to his discovery of the great value of sulphapyridine (M and B 693) in the treatment of pneumonia. But in addition to laboratory work and the preparation of text-books, "Medical Bacteriology" (1928, 6th edit. 1956), "The Nurse's Handbook of Hygiene" (8th edit. 1944), "The Laboratory in Surgical Practice", with Sir Charles Dodds (1931), and "Disorders of the Blood", with Dr. C. J. C. Britton (1935, 7th edit. 1953), he established a wide reputation as a clinical pathologist. He was a member of the group of physicians who attended King George V in his serious illness in 1929.

In spite of being maimed in the First World War, Whitby was a colonel in the Territorial Army in 1939, and he became officer in charge of the Army Blood Transfusion Service with the rank of brigadier. He was responsible for the collection and supply of blood, and also for the training of officers in transfusion. He travelled in the various theatres of war, and he also attended to the health of Sir Winston Churchill. For his services to the reduction of casualties he was knighted in 1945.

In 1945 he accepted an invitation to become regius professor of physic at Cambridge. There he played a very effective, though often difficult, part in the development of postgraduate studies and of research in medicine, linking this development with the work of Addenbrooke's Hospital under the National Health Scheme. He took a keen interest in the health of undergraduates and in the early detection of tuberculosis among them. In 1947 he was elected master of Downing College—a position which brought him much added responsibility but also great pleasure. He was actively interested in all branches of College life, and by encouragement and example he raised the status of Downing to a position it had seldom or never held before. He saw the building of a beautiful new chapel, of new sets of rooms, and the making of other improvements in the College. In 1951 he became vice-chancellor of the University, and for two years filled this exacting office efficiently and successfully. His wide knowledge, his tact and his good humour made him an ideal chairman of the many bodies over which he had to preside; he became the much-loved friend of a great number of people from various faculties and colleges. His wide interests in education led him to consent to serve on the Education Advisory Committee of the Royal Air Force, of which he became chairman.

Whitby's influence on medicine extended far beyond Cambridge. He was president of the British Medical Association in 1948, chairman of the Association's Education Committee, and in 1953

president of the First World Conference on Medical Education. He took an active interest in the World Medical Association. He was widely known in the Dominions and in the United States, which he frequently visited. In 1956 he lectured in Australia and New Zealand as Sims Travelling Professor.

Prizes, medals and honours of all kinds were bestowed upon him by governments, universities and scientific bodies, but these awards made no difference to his friendly and unassuming manner, or to his accessibility to those who wanted his help. Fishing and gardening were his chief pastimes, and he took much interest in the University Botanic Garden at Cambridge. He could not have achieved so much without the help of his able and devoted wife. Lady Whitby herself is a qualified doctor and worked in the blood transfusion service during the War; to her, her daughter and her three sons, the sympathy of friends in many countries will be extended.

H. HAMSHAW THOMAS

Dr. Waldemar B. Kaempffert

THE science editor of the *New York Times*, Waldemar Bernhard Kaempffert, one of the pioneers in science writing in the United States, died on November 27 at the age of seventy-nine. Active as a science editor for fifty years, Dr. Kaempffert served the readership of the *New York Times* for twenty-six years, writing a column of science news and comment that has become a fixture in the Sunday reading of many in America.

He was born in New York City on September 23, 1877, of parents of German descent. After graduation from City College with a bachelor's degree in science in 1897, he became assistant editor of the *Scientific American*, meanwhile studying law at New York University, and was admitted to the Bar as a patent attorney in 1903. Although he did not practice, this training was reflected in his writings, particularly the two-volume work which he edited, "A Popular History of American Invention", published in 1924. He was editor of the *Popular Science Monthly* from 1915 until 1920, and joined the *New York Times* in 1927. A year later he became the first director of the new Museum of Science and Industry at Chicago, returning to the *New York Times* three years later to spend the rest of his life as writer of his weekly column, occasional editorials on science and research, and sometimes covering conventions of scientists in America and abroad.

Dr. Kaempffert was a practising protagonist for the idea that, as he put it, it is important "to present the discoveries of the laboratory so that many will understand". In 1935 he also wrote that "we have passed the stage when gaping wonder can pass for popularization. The facts, simply, humanly and interestingly presented, are what the public wants". He was an effective and distinguished member of the small band of science popularizers who, particularly since the First World War, have made science news and interpretation a valuable part of the world's newspapers. With the respected and dignified vehicle of the *New York Times*, Dr. Kaempffert was able to campaign occasionally for ideas he thought were needed, such as his criticisms of cancer research of several years ago.

Editorially, his own newspaper said of him: "If [he] did not create the profession of science writer, he certainly, over the last half-century, invested it with new standards of ethics, scholarship, dignity