the case, should send the name and address to the Ministry of Health with all available particulars. All practical assistance is given by expert officers of the department to medical officers of health and medical practitioners in any case in which indigenous malaria is suspected. Blood films and other specialized examinations are arranged for.

The malarial work of the Ministry of Health was afterwards augmented by the provision of a malarial laboratory and centre at Horton Mental Hospital, Epsom, on the suggestion of Lieut.-Colonel S. P. James. The primary object of this unit was to provide treatment for general paralysis of the insane by induced malaria as initiated by Wagner-Jauregg of Vienna. The Board of Control, the London County Council and the authorities of Horton Hospital are closely associated with the Ministry in this work. The laboratory portion of the unit was under the control of Colonel James and afterwards under that of Lieut.-Colonel J. A. Sinton, assisted by Mr. P. G. Shute and laboratory assistants, while Dr. W. D. Nicol, medical superintendent of Horton Hospital, is in charge of the clinical side of the work. The unit further acts as a centre for the study and identification of mosquito nuisances in Great Britain, and a number of important papers and reports on the subject have been published by James, Nicol and Shute. Mr. Shute has paid visits to many districts in Great Britain and has advised on the control of Anophelines.

With all this administrative and scientific machinery to hand, it can be confidently anticipated that the Ministry of Health will safeguard the population of Great Britain against the risks of an increase of indigenous malaria after the present War as successfully as it did after the War of 1914-18.

¹ Reports and Papers on Malaria contracted in England in 1918. Reps. to L.G.B. (N.S. No. 123.) (London: H.M. Stationery Office, 1919.) See also P. G. Shute: "Protracted Incubation Periods in Indigenous Cases of Malaria in England", *J. Trop. Med. and Hyg.* (July 15, 1939).

² Shute, P. G., "Failure to Infect English Specimens of *Anopheles maculipennis* var. *atroparvus* with Certain Strains of *Plasmodium falciparum* of Tropical Origin", *J. Trop. Med. and Hyg.* (July 1, 1940).

³ Sinton, J. A., and Shute, P. G., "Memorandum on Measures for the Control of Mosquito Nuisances in Great Britain". Memo. 238/Med. Ministry of Health. Revised Edn. (London: H.M. Stationery Office, 1943.)

OBITUARIES

Major Leonard Darwin

WITH the death of Leonard Darwin on March 26, in the ninety-fourth year of his age, has passed the last of the five sons born to Charles Darwin. Taking the five sons in the order of their birth, William, the eldest, showed no aptitude for science; the second, George, the third, Francis, and the fifth, Horace, were gifted with creative faculties of a high order, all three becoming fellows of the Royal Society. Leonard, who came fourth in the series (he was born at Down House on January 15, 1850), although he did much to further the cause of science, manifested none of those creative gifts which had been so liberally bestowed on his father and three brothers. Yet, in physical appearance, especially in later years when he grew a beard, in his attitude to life, and in the disposition of his mind, he bore a closer resemblance to his father than did any of his brothers. He had his father's honesty of expression, openness of mind, charitable disposition, subjugation of self,

an excess of candour ("d——d candour" his father named it on a certain occasion when irritated by unfair criticism) and also his father's happy sense of humour. He was completely devoid of personal ambition. There were not a few, however, who were ambitious on his behalf and felt that his services to science should have been recognized by election to the Royal Society. The University of Cambridge rightly bestowed on him an honorary doctorate of science.

In 1868, at the age of eighteen, Leonard entered Woolwich, being second on the list at the entrance examination, a success which made his father exclaim: "I shall burst with pleasure at Leonard's success!" He served with the Royal Engineers for twenty years, retiring in 1890 on attaining his majority. During this time he was a member of two expeditions sent to observe the transit of Venus—in New Zealand (1874) and in Queensland (1882)—but for the greater part of his service he was engaged in the routine of office work or of acting as instructor at various staff colleges.

On retiring from the Army, Leonard Darwin entered public life, being elected Liberal Unionist member for the Lichfield Division of Staffordshire in the Anti-Home Rule election of 1892. In the election which followed three years later, he lost his seat and eventually retired from politics. Perhaps no one was less fitted for the rough and tumble of political life than Leonard Darwin. He was completely devoid of the "Party spirit". He looked on politics as the art of applying science to the problems of government. We see the trend of his mind at this time, in two publications which he issued at the close of his brief political career—on "Bimetallism" (1898), and on "Municipal Trading" (1903). He served (1913-20) as chairman of Bedford College for Women.

His real work in life came to him in 1911 on the death of his distinguished cousin, Sir Francis Galton. Galton had founded the Eugenics Society in 1908 (by the way, it is just sixty years since Galton coined the term 'eugenics'), and served as its honorary president until his death in 1911. Thereupon Leonard Darwin fathered the Eugenics Society, and continued to devote all his energies to promoting its welfare until 1929, when the late Sir Bernard Mallet took over the presidency, while Darwin continued to serve the Society as its honorary president. His attitude towards eugenics is given in detail in a book published in 1926, entitled "Need for Eugenic Reform".

In 1928 he withdrew from London, making his home at Cripps Corner, on the western outskirts of Ashdown Forest. He was twice married, first to Elizabeth Fraser, who died in 1898, and later to his cousin, Charlotte Mildred Langton, who died at Cripps Corner in 1940. There were no children by either marriage. Those who had the privilege of visiting at Cripps Corner carried away unforgettable memories of human life at its best.

ARTHUR KEITH.

Mr. H. D. Taylor

HAROLD DENNIS TAYLOR, a quiet man of simple tastes, varied interests, and wide knowledge, died on February 26, aged eighty-one. Probably best known as the inventor of the Cooke lens, he achieved much else that would have brought him fame.

Taylor was educated at St. Peter's School, York, and began to train as an architect, but was offered employment at the works of Thomas Cooke and Sons, scientific and surveying instrument makers, on

account of his scientific interests. His inventive ability soon showed itself, for within a short time of entering his new occupation he took out the first of a long series of patents. In a few years he had become optical manager and soon afterwards a director of the Company.

Fine optical instruments may be the outcome of artistic or of scientific work. The great men of the past—Thomas Cooke himself, for one—took pride in their rightful description as artists. To-day we live in a scientific period. Dennis Taylor belonged to both—he combined in the happiest way both the artistic and the scientific ways of working. When his professional career began there were no books which could be used as guides by the young optician, and Taylor set out to build up a body of theoretical knowledge. He took as his model Airy's work and its development by Coddington. The task extended over many years, but valuable results were reached by the way. For example, by close study of his formulæ, Taylor decided that better photographic lenses could be made by using three separated achromatic doublets. His method apparently consisted in making up an instrument to a specification based on an approximate theory, and observing the character and magnitude of the outstanding defects. Modifications for removing these defects were made on the same theoretical basis, and this process was continued until he was satisfied with the result. To this extent the theory of the original form of Cooke lens preceded practice. The later form composed of three single lenses was evolved by a process in which practice came before theory. Of the Cooke lens itself it is sufficient to say that it is the foundation of many most successful later types, including some of the most recent. Of all existing designs it is

probably the one which an artistically minded designer would most like to have produced.

In his theoretical work, having derived complete formulæ of the first two approximations, Taylor set out to construct a complete system of the third and if possible of the fourth orders. In this he was only partially successful, for the methods he employed were probably inadequate for so difficult a task. The results of his work were published in 1906 under the title "A System of Applied Optics". There can be little doubt that it was the most important book on this subject that had appeared in English for nearly a hundred years, and Taylor showed remarkable magnanimity, which unfortunately has rarely been imitated, in making his work available to other lens designers.

It is only possible to mention one or two of Taylor's many other activities. In 1892 he produced his 'photo-visual' objective, which marked a great advance in telescope construction, and was largely used for mapping the heavens. A valuable little book, "The Adjustment and Testing of Telescopic Objectives", appeared in 1901, and in 1904 he discovered a process for increasing the light transmission of lenses—the forerunner of the modern 'blooming' process.

His work was most appropriately recognized by the award of the Duddell Medal of the Physical Society and of the Progress Medal of the Royal Photographic Society.

Following his retirement from active business, Dennis Taylor went to live in the beautiful village of Coxwold, beloved by him and his ancestors. He leaves a widow, two sons and a daughter. His younger son is the optical manager of Cooke, Troughton and Simms, Ltd., the successor of T. Cooke and Sons.

T. SMITH.

NEWS and VIEWS

Association for Scientific Photography

PHOTOGRAPHY has firmly established itself as an essential scientific instrument, and a wider knowledge of the uses to which it can be put would do much to assist in the solution of the problems confronting workers in science and industry. Many workers either have difficulty in obtaining information concerning photographic techniques, or are unaware of their existence. For these reasons, a group representing widely different fields of science and industry believe that a new organization designed to meet their special photographic requirements would be of considerable value. The Association for Scientific Photography has therefore been formed, the objects of which can be briefly stated as follows:

(1) To promote the advancement of photography in all branches of science, technology and medicine, and to assist its members in the application of photographic methods to the solution of particular problems.

(2) To afford its members opportunities for inter-changing opinions and discussing matters connected with photographic techniques. Meetings will be arranged from time to time at which papers and short communications will be delivered and discussed, together with practical demonstrations of apparatus and methods. It is the intention of the Association to publish the proceedings in a journal as soon as conditions permit.

(3) To establish an information bureau containing, so far as is possible, full particulars of the activities of members, and in suitable cases the existence and whereabouts of specialized photographic apparatus. These data will be used by the Association for the benefit of its members as a pool from which information may be drawn on the varied applications of photography to research, industry and teaching.

(4) To endeavour to obtain for members information on practically any photographic problem which may arise in the prosecution of scientific work.

(5) To foster the production of sub-standard films for research and teaching purposes, and to give information on methods of production and presentation of films of scientific interest.

The field covered by the Association must, of necessity, be a wide one in order to carry out its functions. It will embrace photographic processes of all kinds, such as radiography, colour photography, photomicrography, high-speed photography and, in particular, sub-standard cinematography in all its branches. Membership of the Association is open to any person actively engaged or interested in the use of cinematography or photography as a scientific instrument. An announcement of the first meeting will appear in due course. The committee of the Association consists of the following: Prof. J. Yule Bogue (chairman), professor of physiology, Royal