

Dr. E. P. Poulton

EDWARD PALMER POULTON, who died on October 18, was the eldest son of Sir Edward Poulton. He was born at Oxford in 1883, and educated at the Dragon School, Oxford, and at Rugby; in 1902 he obtained the Brackenbury Scholarship in natural science at Balliol College, Oxford. After taking the First M.B. he read Chemistry Finals.

Poulton went to Guy's Hospital for his clinical work in 1907 and qualified B.M. (Oxon.) in 1910. After appointment as house physician, he won the Radcliffe Travelling Fellowship and worked in Germany. His early scientific work (1912-14) was mostly on the metabolism of uric acid and of creatin and creatinin.

In 1914 Poulton was appointed assistant physician to Guy's Hospital, and he became interested in the chemical side of diabetes, working on the value of alveolar air determinations as a measure of the acidosis and also writing on the value of starvation in the treatment of diabetes. The introduction of insulin in 1922 intensified his interest in diabetes, and his main clinical work continued to be with diabetic patients.

In 1920 he was elected to a Beit Memorial Research fellowship. At an early stage he had worked with Haldane on the effects of want of oxygen on respiration, and this influenced the direction of much of his later work. From 1918 until 1925, with a series of pupils, Debenham, Joffe, Campbell, Parsons, and later Spurrell and Warner, he was working continually on the problem of dyspnoea in connexion with the oxygen and carbon dioxide carriers in the blood, and with its hydrogen ion concentration and with the oxyhæmoglobin curve. For a time at Guy's Hospital an oxygen chamber was installed where patients could live in an atmosphere of, say, 40 per cent oxygen, and the influence of this on their disease and on their physiological processes could be observed. He was satisfied that many patients with chronic bronchitis and heart disease obtained benefit from this treatment, and this was the foundation of his belief in oxygen therapy which became the main interest of his later years.

Another early interest to which Poulton returned again was the problems of pain in gastric ulcer and of pain and of normal sensation in the œsophagus. He carried out investigations on himself and others by introducing into the œsophagus a balloon which could be distended while the subject was under X-ray examination. In 1928 he gave the Oliver-Sharpey Lectures, dealing with the experimental study of certain visceral sensations, and the next year published a paper in the *Guy's Hospital Reports* on the physiological considerations underlying abdominal pain.

The mechanical side of any investigation always made a great appeal to Poulton, and much of his later work was concerned with the development of apparatus, for example, positive pressure machines and oxygen tents. Although often rather complicated in appearance, his oxygen tent in its final form was a neat and beautiful piece of apparatus. His

enthusiasm for oxygen therapy has no doubt been one of the factors leading to the increased use of this treatment; latterly his enthusiasm led him to start experimental observations on patients with such diverse conditions as rheumatic carditis and cerebral hæmorrhage.

Apart from the many published papers on the subjects mentioned, Poulton published two books, "Oxygen and Carbon Dioxide Therapy" with Argyll Campbell, and "Diets and Recipes and Treatment of Diabetes and Obesity". He also acted as editor of the 12th to 14th editions of "Taylor's Practice of Medicine", the first of these in 1922. This was perhaps his greatest contribution to medical teaching; he devoted much time and trouble to the preparation of each edition, so that this old text-book was made a good practical guide and kept remarkably up to date.

Poulton was chairman of the International Society of Medical Hydrology, and in 1937 was president of Section I (Physiology) of the British Association—an unusual distinction for a practising physician. He was also greatly interested in the work of the League of Nations Union and spent much time on this.

There were many qualities, including his whole-hearted enthusiasm and his charm and kindness, which endeared him to his many friends. Although he knew his heart was affected, his regular hospital duties and teaching, his research work and writing, and his many societies and meetings, show how little he let this stand in the way, and in their multifarious activities he never spared himself.

In 1911 Poulton had married Elfrida, youngest daughter of Mr. Charles Maclean of Glencarn, Perthshire, and had three sons and two daughters. His eldest son has recently qualified and is now a medical officer at Pembury, the second is in the Army, and the third a medical student. M. CAMPBELL.

Major A. E. Levin

WE regret to announce the death of Major Arthur Everard Levin, which took place on November 8 after a short illness. Levin was born on February 17, 1872, and was educated privately. He took up electrical engineering as a profession and enlisted in the Royal Engineers on the outbreak of the South African War. For some time after the conclusion of that war he held a Government appointment and later was associated with the firm of Mordey and Dawbarn, consulting electrical engineers, retiring from his profession in 1928. He remained with the old 'Volunteers' when they became 'Territorials' and was called up for service on August 5, 1914. Later he was placed in command of the first Electrical and Mechanical Company to be sent to France, and was mentioned in dispatches in April 1918. He saw service in Italy in the same year.

After demobilization, Levin's interests turned to astronomy. In 1919 he was elected a member of the British Astronomical Association and in 1921 a fellow of the Royal Astronomical Society. His work in astronomy was mainly connected with computations.

He was the second director of the Computing Section of the British Astronomical Association, formed in the 1920-21 session, a position which he held with only one or two minor interruptions until 1938. The annual production of the "Handbook" required much time and patience, especially with computers who had to be initiated into the subtleties of the calculations essential for the work. Levin displayed a wonderful amount of tact and judgment in teaching new computers, and his unfailing courtesy and kindness will never be forgotten by those who could always turn to him for advice and guidance.

The "Handbook" is used at many of the great observatories for the information that it supplies on various branches, not least that dealing with the ephemerides of comets, for which the perturbations by the major planets have been computed. In this connexion reference may be made to the last great computational work that Levin undertook, in collaboration with Mr. J. G. Porter, his successor as director of the Computing Section. This was the computation of the perturbations of the planets on Comet Pons-Winnecke for two revolutions, Cowell's method being used for the greater portion of the work. The comet was found almost exactly in its predicted position by van Biesbroeck, an indication of the accuracy of the calculations. Levin made a speciality of the mutual eclipses and occultations of Jupiter's satellites, and a full description of his method of prediction appeared in the *Memoirs of the British Astronomical Association*, 30, 3, December 1934.* He was elected president of the Association for the sessions 1930-32 and proved himself a very popular and efficient officer.

It is characteristic of Levin's love for astronomy that he presented his 4-inch refractor to the Association this year, and he has also left all his astronomical books and his 6-inch telescope and observatory, now at Selsey, to the Association. He leaves a widow and one son, the latter serving in the Navy.

Dr. G. D. Lander

GEORGE DRUCE LANDER, who died on October 25, aged sixty-five, was a man with a strong personality and a chemist whose work was characterized by breadth of outlook and soundness of judgment.

Lander studied chemistry at the Royal College of Science and Birkbeck Institution, London. After working with Japp in Aberdeen on the synthesis of pentacarbon rings, he proceeded to St. Andrews, where he assisted Purdie in his researches in stereochemistry. Purdie and Lander observed that the product obtained by the action of ethyl iodide on the silver salt of optically active lactic acid possessed a higher rotation than ethyl lactate prepared by the usual esterification process, and they suspected that the higher value was due to the presence of a small amount of the ethoxy derivative. This and similar observations led Purdie and his associates to devise the silver oxide - alkyl iodide method of alkylation, a reaction which afterwards proved to be the most

serviceable tool in the hands of organic chemists of the St. Andrews and Birmingham Schools for the controlled degradation of carbohydrates. At University College, Nottingham, Lander made a study of the chemistry of imino-ethers, and in 1903 he was appointed to the chair of chemistry and toxicology at the Royal Veterinary College, London.

In order to deal satisfactorily with the increasing number of cases of suspected poisoning among animals on which he was consulted, Lander found it necessary to make a comprehensive experimental survey of the methods for the detection of mineral and other poisons. Some results of this work were published in communications to the *Analyst*. Circumstances also arose which led him to investigate the separation and identification of very minute amounts of alkaloidal drugs, and a short paper entitled "Microanalysis of Alkaloids" was afterwards published in the *Analyst*. His skill in manipulation contributed to his success in this field, in which he was actively interested for the remainder of his life.

Lander retired from the Royal Veterinary College in 1920. The well-known "Systematic Inorganic Chemistry" by Caven and Lander was published in 1906, and Lander's "Veterinary Toxicology" in 1913. Lander was a member of the Court of Governors of Birkbeck College for some years, and an examiner in chemistry and toxicology for the Royal College of Veterinary Surgeons from 1923 until 1939. After his retirement from teaching he resided at Tenterden, Kent, and devoted much time to the municipal affairs of that ancient borough. He leaves a widow, who gave him much assistance in his analytical work.

G. W. CLOUGH.

WE regret to announce the following deaths:

Dr. William H. Brown, lecturer in botany in the Johns Hopkins University, formerly director of the Bureau of Science at Manila, on November 9, aged fifty-five years.

Dr. Livingston Farrand, emeritus president of Cornell University, formerly professor of anthropology in Columbia University, on November 8, aged seventy-two years.

Prof. E. A. Gardner, emeritus professor of classical archaeology in the University of London, on November 27, aged seventy-seven years.

Prof. Waldemar Lindgren, formerly professor of geology in the Massachusetts Institute of Technology, on November 3, aged seventy-nine years.

Prof. F. K. Richtmyer, professor of physics in Cornell University, on November 7, aged fifty-eight years.

Mr. A. A. Simpson, C.M.G., C.B.E., president of the Royal Geographical Society of Australasia, well known for his explorations in Australia, on November 27, aged sixty-four years.

Prof. Charles Vaillant, formerly director of the X-Ray Departments in the Baudeloque Clinic and the Lariboisière Hospital, one of the most eminent X-ray pioneers, on December 4, aged seventy-seven years.