Prize to Powell, the Chemistry Prize to Alder and Diels, and the Prize for Physiology and Medicine to Hensch, Kendall and Reichstein.

Dr. Österling, when addressing Bertrand Russell at that occasion on behalf of the Swedish Academy of Literature, pointed out that Russell's philosophy may be said in the best sense to fulfil just those desires and intentions that Alfred Nobel had in mind when he instituted his prizes. There exist quite striking similarities between their outlooks on life. Both of them are at the same time sceptics and utopians, both take the gloomy view of the contemporary world, yet both hold fast to a belief in the possibility of achieving logical standards for human behaviour.

During the banquet in Stockholm's splendid Town Hall which followed the presentation, tribute was paid to Alfred Nobel's memory and also to the achievements of the present and former laureates. It was emphasized that the great attendance at the fiftieth anniversary ceremonies is a sign of the high esteem in which science and literature are held in Sweden, as well as an expression of deep admiration and indebtedness to those who through their brilliant achievements have enriched our minds and contributed to the welfare of human beings.

In a world torn by political disunity, the Nobel Foundation, in the spirit of its founder, has always tried to serve the cause of international understanding. Let us hope and trust that this spirit will prevail in the times to come.

G. HEVESY

OBITUARIES

Prof. W. Kösters

PROF. WILHELM KÖSTERS, president of the Physik-alisch-Technische Anstalt at Brunswick in Western Germany, died suddenly at Münster, in Westphalia, on July 28, 1950, at the age of seventy-four. With his death the science of metrology loses one of its most energetic and experienced workers.

Wilhelm Kösters was born on April 25, 1876. He studied physics, mathematics, chemistry and mineralogy at the Universities of Münster, Greiswald and Bonn. His first appointment after graduating as Dr. phil. in 1899 was with the Kaiserliche Normal-eichungskommission (Standards Committee), which later became the Reichsanstalt für Mass und Gewicht. When this establishment was amalgamated in 1917 with the Physik-alisch-Technische Reichsanstalt, Kösters became director of the Department for Weights and Measures and was head of the Laboratory. Between 1899 and 1917, Kösters was scientifically active in all the Laboratories of the Committee and at an early age made valuable contributions to the methods of metrological observation and instrumentation; his contribution to the development of the larger comparator was a decisive factor in influencing subsequent measuring technique of the German length standard. In 1917 he was appointed head of the laboratory dealing with length standards.

In 1892, in Sèvres, Michelson compared the metre with the wave-length of the red cadmium line. Fabry and Perot in 1907 made a check comparison and obtained a result which was within one ten-millionth of Michelson's result. Following these measurements, the opinion prevailed in metrological circles that a wave-length of a particular monochromatic light could be used instead of the international metre standard, and Kösters was a pioneer in the appli-

cation of wave-length measurements for determining standard length. He saw the advantage to industry in the use of interference measuring methods, and his work resulted in 1920 in the Kösters's interference comparator built by Carl Zeiss, of Jena, and which, by its universal application, has in no mean way contributed to the fact that German industry in the field of metrology holds the position it does to-day.

In 1921 Kösters was elected a member of the Comité International des Poids et Mesures, and here he successfully advocated the use of a wave-length as a measure of standard length; at the seventh conference, held in 1927, it was decided provisionally that the metre was equivalent to 1,553,164.13 times the wave-length of the red line of cadmium in dry air at 15° C., at a pressure of 760 mm. mercury and $g = 980.665 \text{ cm. sec.}^{-2}$. Kösters's definition of standard gauge length was accepted internationally and, at his proposal, the yellow-green krypton line ($\lambda = 0.565 \mu$) was accepted as the wave-length standard. Under Kösters's leadership this line was selected as it was found to be reproducible with the required degree of accuracy, and, indeed, at the time of his death, Kösters was still experimenting in this field using krypton-84 and -86.

The results of Kösters's scientific work led to improvements and developments in a great number of applications: the development of standard lamps for the interference method of measuring length (1928); investigations on the Doppler spread of the lines of the spectrum and experiments in the cooling of lamps with solid nitrogen (1938); development of the interference double prism (1931); determination of the constituents of sea water by interference methods (1930); development of a comparator for the measurement of the International Ohm (1935); work on the precision measurement of the refractive index of glass plates by the interference method (1940); introduction of a standard temperature of 20° C. for industrial measuring purposes, which Kösters considered specially important and which was adopted by the International Committee for Weight and Measure at Paris in 1939.

In 1948 Prof. Kösters was appointed the first president of the Physik-alisch-Technische Anstalt, Brunswick (now renamed Physik-alisch-Technische Bundesanstalt), which is the successor of the Physik-alisch-Technische Reichsanstalt formerly situated in Berlin-Charlottenburg. He carried out the very difficult executive tasks of rehabilitating the Physik-alisch-Technische Anstalt in its new surroundings at Brunswick during the critical and trying post-war period in an able manner, and his loss will be doubly felt, first, because he was an able executive, and secondly, because the load of executive duties prevented him from completing the metrological work for which he was so well known. It is characteristic of the man that he was not a writer of books; once a scientific problem on which he had been engaged extensively was resolved, his interest in that problem was finished, and perhaps through this he may be known only to the specialists, since he leaves behind remarkably little published scientific work.

E. KORNATZ

Prof. W. T. Gordon

PROF. W. T. GORDON, emeritus professor of geology in the University of London, died on December 12 at the age of sixty-six after a very short period of retirement.

He graduated at Edinburgh, and after a period of research at Cambridge returned to his University as lecturer in palaeontology under Prof. James Geikie. In 1914 he was appointed lecturer in geology at King's College, London, taking charge of what was then quite a small department. He maintained it during the First World War, and in the succeeding phase of expansion his vigour and organizing ability developed it so considerably that the title of professor of geology was conferred on him in 1921. He occupied the chair for twenty-seven years.

During these earlier years, Prof. Gordon laid the foundations of his notable work on the Lower Carboniferous flora. His name will always be associated with two famous localities for petrified fossil plants on the shores of the Firth of Forth, Pettycur and Gullane. He developed the interesting and important theory that favourable opportunities for such petrifications were found in the vicinity of freshly deposited beds of volcanic ash subjected to contemporary weathering, and he successfully applied this theory in guiding his field collection. He published detailed accounts of a number of important species. One of his most important contributions was the collection of complete material for the description of the genus *Pitys*, published in 1935. His interests also ranged widely in the field of invertebrate palaeontology, and he made an important addition to our knowledge of the rather enigmatical group of the Archæocyathinæ based on material from Antarctica. Further, though he published little on the mineralogical side of his subject, he had wide

knowledge of the gemstones, particularly of the diamond: he was active as a consultant in this field for the greater part of his working life.

Prof. Gordon served as secretary and vice-president of the Geological Society of London, as president of Section C (Geology) of the British Association at the Aberdeen meeting, and he was active in the work of many other societies. It is much more difficult to express in short compass any adequate appreciation of his services to his College and University. He was a real friend to the students of King's College and a notable teacher of his subject. Old students of his are at present serving as heads of three of the Schools of Geology in the University of London, including his own. He did much also to develop the teaching of engineering geology and geography at King's College. But his memory will live in the minds of many who never entered his Department, for his strength of character and great personal charm made him a notable figure in the general College life, and he gave freely of his abounding energy and vitality of mind to a wide circle both within and beyond the College walls.

S. W. WOOLDRIDGE

WE regret to announce the following deaths:

Lieut.-Colonel J. P. Mead, C.B.E., formerly director of forestry in Malaya, on January 2, aged sixty-four.

Mr. W. F. Perree, C.I.E., during 1919-25 chief conservator of forests and president of the Forest Research Institute, Dehra Dun, on December 6, aged seventy-nine.

NEWS and VIEWS

Theoretical Physics at King's College, Newcastle upon Tyne: Prof. G. S. Rushbrooke

DR. G. S. RUSHBROOKE has been appointed as from next September to the chair of theoretical physics at King's College, Newcastle upon Tyne, which replaces that of experimental physics occupied by Prof. G. W. Todd until his death in February 1950. Dr. Rushbrooke studied at Cambridge, gaining first classes in Parts I and II and a distinction in Part III of the Mathematical Tripos, and several prizes. After graduating, in 1936, he worked first with R. H. Fowler on statistical theory, and was awarded the Rayleigh Prize for an essay on the theory of solutions, in 1938. He proceeded to the Ph.D. degree in 1940, after having spent a year as research assistant to Prof. N. F. Mott at Bristol. He then moved to University College, Dundee, where he worked first in the Department of Mathematics and afterwards in the Department of Physical Chemistry. During these five years he published numerous papers on a variety of subjects, mostly mathematical-chemical in character. From 1945 until 1948 he was working chiefly on research problems, in the Departments of Mathematics and Chemistry of the University of Leeds, and he then proceeded to Oxford as senior lecturer in theoretical physics, which post he still holds. Dr. Rushbrooke has published or collaborated in more than twenty original papers covering a wide field in mathematical physics and chemistry. His main interest is in statistical mechanics, and he has written a book on the subject which has been very well received. He will be welcomed at Newcastle, not only by the Department of Physics but also by those of mathematics and chemistry.

Sir James Cantlie (1851-1926)

To the specialist in tropical diseases, Sir James Cantlie, who was born one hundred years ago, on January 17, 1851, is known as the founder of the London School of Tropical Medicine, of the Royal Society of Tropical Medicine and Hygiene, and of the *Journal of Tropical Medicine and Hygiene*. The first-aid worker remembers him as the creator of the College of Ambulance, the author of popular Red Cross manuals, and the inventor of a bullet-proof ambulance stretcher for rescue work in the trenches, while members of the Royal Army Medical Corps recall that his Voluntary Medical Staff Corps was the parent of the Royal Army Medical Corps of the Territorial Army. To the layman, Cantlie is the rescuer of Sun Yat Sen, founder of the Chinese Republic; the evangelist of 'physical jerks'; author of "Degeneration amongst Londoners"; the man who advocated a national society for the prevention of decaying teeth, suggested bringing sea air in pipes from Brighton to London, and attacked the Eton jacket for exposing the loins. A versatile man, possessed of infectious vitality and a keen spirit of adventure, Cantlie was a fine teacher, an entertaining speaker and writer, and an amusing companion. His was a veritable genius for inventing things great and small. His many and varied public services have tended to overshadow his contributions to medicine, such as his operation for liver abscess, for which he introduced instruments of his own design. Cantlie was a graduate of the University of Aberdeen and was appointed assistant surgeon at Charing Cross Hospital at the youthful age of twenty-six. He was created K.B.E. in 1918 and died on March 28, 1926, in his seventy-fifth year.