Dr. B. M. Cwilong

DR. B. M. CWILONG, who died in the Middlesex Hospital, London, on January 4, was born in Russia of Polish parents, his father being a judge. He took his M.Sc. degree at the University of Warsaw. He was working in the Polish Meteorological Service when war broke out in 1939 and was called up, and when Poland was over-run he went with the Polish Army to Italy, to France and finally to England. Here he was sent to work at the Clarendon Laboratory, Oxford, and assisted in developing instruments for measuring the very low humidities of the upper atmosphere which were of importance for forecasting the possibility of aircraft making condensation trails. During this work it was found that 'sublimation nuclei' (that is, nuclei on which water vapour would condense directly to ice crystals if below 0°C .) were very much rarer than was expected. Later, Cwilong was anxious to investigate this point further by using a Wilson cloud chamber at controlled temperatures below the freezing point, and he stayed on at Oxford for this work and to take a D.Phil. degree.

While his results had, unknown to him, been partly anticipated by Findeisen in Germany, they were of great interest. He developed an ingenious method of detecting the presence of a single ice crystal if formed in the cloud chamber, and showed that there were, indeed, exceedingly few nuclei on which water vapour would condense directly to ice at temperatures only a few degrees below 0°C . He showed further that, as the temperature was lowered, more and more nuclei became 'active' until at about -40°C water vapour would condense to ice on almost all nuclei. After leaving Oxford, he held lectureships in physics at Vancouver and in New Zealand, working mainly on atmospheric nuclei, but also, for a time, on low-temperature physics.

Cwilong was an outstanding chess player, but his greatest interest was in sailing at sea and he had twice been around the world in a sailing ship. After

leaving Oxford, his great ambition was to obtain a non-magnetic yacht and make a magnetic survey of the Pacific Ocean. At his own expense, he bought a yacht in England and sailed it across the Atlantic and, after taking it through the Panama Canal, he set out to sail up the west coast of North America with only himself and his wife on board. A few days out they had the misfortune to run into a tropical hurricane and, though he had taken down all sail, the yacht was dismasted due to the violent rolling of the boat in the terrific seas that followed the storm. After this he was forced to return to Panama. Very characteristically, he wrote to me: "We both had hard times, but to me sailing through a hurricane was a very interesting experience".

Soon after this his health became poor, though he continued to work on atmospheric nuclei both in Panama and at Kew Observatory. All the time he was still planning another magnetic survey of the Pacific Ocean, but he did not live to carry it out.

G. M. B. DOBSON

Mr. J. H. Grace

MR. JOHN HILTON GRACE, who died at Huntingdon on March 4, was born on May 21, 1873, and was educated at the Liverpool Institute and at Peterhouse, Cambridge. He was second wrangler, bracketed with E. T. Whittaker, in 1895; the senior wrangler of that year was T. J. I'A. Bromwich. He was elected a Fellow of Peterhouse in 1897 and served as a College and University lecturer until 1922; when at his best he was a brilliant teacher. Since 1922 he had lived in retirement.

Grace wrote a standard book on "The Algebra of Invariants" together with A. Young, and a number of papers on topics in algebra and geometry. Most of these papers are short and are notable for the elegance of the results and the power of the methods. Grace's early work led to his election to the Royal Society in 1908.

J. C. BURKILL

NEWS and VIEWS

Macaulay Institute for Soil Research:

Dr. D. N. McArthur, C.B.E.

DR. D. N. MCARTHUR, who has retired from the directorship of the Macaulay Institute for Soil Research, Aberdeen, commenced his research career as physical chemist to the West of Scotland Radium Committee, but most of his earlier work was done at the West of Scotland Agricultural College where he was professor of agricultural chemistry from 1928 until his appointment as director of the Macaulay Institute in 1945. At that time the staff of the Institute consisted of only fifteen scientists with some technical assistants but, under his vigorous leadership and his exploration of new lines of research on all aspects of soil science, he gathered round him a band of young scientists so that the scientific staff now numbers forty-four. Most of the development has been in fundamental research, but not the least of Dr. McArthur's achievements has been his success in keeping these purely scientific studies harnessed to the more practical aims of the Institute, and in maintaining the closest connexion between all the very varied lines of investigation. Under his guidance the Institute has become a centre of scientific

knowledge on all aspects of soil, and its advice has been sought both by government and private bodies in Britain and throughout the Commonwealth. His insistence on the high quality of the research done at the Institute has given it a world-wide reputation and has brought to it young research workers from all parts of the world. Dr. McArthur serves on many departmental and national councils, and is chairman of committees advising the Secretary of State for Scotland on spectrographic work, manurial values, and moss survey. He was made C.B.E. in 1953.

Prof. A. B. Stewart

PROF. A. B. STEWART, Strathcona-Fordyce professor of agriculture at the University of Aberdeen, has been appointed director of the Macaulay Institute for Soil Research in succession to Dr. D. N. McArthur. Prof. Stewart commenced his research work on soils under the late Prof. Hendrick at Aberdeen and Prof. Wiegner at Zurich, and was appointed to the Macaulay Institute in 1932 to take charge of a newly established department to deal with soil fertility. His studies there ranged over, not only the soil and the plants it supported, but also the health of the