met or anything he had seen, read or heard. As he loved meeting people, travelled extensively and read widely, his knowledge was encyclopaedic, as is evidenced by his notable survey, *World Population and World Food Supplies*, published in 1954. An excellent lecturer and prolific writer, he dispensed information as readily as he acquired it. Always a keen supporter of the British Association, he rarely missed a meeting; he was its president in 1949, the first agricultural scientist to be elected to this position and perhaps of his many distinctions the one in which he took most pride.

A serious illness incapacitated him for a year shortly after he retired from Rothamsted; but he soon resumed a fully active life, not only continuing his writing and lecturing, but also his travelling. His interest in, and knowledge of, agricultural science was undimmed by age, and at ninety and more he was still asking the most penetrating questions, often dealing with subjects that had barely been born when he retired. His last visit to Rothamsted, to celebrate his ninetieth birthday, was an unforgettable occasion. He was his usual, lively self and without a note made a speech lasting more than forty minutes that was as memorable for his stimulating ideas about the current and future needs of agricultural research as it was for the wit and humour with which he recalled its history.

Only a man of exceptional ability, determination and energy could have achieved what he did, for during most of the first sixty years of his life he was continually battling to overcome difficulties and indifference to his aims. To have left school at fourteen and be elected to the Royal Society at forty-five is possibly unique, for self-made success is much rarer in research than in business or industry. But to have promoted agricultural research successfully in a period when a secretary of the then Board of Agriculture could say: "I cannot conceive the circumstances in which the board will be at all interested in scientific work", was a still greater achievement. The Royal Society of Arts awarded Russell the Albert Gold Medal—its greatest honour. The inscription reads, "For researches and leadership in agricultural science and services to husbandry in many lands"; although it fails to show that he also led a successful rebellion against ignorance and indifference, it is difficult to think of a more fitting epitaph.

F. C. BAWDEN

Dr. R. A. Alexander

RAYMOND ALBERT ALEXANDER died in Pretoria on July 8 at the age of sixty-six. He was born in Benoni, Transvaal, on July 29, 1899, and was educated at Jeppe High School, Johannesburg. After matriculating in 1915 he studied at the Potchefstroom School of Agriculture and was afterwards accepted for military training. In 1919 he went to the Transvaal University College and obtained the degree of bachelor of science, agriculture, in 1922. He then enrolled as a student in the newly formed Faculty of Veterinary Science under the renowned Sir Arnold Theiler and was awarded the degree of bachelor of veterinary science in 1925. In 1928 he joined the staff of the Veterinary Research Institute, Onderstepoort, and started his career as a virologist.

Having been awarded a fellowship by the Empire Marketing Board of Great Britain in 1931, Dr. Alexander studied at the Strangeways Institute, Cambridge, where he worked on tissue culture techniques under Dr. (now Dame) Honor B. Fell. During this time he also represented South Africa at the first Commonwealth Veterinary Conference in London. On his return to South Africa he continued his research work on virus diseases and produced original studies on the neurotropic virus of horse-sickness. As a result he was awarded a D.V.Sc. degree in 1935. In 1938 he again went overseas and worked for varying periods at the Rockefeller Institute, Harvard University, the Federal Bureau of Animal Industry and the Canadian Veterinary Laboratory at Ottawa. When an extensive outbreak of horse-sickness occurred in Egypt and the Middle East during 1944, Dr. Alexander went to the assistance of the affected countries and was able to help control the scourge by means of the vaccine which he had developed at Onderstepoort.

He was appointed deputy director of veterinary services in 1949 and in that year took a leading part at the African Rinderpest Conference held in Nairobi, and the International Rinderpest Conference convened by the Food and Agriculture Organization of the United Nations. Later he served on a Commission appointed by the British Colonial Office to investigate veterinary problems and research in East African territories. In 1953 he was invited by the United States Government to visit America and to advise on the control of blue-tongue in sheep which was causing devastating losses.

Dr. Alexander was appointed director of veterinary services of the Union of South Africa in 1950 and served in this capacity for 11 years until he retired on superannuation.

He devoted his life to furthering veterinary science in general and virology in particular. As a result of his success in this respect he held many important posts, among which were the following: chairman of the Inter-African Bureau of Animal Health (1955–58); life vice-president of the South African Veterinary Medical Association; member of the Committee for Research into Medical Sciences of the Council for Scientific and Industrial Research; chairman of the Committee of the Virus Diseases Research Unit of the University of Cape Town; chairman of the Veterinary Board; member of the Technical Advisory Committee of the Poliomyelitis Research Foundation and of the Advisory Committee on Virology to the South African Minister of Health; consultant to the Food and Agriculture Organization of the United Nations/Office International des Epizooties at a world conference on emerging diseases held at Ankara.

Several honours came to Dr. Alexander. In 1955 he was awarded a D.Sc. (*honoris causa*) by the University of Cape Town and in 1957 he was elected a Fellow of the Royal Society (South Africa). In 1961 he was elected an honorary member of the Section of Comparative Medicine of the Royal Society of Medicine.

As a virologist, he gained a world-wide reputation and produced more than sixty scientific publications. He will be remembered for his enthusiastic participation in scientific meetings and his practical approach to animal disease problems.

B. C. JANSEN

K. A. Vlasov

KUZMA ALEXEEVICH VLASOV, a prominent Soviet petrologist and geochemist, died on September 29, 1964. He was born in the Ryazan district of Russia on November 14, 1905. In 1931 he graduated in geology at the Timiryazev Academy and soon began field work on the Kola Peninsula under the guidance of A. E. Fersman. Starting with a study of beryllium minerals, Vlasov went on to investigate beryllium-bearing pegmatites, and this led in turn to an intensive study of granite-pegmatites in general. The results of his field observations were summed up in a comprehensive genetic-textural classification of granite pegmatites. His *magnum opus*, however, was his detailed work on the geology, petrology and geochemistry of the Lovozero alkaline massif on the Kola Peninsula. This was published in 1959. In 1953 Vlasov was elected a corresponding member of the Academy of Sciences of the U.S.S.R. and in the same year he was appointed director of the newly founded Institute of Mineralogy, Geochemistry and Crystallography of Rare Elements. The work of the Institute is being published in a three-volume edition (two volumes have already appeared), entitled *Geochemistry, Mineralogy and Deposits of Rare Elements*.

S. I. TOMKEIEFF