

Obituaries

Dr Hans Kronberger

DR HANS KRONBERGER, who died tragically on September 29, was one of Britain's leading nuclear technologists. In the field of isotope separation and later in that of reactor development, he made major contributions to the British atomic energy programme, and as member for Reactor Development with the UK Atomic Energy Authority he was, at the time of his death, responsible for directing and coordinating the whole programme of reactor development in the UK.

Hans Kronberger was born in Austria in 1920, of Jewish parents. At the time of the Nazi takeover, he fled to England and after badgering almost every university for a free place, he was accepted by King's College, Newcastle, to read mechanical engineering. These studies were interrupted by the war, when for a time he was interned as a "friendly enemy alien". This period of internment changed the course of his future career, for here he met Herman Bondi and other refugee scientists and became deeply interested in physics and higher mathematics. Consequently, when he returned to Newcastle in 1942 he completed his degree course in physics.

He then joined Sir Francis Simon's team at Birmingham in the Tube Alloys Project and worked for ten years on methods of isotope separation. His first investigation was into the possibility of separating the uranium isotopes by thermal diffusion, and at Simon's suggestion he built and operated a thermal diffusion column to investigate thermal diffusion in UF_6 above its critical point. The operation of the column at 1,200 lb/sq. in. and 400° C with UF_6 was a considerable achievement at that time. In the course of this work he developed a very sensitive mass flowmeter for corrosive gases, based on the Blackett and Rideal method of measuring specific heat, and this instrument is still widely used in laboratories and industries.

He joined Harwell in 1946 and worked with the late Heinz London. During this time he measured the vapour pressures of a series of isotopic compounds and ran a pilot column to separate ^{13}C by the low temperature distillation of carbon monoxide. It was his suggestion to use in isotope separation columns the Dixon wire gauge packing developed by ICI, and this packing has been used in most other isotope separating columns. In 1948 Kronberger became the leader of a team investigating the ultra-centrifuge technique of uranium separation. He built and operated centrifuges running with UF_6 at consistent

speeds of 450 m s⁻¹ and invented a novel kind of infrared pyrometer for measuring within a fraction of a degree the temperature of rotating centrifuges. This work was prematurely terminated by the decision to move Kronberger to a new gaseous diffusion plant at Capenhurst, but it is currently bearing fruit in the revived development of centrifuge separation systems.

At Capenhurst, Kronberger led a large team investigating all the problems connected with the diffusion process, and in 1953 he became head of the Capenhurst Laboratories, responsible for the entire development effort on the plant. The work, done in an atmosphere of great urgency, ranged over gas kinetics, surface chemistry, instrumentation and the dynamics of gas bearings. At the same time there were urgent requirements for isotopes which Kronberger had to tackle; under him processes were developed and plant built to produce Li^6 by molecular distillation, B^{10} by low temperature distillation of BF_3 , and H^3 by thermal diffusion.

By this time the isotope production plants were operating and Kronberger was given the responsibility for the entire research and development organization of what later became the Reactor Group of the Atomic Energy Authority. To this new job he brought the same tremendous enthusiasm that he had applied to developing isotope separation on a large scale. In a very short time he knew what was being done in every laboratory in the UK connected with nuclear reactor development and each specialist progressed a little faster under the very pertinent questioning of this newcomer to the field. Kronberger's new role of manager, coordinator and rapporteur of a wide ranging research and development programme was well within his competence, but it was also a source of great frustration to him because above all he was an experimentalist. At the beginning of 1969 he became the member for Reactor Development of the Atomic Energy Authority. In recent years, Dr Kronberger was deeply involved in the UKAEA's desalination work, seeing this as a way of bringing water to those areas of the underdeveloped world where lack of water is one of the big barriers to progress. He was also a member of the Scientific Advisory Committees of the International Atomic Energy Agency and the United Nations. He became a Fellow of the Royal Society in 1965 and in 1969 he was awarded the Royal Society's Leverhulme Tercentenary Medal.

His wife died in 1962 after a long illness. He leaves a stepson and two daughters.

Announcements

University News

Dr Ralph Henstock has been appointed professor of mathematics in the new University of Ulster.

Appointments

Viscount Trenchard of Wolferton, chairman of the Sausage and Meat Pie Manufacturers' Association, has been appointed a member of the Agricultural Research Council.

Mr A. J. Bellamy has been appointed deputy director of the Polytechnic of the South Bank. Mr Bellamy is at present academic registrar of the Polytechnic.

Dr F. Karl Willenbrock, provost of the State University of New York at Buffalo, has been appointed director of the Institute for Applied Technology, US National Bureau of Standards.

Dr Eldon L. Eagles has been appointed deputy director of the National Institute of Neurological Diseases and Stroke at the US National Institutes of Health.

Professor Arthur M. Olsen, Mayo Graduate School of Medicine, has been appointed to the National Advisory Heart and Lung Council of the US National Heart and Lung Institute.

Professor J. L. Harley, professor of forestry at the University of Oxford and consultant director at the