

light elements, and especially beryllium, with alpha-particles from polonium. Bothe and Becker concluded that this radiation consisted of gamma-rays of several million electron volts energy. This conclusion was completely right, since their Geiger counter was not sensitive for neutrons. Yet even if the authors could not detect the neutron by their experiments, they had discovered the artificial excitation of nuclear gamma-rays and thereby paved the way for the discovery of the neutron.

From Bothe's wide range of work there may further be mentioned the method of determining gamma-ray energies by measurement of the absorption of the secondary electrons produced by the gamma-rays in an appropriate foil, and his investigations on the diffusion of neutrons in different materials.

Bothe was a very good teacher, exacting in his demands but highly stimulating, and many of the younger physicists in Germany as well as in other countries have been his students. His hobbies were music and painting, in which he found recreation and delight.

In 1954, Bothe received the Nobel Prize for Physics (jointly with Max Born), for the development of the coincidence method and the results obtained by its application.

LISE MEITNER

Dr. P. Grodzinski

THE death was reported on February 20 of Dr. Paul Grodzinski, who died of a heart attack at the age of fifty-six.

Grodzinski, born in Berlin, studied at Dresden in the Faculty of Engineering, and from 1932 onwards worked as a freelance technical writer with a special interest in mechanisms. In 1938 he settled in London,

and two years later was largely responsible for the founding of the *Industrial Diamond Review*. From the very first Grodzinski became the technical editor, which position he occupied until his death. In 1943 he became head of the Industrial Diamond Information Bureau of the Industrial Distributors (Sales), Ltd., and in that capacity was responsible for the publication of the "Bibliography of Industrial Diamond Applications".

He was the author of several very valuable books, among which were "Diamond Tools" (1936 and 1944), "Diamond and Gem Stone Industrial Production" (1942), "Practical Theory of Mechanisms" (1947) and in particular and most outstanding, "Diamond Technology" (1953). This last book is easily the most outstanding contribution in the field, an 800-page treatise which, in effect, was the accumulation of his life's work.

Grodzinski had a flair for inventing fine mechanisms and in particular his double-cone diamond indenter and his machine for the production of spherical diamond surfaces were outstanding achievements.

In his capacity as head of the Diamond Information Bureau many users of diamond, whether it was a question of cutting an optical grating or a question of pure history, found, on turning to Grodzinski, an amazing and profound knowledge of a vast literature. He himself had a particular interest in the history of the use of diamond and made several novel contributions to the subject, unearthing a number of unusual prints and engravings bearing thereon. His knowledge of the literature extended far beyond that of diamond, for hard materials and the production and testing of superfine finishes were, to him, as important as the diamond itself. His passing leaves a void which will be difficult to fill.

S. TOLANSKY

NEW FELLOWS OF THE ROYAL SOCIETY

AT the meeting of the Royal Society on March 21, the following were elected to fellowships:

PROF. S. ADLER, professor of parasitology in the Hebrew University, distinguished for his researches on pathogenic protozoa and the diseases caused by them, especially visceral and cutaneous leishmaniasis.

PROF. E. C. AMOROSO, professor of physiology in the University of London, distinguished for his studies on reproduction in vertebrates.

DR. CHARLOTTE AUERBACH, lecturer in animal genetics in the University of Edinburgh, distinguished for her pioneering work on the chemical induction of mutations.

DR. G. K. BATCHELOR, lecturer in mathematics in the University of Cambridge, distinguished for his contributions to the theory of turbulence, and other branches of fluid mechanics.

PROF. W. E. BURCHAM, Oliver Lodge professor of physics in the University of Birmingham, distinguished for his experimental work with particle accelerators, and particularly for his investigations of alpha-particle emission from the excited states of light nuclei.

PROF. F. S. DANTON, professor of physical chemistry in the University of Leeds, distinguished for his contributions to physical chemistry and

particularly his work on reaction kinetics, polymerization processes and radiation chemistry.

PROF. J. F. DANIELLI, professor of zoology in the University of London, distinguished for his work in cellular biology, particularly on the nature of the cell surface and on the intracellular localization of enzymes.

FRED HOYLE, lecturer in mathematics in the University of Cambridge, distinguished for his work on stellar constitution, on nuclear reactions in stars and on cosmological theory.

PROF. J. K. N. JONES, professor of chemistry in Queen's University, Kingston, Ontario, distinguished for his structural studies of complex macromolecules and his investigations on the biosynthesis of simple sugars.

PROF. H. S. LIPSON, professor of applied physics and director of the Laboratories in the Faculty of Technology, University of Manchester, distinguished for his work on the crystal structure of inorganic compounds and metallic alloys, and his development of computational methods in X-ray analysis.

PROF. J. McMICHAEL, professor of medicine in the University of London, distinguished for his contributions to medical knowledge, especially on the mechanisms of heart failure.