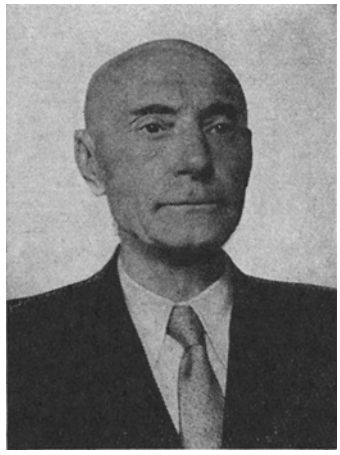

# K. F. NOVOBÁTZKY
1884—1967

On the 20th of December 1967, in his 83th year, K. F. NOVOBÁTZKY died. He had been Professor at the Roland Eötvös University in Budapest, Vice-President of the Hungarian Academy of Sciences, Member of the Central Committee of the Hungarian Socialist Workers' Party, and he was the master of Hungarian theoretical physicists.

When he started studying physics in the early years of our century ROLAND EÖTVÖS taught classical physics at Budapest University, but the young NOVOBÁTZKY was much more interested in reading Annalen der Physik, where among others the pioneering works of MAX PLANCK had been published. The great experience of his youth was the birth of the quantum theory. PLANCK's puritan way of working and living became his guiding ideal for his whole life.

With the fresh diploma NOVOBÁTZKY got a job in a secondary school far away from the Capital. He started teaching physics, which he kept on doing for longer than sixty years. The First World War meant an interruption which cost him years in the blaze of the Italian front. After the war he taught in a secondary school in Budapest.

With the death of ROLAND EÖTVÖS Budapest had fallen out of the international blood circulation of science. The air of modern physics was brought in by Prof. RUDOLF ORTVAY, a former student of ARNOLD SOMMERFELD. P. GOMBÁS and TH. NEUGEBAUER started their research work on the structure of matter as assistants of Prof. ORTVAY, and at the famous Ortvay colloquia the lanky figure of K. F. NOVOBÁTZKY also appeared. The talks of the reticent

secondary school teacher about the new developments in the theory of relativity were accepted with considerable interest.

The first publications of K. F. NOVOBÁTZKY were printed in the Zeitschrift für Physik in about 1930. His interest was focused at that time onto the possible geometrical interpretation of the electromagnetic field, following the geometrization of gravity, given by A. EINSTEIN. This great problem — attacked by a number of respected theoreticians — recurred several times in his papers through 20 years.

The electromagnetic field always played a central role in his investigations. He was equally at home in the classical theory, in the relativistic theory and in the quantum theory of the electromagnetic field as well. As early as 1938 he gave a formulation of quantum electrodynamics which made no use of the non-physical Lorentz condition. The electromagnetic field had been presented as a superposition of the Coulomb field and transversal quanta. This brilliant work became the starting point of the so-called Coulomb gauge.

K. F. NOVOBÁTZKY constructed a theory for the diffraction of polarized light (1940) and arrived at several other results but his working style is perhaps best shown in the paper in which he cleared up the energy and momentum relations in phenomenological electrodynamics (1949). The old problem of M. ABRAHAM and H. MINKOWSKI, the construction of the correct energy momentum tensor of the electromagnetic field was solved in a straightforward way. NOVOBÁTZKY started from the invariant Lagrangian of the field in dielectricum and by varying the metric tensor he obtained the energy momentum tensor in a unique way. It coincided with the form suggested by M. ABRAHAM. This frequently quoted result decided a 50 years old problem of physics.

In the past decades K. F. NOVOBÁTZKY returned to the problems where he started from. Reacting to the renewed interest concerning the interpretation of quantum theory, he proved again the strength of the variational and thermodynamical principles: he presented a new and short approach to quantum mechanics, quantum statistics and quantum electrodynamics (1953).*

In spite of his considerable scientific activity K. F. NOVOBÁTZKY is mainly honoured as the professor of physics in his country.

There were only few physicists in Hungary before the Second World War but the war had diminished even that number. The university students, returning from war, from captivity, from hiding found the Institute of Theoretical Physics empty. On the Christmas of the year 1945 K. F. NOVOBÁTZKY was appointed Head of the Institute. He started his classes about quantum theory and relativity in an unheated room. He started the education of young scientists in field theory, in a branch of physics, which had previously been rather poorly cultivated in Hungary. Now the works of his students (dispersed in Hungary

* For a complete bibliography of the works of K. F. NOVOBÁTZKY the reader is referred to the Hungarian periodical "Fizikai Szemle", Vol. 17 (1968), page 33.

and abroad) are already widely known. Prof. NOVOBÁTZKY considered teaching always the true aim of his life. He was not proud of his wide-spread books but rather of his students. This kept him young through six active decades. He never retired. He never looked back at the past, his main interest was focused on the future of physics and on the future of his country. He took an active part in the completion of quantum theory, the theory of relativity and quantum field theory, and he also taught his students the love of progress. He waited for the news about quarks impatiently even in the last months. He wanted to witness also the next revolution of theoretical physics.

The 83 years old professor started his classes last September, but this was interrupted by illness. His willpower fought with growing weakness. He did not want to live without teaching, he could not live without work. On the last day of the autumn semester Professor NOVOBÁTZKY left his students for ever.

G. MARX