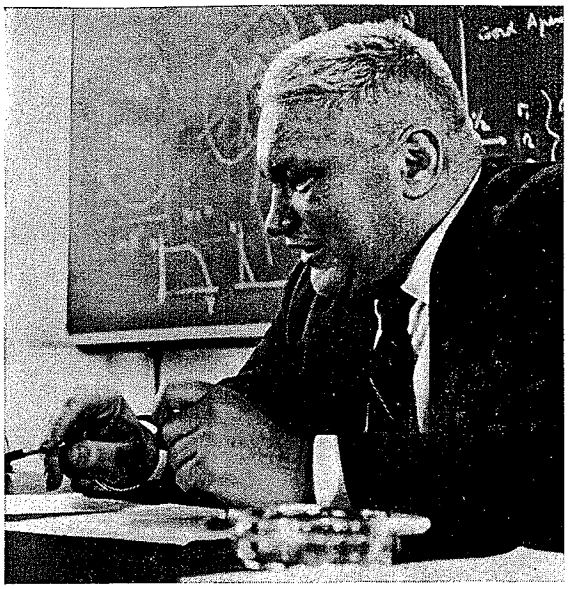
Lew KOWARSKI

Leader, Data Handling Division



Dr. Lew Kowarski, who has contributed a characteristic article to this issue of CERN COURIER, is not only one of the original staff members of CERN ; he also played a crucial part in its formation. Moreover, he can justly claim an important rôle in the development of the whole field of nuclear energy which, although not the direct concern of the Organization, is certainly a major reason r its existence.

He was born in 1907, in St. Petersburg (now Leningrad), and went to school there and at Wilno (now Vilnius). Later, he moved to Belgium, and then to France, where he entered the University of Lyons. He qualified as a chemical engineer in 1928.

For the next nine years he was technical secretary in an industrial firm, 'Le Tube d'Acier', at the same time carrying out part-time research. This was first in biochemistry, in a hospital laboratory, then in molecular physics, for which he was awarded his doctorat ès sciences under Prof. Jean Perrin, and finally in nuclear physics, acting part-time as personal secretary to Prof. Frédéric Joliot at the Collège de France.

In 1937 Dr. Kowarski received a grant from the Caisse nationale de la Recherche scientifique, enabling him to work full-time in Prof. Joliot's laboratory. It was there, in February 1939, that he, H. von Halban, and Joliot performed the crucial experiments which proved that neutrons were emitted in the fission of uranium. Six months later, the same group produced the world's first proven nuclear chain reaction, albeit a 'convergent' one, that is one not capable of maintaining itself in the absence of a driving source of neutrons.

To continue their experiments, they obtained from Norway, on the eve of its being invaded, the world's entire stock of heavy water (185 kg). When France was overrun in 1940, Halban and Kowarski brought the water to England, together with the important experimental records. Carrying on their work at Cambridge University, they produced the first strong evidence that construction of a controlled nuclear reactor would be possible. Four years later, when the first nuclear reactor outside the U.S.A. was begun in Canada, Lew Kowarski was put in charge of its design and construction.

He returned to France after the war and became scientific director of the Commissariat à l'Energie atomique when it was formed in 1946. There he was responsible for the development of pure and applied physics, and the design and construction of the first French nuclear reactors, Zoé (EL 1) in 1948, and EL 2 in 1952. From 1946 to 1948, too, he was adviser to the French delegation to the United Nations Commission on the control of atomic energy.

It was here that CERN had its beginnings, growing from the informal talks of scientists and diplomats drawn together for other purposes but seeing clearly how Europe was falling behind in the quest for fundamental knowledge. Dr. Kowarski played an important part not only in these informal discussions, but also in the formal development of the Organization after the recognition of the need by UNESCO in 1950. He has recorded the story of these years in his report 'An account of the origin and beginnings of CERN', published last year.

When the provisional Conseil Européen pour la Recherche Nucléaire (from which the name 'CERN' is derived) was set up in 1952, Dr. Kowarski became Director of the Laboratory Group, charged with planning the whole complex of site, buildings, administrative methods, finance rules, workshops, research and development in support of the two machines that were to be built, documentation and public information, etc. — right from the beginning, before even the site had been found. In 1954 the permanent Organization came into being, and he came to Geneva as Director of the division set up under the name of Scientific and Technical Services.

The tasks of this Division, intended to be run autonomously during the first period of CERN's construction, included the starting-up of such activities as the central workshop, electronics, track chambers, cryogenics, health physics, and computation. During 1957-1960 most of these activities became gradually integrated with those organized around the two machines. In 1961, following a considerable increase in the use of electronic computers and of measuring devices connected with visual detection techniques, such activities, together with the Scientific Information Service (which includes the library and the publication of CERN's scientific output) were organized as the Data Handling Division, of which Dr. Kowarski is the leader.

Since 1956 Dr. Kowarski has also been Scientific Adviser to the Director of the European Nuclear Energy Agency. In this capacity he took a leading part in the setting-up of several international enterprises (including the 'Dragon' reactor at present being built in England) and has produced several studies on new trends in atomic-energy research ●

Retirement of Professors Kowarski

1. Professor Kowarski.

Professor Kowarski

Professor Kowarski was born in St.-Petersburg (now Leningrad). In 1923, he began his studies in Belgium and continued them in France where he qualified as a chemical engineer in 1928 at the University of Lyon. For the next nine years he was technical secretary and then design engineer in an industrial firm ' Le Tube d'Acier ' and at the same time did research in biochemistry at a hospital laboratory, in molecular physics (for which he received a doctorat ès sciences under Prof. Jean Perrin) and finally in nuclear physics (under Prof. Joliot at the Laboratoire Curie).

In 1937 Joliot moved to Collège de France and Kowarski received an appointment there half-time as Joliot's personal secretary and half-time as a research worker. In 1939, together with H. von Halban and Joliot he performed the crucial experiments which proved that neutrons were emitted in the fission of uranium. Six months later, they produced the first proven nuclear chain reaction.

When war broke out, Halban and Kowarski took the world's entire stock of heavy water (which they had received from Norway for their experiments) and their important experimental records to England. Continuing their research at Cambridge University they produced the first strong evidence of the feasibility of a controlled nuclear reactor. Four years later, when the first nuclear reactor outside the USA was started in Canada, Professor Kowarski was in charge of design and construction.

After the completion of this task in late 1945, he returned to France to become Director of the scientific services of the Commissariat à l'Energie atomique where, among other duties, he was in charge of building the first two French reactors — Zoe and EL 2. He was advisor to the French delegation to the United Nations Commission on the control of atomic energy. When the idea of CERN germinated, Professor Kowarski was a party to the first informal development of the Organization. He was chosen as Director of the Laboratory Group in 1952 responsible for planning the site, first buildings, administrative methods, libraries, instrumentation, etc. In 1954 when the permanent Organization came into being, he moved to Geneva as Director of the Scientific and Technical Services Division and supervised the launching and early years of operation of such activities as workshops, electronics, track chambers, cryogenics, health physics, documentation, computers and data processing.

In 1960, the Data Handling Division was formed with Prof. Kowarski as Leader, to cope particularly with the growing use of computers and of automatic devices for scanning and measuring bubble chamber and spark chamber film. (One of these devices, ' Luciole ', was initiated by Professor Kowarski himself and he has also been involved in the conception and development of the Hough-Powell Device.) He has had a special position supervising the long-term development of data-processing in high energy physics and the closely related problems of communication and collaboration between central Laboratories such as CERN and outside groups. As the Chairman of CERN's Library Committee he also took part in the elaboration of documentation policies.

Among other activities, he has remained interested in nuclear affairs as scientific adviser to ENEA (European Nuclear Energy Agency) where he played a large part in launching common enterprises (including the Dragon reactor project) and other activities of this organization. In 1964, he was awarded the ' Officier de la Légion d'Honneur ' and in 1968 he was one of the recipients of a citation and prize, awarded by the US Atomic Energy Commission.

Professor Kowarski has been teaching for several months each year, first at Purdue University and later at the University of Texas. He is now giving lectures at the Institut Universitaire d'Etudes Européennes.

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We offer our congratulations to both these founder members and wish them many more happy and fruitful years in science.