

## LUDWIK CHROBAK

1896—1982

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Ludwik Marian Chrobak was born on July 16, 1896 in Cracow in a workman's family. He finished secondary school in 1914 and entered the Jagiellonian University. In 1916 he was called up to the Austrian army, which he left in 1918 as a private. He immediately enlisted as a volunteer in the Polish Army in the Academic Battalion and after its disbandment, in the 13th infantry regiment. In January 1919 he was offered a post of assistant at the Department of Mineralogy of the Jagiellonian University, where he had the good fortune to meet professor Stefan Kreutz, an eminent Polish crystallographer and mineralogist, and work under his supervision. At the same time he was assistant at the Academy of Mining from the moment of its foundation.

His first important paper was a dissertation on the *Dependence of desmine water vapour pressure on water content and temperature* published in German in the Bulletin of the Polish Academy of Sciences in 1925. On the basis of this dissertation, on May 7, 1927 he obtained a Ph.D. in chemistry and mineralogy from the Jagiellonian University. At that time, i.e. in the years 1925—1927, he also lectured on crystallography at the Poznań University.

In 1931—1932 he was a member of the scientific staff of the Rockefeller Institute for Medical Research in New York, where he continued his studies of the structure of  $(\text{NH}_4)_2\text{CuCl}_4 \cdot 2\text{H}_2\text{O}$  crystals, including in his research also  $\text{K}_2\text{CuCl}_4 \cdot 2\text{H}_2\text{O}$  crystals. The published results of these studies were of fundamental importance for the application of the quantum-mechanical resonance theory to the problems of the structure of chemical compounds and were cited by Linus Pauling.

After his return to Poland, Ludwik Chrobak resumed his work at the Jagiellonian University. He qualified as assistant professor in crystallography and in 1935 he received the title of Reader. In 1938 he was appointed associate professor at the Jan Kazimierz University in Lwów, where he also worked after the town was taken over by the Soviet Union. Till 1940 he published 21 papers. After the German invasion in 1941 he left

Lwów and returned to Cracow, where from 1942 till the end of the war he worked as a labourer in J. Chmielewski's hut factory.

After the liberation of Cracow in January 1945 he reported himself to the authorities of the Jagiellonian University, and in June he was sent to Wrocław together with some former workers of the Lwów University to work in the group of Minister's of Education Plenipotentiary, and then as lecturer in crystallography and mineralogy at the Wrocław University and Wrocław Polytechnic. On August 22, 1950, by a decree of the President of the Polish People's Republic, he was appointed to a professorship at the Faculty of Mathematics, Physics and Chemistry of the Wrocław University.

In the years 1948—1950 he also lectured and had classes at the Engineering College in Szczecin, where he organized an X-ray laboratory. As from January 22, 1951, by the President's decree, he was transferred to Warsaw to take over the Chair of Crystallography at the Faculty of Mathematics and Natural Sciences of the Warsaw University. Two years later he obtained a doctor's degree in chemical sciences from the Warsaw University. He held the Chair of Crystallography till 1970, i.e. four years after he reached retiring age.

Professor Ludwik Chrobak was a remarkable man of outstanding intelligence, a mature scientist and specialist in crystallography of a high order, a worthy disciple of Stefan Kreutz. He was also an extraordinarily gifted constructor of apparatus for X-ray structural and spectral analysis. He built with his own hands and according to his design an X-ray diffractometer famous for the X-ray tube body made of a bed leg. All the parts of the apparatus, i.e. Laue cameras (Chrobak's cubes), rotating crystal cameras, powder cameras and Weissenberg camera, were his handiwork. The instrument worked several years after the Professor retired, serving research and didactic purposes. Still more admirable is his X-ray vacuum spectrograph for plate photographs, being then one of the very few instruments of that kind built in the world. Professor Chrobak made with it all the chemical analyses of Polish minerals published both in his papers and those of his students. Writing about his talent as a constructor and his intuition for scientific trends, it is scarcely possible not to mention the little known fact that Chrobak discovered electron diffraction and obtained electron diffraction patterns with the instrument designed by himself, independently of Davisson and Germer.

Professor Ludwik Chrobak was not only a conscientious, wise and reliable scientist but first and foremost, a teacher with the rare gift of fascinating his students with the subject he lectured on. It is due to Professor Chrobak that many of us became interested in structural crystallography and still pursue the study of minerals and chemical compounds using his favourite X-ray techniques.

Professor Ludwik Chrobak died in Cracow on July 7, 1982.

Andrzej Wiewióra

Prof. dr Ludwik Chrobak, były profesor Uniwersytetu Jana Kazimierza we Lwowie, po wojnie Uniwersytetu i Politechniki Wrocławskiej a od 1951 r. Uniwersytetu Warszawskiego, zmarł w Krakowie dnia 7 lipca 1982 r.

Prof. Ludwik Chrobak był człowiekiem niezwykłym, o wybitnej inteligencji, wysokiej klasy specjalistą krystalografem, godnym uczniem Stefana Kreutza. Był równocześnie wysoce uzdolnionym konstruktorem aparatury rentgenowskiej. Przede wszystkim jednak był dydaktykiem o niezwykłym talencie fascynacji słuchaczy wykładanym przedmiotem. Położył znaczne zasługi w zakresie organizacji nauki i nauczania krystalografii. Przed wojną, jeszcze przed wyjazdem do Lwowa, wykładał w Krakowie w Akademii Górniczej i Uniwersytecie Jagiellońskim oraz w Uniwersytecie w Poznaniu. Po wojnie organizował krystalografię nie tylko we Wrocławiu i w Warszawie ale także w Wyższej Szkole Inżynierskiej w Szczecinie.

Профессор доктор Людвиг Хробак, бывший профессор Университета им. Яна Казимежа во Львове, после войны — Университета и Политехнического института во Вроцлаве, а с 1951 г., Варшавского университета, скончался 7 июля 1982 г.

Профессор Людвиг Хробак был незаурядным человеком, большого ума, высокого класса специалистом-кристаллографом, достойным учеником Стефана Крейца. Одновременно был он высоко одаренным конструктором рентгеновской аппаратуры. Однако, прежде всего был дидактиком, обладающим незаурядным даром пленить слушателей читаемым предметом. У него большие заслуги в области организации науки и обучения кристаллографии. До войны, еще перед выездом в Львов, читал лекции в Кракове в Горной академии и в Ягеллонском университете, а также в Познаньском университете. После войны организовал обучение кристаллографии не только во Вроцлаве и в Варшаве, но также и в Высшей школе инженеров в Щецине.