

Memorial of Jean Wyart 1902–1992

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Jean Wyart, a long-time Honorary Fellow of the Mineralogical Society of America, was born at Avion, French Flanders, on October 16, 1902, and died in Paris on March 13, 1992.

Jean Wyart often spoke with emotion and respect about his youth and about his father, a mechanic with the Chemins de Fer du Nord (Northern French Railways). He would evoke in a humorous and lively manner those years of strenuous and difficult work, which were set against the background of the first world war.

In 1923 he was admitted to the Ecole Normale Supérieure, one of France's foremost institutions for higher education. His accelerated studies led him to the seminal work on crystal structures, all of which was then of recent date: Von Laue's work on X-ray diffraction by crystal lattices was published in 1912; in early 1913 the Braggs made the first structure analyses of sphalerite and alkaline chlorides; and in 1924 Weissenberg revolutionized the methodology for determining structures.

Wyart met Frederic Wallerant, who held the chair of mineralogy at the Sorbonne, and Charles Mauguin, one of the first "X-ray" crystallographers, who published "La Structure des Cristaux" in 1924. This interest in a new scientific field and the respect and friendship he felt for his teachers formed the decisive elements in Jean Wyart's career and thus in his life.

In 1933 he submitted his doctoral thesis on the structure of zeolites, its possible role in the strange mobility of H₂O, and cations in these silicates. For chabazite, (Ca,Na₂)(Al₂Si₄O₁₂)·6H₂O, he showed the existence of large structural channels facilitating the circulation of Na and Ca cations and zeolitic H₂O, demonstrating that neither cations nor H₂O influences the structure of the aluminosilicate skeleton. All this was pure research, and he would have been greatly surprised at the time to learn of the future industrial development of these famous zeolites. The same year, he became the youngest lecturer at the Sorbonne. His lectures were popular, simple, didactic, brilliant, and warm-hearted. I should point out here that, thanks to these well-known lectures, he even taught his chemistry colleagues to appreciate crystallography.

Wyart was a great crystallographer. In 1947 he was appointed coeditor of *Acta Crystallographica*, and ten years later he became President of the International Union of Crystallography. With his numerous friends, such as Bernal, Ewald, Buerger, Laves, Harker, Wyckoff, Donnay,



and Belov, who like him never lost sight of the human dimension, he contributed much to the worldwide cooperation between scientists.

After 1936 he became involved in the great CNRS adventure, and several years later the second world war would drive him into the Resistance with Joliot-Curie. He still worked on structures, but this period also marked the beginning of one of his great discoveries: the conditions under which minerals and rocks are formed. His work highlighted the role of H₂O in the genesis of eruptive rocks, flying in the face of the small, but pugnacious and eloquent, solidist school of René Perrin. That was the time of the autoclaves, steel tubes that now are seen as relics but that for the first time enabled the transformation of obsidian into granite. His research with the

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team of Germain Sabatier fundamentally changed the course of experimental petrology and today still forms the basis of the work by the Center for Research into the Synthesis and Chemistry of Minerals that he helped found at Orléans.

I joined Wyart's team in 1952. One of the things for which I will remain grateful is that I could interest him in a new subject, that of mineralogical collections, as he was one of those rare crystallographers who loves nature and minerals. He helped me to breathe new life into the mineralogical collection of the Sorbonne, thanks to the bequest from our late friend Colonel Vesignié that formed the basis for the prestigious collection now found at Jus-sieu. It was also thanks to Jean Wyart that, in 1957, we were able to launch the electronic microprobe of our friends Guinier and Castaing in the conquest of the Earth sciences.

In January, 1953, we celebrated Professor Wyart's election to the French Academy of Sciences, an honor that was also bestowed on him by many other learned institutions that received him in their midst and that loaded him with distinctions.

However, in addition to what was his life, i.e. his lectures, the research by him and his students, his constant quest for new subjects of research, his support for and frank discussions with his collaborators and who were therefore his friends, he took a very close interest in his dear Société de Minéralogie et de Cristallographie. He monitored its growth and knew most of its members, and his remarks during our council meetings were as pertinent as they were human.

What more can we say of Jean Wyart, except that he has served his country and science well and that he liked those around him, a feeling that was reciprocal. We, the old guard of Parisian crystallographers, mineralogists, and chemists, consider ourselves a part of his family.

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