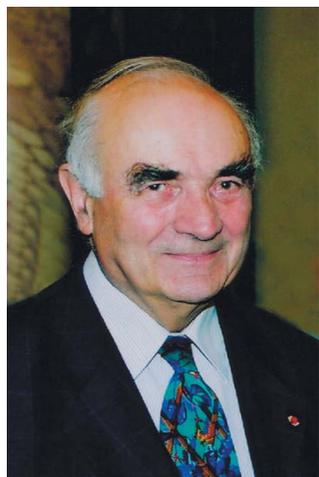


Hubert Curien (1924–2005)

Hubert Curien died suddenly in his country house at Loury, France, on 6 February 2005, from heart failure. He was born on 30 October 1924, in Cornimont, in the eastern region of the Vosges, the son of civil servants. He did brilliantly at school and, in 1944, at the time of the liberation of France, he joined the Resistance. He was engaged in serious fighting and was awarded the 'Médaille Militaire' for bravery in action. He afterwards resumed his schooling and entered the Ecole Normale Supérieure. In 1948, encouraged by one of his professors, physicist Yves Rocard, he joined the Laboratoire de Minéralogie–Cristallographie of the Paris Faculté des Sciences, later Université P. et M. Curie, where Jean Wyart had just succeeded to Charles Mauguin as Director. In 1951, he passed his PhD, prepared under the supervision of Jean Laval on the thermal diffuse scattering of X-rays by c.c. α -iron. From the careful measurements performed using an ionization chamber and a quadrant electrometer, he deduced the phonon spectrum, which required quite difficult calculations. These instruments are very sensitive and, having used them after him and under his guidance, I know how delicate and capricious they can be. I had the honour and the privilege of being his first student when he was appointed lecturer and I remember with emotion the warmth of his welcome when I arrived at the laboratory, in the old and



somewhat dusty Sorbonne building, on an early morning of September 1953; his friendship never failed me since. In 1954, he played a major role in the organization of the Third International Congress of the then still young International Union of Crystallography.

He supervised many PhD students and his interests ranged widely from solid-state physics to mineralogy, including Compton scattering, ionic conductivity and dispersion of crystals such as lithium fluoride and the effect of irradiation *etc.*; there was even a new mineral dedicated to him, curienite, a uranyl and lead vanadate discovered in 1968 in the uranium deposits of Gabon. Two examples of his scientific work can be singled out. The first one is the study of twins and twinning, to which he made important contributions. For example, he discussed twin axes of order higher than 2, which are usually non-exact, as in aragonite, and are actually non-proper twin operations. With Yves LeCorre and José Donnay, he introduced the description of twinning using black and white colour groups. With Raymond Kern he revisited the notions of contact and penetration twins and of composition plane. He also coined, with J. Donnay, the term *complete twin* to describe a crystal containing several twin laws. The other example is that of the discovery and crystallographic description of new phases, β , δ , γ , of gallium, in cooperation with L. Bosio and A. Defrain of the research group on Physics of Liquids, who prepared the phases, and A. Rimsky of his laboratory. He was also very interested in theoretical crystallography and published a very important contribution to the group theoretical study of crystallographic groups.

Hubert Curien was a very keen and luminous teacher and, even after he became heavily involved in the management of science, he insisted on keeping on lecturing, right up to his retirement. He needed this constant contact with young people. He had a vast culture, a sharp and quick mind and a sound and acute physical sense. His enthralling teaching stirred up many a vocation, beginning with my own.

His capacities and his international renown led him to hold several IUCr appointments, as a member of the IUCr

Commissions on Crystallographic Teaching (1960–1969) and on International Tables (1965–1972), and as a member of the Executive Committee (1963–1969). In 1965, he became President of the French Crystallographic Association and of the French Mineralogical and Crystallographic Society.

Owing to his extended knowledge of the scientific community, his natural diplomatic gifts and his ability to judge men, he was called in 1966 to be the first Scientific Director for Physics and Mathematics at CNRS, the French Centre for Scientific Research. He succeeded so well in this position that it was to be the start of a prestigious career in science management. In 1969, he was appointed Director General of CNRS. Twice he was minister of Research (1984–1986, 1988–1993) and in that capacity he gave a strong impulse to the development of scientific research in France. He is also well known for his action in favour of spatial research, as President of the French Spatial Agency (CNES), from 1976 to 1984, and as the first President of the European Space Agency (1981–1984); he is remembered as one of the 'fathers' of the Ariane series of space rockets. From 1994 to 1996, he presided over the European Centre for Nuclear Research, CERN. He also played a major role in the definition of a common policy for the development of science in Europe, as one of the promoters of the *EUREKA* programme for technological research and development and as the first president of the European Science Foundation (1979–1984). In 1993, he was elected to the French Academy of Sciences, of which he was the president from 2001 to 2003.

Hubert Curien was a great scientist and a man of conviction. He had a strong but prepossessing personality; he was highly intelligent, but was always simple and modest. He knew how to listen and his negotiating skills worked wonders. Everyone who approached him fell under the charm of his gracious manners and was impressed by the depth of his penetrating and at the same time mischievous gaze. He was universally appreciated and liked; he will be missed by all.

André Authier

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