

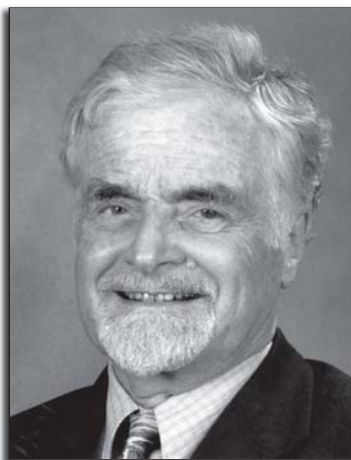
Robert Wolfgang Cahn (1924–2007)—In Memoriam

Robert Wolfgang Cahn, a distinguished and pioneering materials scientist, professor, and science writer *par excellence*, died on April 9, 2007, in Cambridge, England, after a valiant fight against bone marrow anemia. He was eighty-two. Even a week before his death, he was active, correcting proofs and conversing with friends spread all over the world.

Cahn began his research career as a graduate student in wartime Cambridge trying to understand the recovery of deformed metals on annealing. With some diligent experimental work, he was able to show dislocations aligning to form boundaries as a part of recovery that could later provide the nuclei for recrystallization. He named the phenomenon *polygonization*, a term that has since entered dictionaries. This was also the first experimental evidence confirming the existence and role of dislocations in deformation and recovery. Cahn followed this work with a detailed study of twins in orthorhombic uranium, identifying the manifold twinning modes that were then unknown. With amazing foresight, he chose his research areas well before they became beaten tracks: his work on mechanical properties of ordered alloys preceded scientific and industrial interests in intermetallics; his studies on glassy materials kindled research interests in amorphous and rapidly cooled materials.

Along with his research contributions, Cahn edited a treatise in physical metallurgy that has seen four editions, three encyclopedias, and four journals. The journals were dedicated to the study of materials that were then becoming important (such as nuclear materials and intermetallics) and thus enabled a quicker dissemination of research results.

But his genius was in communicating and sharing the excitement he found in science, and especially in materials, to a wider audience. Cahn wrote with an elegance that was almost poetic and plain class, rarely seen among scientists. He wrote the story of the emergence of materials science as a discipline (*The Coming of Materials Science*) and transformed that tale into literature. For many years, he wrote short essays on science and engineering in *Nature*, and that collection later became a collector's volume. In one of the essays, while summarizing a conference proceeding on hydrogen as an



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energy resource, he enthused about the wind of hydrogen blowing clean and gentle. And he invoked St. Matthew's famous biblical dictum to explain Ostwald ripening in the growth of large particles in solid solutions: "For whomsoever hath to him shall be given and he will have abundance..." (Matthew 13:12).

Cahn was for integrating the study of different classes of materials under a single discipline, materials science, and became its enthusiastic proponent. He became a professor of materials science and engineering, perhaps the first one to become so in Britain, at the University College of North Wales, Bangor, and later built an outstanding department for that discipline at a new university in Sussex. His last academic appointment as a professor was at the University of Paris-Sud, and after two years, he returned to his alma mater in Cambridge and remained there as a Distinguished Research Fellow until his death.



He was an enthusiastic and active member of the Materials Research Society and worked with the Society in various capacities, including a stint as a visiting scientist at MRS Headquarters. He worked with the editorial group of *MRS Bulletin* in introducing new sections and improving its presentations. He also served on the MRS Board of Directors from 2003–2004.

Cahn was a recipient of many honors, including fellowship in the Royal Society and the Indian National Science Academy. He was the recipient of the *Acta Metallurgica* Gold Medal and the David Turnbull Lectureship of the Materials Research Society.

Cahn was born in Germany in 1924 and spent his early years moving with his family from one country to another, escaping from the Nazi forces that were then growing in Germany. He came to Britain when he was twelve and became an enthusiastic Englishman, embracing the freedom and culture that country provided. His early childhood experience, instead of making him a xenophobe, molded him into a global citizen, always optimistic and always helpful. He encouraged and often supported research workers from developing nations and helped to recognize and publicize their contributions. He was a generous man, sharing his time and ideas with a number of researchers at many laboratories of the world where he was always welcomed as a friend. His love for travel made these stand out.

He inherited from his father a passionate love for music and was an accomplished cello player in a local orchestral group. He was also a competent mountain climber and trekked in the Alps, the Himalayas, and the Andes. But his favorite continued to be his childhood love, the hills of the Lake District in England.

He leaves behind his wife of sixty years, Patricia Cahn, a lecturer of English literature, as well as four children and twelve grandchildren.

Sir Alan Cottrell, in his eulogy of Cahn, said that the world has lost a brilliant and highly civilized person.

And the materials community has lost an outstanding researcher and an accomplished expositor of science.

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