Rotblat dedicated the rest of his life to the Pugwash Conferences on Science and World Affairs; he served as the Pugwash Secretary General for the first 14 years (1958–72), and always remained the group's main spirit. His extraordinary commitment to nuclear disarmament and peace, his great organizational skill, and his exceptional human qualities have undoubtedly been the main engine of the successes of Pugwash. The movement's behind-the-scenes activity is widely credited with facilitating the major arms-control achievements of the cold war era and with the improvement of international relations and the opening up of the Soviet intelligentsia that led to the cold war's end. Indeed, in 1995 the Nobel Committee of the Norwegian Parliament decided for the first time in its history to assign the Nobel Peace Prize equally to an organization and to an individual—the Pugwash Conferences and Rotblat. Eighty-seven years old and still very active, Rotblat was serving as the president of Pugwash at the time. The short citation of the prize reads, "For their efforts to diminish the part played by nuclear arms in international politics and, in the longer run, to eliminate such arms."

The death of Jo (as he was called by his friends) is a terrible loss, and too little time has passed for that wound to be healed. Yet if we contemplate his long and fruitful life with all its achievements, we must not be sad. We—and we can presume to speak here in the name of so many other friends and admirers of Jo—rather recommit ourselves to work toward the two goals that he identified as the main tasks of his mature life: the first, which he liked to characterize as a short-term goal, the total prohibition and elimination of nuclear weaponry; and the second, on a longer time scale, the abolition of war as an accepted social institution for the resolution of conflicts.

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## Morris Cohen

Morris Cohen, Institute Professor Emeritus at MIT, died on 27 May 2005 at his home in Swampscott, Massachusetts.

Born in Chelsea, Massachusetts, on 27 November 1911, Morris began his lifelong association with MIT by enrolling as a freshman in the fall of 1929. He earned his BS in 1933 and his DSc in 1936, both in metallurgy; his doctoral thesis, under the noted metal physicist John Norton, was titled "Aging Phenomena in Silver–Copper Alloys." After receiving his doctorate, he was appointed an instructor in MIT's metallurgy department. He rose quickly through the academic ranks and became a full professor in 1946, was named Ford Professor of Metallurgy in 1962, and was recognized across MIT by promotion to Institute Professor in 1975.

Morris Cohen

Morris's early work, on improving the strength and toughness of metals, quickly became connected to the war effort. During World War II, he served as associate director of the Manhattan Project at MIT. The efforts there were focused on developing processes to convert uranium powder into solid pieces of uranium metal. Those castings were used for the famous "pile" built by Enrico Fermi in Chicago. During the war, Morris also helped develop nonmagnetic steel that could be used as armor plate on the bridges of ships and in locations near compasses in other military transport craft.

After the war, Morris and his students worked on understanding how heat treatment hardens and toughens tool and structural steels. His work focused on investigating the fundamentals of the martensitic transformation in steel and how that phase transformation improves steel's mechanical properties. His studies of self-diffusion and interdiffusion led him to investigate microstructural changes that occur during tempering of iron alloys. That body of work, continuing from the 1950s to the 1980s, enhanced the basic knowledge of how to make steel strong and made practical the ultrahigh-strength steels used today. Morris's many contributions to the mechanisms and kinetics of the martensitic transformation, tempering phenomena, strengthening mechanisms, age hardening of alloys, strain-induced transformations, and rapid solidification of alloys were also important milestones in the emerging field of materials science.

Morris served as president of the American Society for Metals and twice won the ASM's Howe Medal (1945 and 1949). In addition to his leadership in metals research, he was a principal figure in the new field of materials science and engineering and cochaired the National Academy of Sciences' Committee on the Survey of Materials Science and Engineering, which produced the 1974 study *Materials and Man's Needs: Materials Science and Engineering*. That report, better known as the Cohen report, has greatly influenced national policy on materials education and research. In 1987, Morris won the Kyoto Prize in Advanced Technology.

When notified by his secretary that someone from the National Academy of Sciences had called in 1968 about his election to membership, he responded that there must be an error since he was an engineer and would be considered by the National Academy of Engineering. Upon checking, he learned it was indeed true that he had been elected to the NAS; Morris is one of the few metallurgists so honored. His election to the NAE followed a year later. His extensive service to the nation included advisory roles to the NAS, NSF, NASA, and the NAE. Morris published more than 300 research papers and supervised more than 150 graduate and postdoctoral students.

In recognition of his fundamental work on the martensitic transformation and the strengthening of steel, Morris was awarded the National Medal of Science by President Jimmy Carter in 1977. Morris liked to tell the story that after the reading of the citation, Carter said, "We need more of that," which Morris interpreted as a presidential endorsement of martensitic transformations. Most in the field would acknowledge that no individual in history contributed more than Morris to the understanding of the martensitic mechanism and kinetics.

Morris's scientific vision and dedication to the field of materials science and engineering, along with his warm and gracious nature, will be deeply missed.

**Edwin L. Thomas**
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