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Alan Manne, professor emeritus of operations research, dies

Scholar worked on the development of large-scale optimization and equilibrium models to understand critical world issues

BY ANNE STREHLOW

Alan S. Manne, professor emeritus of operations research known for devising economic models pertaining to major world concerns, died Sept. 27 at Stanford Hospital of complications from injuries sustained after falling from his horse. A cardiac arrest is the suspected cause of the fall. He was 80.

"Alan Manne was a gifted and often ingenious modeler of important problems of decision making arising in the private and public sectors," said Arthur "Pete" Veinott Jr., professor of management science and engineering. "In the 1950s, he pioneered the development of models for optimizing oil refinery operations which remain in use to this day. Since the early 1960s, Alan focused on the development of large-scale optimization and equilibrium models to help understand critical issues for the world, especially those relating to energy, agriculture, environment and the economy."

John Weyant, professor of management science and engineering, said, "Alan was a truly unique combination of consummate professional, Renaissance man, and loving husband and father."



Alan S. Manne

Born in New York City on May 1, 1925, Manne was an only child. He received his bachelor's degree in economics from Harvard College at 18 years of age. Following graduation, he served out the last days of World War II in the Navy before heading back to Harvard, where he earned a doctorate in economics in 1950. He stayed on there as an instructor before accepting a position at the Rand Corporation as an economic analyst from 1952 to 1956.

Manne spent the next five years at Yale as an associate professor of economics. But he was not destined to remain on the East Coast.

Manne served as a professor between 1961 and 1967 at Stanford's Graduate School of Business. In 1967, he became a faculty member of the Department of Economics and a founding member of the Department of Operations Research; he remained on campus until 1974. During a brief hiatus from the Farm, Manne traveled to Vienna, Austria, as an economist for the International Institute for Applied Systems Analysis before returning to Harvard as a professor of political economy from 1974 to 1976. Later that year, he reclaimed his Stanford post within the Department of Operations Research, and held it until 1992, when he retired from teaching. Remaining active within the department as a professor emeritus, Manne continued to publish through 2004.

Over the past four decades, Manne and his collaborators applied their economic models internationally, aiding India in developing its fertilizer industry by optimizing and coordinating plant capacity and designing industrial resource planning models for Mexico and Turkey. He explored economic consequences surrounding alternative fuels and energy conservation. More recently, shifting his focus to global climate-change potential and policies, Manne designed a computer model published in *Nature* to assess the short- and long-term economic effects of different greenhouse gases.

"Alan showed we could achieve environmental goals while minimizing the impact on economic growth," said Richard Richels, a former student of Manne's and co-author of the 2001 *Nature* paper.

During his career, Manne was a prolific and widely referenced scholar, supervising 34 doctoral students and authoring 128 papers and seven books, most recently *Buying Greenhouse Insurance: The Economic Costs of CO2 Emission Limits*, with Richels.

"Generations of development economists were either Alan's graduate students and collaborators or were enormously influenced by his work," said T. N. Srinivasan, a professor of economics at Yale University.

Manne's influence was recognized by nearly a dozen honors, including being named a fellow of the Econometric Society (1963), recipient of the Lanchester Prize of the Operations Research Society of America (1974), fellow of the American Academy of Arts and Sciences (1986), member of the National Academy of Engineering (1990), and recipient of the Larnder Memorial Prize of the Canadian Operational Research Society (1995) and the Paul Frankel Award of the U.S. Association of Energy

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Economics (1998).

His colleagues recalled not only his sharp mind but also his meticulous style, creativity, cleverness and youthful excitement.

"He was an extraordinary friend," recalled Kenneth Arrow, professor emeritus of operations research, who met Manne during their shared days at the Rand Corporation.

"Alan left his footprint on a remarkable range of problems arising in the conduct of human affairs," said Veinott. "Along the way, his good nature, wry wit and friendship left generations of colleagues, students and friends mourning his passing but also rejoicing in the time he spent with us."

Manne had a passion for his family, classical music, reading history and horseback riding.

"He died doing what he loved," said his daughter, Elizabeth Manne. "He lived a really happy life. He acknowledged that."

Survivors include his wife, Jacqueline, of Stanford; sons Edward and Henry, both of Israel; daughter, Elizabeth, of New York City; 11 grandchildren; and one great-grandchild.

In lieu of flowers, the family requests donations in his memory to either the Christopher Reeve Paralysis Foundation, 500 Morris Ave., Springfield, NJ 07081, 1-800-225-0292, or Doctors Without Borders USA, P.O. Box 1856, Merrifield, VA 22116-8056, 1-888-392-0392. A memorial service is pending for Oct. 30. Details will be published in *Stanford Report* (<http://news-service.stanford.edu>) as soon as they are available.

Anne Strehlow is a science-writing intern at the Stanford News Service.