IN MEMORIAM

Charles Bartlett McGuire
Professor of Public Policy, Emeritus
Berkeley
1925– 2006

On January 23, 2006, C. Bartlett ("Bart") McGuire passed away after a struggle against cancer. To those who had the privilege of working with him as their colleague, professor or mentor, he was universally acknowledged for his inspiration, creativity, dedication and genius. Throughout his career as an economic theorist and mathematician, he pursued his interests in the practical application of these tools to problems of energy, the environment, transportation and national defense. He had an unusual talent for posing original questions about these issues, so that they could be viewed in new, fruitful ways.

Bart was born January 26, 1925, a native of Minneapolis, Minnesota. During World War II, he served as an electronics technician in the U.S. Navy, with part of his tour in Japan. He then studied economics and political science at the University of Minnesota, earning his bachelor's degree in 1949. He continued with graduate work at the University of Chicago, earning his master's degree in economics in 1952.

During much of the 1950s, Bart worked for the RAND Corporation as part of a pioneering group of defense policy analysts. They brought the systematic use of economic and operations research methods to bear on defense policy decision- making. In these years Bart was also affiliated with the Cowles Foundation for Research in Economics, first at the University of Chicago and then at Yale University. Bart, in collaboration with mathematical economist Roy Radner, studied models of air- base networks in which the disappearance of a communication link could either have an innocent explanation or could be the result of an enemy attack. The aim was to reduce the risk of accidental nuclear war. He also coauthored a 1956 book with Martin Beckmann and the late Christopher Winsten, Studies in the Economics of Transportation. The latter work was recently honored, at the 2005 annual meetings of the Institute for Operations Research and Management Sciences. The book addressed, for the first time, some of the difficult transportation problems that a designer of efficient transportation systems faces. Its pioneering models of congestion and delay have had a major impact on subsequent generations of workers in this field. Bart contributed, in particular, chapters on rail transport, including the efficient sorting of freight cars with differing destinations. He returned to the sorting problem many years later.

Information and its communication were key themes in the problems that Bart worked upon. He also had exacting personal standards that caused him to continually refine his work rather than publish a less perfect version. He once had a paper on peak- load pricing accepted at the Quarterly Journal of Economics, but he withdrew it because of a small defect he had discovered. His standards and his integrity resulted in a publication record of extraordinary quality at the cost of quantity. He leaves behind a number of unpublished working and discussion papers that did not meet his own strict standards for journal publication, but that others might value highly. In 1959, he wrote a visionary paper that applied algebraic "lattice theory" to the economics of information, a process methodology now fashionable in economics. In 1961, he published a seminal paper in Management Science entitled "Some Team Models of a Sales Organization." The paper was concerned fundamentally with economic implications of communication policies within and across firm

divisions, and its illustrative application to bakery delivery was due to Bart's knowledge of his father's bakery business.

In 1961, Bart joined the faculty of the School of Business Administration at the University of California, Berkeley. He conducted research at the Center for Research in Management Sciences, serving as lead author on the paper "Rational Investment Behavior in the Face of Floods." In 1968 he received the Guggenheim Fellowship and studied at the London School of Economics and Political Science for a year. He continued his fruitful collaboration with Roy Radner, who had also joined the Berkeley faculty. In 1972, they coedited the important book Decision and Organization, which in 1986 was also published as a paperback. The book contained a revised version of Bart's lattice theory paper.

In 1971, Bart became one of the founding members of UC Berkeley's Goldman School of Public Policy. In the new school, Bart devoted great energy and enthusiasm to the design and teaching of the quantitative curriculum. He continually inspired students to apply mathematical models in their analyses of public sector decision problems. This carried over to his supervision of the Advanced Policy Analyses that are the school's equivalent of master's theses. From 1971 until his retirement from campus in 1992, Bart supervised over 160 Advanced Policy Analyses, with an encouraging smile and an enthused twinkle in his eye for each of these graduate students.

In 1975, Bart went on leave to spend a year as a visiting analyst at the U.S. Department of Interior in Washington, D.C. While there, he designed a new system for the leasing of federal lands for coal exploration known as intertract bidding. This was an ingenious application of the economics of information theory to reduce the monopoly power from private information held by the potential lessees by forcing its revelation through a competitive process. Several years later in 1981, he wrote a paper analyzing the potential of marketable permits to protect the ozone layer of the stratosphere — a striking forerunner of the marketable permit policy adopted by many of the world's nations as part of the 1997 Kyoto Protocol for the reduction of greenhouse gas emissions.

Bart was an excellent citizen of the University, serving on numerous committees of the Academic Senate (one of his favorites was the Committee on the Library) and of his affiliated units. Bart's interests in energy and the environment led him to become involved in other campus units in addition to business and public policy. From 1978-1983, he served as chair of the Energy and Resources Group on campus. He participated actively in the systemwide University of California Energy Institute, serving postretirement as its acting director in 1993-94 and authoring several reports on decentralized electricity grids. His concern about pricing to avoid inefficient bottlenecks in electricity networks was related to his earlier work on congestion pricing in transportation networks. He was also interested in auction theory, and wrote a paper about conducting auctions for multidimensional commodities like electric power plants. During his last years, he returned to the sorting problems that have long intrigued him, ever since his chapters on rail transportation in the Beckmann, McGuire and Winsten book.

He is survived by his wife Sally O'Connell, son Patrick, stepchildren Jonathan Tipple, Clare Tipple Golec and Nicole Tipple, and brother Mike. His first wife Catherine McGuire died in 1985. When he was not working, he enjoyed being with friends and family, and especially enjoyed spending time with them at his rustic cabin in a remote area of the Sierra. He enjoyed music, art, and poetry, composed haiku, and wrote computer programs to generate exquisite, unusual fractal images.

Bart was a sterling citizen, generous with his time to both faculty and students. He upheld the highest academic ideals throughout his life. He is sorely missed by those who have depended so long on his wise counsel, advice and keen insight.

Lee S. Friedman
Frederick E. Balderston
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