MEMORIAL RESOLUTION

AMOS TVERSKY

(1937-1996)

Amos Tversky, Davis Brack Professor of Behavioral Sciences and one of the world's most respected and influential psychologists, died June 2, 1996 of metastatic melanoma, at the age of 59. Amos' contributions to the social sciences, and to Stanford, were monumental and will continue to make their influence felt for years to come.

His most important papers, many of which were written with his longtime friend and collaborator, Daniel Kahneman, were unique in their depth and in the breadth of their impact. Through a combination of carefully wrought experiments, elegant formalizations, and an uncanny ability to draw upon everyday experience, they offered compelling accounts of processes and shortcomings that characterize human judgment and decision making. Amos' work already has exerted a major impact not only on virtually every subdiscipline of psychology, but also in statistics, law, medicine, business, and other fields in which decision makers must weigh costs and benefits in the face of uncertainty. The decision of litigants pondering whether to settle or go to court, engineers weighing safety measures, and young couples considering whether to invest in a trip to Paris or the down payment on a car can be understood (and often could have been made wiser) through his theorizing and research.

It is the science of economics, however, in which Tversky's and Kahneman's ultimate influence is likely to be most lasting and profound. Most economic analysis presupposes the rationality of actors' decisions and of the judgments and predictions upon which those decisions are based. Tversky and Kahneman challenged such presumptions. They demonstrated that very small risks are given disproportionate weight, that prospective losses and gains are not treated symmetrically, that the presence or absence of non-selected alternatives can reverse preference orderings, and that the manner in which options are semantically or mathematically "framed" can exert undue influence on decision makers. These violations of normative standards, in turn, are apt to distort private decisions and public policy alike.

Although his best known work was contained in his papers on the heuristics of judgment and on sources of suboptimal decision making, Amos also made major contributions to many other areas of psychology, from the foundations of measurement

to the nature of similarity assessment and the misperception of randomness or chance. As always, counterintuitive experimental results were his hallmark. In one notable paper, he illustrated that people judge similarity asymmetrically; for example, they regard Tel Aviv to be more like New York than vice versa (a powerful demonstration of the inadequacies of Euclidean metric models of stimulus presentation). In another instantly famous paper he confounded basketball experts by showing that the so-called "hot-hand" was an illusion, that successive "hits" and "misses" by NBA players did not cluster together more than expected by the dictates of chance. In yet another memorable study with Kahneman, he showed that Stanford undergraduates, guided by their reliance upon assessments of similarity or "representativeness" judged the likelihood that an outspoken young liberal named "Linda" (described to them in a brief paragraph) was a "<u>feminist</u> bank teller" to be greater than the likelihood simply that she was a bank teller, thereby violating a basic tenet of formal logic. Focusing again and again on the gap between actual human intellectual performance and the normative standards that should seemingly govern such performance, Amos produced at least a dozen papers that, even by his own stringent standards, can justifiably be termed classics.

Amos' contributions to the Stanford community were similarly memorable. A member of the faculty senate from 1991 on, and a key advisory board member, his counsel was sought and valued by administrators, colleagues, and students alike. Amos' intellectual courage, especially his willingness to challenge slipshod reasoning or politically fashionable cant were legendary. But his integrity, fairness, openness to the ideas of others, and unfailing good humor were equally notable. The combination of respect and affection that Amos enjoyed so universally was captured by President Gerhard Casper who characterized him as coming "as close to the ideal of a university faculty member as any colleague I have known in my almost four decades in higher education."

Amos Tversky was born in Haifa, Israel, on March 16, 1937 to parents who emigrated from Poland to Russia. His father, Yosef, put his medical training to use as a veterinarian and his mother Genia, served in the Knesset from its establishment in 1948 until her death in 1964. As a young man, Amos became an officer in an elite paratrooper unit, eventually fought in three wars, and rose to the rank of captain. An authentic war hero, Amos' greatest fame came for rescuing a non-commissioned officer during maneuvers. As Danny Kahneman described the 1956 incident, the soldier "froze" after placing a charge to blow a hole in a barbed wire fence, literally lying on

top of the explosive. Amos, then a 19 year old lieutenant, but destined to become a world authority on risk assessment and decision making, knew the explosion would occur within a few seconds. Nevertheless, he ran to the soldier, picked him up and threw him to safety, only to be wounded himself. For this display of valor, he earned Israel's highest military decoration.

Amos earned a bachelor's degree from Hebrew University in 1961 and his doctorate in 1965 from the University of Michigan. While there, he met and married Barbara Gans, a fellow graduate student in cognitive psychology, who is now a professor in the Stanford Psychology Department. After holding teaching positions at Michigan and Harvard, Amos returned to Hebrew University, where he began his long collaboration with Danny Kahneman. He remained at Hebrew University until joining the Stanford Faculty in 1978. In his 17 years at Stanford, he showed himself to be a brilliant lecturer, mentored a series of superb graduate students and post-doctoral fellows, and set an enviable but unreachable intellectual standard for his colleagues. He also contributed to a number of interdisciplinary programs, and was a cofounder of the Stanford Center of Conflict and Negotiation.

Amos' accomplishments were recognized with all the honors that academia can bestow. A fellow at the Center for Advanced Study in 1970, he was elected to the American Academy of Arts and Sciences in 1980, and the National Academy of Science in 1985. He also won (with Kahneman) the American Psychological Association's award for distinguished scientific contribution in 1982, and MacArthur and Guggenheim Fellowships in 1984, and was awarded honorary doctorates by the University of Chicago, Yale University, The University of Goteborg in Sweden and the State University of New York at Buffalo.

Throughout his career, Amos' intellectual and emotional connections to Israel remained strong. He was affiliated with Tel Aviv University and maintained close ties with Hebrew University as well, returning each year to deliver lectures and continue his collaboration with numerous colleagues and students. Fittingly, well-attended memorial symposia were held in 1997, both at Stanford and in Israel. At each, students and colleagues from psychology and a range of other disciplines lauded Amos' intellectual contributions; but they also spoke with great affection, and profound sense of loss, about his warmth, his humanity, and his joie de vivre. As more than one of his collaborators noted there simply was no one more fun to talk with, to, work with, or simply be with. He truly radiated a "special light."

In the last months of Amos' life he continued, with characteristic courage and remarkable good cheer, to live the life he valued most. He completed papers and a final edited volume with Danny Kahneman, fulfilled his responsibilities to the advisory board with undiminished commitment, watched NBA basketball, read about physics and physicists (a lifelong avocation), and enjoyed poetry, prose, and music in Hebrew, the language he so loved. He also spent increasingly amounts of time with Barbara and his children, Oren, Tal, and Dona, telling wonderful stories, and distilling the wisdom of his remarkable lifetime of experience. As his strength diminished, and the impact of his illness could no longer be concealed or ignored, he increasingly was obliged to give comfort not only to his family, but to shocked friends and colleagues as well. With characteristic wisdom, and grace, he helped us "frame" his 59 years not as a tragically shortened life, but as a wonderfully fulfilling and complete life—albeit one that happened to be too short. He reminded us, as he always did, of the privilege he felt in being associated with university life. Amos died at home peacefully, in the embrace of his family, his personal and intellectual legacy secure. His life defined what it meant to be a great psychologist and colleague. It also defined what it means to be a mensch.

Kenneth Arrow, Chair
Gordon Bower, Psychology
Brad Efron, Statistics
Eleanor Maccoby, Psychology
Lee Ross, Psychology