IN MEMORIAM

John A. Swets (1928–2016)

John A. Swets was born on June 19, 1928, and died on July 6, 2016, in hospice care near his home in Juno Beach, Florida. He leaves his wife of 67 years, Maxine (Mickey), his sister Mary, son Stephen and his wife Diana and their children Michael and Caroline, and son Joel.

Swets spent his boyhood in Holland, Michigan. After obtaining his PhD in psychology at the University of Michigan (1954), he remained there as a junior faculty member for 2 years before joining the faculty at the Massachusetts Institute of Technology. In 1962, he accepted a position at Bolt Beranek and Newman Inc. (BBN, later BBN Technologies), where he spent the next 36 years of his professional life.

Initially hired as a supervisory scientist, Swets was almost immediately promoted to vice president and codirector, along with colleague Jerry Elkind, of the company's Information Sciences and Technology Division. Five years later, he was promoted to senior vice president, and shortly after that, to general manager of BBN. After 3 years, he decided that he preferred research to being a manager, so he resigned the position to become BBN's chief scientist, information sciences. He held this position for the next 24 years, retiring, emeritus, in 1998. While at BBN, he also held positions as senior research associate at Brigham and Women's Hospital and as health care policy lecturer at the Harvard Medical School.

Swets's scientific work included empirical experimentation, theory development, and practical applications. It attracted much attention, not only in psychology, but in other fields as well, especially medicine, education, and engineering. His work on the application of the theory of signal detection—which he began while still a graduate student—is very well known and has been influential in essentially every context in which people have to deal with noisy data. It is not too much to say that it revolutionized the study of sensation, perception, and decision making, by establishing the importance of decision processes in the interpretation of sensory experience. For many years, the classic *Signal Detection Theory and Psychophysics* (1966), coauthored with colleague David Green, was required reading by anyone doing, or anticipating doing, research on human sensation and perception. The theory has been successfully applied in numerous practical areas, including weather forecasting, materials testing, aptitude testing, information retrieval, and polygraph lie detection. Swets gave invited talks in a dozen or so foreign capitals helping to spread knowledge of the theory internationally.

Among his many other notable achievements, Swets (along with colleagues) has been credited with building the first computer-based laboratory for experiments in perception and learning. It was built around a Programmed Data Processor–1 computer, which was first produced in 1959. (I believe BBN had Serial Number 2.) If it was not the first, it was certainly among the first few, and it served as a prototype for many computer-based labs that were later developed around the Programmed Data Processor–8, which was introduced in 1965 and quickly became nearly ubiquitous in psychological laboratories.

Swets was prolific and published his work not only in several books and in mainstream psychological journals (notably in *Perception and Psychophysics*), but also in the *New England Journal of Medicine*, *Medical Decision Making*, *Radiology*, *Scientific American*, and *Science*. He was very active in the professional associations to which he belonged, serving on or chairing numerous committees, panels, and working groups. He served on the editorial boards of seven journals, including *Psychological Review*, *Psychological Science*, and *Human Factors*.

Swets was a fellow of the Acoustical Society of America, the American Association for the Advancement of Science, the American Psychological Association, the Association for Psychological Science, and the Society of Experimental Psychologists. He was elected to the National Academy of Sciences in 1990 and to the American Academy of Arts and Sciences in 1993. He was a recipient of the Distinguished Scientific Contribution Award from the American Psychological Association and the Howard Crosby Warren Medal from the Society of Experimental Psychologists.

A perfectionist in his work and writing, but with an unflappable demeanor, Swets made it all look so easy. He was quiet, reserved, always a gentleman. I had the utmost respect for him, as, I believe, did everyone who knew him well. More information regarding Swets's career can be found in *A Culture of Innovation: Insider Accounts of Computing and Life at BBN* (2011), available on the Internet, and in his engaging memoir, *Tulips to Thresholds* (2010).

Raymond S. Nickerson
Tufts University