Jacob Wolfowitz

March 19, 1910 — July 16, 1981

Jacob Wolfowitz was born in Warsaw, Poland, and came to the United States when he was ten. His father had immigrated earlier, but the outbreak of World War I left the rest of the family stranded in Poland. They survived under very difficult circumstances during the war years.

Wolfowitz's formal education began in the Brooklyn public schools in 1920. By 1931 he had obtained his Bachelor of Science degree from the College of the City of New York. The Great Depression, responsibilities to his family, and marriage in 1934 forced him to seek employment, partly teaching in a vocational high school and partly as a stock clerk. Nevertheless, he obtained his Master of Arts degree from Columbia University in 1933 and a Doctor of Philosophy degree from New York University in 1942, studying and writing his thesis "on the subway," as he said.

In 1938 Abraham Wald, a refugee from Vienna, came to Columbia to begin a distinguished academic career. He and Wolfowitz met and began a close collaboration that continued until Wald's death in 1950. They published two joint papers in 1939 and 1940, before Wolfowitz obtained his Ph.D., and Wald was also the de facto sponsor of Wolfowitz's thesis.

In 1942 the Statistical Research Group was formed by Harold Hotelling at Columbia University to do war-related research. Wolfowitz left high school teaching and joined Wald and others there until 1945. It was there that Wald discovered and developed sequential analysis, and in 1948 this led to the famous paper written jointly with Wolfowitz, "Optimal Character of the Sequential Probability Ratio Test."

Jacob Wolfowitz's first academic appointment was as associate professor at the University of North Carolina in 1945. He came to the newly formed Department of Mathematical Statistics at Columbia University at Wald's invitation in 1946. The death of Wald in an airplane accident in 1950 was a deeply personal and professional loss, loosening Wolfowitz's ties to Columbia University. At the invitation of Ithaca friends Wolfowitz spent the summer of 1951 at Sheldrake on Cayuga Lake. During the visit, there developed associations with members of the Cornell mathematics faculty that led to an offer of a professorship. Coming to Cornell in 1951, Wolfowitz brought with him, as an assistant professor in the Department of Mathematics, Jack C. Kiefer. They became close collaborators, and Kiefer later attained great distinction here and elsewhere before an untimely death in 1981. In the years that followed, Wolfowitz's presence at Cornell influenced Robert E. Bechhofer, Roger H. Farrell, and Lionel Weiss to come and stay at Cornell.

The Cornell period was marked by an astonishing variety and quantity of innovative work of the highest quality. There were papers (some joint papers with Kiefer) on inventory theory, minimum distance methods, stochastic approximation, theory of queues, estimation of distribution functions, optimal design in regression, and information theory. Here, in 1961, he wrote the first edition of his book *Coding Theorems on Information Theory.* Because of the importance of this subject, research continued, and the third edition appeared in 1978. Here also began the collaboration with Lionel Weiss on maximum likelihood and maximum probability that culminated in 1974 in their book *Maximum Probability Estimation and Related Topics.*

Although Wolfowitz was always somewhat restless, he had much deep personal satisfaction during his nineteen years here. He enjoyed long walks and the relaxed atmosphere. He loved the setting. It was here that his children, whom he loved, grew up, were educated, and graduated from the College of Arts and Sciences with distinguished records, which gave him deep satisfaction.

The 1960s were, however, difficult years in many ways. Wolfowitz was dismayed by what he felt was the betrayal of fundamental values and of academic norms by many students and faculty. At odds with many around him and concerned by the Cornell administration's unwillingness to assure him that he could continue beyond normal retirement at sixty-five, he sought opportunities elsewhere that he had previously rejected. In 1970 he resigned— but with his consent his resignation was changed to a retirement at Diedrich Willers's suggestion—and he took a position in the Department of Mathematics at the University of Illinois. He continued there until mandatory retirement at age sixty-eight. He then went to the University of Southern Florida, where he actively served until his last heart attack three years later.

Those who studied under Wolfowitz or heard him lecture remember him as a great teacher. He transmitted to his audiences his intuition for his subject and his feeling for the inner structure of results with clarity and homely humor, without pretension, yet with enthusiasm and a zest for ideas.

The same sense of curiosity and stewardship that drove Wolfowitz in mathematics was evident in his private life. There was a deep commitment to his family, the Jewish community, his adopted country, and decency everywhere. He read widely and was unusually knowledgeable about the affairs of the world. He was quietly generous with his resources and willing to use his influence in the cause of freedom and fairness.

His honors were many: the Rietz and Wald lecturer of the Institute of Mathematical Statistics, the Shannon lecturer of the Institute of Electrical and Electronic Engineering, as well as many invited special addresses and

international lecture tours, and a Guggenheim Fellowship in 1966-67. He was a fellow of both the Institute of Mathematical Statistics and of the Econometric Society and a member of the International Statistics Institute, a fellow of the American Academy of Arts and Sciences, and a member of the National Academy of Science, to name only some.

He leaves his wife, Lillian, of Tampa, Florida; his daughter, Mrs. Laura Sachs, of Israel (arts '62); and his son, Paul Wolfowitz, of Washington, D.C. (arts '65).

Isadore Blumen, Harry Kesten, Roger H. Farrell