

Samuel Stanley Wilks

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# Samuel Stanley Wilks

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The death of Professor Samuel S. Wilks is a great loss to his friends, who admired him for his ready interest in their problems and his helpfulness. It will be marked with deep regret by scholars and scientists who knew him primarily from his contributions to mathematical statistics with their many valuable applications in Psychology and other scientific fields. He died in his sleep early in the morning of March 8, at his home in Princeton, New Jersey.

As the organizer and director of the Section on Mathematical Statistics in the Princeton Department of Mathematics, he was responsible for the graduate training of a large number of Ph.D. s in mathematical statistics, who now hold major positions in various universities both in the United States, and in other countries. His books, *Statistical Inference* (1937), *Mathematical Statistics* (1943), *Elementary Statistical Analysis* (1948), and *Mathematical Statistics* (1962), are very clear presentations of an advanced and difficult subject matter to which he made many original contributions. As illustrative of his contributions, we have the concept of generalized variance, given by the determinant of the variance-covariance matrix; the proof that a function of the likelihood-ratio is asymptotically distributed as chi-square; and the development of Shewhart's initial work on tolerance limits.

Wilks and a few other statisticians organized the Institute of Mathematical Statistics in 1935, and negotiated the transfer of the *Annals of Mathematical Statistics* from private ownership to the Institute. From 1938 to 1949 he served as editor of the *Annals*, thus setting the long-term course for both the society and the journal.

Psychologists working in psychometrics and test development will find many useful analytical procedures developed by S. S. Wilks, who served for many years as a technical consultant to the College Entrance Examination Board, and to the Educational Testing Service. These contributions include procedures for weighting items in a test (or tests in a battery) when there is no dependent variable; the specification of a procedure for comparing regression lines (or planes) in several samples; procedures for stabilizing test norms over a period of years; and methods for determining whether tests may be regarded as "parallel tests" with respect to means,



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variances, and covariances. A practical problem in psychology or any other applied scientific field intrigued him. If solutions had already been developed, he would explain them carefully and clearly to the questioner. If solutions had not been developed, he might well become interested in the problem and work out a solution himself or assist others in deriving the appropriate formulas.

He was born in Little Elm, Texas, on June 17, 1906; he completed his college work at North Texas State College in 1926, and continued with graduate work, getting his M. A. at the University of Texas in 1928, and his Ph.D. in Mathematics from the University of Iowa in 1931.

In 1931, Gena Orr and he were married in Denton, Texas. For the next two years he was awarded N. R. C. fellowships to study at Columbia University, London, and Cambridge. He then came to Princeton University as instructor in mathematics in 1933, and has been with Princeton since then, being promoted to a professorship in 1944.

His son, Stanley Neal Wilks, who also graduated from North Texas State College, received a masters degree in statistics from Cambridge University, and is now engaged in statistical work for the federal government.

During World War II, Professor Wilks was a member of the Applied Mathematics Panel of the Office of Scientific Research and Development, and the Director of a Statistical Research Group at Princeton working on war problems. In 1948, he was awarded a Joint Army-Navy Certificate of Merit for his contributions toward antisubmarine warfare, and the solution of convoy problems for the National Defense Research Committee.

In 1948, he was Chairman of the Social Science Research Council Committee that was asked to investigate why the major public opinion polls had erroneously predicted the outcome of the 1948 presidential election. The report of this investigation served to stimulate further research on polling methods.

He was a member of the Board of Trustees of the Russell Sage Foundation, a past president of both the American Statistical Association and the Institute of Mathematical Statistics, a member of the Psychometric Society, the American Mathematical Society, and the American Philosophical Society; as well as a Fellow of the Society for Quality Control, of the Econometric Society, the Operations Research Society, the American Statistical Association, and the Royal Statistical Society; and, since 1954, a co-editor of the John Wiley series in Statistics.

His many friends extend their sympathy to his wife, son, and granddaughters. Sam Wilks will be remembered not only for his clear and accurate explanations of difficult mathematical and statistical concepts, and his ability to develop new methods in statistics, but also as an entertaining, enjoyable, and helpful companion.

*Princeton University* HAROLD GULLIKSEN

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