

Jerzy Neyman

1894–1981



Jerzy Neyman was born on 16th April 1894 in Bendery, Russia. His parents were Polish; father was Czeslaw Neyman, an architect who practiced law for a living and mother was Kazimiera Lutoslawska. His early education was provided at home by a governess. In 1912 he entered the University of Kharkov and studied under the famous probabilist S. N. Bernstein. He received a gold medal in 1916 for his report on Lebesgue integral. He got Masters degree in 1920 and then became a lecturer there. In 1919, on a trip to Crimea, he met a Russian girl Olga Solodovnikova whom he married in 1920.

In 1921, while exchange of prisoners of war was going on, Neyman moved to Poland. With the help of Sierpinski, he completed two papers on Lebesgue integral and also obtained a position as a statistician at the National Institute of Agriculture located in Bydgoszcz. He lectured at the central college of Agriculture in Warsaw, University of Warsaw and University of Cracow. He obtained his doctoral degree in 1924 from the University of Warsaw for his work on probabilistic problems in agricultural experimentation. The same year he took up a post-doctoral fellowship under Karl Pearson at the University College, London.

A Rockefeller fellowship during 1926–27 allowed him to visit Paris and attend lectures of Borel, Hadamard and Lebesgue.

During 1928–34 Neyman was busy in Poland with a wide variety of activities. He was head of Statistical Laboratory of Nencki Institute of Experimental Biology in Poland and worked on problems in chemical industry, health insurance and agricultural experiments. He was also working in mathematical statistics. He was the first to give theoretical foundations to sample surveys and design of experiments in 1934. Soon after, he moved to University College, London, first as a senior lecturer and then a reader. The collaboration he started with Egon Pearson in 1925 on the theory of statistical estimation and testing continued till 1938, supplying the logical foundation and mathematical rigour that were missing at that time. Confidence interval estimation originated with Neyman.

In 1937 he was invited to give a series of lectures on sampling by the department of agriculture of the U.S.A. During that trip he arrived at Berkeley in 1938 and spent the rest of his life there at the University of California. In his very first year there, the Statistical Laboratory was founded. Subsequently, he established a leading

Department of Statistics and institutionalized the famous Berkeley Symposium in Probability and Statistics. Jerzy Neyman passed away on 5th August 1981 in Oakland, California.

Neyman was one of the towering figures in the rise of 20th century mathematical statistics, contributing to the theory of statistical experimentation and sample surveys and more importantly, to the development of the formal theory of tests and confidence intervals. His research established new directions in statistical methodology and new climate in statistical research. The characteristic pattern of Neyman's research is to take a rather vague statistical question, make out of it a precisely stated mathematical problem and search for an optimal solution.

Throughout his Berkeley years, problems related to the war effort, to medicine, epidemiology, weather modification and to astronomy offered Neyman the chance to develop practical applications which inspired theoretical development. His scientific interests were much broader than narrowly construed mathematical statistics. His research was always driven by practical problems. Neyman-Pearson lemma, Neyman $C(\alpha)$ tests, Neyman allocation in stratified sampling are now part of the folk-lore.

Neyman cluster models, originally intended to model larvae population from clustered eggs, are now used in other fields. Neyman studied, in collaboration with Elizabeth Scott, the clustering of galaxies. His method of studying stochastic problems was to construct a stochastic model consistent with the knowledge available and check the consequences of the model using possible observations. He would first determine the type of observations that would lead to sensitive response and then collect them.

Neyman was instrumental in creating Bernoulli Society, a wing of the International Statistical Institute. Neyman was speaker at the International Congress of Mathematicians in 1954, recipient of the Guy medal in Gold from the Royal Statistical Society, received the prestigious U.S National medal of Science in 1968, was elected Fellow of the Royal Society in 1979. He was member of several academies, including the Polish Academy of Sciences and the National Academy of Sciences of the U.S.A. Neyman visited and lectured at the Indian Statistical Institute.

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