In memoriam

Harald Cramér

On October 5th, 1985, professor Harald Cramér died at the age of 92. He was a corresponding member of the Association of Swiss Actuaries since 1948.

Cramér matriculated at the University of Stockholm and defended in 1917 a doctoral thesis on number theory. He had early been interested in probability theory and statistics and joined in 1919 the Private Insurance Supervisory Service as an actuary. In a commission on equalisation funds, net retention and reinsurance for local fire companies he worked together with the leading Swedish actuary Filip Lundberg, who already in 1903 had created the collective theory of risk. Cramér became interested in the problems, presented Lundberg's result in a way that was understandable, but also found that the existing mathematical bases for these problems were unsatisfactory.

Between 1920 and 1929 he was actuary at Svenska Livförsäkringsbolaget. In 1926 he published the book "Probability Theory and some of its applications" in Swedish. (A modernized English version was published by Wiley in 1954.) Among the applications he presented a probabilistic theory of life insurance.

In 1929 he was appointed professor and head of the Institute of Insurance Mathematics and Mathematical Statistics at the University of Stockholm. His interest in the theoretical bases of statistics was stimulated by the works of i.a. Kolmogorov and Levy and resulted in the tract "Random Variables and Probability Distributions" (Cambridge 1937). In the preface he states "the subject has been treated as a branch of the theory of completely additive set functions. The method principally used has been that of characteristic functions".

Cramér was a brilliant teacher and soon attracted a group of clever students. The institute became a center for research on random processes and when Willy Feller in 1934 arrived as a refugee from Germany the activity was further stimulated. Of great interest to actuaries were the theses of C.-O. Segerdahl on ruin probabilities and of Ove Lundberg on mixed Poisson distributions, a subject that was investigated independently of Lundberg by Hans Ammeter in Switzerland.

During the war Sweden was isolated from the rest of the world. Cramér got the time to write his large work "Mathematical Methods of Statistics", which in a way summarized the classical theory of statistics. At that time new ideas like subjective probabilities, utility functions and decision theory entered statistics in other countries.

In 1950 Cramér became rector of the University of Stockholm and in 1958 chancellor of the Swedish Universities. He had to leave teaching, but continued with research during all his life and never lost his narrow contact with insurance. He was actuary in the reinsurance company "Sverige" 1929–1948, chief editor of Scandinavian Actuarial Journal 1940–1963 and president of the Society of Swedish Actuaries 1930–1964. When, in 1979, the Society celebrated its 75th anniversary, Cramér at 86 made a brilliant speech to several generations of pupils, colleagues and friends from all over the world.

Harald Cramér was an unusual combination of brilliant mathematician, practical actuary, efficient administrator, wise counsellor and true friend. During his lifetime he obtained marks of honour from many countries. His memory will long be honoured.

Jan Jung