

## Harald Cramér

Harald Cramér, who was made an Honorary Fellow of the Faculty of Actuaries in 1972, died on 5th October 1985 at the age of 92.

Born in Stockholm, he studied mathematics and chemistry at Stockholm University; his 1917 doctoral thesis in the field of pure mathematics dealt with the distribution of prime numbers. His subsequent research in actuarial mathematics and probability theory was stimulated by the well known Hungarian mathematician, Marcel Riesz, holder of a Swedish mathematics chair.

He was the actuary of the mutual life insurance company Svenska Lif from 1920 to 1929. From 1929, when he was appointed professor at Stockholm University, until 1949 he held a part-time appointment as actuary of the reinsurance company Sverige.

A series of his research publications dealing with the theories of error and risk appeared throughout the 1920's—mainly in *Skandinavisk Aktuarietidskrift*. He was instrumental in achieving the deserved public recognition of the earlier fundamental work of Filip Lundberg on collective risk theory and its application to life and sickness insurance. In 1927 he published “Sannolikhetskalkylen och Några av dess Användningar” which became the classic text book for Swedish students of probability calculus and which was translated into English in 1955 and published by John Wiley as “The Elements of Probability Theory and Some of its Applications”.

Along with his appointment as professor, Harald Cramér became head of the Institute of Insurance Mathematics and Mathematical Statistics at the University of Stockholm; the chair and the Institute were sponsored by the Swedish life insurance companies. His effective skills in communication, with a lucid lecture presentation of even advanced topics, and his sympathetic, stimulating and encouraging research supervision developed the strong Swedish school of actuarial science with its well deserved international reputation. Many distinguished Swedish actuaries owe much to the influence of Harald Cramér.

He wrote two significant works on risk theory, “On the Mathematical Theory of Risk” (1930) and “Collective Risk Theory” (1955) and in 1945 his major text “Mathematical Statistics”, still regarded world wide as a classic text book, was published in Sweden and then in 1946 by Princeton University Press.

He became the Rektor (analogous to the Principal of a Scottish University) of Stockholm University and his administrative success in this appointment led to his later being made Chancellor of the Swedish Universities (analogous to the Chairman of the University Grants Committee).

Throughout his career he retained a strong connection with the insurance industry seeking practical applications for his theoretical research and his advice on many problems was eagerly sought.

He was President of the Swedish Actuarial Society from 1935 until 1964, thereafter becoming Honorary President of the Society. He was a member of the editorial staff of *Skandinavisk Aktuarietidskrift*—now the *Scandinavian Actuarial Journal*—from 1920 to 1940 and then served as Chief Editor from 1940 until 1963.

His outstanding talents were recognised by the award of Honorary Doctorates by the Universities of Princeton, Copenhagen, Stockholm, Helsingfors, Paris and Calcutta in addition to the Honorary Doctorate of Science he was awarded in 1972 in Edinburgh by Heriot-Watt University. He remained very active throughout his long life, even delivering a lecture “Sixty Years in the Service of Probability Theory” to the Royal Swedish Academy of Sciences after reaching the age of 90!

Allied to his outstanding ability he had a warm hearted, kindly nature. He was unassuming and had the gift of treating everyone as if they were his equal; one never felt overawed in discussion with him.

With his death, the world has lost a distinguished scientist and many people in many countries have lost a sincere, respected friend.

J. R. G.