

WILLIAM FELLER, *IN MEMORIAM*

William Feller, one of the most original, accomplished, and colorful mathematicians of our times, died after a long illness on 14 January, 1970. The entire mathematical community mourns his death but at this symposium his loss will be felt more deeply, for all of us here have been influenced both by his work and by his person.

Feller's contributions to probability theory are so well known to, and appreciated by, everyone in this audience that reviewing them is hardly necessary. If I, nevertheless, engage in a brief recital of his accomplishments it is mainly to remind us of how central his role was and how much our subject owes to him.

Except for a few papers on foundations (two written jointly with Tornier and containing first hints of applications of probabilistic methods to number theory) Feller's earlier work is devoted to the most classical problems of probability theory.

By showing that Lindeberg's sufficient conditions are also necessary for the central limit theorem to hold and by providing necessary and sufficient conditions for the weak law of large numbers, Feller completes that chapter of our subject which was begun by Bernoulli, De Moivre and Laplace.

A little later he immediately recognizes the importance of Kolmogorov's 1931 paper "Über die analytischen Methoden in der Wahrscheinlichkeitsrechnung" and provides a most significant continuation in "Zur Theorie der stochastischen Prozesse" (1936), in which his mastery of differential equations acquired and nurtured in Göttingen is brilliantly displayed.

In 1939 Feller comes to the United States and, as if to celebrate this event, he publishes a few years later his famous memoir on the law of the iterated logarithm—a veritable *tour de force* and a theme with an infinitude of variations, some of which he invents and plays even during the last days of his life.

In 1950 at the age of forty-four, when according to legend most mathematicians are supposed to be long past the period of real creativity, Feller embarks on an entirely new line of inquiry.

Going back to his earlier work on diffusion theory, he now brings to bear on this classical subject and its extensions the power of modern functional analysis with striking results. In his hands semigroup theory reaches new depths and at the same time a subject as old and as seemingly exhausted as the Sturm-Liouville theory acquires a glitter of new life. In a sense it is Feller's most original work and it is soon continued and extended all over the world.

The five year period from 1945 to 1950, which just preceded the beginning of Feller's work in semigroups and Markov processes, is largely devoted to writing Volume I, although it is during this period that he also publishes, among others, his elegant and influential memoir on "Fluctuation Theory of Recurrent Events."