

Erich L. Lehmann was granted an honorary degree
by the University of Leiden on 8th February 1985

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Erich Leo Lehmann was born on 20th November 1917 in Strasbourg. He studied mathematics in Zürich and at Trinity College, Cambridge. In 1942 he switched from pure mathematics to mathematical statistics and became an assistant to Jerzy Neyman at the University of California at Berkeley. Less than a year later he was sorry! He missed the beauty of pure mathematics and was put off by the inelegant methods used by statisticians to solve what he felt to be badly formulated and unattractive problems. He was on the point of starting work with Tarski in algebra when Neyman offered him a better position which on financial grounds he simply couldn't refuse. A statistician against his better judgement, he has done everything in his powers during the last forty years to remove the grounds of his initial complaint. More than anyone else he has contributed to the mathematization of statistics.

His only just started statistical career was interrupted in 1944 when he joined the American airforce in Guam. In 1946 he obtained his Ph.D under Neyman and also became a U.S. citizen. He was assistant professor by 1947 and full professor in 1954 in Berkeley, to which institution he has always been faithful. He was on the editorial board of the *Annals of Statistics* for 15 years, three of which as editor-in-chief. He has been a president of the Institute of Mathematical Statistics, twice holder of both Miller and Guggenheim fellowships. He is a member of the American Academy of Arts and Sciences and of the National Academy of Sciences.

Berkeley and Lehmann were made for one another from the start. Neyman already accentuated the mathematical character of statistics in his work, so Lehmann was his natural heir. Moreover, the small group of statisticians at Berkeley was gradually built up by Neyman in those early years into the most important centre of mathematical statistics in the world. Students from many countries - among them the Netherlands - were attracted to Berkeley and

many worked with Lehmann and wrote theses under his supervision. Also the constant stream of visitors from American and other universities were influenced by his work.

In 1959 his book *Testing Statistical Hypotheses* (see CWI Syllabus 3) appeared. Actually he had worked on this book since the start of his career and refined its material many times over in his lecture courses. That this book took so long to reach its final published form (actually a revised edition will appear soon!) is no exception for him: he worked for more than thirty years on the book *Theory of Point Estimation*, from 1950 to 1983.

Along with Cramér's 1945 book *Mathematical Methods of Statistics*, Lehmann's book on the testing of hypotheses has been the most influential book ever written on mathematical statistics. In this book the mathematical structure of statistics was laid bare with perfect precision, but without compromising its applied character. The book has formed a whole generation of statisticians all over the world.

Of course Lehmann was not just engaged in the general structure of the whole area of statistics. He has made key contributions in a large number of more specialized subareas, such as the theory of rank-tests, robust methods, and second order approximations. In all these areas there has been close cooperation over the years with Dutch researchers especially but by no means exclusively from Leiden. The paper by Wim Albers in this same edition of *CWI Newsletter* is devoted to the third mentioned topic. The research programme on second order approximations which Lehmann originally proposed has been almost completed now by workers in Berkeley, Leiden, Cologne, Amsterdam and Moscow and has led to surprising results. The technical tools which have been developed in the course of this programme are right now being successfully applied to at first sight completely unrelated problems.

Statistics does not have such a long tradition in the Netherlands as many other research areas in mathematics. That the University of Leiden has honoured one of the pioneers of the discipline, in the person of this charming and modest man, is a stimulus to statisticians in the whole country.

