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István Vincze (1912–1999) and his contribution to lattice path combinatorics and statistics

Endre Csáki[1]

Alfred Rényi Institute of Mathematics, Hungarian Academy of Sciences, P.O. Box 127, H-1364 Budapest, Hungary

Abstract

A brief account of the life and work of István Vincze, a prominent Hungarian statistician, is given. His contributions in various topics are discussed. They include empirical distribution, Kolmogorov–Smirnov statistics, information theory, Cramér–Fréchet–Rao inequality, estimation of density, and a characterization problem.
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1. Introduction

István Vincze was born in Szeged, Hungary, on February 26, 1912. After his graduation from the University of Szeged in 1935, he worked for a Hungarian Insurance Company until 1945. The second world war interrupted his career. After the war, he worked for the Ministry of Education until 1950. Then, he was invited by the late Alfréd Rényi to join an Institute, whose main duty was set to do both theoretical and applied Mathematics. In

this way, he became one of the founders of the Mathematical Institute of the Hungarian Academy, whose director was Alfréd Rényi. Vincze was the Head of the Statistics Department until his retirement in 1980, and during 1950–1964 he also served as Deputy Director of the Institute. He was also a Professor in Statistics at the Eötvös Loránd University, Budapest. I had the privilege to be one of his numerous students in Statistics. He was considered as one of the main experts in both Theoretical and Applied Statistics in Hungary and also all over the world. Although in the early stage of his research activity he was interested in Geometry, on which he wrote several papers, including joint papers with Erdős, he has made significant contributions to several branches of Statistics, such as Quality Control, Nonparametric Statistics, Empirical distributions, Cramér–Rao inequality, Information Theory, etc. He is the author of more than 100 research papers and 10 books.

He was awarded a number of honors in his life, including the Hungarian State Prize in 1966 and Gauss Ehrenplakette in 1978.

Except for the last two years of his life, he was very active even when he was over 80. He worked regularly in the Mathematical Institute, gave seminar talks, participated in conferences, such as Probastat, Bratislava, 1991 and 1994, Stochastic Modeling and Lattice Path Combinatorics, Delhi, 1994, Stability Problems, Kazan, 1995, Approximation Theory, Budapest, 1995, Statistical Conference, Poland, 1996. He was invited to the Combinatorial Methods Conference, Hamilton, Canada, 1997. He wrote a paper for the occasion (see Vincze and Tőrös, 1997), but an unfortunate accident prevented him from participating.

Professor István Vincze visited many universities and institutes all over the world. He spent several months in China, GDR, USA, Canada, Argentina, etc. He was invited as speaker to several conferences, including three Berkeley Symposiums: 1960, 1965, 1970. He also organized a number of conferences: European Meeting of Statisticians in Budapest, 1972, Nonparametric Statistical Inference in Budapest, 1980, Pannonian Symposiums on Mathematical Statistics in Bad Tatzmannsdorf in 1979, 1981 and 1983, and in Visegrád, Hungary, 1982. He was the director of the Unesco courses on Probability and Statistics, held in the Mathematical Institute, Budapest in 1964 and 1968.

Professor Vincze was a very kind man, and his hospitality was legendary. He would walk with his guests through Budapest an entire day to show them the most important tourist attractions and serve as a real guide to explain the history of Hungary attached to a particular building and place. He was physically vigorous all his life.

István Vincze will be remembered by the statistical community for his warmth, humanity and friendliness.

In this paper, we summarize the most important contributions of Professor István Vincze in the following areas, focusing mainly on the first topic, but mentioning briefly his contributions in other subjects as well:

- empirical distribution, random walk, lattice paths,
- information theory,
- Cramér–Fréchet–Rao inequality,
- estimation of density and its derivatives,
- a characterization problem.