

A Conversation with Yuri Vasilyevich Prokhorov

Larry Shepp

Abstract. Yuri Vasilyevich Prokhorov was born on December 15, 1929. He graduated from Moscow University in 1949 and worked at the Mathematical Institute of the Academy of Sciences from 1952, and as a Professor on the faculty of Moscow University since 1957. He became a corresponding member of the Academy in 1966 and an Academician in 1972. He received the Lenin Prize in 1970. The basic directions of his research are the theory of probability and mathematical methods in theoretical physics. He developed asymptotic methods in the theory of probability. In the area of the classical limit theorems, he studied the conditions of applicability of the strong law of large numbers and the so-called local limit theorems for sums of independent random variables. He proposed new methods for studying limit theorems for random processes; these methods were based on studying the convergence of measures in function space. He applied these methods to establish the limiting transition from discrete processes to continuous ones. He found (in 1953 and 1956) necessary and sufficient conditions for weak convergence in function spaces. He has several papers on mathematical statistics, on queuing theory and also on the theory of stochastic control. This conversation took place at the Steklov Institute in early September 1990. It was taped in Russian and translated by Abram Kagan. The final version was edited by Ingram Olkin.

THE EARLY YEARS

Shepp: Yuri Vasilyevich, you are the only full member (Academician) of the USSR Academy of Sciences whose field is probability and statistics. Please draw the main lines of your biography, talking about the main events in your life since your birth. I know that you are a member of the Scientific Council of Steklov Mathematical Institute. What are the other positions at the Academy you kept in the past and keep now?

Prokhorov: I was born in Moscow on December 15, 1929. My parents also lived in Moscow, and it seems that earlier ancestors were also Moscovites. I went to school, and in the summer of 1941 when the war began the family was evacuated to a small town of Chistopol on the Volga River (about 300 miles east of Moscow), not far from Kazan. We

lived there for two years, and in 1943 came back to Moscow.

When we left for Chistopol, I finished four years of school. While in evacuation I had much time, and in two years studied the curriculum of four years so that I came to Moscow as a student of the eighth year. Also, in Moscow, I finished the two-year curriculum in one year, and in 1944 graduated from high school.

Like my father, I wanted to become an engineer, and I first entered the Higher Technical College named after Bauman (actually, a Technical University). There, I took a class in mathematical analysis of Professor Adolph Pavlovich Yuškevič, renowned in particular by his works in the history of mathematics. Pretty soon I understood that my primary interests were in mathematics. I began taking classes at Moscow University, first as an external student and in the next year transferred to the university. My main interests at the time were in analysis and number theory, and the first seminar I attended was that of Professor Alexander Gel'fond in elementary number theory, without any theory of analytic functions.

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