

Sergei E. Kuznetsov; Ithaca, New York, November 8, 1994

Highlights

E.D. It's your birthday today. Tell me first about your ancestors.

S.K. On father's side, my great grandfather was a peasant, and a prosperous one at that. He passed away sometime around 1918. His eldest son was a railway engineer, while my father was an aircraft engineer. During the World War Two he transferred from the Bauman Institute to the Zhukovsky Academy. After graduation, he joined the army as an airfield engineer. He was not directly involved in combat operations.

I know a bit more about my mother's family. Her father was of Polish descent. His family owned a small estate. Fortunately, my great grandfather had squandered it before the revolution of 1917, and so he was not a target of the new regime. He worked all his life as a statistician in the Foreign Trade Ministry, holding rather unassuming posts. He was religious and was not a member of the communist party, and he managed to avoid the persecution. He retired in 1955. My grandmother on my mother's side was a priest's daughter.

E.D. How far back can you remember your childhood?

S.K. More or less clearly I remember myself from the age of seven, when I went to elementary school.

E.D. Were you a good student?

S.K. Better than my children.

E.D. Tell me about the Evening mathematical school at the Second School.¹

S.K. It was 1963. I don't remember exactly how my parents learned about it. I attended this school once a week, commuting with other kids under the supervision of a parent. It was a new world for me, nothing like my day school. I was fascinated by it. When I proved myself by solving competitive problems, you suggested that I to skip a grade. At the time I was in the seventh grade, and to be admitted to the mathematical program at the Second School one had to complete the eighth grade. This meant that I had to pass the eighth grade final exams in all subjects ahead of time. Knowing about my fascination with mathematics, some teachers were ready

¹ In the 1960s Moscow Second School had a special mathematical program initiated by I. M. Gelfand and run by Professors of Moscow State University with collaboration of their students. E. B. Dynkin ran this program during *the* 1964-65 and 1965-66 academic years. The Evening Mathematical School was organized by him in 1963-64 to select participants of the program from Moscow school population.

to cut me some slack, others weren't. I recall those days as the happiest time of my life, something that will never happen to me again.

Being admitted into the university was dreams come true. There was little effort on my part. I graduated from high school with highest honors and therefore I needed to take only the math entrance exams, written and oral. I scored two A's. There was a particularly large number of qualified applicants that year (8 applicants for every vacancy), and the admission criteria were particularly stringent. There were only 50 A's in written math among the 750 students who were admitted.

E.D. What do you remember from your university days?

S.K. I remember your seminar. In it I wrote my first published paper, although I have no illusions about its scientific significance.

E.D. Yes, but a single spark can start a fire. Where was it published?

S.K. A joint paper with Sergey Nathanson was published in the *Siberian Mathematical Journal*. It was my first publication.

E.D. Did it inspire you?

S.K. No doubt! If I remember correctly, Sabir Hussein-Zade published his first paper while still your student at the Second School.

E.D. What do you consider as the true starting point of your academic career?

S.K. I would say the first year at the Central Economics and Mathematics Institute of the Russian Academy of Sciences where I came straight after my graduation. If you hadn't invited me to work there, I have no idea what turn my life would have taken. I remember how you taught a seminar at your apartment in a little cozy room with a very small blackboard.

E.D. Who was in that seminar?

S.K. There were Sergey Pirogov – who didn't work at the Institute – Igor Evstigneev, and Mikhail Taksar. There was also Sergey Nathanson, who was a Ph. D. student at the Institute. You gave a few lectures based on your article about excessive functions and presented a number of unsolved problems. I decided to tackle them in preparation for our next meeting. Quite unexpectedly I was able to solve one of them. It often happens that a solution dawns on you in a single moment. This is exactly what happened to me. It was a problem related to the construction of a Markov process with random birth and death times.

E.D. *Kuznetsov measures*.

S.K. One could quibble about the term. The basic result with the restriction that the full measure is finite is yours. I was able to remove the restriction, which allowed me to include the time-homogeneous case.

E.D. True and this is the most important case on which everyone works.

S.K. I would consider this as my first essential work, although strictly speaking it was the third (I and Igor Evstigneev had produced something while still in the university, but I hardly remember that at all). This was arguably the most critical moment in my entire academic career.

E.D. Let's talk about the time when I emigrated from the Soviet Union. I remember how you and Igor Evstigneev came to the airport to say good bye. I think you had no sleep the night before.

S.K. That would be an exaggeration, although it's true that I hesitated. At first I decided to say good bye in advance, but then realized that I would never forgive myself if I didn't come to the airport. It was October 26th. After you left, there were times when I wanted to pick up the phone and call you.

E.D. You sent me letters. This required a lot of courage back then, didn't it? I'm still keeping them.

S.K. Not really, although I asked you to write to my home address for the following reason. I remember that you sent me a preprint of your article. Inside was a short note about your travels and other things. International mail was handled by a special office in the Institute. The recipient had to sign for the mail, which was already opened. This time your letter was brought to me by Marek Dubson and handed me in public with a request to read only the last paragraph of your note. After this incident I asked you to write to my home address.

I was even sending you books for a while, until the international mail regulations were changed. For each book mailed abroad one had to have permit from the Lenin State Library. That was too much for me. In general though everything was all right. I published my papers in the *Theory of Probability*, a journal that didn't require the certificate of an Expert Commission. At the time nobody would sign this certificate for me. Whenever I tried to publish in journals other than the *Theory of Probability*, I could not refer to your work. As a result I came up with the following subterfuge. I used to add a note to the effect that my bibliography was only partial and directed the readers to a full one in the *Theory of Probability*. Everything went just fine until *the* defense of my doctoral dissertation. I defended it in the University of Vilnius because the Central Economics and Mathematics Institute had no council on mathematics.

E.D. Rozanov was in Moscow.

S.K. Yes. And at that time he was on good terms with me. Moreover, in a sense he was obliged to me since I edited his book on Markov random

fields. Following a 'pecking order', I asked his advice with regard to my defense. He suggested that I should defend either at Moscow University or at Kiev University. I didn't heed to his advice but followed the suggestion of Shiryaev, who recommended Vilnius. But there was a problem in that I had to pass the preliminary defense and receive the certificate of the Expert Commission at the Central Economics and Mathematics Institute. I also had to have all my principal results published by the time of my defense.

E.D. You couldn't publish in the *Annals of Probability*, could you?

S.K. Of course, I couldn't. Instead I published them in the VINITI RAN, in the series of 'Contemporary problems in mathematics'. But publishing *in* this series also required the certificate, and the Commission knew the name Dynkin perfectly well. I submitted my manuscript there, and at first refused to certify. Eventually, however, they signed the certificate on the condition that I should remove your name from the references to your works, referring to them only by the title of the periodical and page numbers. I received a copy of the certificate, and signed in every line where something was crossed out. I took it to the VINITI RAN, telling them about the condition. They were not happy with that and asked me to restore the original list of works cited. And so my book was published.

After a few months I brought my dissertation to the Central Economics and Mathematics Institute, and the same story happened all over again. Nikolay Nikolaevich Bratchenko, the head of the First Department² was at the time on vacation. He was on good terms with me and didn't pose any obstacles. However, the person who was filling in for him was overly cautious. He did not want to take the responsibility. At one point my predicament was discussed all over the Institute. It even drew the attention of the Central Committee of the Communist Party. I learned about it from Aivazyan, who was earnestly trying to help me. The matter was discussed at one of the Party meetings featuring the representative of the Central Committee supervising the activities of the Institute. In the course of the meeting somebody asked for his opinion. He took my dissertation and said that he wanted some time to deliberate. Unexpectedly in a week's time he returned it, giving the green light for my defense. I was invited to the Expert Commission, where I heard something I had never heard before: one was

² The First Department (Pervyj Otdel) was in charge of secrecy and political security of the workplace of every enterprise or institution of the Soviet Union that dealt with any kind of technical or scientific information or had printing capabilities (http://en.wikipedia.org/wiki/First_Department).

allowed to cite any work that was available for public in the Lenin State Library. The Commission asked me to check if your name appears in the open catalogues of the Library. That being said, they took a copy of my dissertation and made me remove your name from the preface.

I know it sounds absurd, but this is exactly how it happened. To be honest, I didn't check anything in the Library.