

**Personal Reminiscences Of K.R. Parthasarathy About  
Academician Andre Nikolevich Kolmogorov [ANK]**  
*Based On Personal memories.*

These are my fading memories of the turbulent arrival of ANK, a very great Probabilist, by an exploratory survey boat of "The Academy Of Sciences Of USSR.

ANK never travelled by plane. On this boat he made the fundamental discoveries, namely "The Kolmogorov Complexity Of Algorithm and Entropy As An Invariant For Dynamical Systems". ANK arrived in Calcutta in 1962 by train from Bombay port.

A special convocation was held at Indian Statistical Institute, Kolkata (ISI) for which a citation was prepared by me and S.R.S. Varadhan, at the suggestion of Professor Mahalanobis and Dr. C.R.Rao.

Earlier at the first convocation of ISI I received my Ph.d. along with Honorary D.Sc. of Sir Donald Fisher, Walter Schewhart, Tosio Kitajawa and others. Photo of me receiving Ph.d. was published in national newspapers. It was cut and pasted on a card board sheet and kept with my maternal grandfather under his pillow till his last days.

I, SRS Varadhan and several other research scholars at ISI for the first time met ANK here face to face. When people asked him whether he can speak English, he said he speaks Indian better. He stayed in Professor Mahalanobis's residence Amrapali in ISI campus. A picture of we research scholars was taken at that time This picture was published in ISI house magazine Samvadadwam.

Dr. C.R. Rao arranged a tour for ANK ,along the beaches of the east coast of Southern India. Dr. C.R. Rao asked a few of us to accompany ANK. In Waltair[Vizag] ANK gave a lecture, which was attended by the vice chancellor of the university along with the faculty' members and students.

In the next lap of our travel we accompanied him to Mahabalipuram sea shore temples near Madras. Here I had a fall from Arjun gopuram, which I climbed, and fractured my leg. I got admitted in Stanley medical hospital, where ANK came to see me and said you are a young man and soon you will recover and do lots of mathematics.

After my recovery I went back to ISI. A special lecture was arranged for ANK at ISI. When he was lecturing people were moving in and out of the auditorium disturbing his concentration. ANK threw his chalk in anger. After the lecture, at the suggestion of Professor. Mahalanobis, Dr. C.R. Rao asked ANK whether he would referee Varadhan's thesis, for which he agreed.

Professor Mahalanobis and Dr.. Rao arranged for my stay in Russia as a postdoc visiting fellow, under the exchange programme between ISI and USSR Academy of Sciences. Before my departure to Moscow via Delhi Professor Mahalanobis asked me to stay in his palatial residence. Initially the USSR Academy arranged for my stay in a big hotel' Ukraine'. At

my request ANK got it changed to a modest hotel 'Oktyabrskaya' hotel, which was nearer to Steklov Institute, where I got an office to work. I shared this office with V.V. Sazonov, Rozanov and Peter Mandal from Czechoslovakia. I attended seminars by Dinkin Gelfond and Arnold. ANK had an apartment in Moscow University campus, where he and his wife entertained visitors periodically. ANK invited selected speakers and attendees to his apartment after the seminars.

I was given tickets by the Academy to attend Bolshoi Theatre concerts, ballets and operas. Since my needs were modest I had enough roubles to employ a teacher for learning Russian language and buy Russian classics of Tolstoy Dostoevsky and others. Of Course I started initially with childrens books and slowly graduated to novels. In the course of time I was so fluent in the language that I could even give seminars in Russian at the Moscow University. In one of the lectures I announced my new result, which was yet to be published. This result was stolen word by word by S. Nadaraya and published immediately in the journal for which Progorov was editor. My complaint to Progorov was ignored.

One day ANK arranged for my visit to his Dacha[home] in the countryside, shared by Professor Alexandrov. Shiriyayav took me to ANK's place. Here ANK breached the law that a visitor cannot go beyond the allowed 40 km limit. At the Moscow railway station a police man came and asked me 'where are your documents'. I told him my passport is held by the academy. The policeman grinned. Meanwhile the train entered the platform. Shiriyayav grabbed my hand and pulled me into the train and the train started moving.

At the Komorovkov station ANK received me with a pair of gum boots [Shiriyayav was well equipped for the visit whereas I was not, for walking on the snow in the rough countryside]. We walked to his Dacha which ANK shared with PS Alexandrov. I was compelled to walk fast and sometimes jog in my newly acquired gum boots. In the dacha Alexandrov showed me a copy of Vaidhyanatha swamy's book on topology. When Vaidhyanathaswamy's term was over, he was invited by Professor Mahalanabis to join ISI.

In the village Komorovaka ANK played classical records by Chaikovsky, Mussogsky and others on the gramophone. This stimulated me to develop a permanent interest in western classical music. Later I bought many records by these masters to take back to India. Added to this the complimentary tickets given by the academy to attend live concerts at the Bolshoi theatre added to my pleasure.

There was an international conference in Vilnius in probability and statistics. Here ANK gave a lecture on linguistics. I gave a lecture on probability. Here I was interviewed by the Russian press, since an Indian was speaking fluently in Russian. As time went, ANK discussed probability and information theory with me. Vladimir Arnold was ANK's star student working in Dynamical Systems Much later he visited ISI Delhi and my home in the campus sometime after 1976.

I knew swimming in Indian village ponds. But to swim in the ice cold, fast flowing Moskov river was an entirely different experience. I was struggling for my dear life in the spine chilling river. Because intuitively I knew for ANK mathematical ideas flow in full form

while crossing the spine chilling river or jogging on the snow. It was a great struggle for me to manage cramping cold water swimming along with ANK's fast strokes and trying to absorb the free flow of mathematics that was coming torrentially from him. Whatever I was able to absorb at that time was enough for me to stimulate lifelong interest in the subject. ANK always encouraged me in mathematics and physical activities saying 'you are only twenty six years old, the whole future is before you.

In Moscow ANK and I took a taxi to the shore of lake Istravodahranilish'e, by a special boat called 'Bidarka'. The photograph of me and ANK going by boat was taken by Sazonov. After boating we came to the shore and sat down under a tree. Sazonov again took a photo. I am sitting in the yoga pose of padmasana. ANK stretching and relaxing are my favourites. The most favourite in this collection is boating with ANK .

At the countryside, as ANK was relaxing, he made many important remarks. I made a discovery of 'entropy as an invariant for dynamical systems'. Here Progorov discovered his compactness theorem for the 'weak convergence of probability measures'. Work and relaxation together was his motto of healthy life. He lived it and showed it to us.

In 1966 when I was in Sheffield university in Britain ,I attended ICM in Moscow. I met ANK in Steklov institute and at an excursion arranged for probabilists.We had a great reunion of all my old russian friends.Any meeting with ANK always give us a lot of joy.

Much later I was a Professor at Manchester in the chair of probability and statistics, I attended International congress of mathematicians in France. There I again met him where we swam together in the sea. Later when I returned to India and worked in I.I.T. Delhi I went to Moscow and met ANK for the last time.

Dr. C.R.Rao's 90 th birthday was celebrated in his CR RAO INSTITUTE inside Hyderabad University campus At this international conference Shriyayav accompanied by his granddaughter recalled that he bought one half of ANK's dacha and the other half was converted in to ANK's museum.

















