REFLECTIONS ON PROFESSOR M. V. SUBBARAO

Krishnaswami Alladi

Professor M. V. Subbarao was a reputed number theorist who had done significant work on arithmetical functions and on partitions. I first met him on 22 December, 1972 (Srinivasa Ramanujan's birthday) when he visited MATSCIENCE, The Institute of Mathematical Sciences, in Madras, at the invitation of my father, the late Professor Alladi Ramakrishnan, its Founder and Director. I was at that time a First Year Student in BSc Mathematics at Vivekananda College of the University of Madras, and had started investigations on my own in number theory on Fibonacci numbers and arithmetical functions. I attended Professor Subbarao's lecture in which he presented his results on arithmetical functions and partitions. It was the first time I heard about the Jacobi Triple Product Identity that he so skillfully used, and about the Riemann Hypothesis which he mentioned in connection with certain error terms in the asymptotic formulae he presented. By the bye, in his lecture, he also mentioned and used the Quintuple Product Identity, originally due to G. N. Watson, for which he and Carlitz had published an elegant and simpler proof in 1972. I was much impressed by his lecture and wanted to have some discussions with him. He very graciously invited me to his flat (= apartment) in which he was staying in the Kodambakkam section of Madras. I went there and spent an hour with him when he patiently told me about the Riemann Hypothesis and its consequences, and also about the fundamental role of the Jacobi Triple Product Identity in the theory of partitions and q-hypergeometric series. The discussion with Professor Subbarao motivated me to study certain deeper aspects of number theory.

Professor Subbarao was only two years older to my father. Both had graduated from the Presidency College in Madras. The bond between them was strengthened because they could converse in Telugu which was Professor Subbarao's mother tongue. I observed them recall with pleasure the atmosphere in the states of Andhra Pradesh and Madras (now Tamil Nadu) in their days of youth. During one of my father's annual academic lecture tours to North America and Europe, Professor Subbarao invited him for a lecture at the University of Alberta, Edmonton, in 1980.

I too had the pleasure of enjoying Professor Subbarao's hospitality in Edmonton. I was visiting the University of Texas, Austin, for the academic year 1982-83, and he invited me for a Colloquium in the Spring of 1983. Upon arrival at Edmonton Airport, I was told by the immigration officials that I needed a visa to enter Canada, which I did not have. In the sixties and even in the seventies, there was no difficulty entering Canada with an Indian Passport and a US Visa, since India and Canada were part of the Commonwealth. But times and rules had changed. The immigration officer realized that I was coming to Canada to give lectures at the invitation of their professors. So he kindly agreed to give me the visa on the spot, but he said it would take about an hour to complete the formalities. He accompanied me outside so that I could inform Professor Subbarao (who was waiting to receive me) about this delay. I told Professor Subbarao that I could take a taxi to the hotel, yet he patiently waited outside until I received the visa even though it was late in the evening. That was how kind and considerate he was. Although he put me up in a hotel in Edmonton, he took me home both evenings that I was there, and his wife cooked

delicious South Indian meals for me. I was touched by the kindness that he and his wife showed. In a small way, I was able to reciprocate their hospitality when Prof. Subbarao attended a number theory conference in Florida in 2004.

In closing I should say that during our discussion at his apartment in Madras in 1972, he proudly mentioned that his son Vidyasagar who was doing research in the field of electrical engineering in Canada, had collaborated with him on certain number theoretical problems. Indeed, one joint paper of Subbarao and Vidyasagar (1970) is on the Quintuple Product Identity. It was a fortuitous circumstance that I happened to meet Professor Vidyasagar in mid-October 2018 at the Royal Society during a Conference for the Centenary of Srinivasa Ramanujan's Election as Fellow of the Royal Society. And now it is my privilege to partake in the Subbarao Centenary at the invitation of Professor Vidyasagar, and share these thoughts with you.

Department of Mathematics
University of Florida
Gainesville, FL 32611
USA

email: alladik(at)ufl.edu

July, 2021