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Lucky to be where I am

Rajeshwari Chatterjee
(by K Shashikala)

I was born in January 1922 in a progressive, open-minded family, not perhaps with a silver spoon in my mouth, but surely with a book in hand! My family, a large extended one as was common in those days, were all fairly well read, even the girls, and were encouraged to take part in any activity we chose. My grandmother, Kamalamma Dasappa, was one of the very first women graduates in the erstwhile Mysore State, and was very active in the field of women's education, especially those of widows and deserted wives. In order to help the cause of girls' education, she initiated the setting up of an accelerated school syllabus, which permitted students to finish their matriculation by the age of 14 or so. This was done in the "Special English School" run by the "Mahila Seva Samaja", and some of my cousins and I went through this course. After my school finals I almost took up history as my subject, as I like reading and learning about past events even today, but since I also enjoyed studying science and mathematics, I finally opted for physics and mathematics. Going to college and university were taken for granted in our case, and I went to Central College in Bangalore for my B.Sc. (Honours) and Master's degrees of the Mysore University. I maintained a first class career

throughout and after my M.Sc. took up a job at the Indian Institute of Science, Bangalore in the then Electrical Technology Department. I worked as a Research Student Assistant in the field of electrical communications.

After the Second World War an interim government was set up in India to transfer power from the British to Indians. This Government offered scholarships to bright young scientists to study abroad. I applied for one such scholarship in the field of electronics and its applications, and having been selected in 1946, was soon on my way to the University of Michigan at Ann Arbor for graduate studies. Though I was in my mid-twenties by then, my family raised no objections to my going abroad, unmarried though I was then! Remember, this was more than 60 years ago! Many young girls today, who can walk into courses and careers of their choice, may have no idea of the kind of restrictions women then had to face, even abroad. Many universities even in the West would not admit women till the 1920's or 30's. I was indeed very lucky to have faced no such discrimination.

Working for my Master's in Engineering and later for my Ph.D. in the US was very enjoyable and I learnt many things. I learnt to be even more open-minded and receptive to new ideas. I learnt that nothing is impossible to achieve if we set our mind to it. I made many new friends and have kept up contact with some of them over the years. After I obtained my Master's degree in 1949, I went for eight months practical training in radio frequency measurements at the National Bureau of Standards in Washington, DC. In September 1949, I went back to Ann Arbor to continue my studies for my Ph.D. on a Barbour Scholarship. My advisor was Prof William G Dow, who passed away in 1999 at the grand old age of 103.

Back in India in 1953, I joined the faculty of the Indian Institute of Science, and started an active research career. I also married a colleague Sisir Kumar Chatterjee, once again with the wholehearted support of my family, and worked in collaboration with him on many of my projects. We spent most of our time in the beautiful environs of the IISc, either in the Department or in the library. Our daughter, now a professor in the US, spent her

entire childhood there.

Both my husband and I used to take up a number of projects and published several papers jointly. We also taught many courses, mostly in electromagnetic theory, electron tube circuits, microwave technology, and radio engineering and brought out several books on them. My major contribution has been in the field of antennas for special purposes, mainly in aircraft and spacecraft. I continued to write books on these subjects even after he passed away in 1994, and kept up my interest in science and particularly engineering. I have guided 20 Ph. D. students in their work, both men and women. Many of my students have gone on to become well known in their fields and have been directors and professors, in India and abroad.

Several awards and honours have come my way, including the Mummadi Krishnaraja Wodeyar Award for first rank in the B Sc (Hons), the M T Narayana Iyengar prize and the Waters Memorial prize for the first rank in M. Sc., the Lord Mountbatten prize for the best paper from the Institute of Electrical and Radio Engineering, UK, the J C Bose Memorial prize for the best research paper from the Institution of Engineers, and the Ramlal Wadhwa Award for the best research and teaching work, of the Institute of Electronic and Telecommunication Engineers. However, more than all this, I have cherished my association with some of my students and the many young people I met. I have learnt so much from all of them, many of my ideas have undergone a sea change! After retirement from the IISc, I also started working on social programmes, chiefly with the Indian Association for Women's Studies. I then saw how many women have struggled to come up in life, against all odds, which we as members of an elite class hardly have had to face. I strongly feel that as scientists and engineers, lucky enough to have reached where we are, we should do whatever is possible to help others, especially other women, who are less privileged than us to study, work, and come up in any field that they wish to pursue.