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Why and how I became a scientist

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I was born in 1937 at Bhagalpur, Bihar. During my childhood days I was greatly influenced by my scholarly maternal grandfather. His narration of scientific discoveries always fascinated me. In school, mathematics and science were my favourite subjects and it was my teachers who were responsible for inculcating such liking in me. I passed the matriculation examination in 1950. Coming from a middle class educated background it was taken for granted that I would study further – just the I.Sc. the next two years at the Presidency College, Kolkata.

I can compare my life with the ocean; waves come and go. After my M.Sc, Prof. S.M. Sircar, one of my teachers urged me to join the Bose Institute to work with Dr S. K. Roy. Thanks to the active atmosphere at the Bose Institute and the special care and attention I received from my seniors. I felt a real urge to do good science.

My quest entered an exponential phase when Dr. Debi Prosad Burma joined the Institute. He was a good enzyme chemist and I found him extremely active, pleasant and affectionate. Enzyme chemistry seemed to have a lot of excitement! I learnt biochemistry from Dr. Burma who was the best teacher I ever

had. He used to say that 'It is the teacher who ignites one's interest and love for a subject and then one should sustain it'. But the most important factor is one's inner desire and strong will, without which one cannot gain success. I worked on microbial protein synthesis under his guidance, and this constituted a part of my thesis. Even in those days when knowledge about the mechanism of protein synthesis was quite obscure, we could demonstrate cell-free protein synthesis with a particulate preparation from *Azotobacter vinelandii*.

I was very sure that I could not give up the joy of doing science and realised that Dr. Burma who had keen interest in my scientific career, would be the best person to keep this spirit alive. We decided to go abroad after the submission of my thesis and get married.

I had my postdoctoral training in enzyme chemistry in the laboratory of B.L. Horecker at the New York University School of Medicine. At that time, my husband was working with Severo Ochoa in the biochemistry department of the same school. My first child was born during my stay in New York. A week later I was back in the laboratory. At this stage many young women in the field of science find it difficult to continue with their work. It was very difficult for an ambitious mother to take care of a child and work on enzymes at the same time! I could not leave my laboratory and the work entrusted to me, so our son stayed with a family for five days a week and we brought him home only for the weekends. It was the enthusiasm and encouragement from my husband that helped me a lot.

After I returned from USA and joined the Bose Institute as CSIR pool officer, my children were never in the way! I used to carry my son to the institute with a big piece of rubber cloth and a few bottles of milk. The poor child used to sit on the rubber cloth spread on the floor of the laboratory playing with the test tube stands in front of my working bench. Thank God! Those days the atmosphere in the Bose institute was quite informal. My child got used to that type of life and thus became a laboratory child! In 1965, I transferred my pool officership from the Bose Institute, Kolkata, to the Department of Biochemistry, Banaras

Hindu University, as my husband had joined the department as Professor and Head, a few months earlier. I was happy getting a working place although it was at one end of the teaching laboratory.

In 1967, I had training in ICRO (International Cell Research Organisation) and UNESCO sponsored DNA-RNA hybridisation course from Prof. S. Spiegelman, the father of the technique, at Naples, Italy. I was then a pool officer under CSIR. I did not want to miss this opportunity of training myself which I knew would help me a great deal in my scientific endeavour although I was pregnant at that time and pregnancy was at an advanced stage. Ignorance is bliss. I never knew that one needs a doctor's certificate while travelling at such an advanced stage of pregnancy. My strong will and love for science has helped me to reach my goal even under adverse circumstances.

My second son was born. This time also I worked till the last day and rejoined the laboratory after 10 days. Even then during 15 minutes incubation period of my assay system I used to literally run through the *ayurveda* garden with my lab-coat on and stopwatch in my pocket to check how the child and the babysitter were doing. It was possible only because our house was very close to the laboratory and we lived on campus. When I needed to go to Bangalore to teach a course on 'Bacterial genetics and viruses' leaving my eight month old baby with my mother-in-law at Kolkata, my husband took care of the elder one at home.

Due to want of a liquid scintillation counter I could not carry out some of the experiments I needed to, so I planned to go abroad. Leaving my children behind, I went to Ann Arbor for a year. If you are upright and vocal you face many problems in a male dominated academic world. You don't get a job easily. Initially I did not care much for a permanent position in the university and was rather very happy so long I got a working place. Later, I realised that without a permanent position I would not be able to continue my research. I was appointed as a Reader in the Department of Biochemistry in the Institute of Medical Sciences of Banaras Hindu University and served the university till 1997. During this time, my husband and I, together built the Molecular

Biology Unit with a lot of pleasure (and some pain). After superannuation, I returned to Kolkata. My lust for science continues. I still enjoy doing experiments, with my own hands and I am happy.

Now if I am asked, why I became a scientist, my answer will be, it was my strong inner will and my husband's desire who wanted me to do better. I do science since I love it.

There is a saying, 'There is a woman behind every successful man'. I feel the reverse is also true. 'There is a man behind every successful woman!'.