



38

The amazing world of life science

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I wonder if I had ever thought that I would be a scientist, explore the unknown, and work on living animals to decipher the mysteries locked in the non-descript simple egg! Born during pre-independence era, I grew up in the euphoria of post-independence. The world just opened up in the most unpredictable way! My father Shri Bhagabat Mohanty had relinquished a lucrative job as an engineer under the British Government, had a successful career as a contractor and financed the independence movement. My mother Shrimati Nisamoni Devi became a freedom fighter. Growing up in a house which became a hub of independence movement, I was exposed to the women who were breaking grounds in the most-unpredictable way.

Education in those days was more of a routine affair. As my father chose to build our house in a secluded place, I was homeschooled until roads came up to our house so that I could take a bus to Ravenshaw Girl's school. Going to a girl's school meant a life of leisure but being inculcated with a spirit of independence and a life without barriers meant a rather zig-zag career. I took music as optional subject in high school, and opted for science in college. Going to the majestic and co-ed-Ravenshaw

College was a big transition. The striking buildings, the quadrangle, the manicured lawns and seasonal flowers were overwhelming. The world of science was enchanting and doing experiments was a joy. Like most girls in science those days, I wanted to be a doctor but could not be admitted as I missed the mandatory age for entering and therefore, had to opt for B.Sc. instead. Being fascinated by animals, I took up Zoology honours and my life took a decisive turn. After B.Sc. I did not want to enter the Medical School. I went to Lucknow University for my masters which was both adventure and eye-opener.

I returned to Orissa after my M.Sc. and took up a teaching position in the newly opened M.Sc. classes in Utkal University. I was exposed to research through the few journals we were receiving for the library. While pursuing various avenues, I was offered the Barbour Fellowship of University of Michigan, along with a Fulbright travel grant. I joined University of Michigan Zoology department in the beautiful city of Ann Arbor.

After my education mainly on theoretical materials, developing manual dexterity in dissection from guineapig to the lowly earthworm (one still does if one has to understand zoology all over the world in a restricted sense), mugging facts and figures of a variety of pickled animals from all over the world; learning by realistic experience in Michigan – fertilizing frog eggs, grafting live tissues to chicken eggs or crossing different strains of *Drosophila* to study genetics – was awesome. The experiments in physiology, cell biology and genetics charged with the euphoria of cracking of post-genetic code era; life science was gaining momentum. The miracle of fertilization, the unraveling of genetic programming in the nascent amphibians eggs starting with the lines of tension in cleavage, the complete division of egg and rearrangement of cells and appearance of different organs to make a tadpole and then the metamorphosis drew me to Developmental Biology. I completed my Ph.D. on the “Transfer of Maternal Serum Proteins and their Role in Development in the American Leopard Frog *Rana pipiens*”.

After my return to Utkal University, I built up a laboratory for research on amphibians and later endangered reptiles.

While pursuing super-regeneration in tadpoles under the influence of vitamin A (initially discovered by I.A. Niazi of Jaipur University,) we published our “Breakthrough” of transforming the tail to legs in amphibians known as homeotic transformation in *Nature* in January 1992. This drew international attention both to the phenomenon as well as to our laboratory.

Recognition has come in many forms, including the Padmashri in 1998: I was the first woman to be elected President of Indian Developmental Biologists, and was the first woman Vice-Chancellor of Orissa–Sambalpur University (1995-98). After retirement, I continue my study of science through memberships in various agencies and by writing on science.

Ultimately, science is a window of unlimited opportunities. Going to the lab is like an adventure everyday. The results of experiments, whether success or failure, enrich life like never before. Science is ultimately an art where life presents opportunities to feel and live it. Although I could have opted for a more glamorous career in pursuing dance (the art critic Charles Fabri wrote that I could have “name, fame and fortune”), I opted for science as it provided an opportunity where one can mould and nurture a career with a very private space. To me science opened up a world of unknown opportunities, seeing the world, interacting with many eminent scientists, artistes and policy makers – a charmed life which I will never regret.