

## Biographical Sketch of Dr. Shrinath Sheshgiri Kalbag

Born : 23 Oct. 1928, at Vile Parle, Bombay 54

Family Background: Shrinath, the youngest son of S.N. Kalbag, was born in Vile Parle, a remote suburb of Bombay at that time. His father had migrated from his native Karwar, in 1903 after he had to leave school to take up the responsibility for the whole family. His account of how through hard work, he lifted himself from poverty to establish a reputed business, always inspired Shrinath. Equally he was influenced by his mother who was devoted and religious. Even though brought up in a middle class well-to-do family, Shrinath was always inclined to religious austerity and ideological thinking. In this he got a fitting partner, when he married Mira Sharma. Mira shares all his interests and was always interested in philosophy. Whether it was trekking in the Himalayan ranges with rucksack and camping equipment or staying in Pabal village for the educational program, Mira has given a strong support. They have only one son, having adopted the one child family norm even in the early fifties.

### Education:

Shrinath's school education took place in Vile Parle at the now well-known, Parle Tilak Vidyalaya. In 1942, he had to shift to the Bombay City proper on account of the turbulence in international and national politics. There he joined Robert Money High School. After Matriculation with distinction, he joined the Elphinstone College and later the (Royal) Institute of Science. After BSC he joined the Department of Chemical Technology and did his B.Sc. Tech. with distinction, standing first among all the disciplines. After doing his M.Sc. Tech. in 1952, under Dr. J.G. Kane on Electrolytic oxidation of Soaps, a project he had formulated himself, he joined the food technology Department in the University of Illinois, USA. Here he worked on polarographic studies of Fat Oxidation and Fatty Esters of Sugars as Emulsifying Agents.

After earning his Ph.D. with all A-grades, he decided to return to India on ideological grounds, in spite of offers made to him by his Professor Dr. Kummerow. This had such an impression on Prof. Kummerow that almost thirty years later, Dr. and Mrs. Kummerow visited Pabal to see what their ex-student was doing and offered all help in passing on information etc.

Professional Career : After returning to India he joined the Central Food Technological Research Institute, a CSIR laboratory in Mysore. From the starting senior scientific Assistant grade he quickly rose to be a senior scientific Officer Gr I and in charge of Food Engineering pilot plants. In the CFTRI, he showed his initiative and innovative ability, by developing a number of new designs of equipment and processes etc. The major project was the integrated processing of groundnuts to separate oil, protein and carbohydrates as separate products. After operating a demonstration pilot plant for Tata Oil Mills Co. Ltd., the latter group set up their own plant in 1963-64. However they changed over to solvent extracted meal as a raw material, because the law now allowed this.

Dr. Kalbag left CFTRI to join Hindustan Lever Ltd. in their new research unit as a research scientist in 1963 and rose to be the head of the Engineering Sciences Group. His main contribution here was to set up a transfer of Technology group and facility, which under his leadership oils and fats, catalysts, soaps and detergents, agricultural chemicals etc. The last and the most significant was an entirely new process plant for industrial scale (5000 tons/years) Chromatography, completely controlled by a computer.

Other processes that did not reach commercial production, because of changed economic conditions, but were technically significant, were the manufacture of synthetic fatty acids from Bombay High Paraffins, column bleaching of vegetable oils (to produce water white rice brain oil) etc.

From his work in CFTRT and Hindustan Lever, Dr. Kalbag has a large number of patents several of them in commercial use, technical reports and some scientific papers. While in Hindustan Lever, he took active part in professional bodies and was chairman of the Indian Institute of chemical Engineers, Western Region. Here also he introduced innovation in the form of project study groups, leading to seminars and some useful publications viz. "Dispersal of Industries" and "Cost Estimation Procedure."

Dr. Kalbag has been elected fellow of the Indian Academy of Sciences (rounded by Sir C.V.Raman) in recognition of his work in the field of Technology. He is also a Fellow of the Institution of Engineers (India). More recently he has been selected by the BD Tilak Lecture Award for 1987.

Hobbies, Social Interests etc. :-

Dr. Kalbag has been ideologically bent and took part in various activities during his educational career. He conducted signly daily adult literacy classes for factory workers for nearly two years and acted as a social volunteer in the 1942-46 period. His interest in the practice of science led him to set up, jointly with his brother, a laboratory and later also a workshop at home for own projects. Here he prepared as development work, tartaric acid, hippuric acid, synthetic detergents, soaps etc and a petrol gas generator, set up jet pump, revamped septic tanks and many such jobs. This generated an appreciation of the educational value of such projects and also aquired wide variety of experience annd skills. His later experiences included overhaul or automobile systems revitalisation of a housing project. His other interests led him to spend 12 vaccations, trekking in the Himalayas, camping, yachting, home movies and generally to the love of nature.

His lifelong interest in eudcation was already evident in 1956 when on his return from USA, he promised to himself that he would take an early retirement from whatever job he has in 1982 and devote to improving the educational systems. Keeping his promise, he took early retirement from Hindustan Lever in 1982 at the age of 54 and started a project on non formal science education at Pabal, with DST support. He now stays in this village Pabal, for this projectand is helped by his wife Mira, who has completely devoted herself to this work, leaving their Bombay home comforts for the pleasures of Pabal. The philosophy of the project is simply stated as that working with the hand can stimulate the intellect and also give skills. This therefore provides a means of integrating education with development. Based on this phiolosophy, he has developed a system and a curriculum called "Rural Technology" featuring, learning by doing, problem solving orientation, and community services (paid) through education. This system is now recognised by the Board of Secondary Education, of Maharashtra, as open to all schools from June 1988. As part of this educational program, his group has developed a number of innovational projects such as the low cost geodesic dome housing, the free standing poultry houses, the diesel cart, the low cost-weight Earth Resistivity meter, the Rs.5000/- village workshop etc.

He hopes that such a system of technical schools, spread through Indian villages, will develop inventors from the local telent, and could provide technical input for all local activities. This way education will become the cutting edge of our development plans for the rural areas.