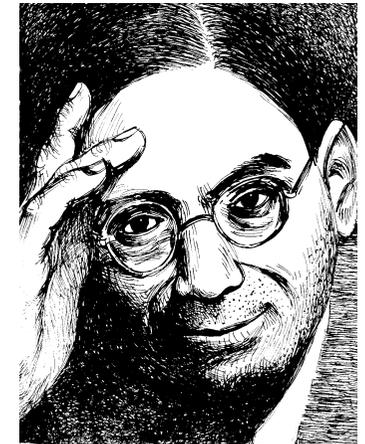


“Statistics must have a clearly defined purpose, one aspect of which is scientific advance and the other human welfare and national development.”
– P. C. Mahalanobis

The Professor, as Prasanta Chandra Mahalanobis was popularly known was a physicist by training, a statistician by instinct and an economist by conviction. It is interesting to note that his major achievements were in fields in which he had no formal degree. This is perhaps, a good example to emulate as the distinguished biologist J. B. S. Haldane said:

“I consider it desirable that a man’s or woman’s major research work should be in a subject in which he or she has not taken a degree. To get a degree one has to learn a lot of facts and theories in a somewhat parrot like manner. It is rather hard to be highly original in a subject in which one has learned with a view of obtaining first class honours in an examination.”
– J. B. S. Haldane



Mahalanobis was born on 29 June 1893 in Calcutta. He was the eldest of two brothers and three sisters. His family was wealthy and imbued with the liberal values of the Brahma Samaj traditions. He had his early education in the Brahma Boys School in Calcutta and obtained the BSc degree with honours in

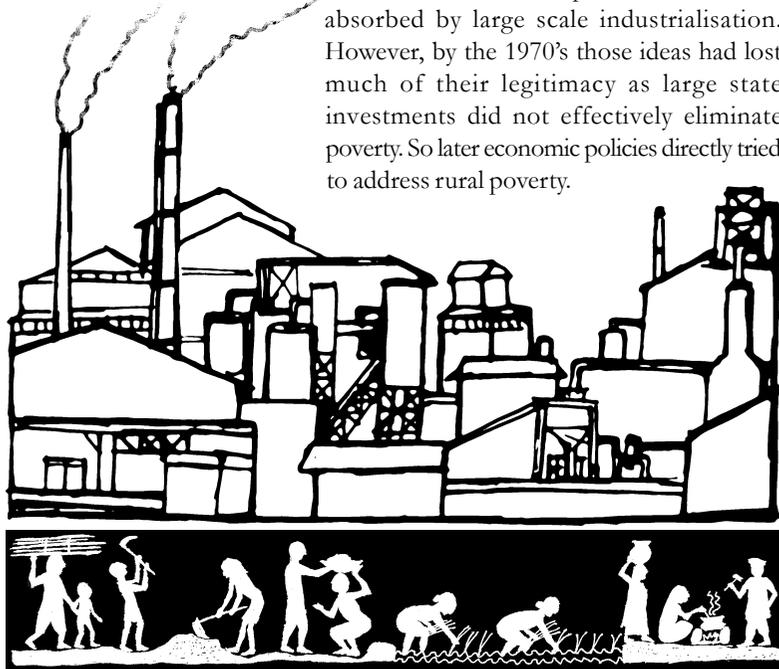
physics in 1912 from the Calcutta University. Mahalanobis was a contemporary and a friend of Satyendra Nath Bose and Meghnad Saha.

His wife Nirmalakumari was a major influence in his life and helped in all his endeavours. She too came from a very progressive family.

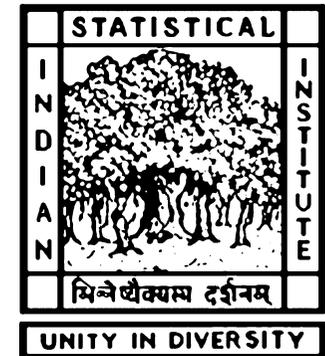
Mahalanobis's most remarkable and lasting contributions were the setting up of large scale surveys, the application of statistical theory to a variety of concrete Indian problems and the creation of world class institutions. After studying mathematics and physics at Cambridge, England, he worked for a while at the Cavendish Laboratory and returned to India in 1915 for a short vacation. He found many challenging problems in India and decided to stay back. He began teaching physics at the Presidency College where he analysed examination results using the statistical method. He enjoyed this work so much that he left physics and fell into love with facts, figures, graphs and charts. Before Mahalanobis arrived on the scene statistics was virtually unknown in India. The subject was not taught in any Indian University.

Mahalanobis was the pioneer of survey sampling techniques. Soon after Independence he was appointed statistical advisor to the newly formed cabinet. He drafted India's Second Five Year Plan in 1955 which envisaged rapid industrialisation to eliminate unemployment. He recommended large investments in heavy industries and steel factories. His views on planning reflected the economic crisis of the 1940's - a labour surplus which had to be

absorbed by large scale industrialisation. However, by the 1970's those ideas had lost much of their legitimacy as large state investments did not effectively eliminate poverty. So later economic policies directly tried to address rural poverty.



Fascinated by statistical methods he began studying these intensively and started a small statistical laboratory in the college. This evolved into the Indian Statistical Institute (ISI) in 1932. He also started publishing *Sankhya: the Indian Journal of Statistics* in 1933. He nurtured and edited the journal all his life. He founded the National Sample Survey (NSS) in 1950 and the Central Statistical Organisation (CSO) in 1951.



The ISI did pioneering interdisciplinary work and collaborated with leading scientists from all over the world. J. B. S. Haldane the famous British scientist migrated to India and joined the ISI as a regular staff member. Under his guidance the ISI soon became a leading centre in India for research in human and plant genetics. Norbert Wiener, the world renowned mathematician and father of "cybernetics" spent six months as a distinguished professor at the Institute.

Mahalanobis used statistical methods to better understand an enormous range of social and physical phenomena. In the early 1920's, he used data from the Anglo-Indian community in Calcutta to arrive at measures of differences in the physical characteristics of communities. In the 1930's the Central Jute Committee approached him to conduct a survey to estimate jute yield for the whole of Bengal. It was this large-scale survey that set the stage for the first round of NSS in 1950. These NSS rounds became the primary source of data for studies on Indian living standards and poverty.

What makes this list of achievements remarkable? When the NSS began, there were simply no large-scale surveys of its kind anywhere, let alone in the poorer parts of the world. More than four-fifths of the Indian population lived in villages and yet less than a third of these were connected by roads. The NSS attempted a low-cost survey to gather national data on the social conditions of households, many of whom lived in far flung areas. This required enormous technical expertise, energy, tenacity, and leadership that characterized Mahalanobis. Over the years India has produced several famous statisticians, most of whom have been associated with the ISI and some have made truly fundamental contributions. What distinguished Mahalanobis was the range of practical questions he was interested in and the seriousness with which he applied scientific methods to their exploration. "Statistics must have a purpose," was Mahalanobis dictum.

Mahalanobis received many awards from academic societies all over the world for his contributions to statistics and economic planning. He was elected a Fellow of the Royal Society (1945). He was the founder fellow of the Indian National Science Academy (1935) and its President (1957-58). He received honorary doctorates from Calcutta, Delhi, Stockholm and Sofia Universities. The Government of India honoured him with the Padma Vibhushan in 1968.

W. A. Deming the famous American statistician expressed his admiration for Mahalanobis in these words:

“No country, developed, underdeveloped or overdeveloped, has such a wealth of information about its people as India has in respect of expenditures, savings, and time lost to sickness, employment, unemployment, agriculture and industrial production.”

And for this we need to salute the father of Indian statistics – P. C. Mahalanobis who breathed his last on 28 June 1972 at the age of 79.

