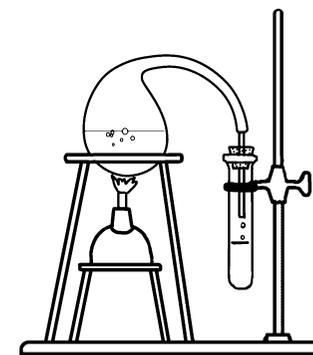


"It is difficult to believe that the man in simple Indian dress wearing simple manner could possibly be the great scientist and professor."
 - Gandhi

The decade 1860-69 saw the birth of some of the most outstanding Indians – Rabindra Nath Tagore, Motilal Nehru, Madan Mohan Malaviya, Mohandas Karamchand Gandhi, Vivekananda and Prafulla Chandra Ray.

Prafulla Chandra was born on August 2, 1861 in a village which is now in the Khulna District of Bangladesh. After his initial schooling in the village his erudite father Harish Chandra shifted to Calcutta to give his children a better education. The young Prafulla was deeply influenced by social reformers of the Brahmo Samaj. He studied at the Presidency College since his own college – the Metropolitan College (set up by Ishwar Chandra Vidyasagar) did not have the requisite facilities. During his days chemistry was a compulsory subject in the Fine Arts (FA) course. In 1882, under heavy odds and with sheer brilliance he won the Gilchrist Scholarship and went to study science at the

Edinburgh University. Here the famous chemist A. C. Brown became his favourite teacher and guide. He finished DSc in 1887. Later he won the Hope Prize and became the Vice President of the University Chemical Society. His stay in Edinburgh made him passionately fond of chemistry.



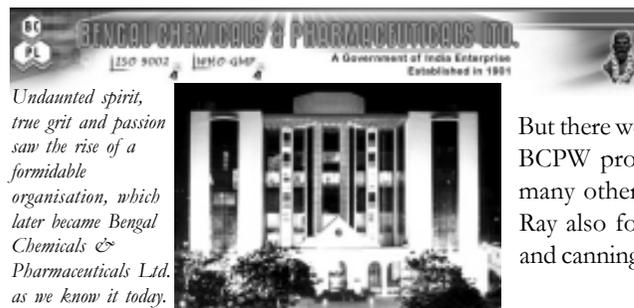
On returning to India in 1888 he found it difficult to get a University job as they were reserved for white men. Later, he got one and spent the next 27 years teaching at the Presidency College. Ray became well known as a very good teacher and enlivened his classes by actual demonstrations. Among his students were two future stalwarts, Meghnad Saha and Satyendra Nath Bose. Many bright students of that time – such as Nil Ratan Ghosh and J. C. Ghosh were attracted to him and this is how the first Indian School of Chemistry was born. Slowly, its fame and contributions spread far and wide.

Jagadish Chandra Bose – famous for *radio waves* was three years senior to Ray in College. These two friends were the flag bearers of Indian science at the threshold of the new century.

Ray had witnessed the synergy between science and industry during his stay in England. The British colonists were interested in exploiting India's mineral wealth but not in developing its industries. This task fell on Ray. He found time and money to research on pharmaceuticals, mineral acids and a host of other products. In 1901, this resulted in the establishment of Bengal Chemical and Pharmaceutical Works (which still exists, now called BCPL). But the going was tough. His attempts to produce citric acid from lemon did not succeed. He also failed to produce sulphuric acid commercially. But, finally he managed to produce caustic soda from cattle bones. On several occasions he had to convince

the police and his neighbours that he was not using human bones!

But there were huge spin offs. As BCPW prospered it stimulated many others to start industries. Ray also founded pottery, soap and canning factories.



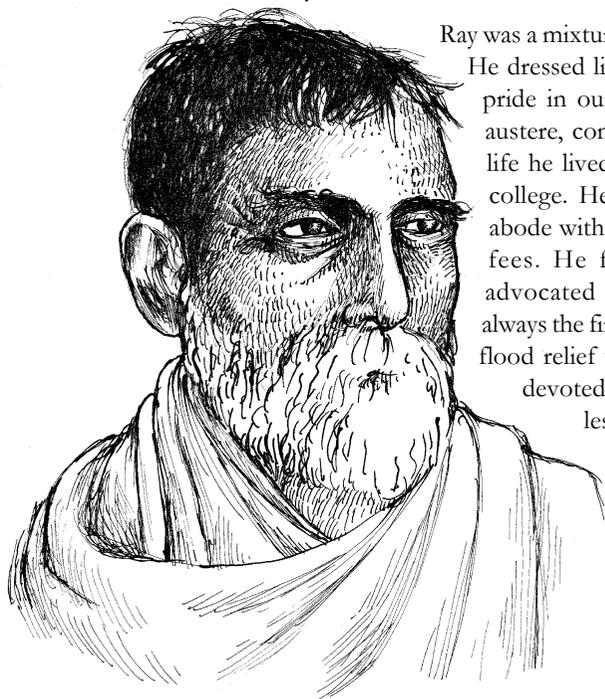
Undaunted spirit, true grit and passion saw the rise of a formidable organisation, which later became Bengal Chemicals & Pharmaceuticals Ltd. as we know it today.

Ray's research encompassed a wide field. Initially, he took up the issue of food adulteration. While searching for the missing elements in the Periodic Table he discovered mercurous nitrate. For several years he studied this salt and its derivatives. He published over a hundred research papers.

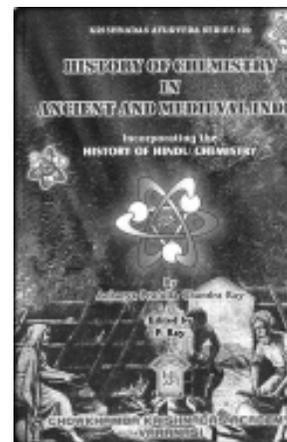
Ray was an ardent advocate of the use of the mother tongue as a medium of instruction in schools and colleges. In recognition of his contribution towards the advancement of Bengali, he was elected the General President of the Bangiya Sahitya Parishad (1931-34). Ray was a voracious reader of literature and history. He was fluent in half a dozen languages. He once claimed that he 'became a chemist almost by mistake.'

Ray was an ardent scholar and was determined to bring out the scientific achievements of ancient Indians, possibly to evoke the pride of his countrymen in their heritage. He wrote *The History of Hindu Chemistry* in two volumes. He wrote his autobiography in two volumes - *Life and Experiences of a Bengali Chemist*.

Ray was a living example of what a focussed human being could do with his time and talents. He retired from the Presidency College in 1916. For the next two decades, at the request of Sir Asutosh Mookherjee he worked as Palit Professor of Chemistry at the newly found College of Science, Calcutta University. Here his research school made important contributions to several areas of chemistry.



Ray was a mixture of tradition and modernity. He dressed like an Indian and had a deep pride in our heritage. His life style was austere, comparable to Gandhi's. All his life he lived in a single room above the college. He happily shared his humble abode with poor students and paid their fees. He fought untouchability and advocated widow remarriage. He was always the first to volunteer for famine and flood relief work. He never married and devoted his life to the welfare of the less fortunate. His affectionate pupils bestowed on him the title of *Acharya*.



He was knighted in 1919 and in 1934 became an Honorary Fellow of the London Chemical Society. He was showered with honours by several universities. The Indian Chemical Society born in 1924 chose him their Founder President.

C. V. Raman worked as a Palit Professor of Physics in the same Institute with P. C. Ray. Ray adored the young Raman about whom he said, much before he won the Nobel Prize, "If this temple of science produced only one Raman and nothing else, it will have amply justified the high expectations formed by its Founder."

By the time of his death on 16 June 1944 Profulla Chandra Ray had seen his country and countrymen advance far beyond what he had known in his youth. Some of his dreams came true but the biggest of all - the country's freedom, he was not destined to see. But he had trained and inspired a whole generation of chemists who were to carry on his work in free India. They never forgot their debt to him and always referred to him as the *Father of Indian Chemistry*. In paying homage, the July 1944 issue of *Nature* magazine wrote, "Sir Prafulla was more than anyone else, responsible for the great development of scientific research in India during the past fifty years...."

