

# Acharya Prafulla Chandra at the College of Science

*Gurunath Mukherjee*



Gurunath Mukherjee is Sir Rashbehary Ghose Professor of Chemistry of Calcutta University. His major research interest is in metal-ligand complexation equilibria of relevance to biological systems.

## Dream of Life

The College of Science of Calcutta University was founded in March 1914, by Vice-Chancellor Sir Asutosh Mookherjee. For this, a piece of land at 92 Upper Circular Road (now Acharya Prafulla Chandra Road) was donated by Sir Taraknath Palit, who together with Sir Rashbehary Ghose and the Raja of Khaira Estate provided funds for construction of buildings and creation of several faculty positions. Anticipating these developments, Sir Asutosh had already invited Prafulla Chandra in 1912 to be *'The first University Professor of Chemistry'*.

Prafulla Chandra, then a Professor of Chemistry in Presidency College, received the invitation letter in London where he was attending the Congress of the Universities of the Empire as a delegate. He wrote back, *"I look upon the proposed College of Science as the realization of the dream of my life and it will be a source of gratification to me to join it ..."*. Prafulla Chandra retired from Presidency College in 1916 and joined the College of Science as the first Sir Taraknath Palit Professor of Chemistry in the same year. He was fifty five.

## Research School

He had already created history while working in Presidency College – by his teaching, his research, his industrial activities and by his remarkable book, *'History of Hindu Chemistry'*. His activities progressed unabated and in fact, got augmented after he arrived at the College of Science. He was already recognised as the originator of chemical research in India and he then proceeded with renewed vigour to work in new areas especially on the chemistry and coordination chemistry of sulphur com-

pounds and noble metals as elaborated in another article in this issue.

Prafulla Chandra's research school flourished more than ever before with the likes of N R Dhar, J C Ghosh, P K Bose, J N Mukherjee, P Rây, P B Sarkar and H K Sen. One of his young research associates, now 90, Nripendra Nath Ghosh, who retired from the College of Science in 1975, recalls with great nostalgia the first synthesis and characterisation of the two isomeric forms of  $\text{IrCl}_3 \cdot 3\text{Et}_2\text{S}$ . At that time funds for research equipment were not easy to come by and this had both a negative and a positive effect on research work especially for those in the physical chemistry area. Prafulla Chandra has described how this actually helped J C Ghosh to proceed with his seminal work on conductivity. *'Deprived of the use of apparatus he shut himself up in his room in the College of Science .... He tabulated the enormous data on conductivity and by a sort of happy sagacious intuition arrived at the equations...'*

## Indian Chemical Society

It has hitherto been the custom to publish research papers in the chemistry journals in England, Germany and America. Prafulla Chandra himself was publishing most of his works in the *Journal of the Chemical Society*, London. It was increasingly felt by him and his associates that time has come to start a chemical society in India with a journal as its organ. The idea was discussed in 1919 by S S Bhatnagar (a grandpupil of Prafulla Chandra), J N Mukherjee and J C Ghosh, then working at the University College Chemical Laboratory, London. They felt that an Indian Chemical Society should be established with Prafulla Chandra as the President.

The Society was finally established in 1924 with a generous donation from Prafulla Chandra who also agreed to be the President for the first two terms. The London Chemical Society sent this telegram, *"Hearty congratulations and warm wishes to the newly formed Indian Chemical Society"*. The *Journal of the Indian*

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*Chemical Society* was first published in November, 1924 and *Nature* magazine welcomed it, "The new journal is a welcome illustration of the development which has taken place in Indian Chemistry during recent years". The magazine also noted that, "... the College of Science, Calcutta, ... for many years past, has been the backbone of chemical research in India".

### Relief Work and Prize for Students

Prafulla Chandra's charity and social work had become legends. Whenever natural calamities struck he was always there organising relief centres. The public raised large sums to help him out with the work and he himself contributed everything he could. The Khulna famine of 1921 and the North Bengal flood of 1922 stand testimony to the services he provided for the stricken humanity. His diary has the following entry against October 6, 1922, "... again I am called upon to organise relief work, however incapable I might be to cope with the situation. The research work, strange as it may appear, goes on merrily...". In times good and bad, Prafulla Chandra's chemical research was always in the forefront.

The College of Science was one of the major beneficiaries of Prafulla Chandra's charity. Upon completing sixty in 1921, Prafulla Chandra made a gift of his entire salary from that time onward to the University with the stipulation that the accumulated money should be spent for extension and development of the Department of Chemistry in the College of Science and for the creation of two research fellowships in chemistry. The total value of the gift amounted to about rupees two lakhs. In 1922, he made a further endowment for an annual research prize in chemistry in the name of the great alchemist Nagarjuna.

At the time of his retirement, he made a further endowment for creating a research prize in zoology and botany, named after Asutosh Mookherjee. During his BSc studies in Edinburgh University, Prafulla Chandra had chemistry, zoology and botany as science subjects. He thus had a genuine secondary interest in

what we now call life sciences. Indeed, immediately after joining Presidency College in 1889, he wrote an illustrated zoology primer for children. Later, he and some of his friends established a Nature Club. He also carried out some experiments with the poison fangs of cobra and studied the mechanism of snake bite.

## Museum

Out of his gifts to the University, several rooms were added to the southwest wing of the Chemistry Department for housing laboratories, a library and the Indian Chemical Society. One of the rooms, divided into three compartments by partition to serve as the kitchen, storeroom and bedroom, was gifted back to him and that is where Prafulla Chandra lived his life of extraordinary simplicity. He became an icon of plain living and high thinking. A few years ago, the University established the '*Acharya P C Rây Museum*' covering part of the space used for his living. The museum houses his personal belongings, his collection of books, manuscripts and reprints of his articles and lectures and a few of the equipments used in his research. Prafulla Chandra was a lover of literature and biography. He was particularly fond of Shakespeare and the museum has a collection of many of his plays with personal notings by the chemist. In Prafulla Chandra's own words, "*My acquaintance with Shakespeare ripened into a close friendship and my appetite for the dramas grew by what it fed upon even during my boyhood...*".

Prafulla Chandra retired from Palit Professorship in 1937 when he was made an Emeritus Professor for life. A grateful College of Science has instituted the '*Sir P C Rây Research Award*' for the best doctoral research work in chemistry. Further, the Indian Chemical Society awards the '*Acharya P C Rây Memorial Lecture*' award annually to a chemist. Prafulla Chandra died on June 16, 1944 in his room in the College of Science. The museum is kept open to the public on all working days. Here lived the man who initiated modern chemical research in India.

## Suggested Reading

- [1] *Acharya Rây Commemoration Volume*, Calcutta Orient Press, Calcutta, 1932.
- [2] Prafulla Chandra Rây, *Life and Experiences of a Bengali Chemist*, Chuckervertty, Chatterjee & Co. Ltd., Calcutta, 1932.
- [3] *Calcutta University Calendar*, 1942.

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