

## **BIBHU BILAS BHOWMIK**

**(1907-1970)**

**Elected F.N.I. 1959**

### **BIRTH AND EDUCATION**

SRI BIBHU BILAS BHOWMIK was born on October 10, 1907 in Shyrmnagar, District Nadia, West Bengal. He was the only child of Baman Das Bhowmik and Sarat Kumari Devi. His father passed away when he was two and his mother when he was ten. He went through much hardship right from his childhood, and had to go over to Arrah in Bihar to live with a relative. After passing the Matriculation examination from Arrah Zilla School in 1924, he joined the Patna Science College. While studying for his B.Sc. examination he took up a part-time job at the Patna Medical College, serving as Technical Assistant to Capt. P. B. Mukherjee, the well-known Radiologist.

### **INTEREST IN X-RAY ENGINEERING**

The opportunity of handling various types of X-Ray machines at such an early age inspired Bhowmik to pursue the study of X-Ray Engineering in his later life. Right from his youth, he cherished the dream of manufacturing scientific instruments and planned his career accordingly.

After taking his B.Sc. degree, he entered the M.Sc. Physics class of the Patna University and also continued his service at the Patna Medical College. His chief, Capt. Mukherjee, was kind enough to adjust his duty hours according to the Post-graduate schedule.

In 1931, Bhowmik came to Calcutta and joined the Applied Physics Department in the University College of Science as a Post-Graduate student. Applied Physics was his subject of preference because it introduced him to high voltage systems, so essential for the study of X-ray Engineering. Here, he came in contact with eminent scientists like Professors P. N. Ghosh, S. K. Mitra and M. N. Saha. He proved to be a worthy student and his talents were recognised by Professor P. N. Ghosh, the then Head of the Department of Applied Physics.

After taking his M.Sc. in Applied Physics in 1933, he engaged himself as a trainee under Professor L. G. Vimar, the well-known French X-Ray Engineer of those days. In 1934, Bhowmik proceeded to England with a Guru Prasanna Ghosh Travelling Fellowship to join the Queen Mary College of the London University, where he worked under Professor McGregor Morris in the Department of Electrical





*B. D. Bhowmik*

Engineering. He secured his M.Sc. (Engng.) degree in 1937; meanwhile during vacations he underwent practical training in several well-known firms manufacturing X-Ray equipment.

### PIONEER IN X-RAY EQUIPMENT

His ambition was to establish an X-Ray equipment manufacturing firm of his own in India and he never deviated from this ideal. Even when he was offered a lucrative job by Westinghouse in U.S.A. and subsequently to become the Chief X-Ray Engineer of Westinghouse in India, he declined the offer. Instead, he accepted a research scholarship by the French Government to work under the famous French High Voltage Engineer, Professor Pauthenier. Bhowmik collaborated with him in designing the famous Pauthenier High Voltage Generator and also worked on different models of van de Graff generators. He was undertaking training in different High Voltage Institutions in France and Germany when the Second World War broke out.

Bhowmik had to give up all research and practical training and return home. The situation in Europe rapidly worsened and the return journey by sea route was fraught with danger. So, he travelled halfway across Europe and Asia Minor by the land route passing through Turkey, Damascus, Baghdad etc. He arrived safely in Calcutta in September, 1939.

### PROFESSIONAL CAREER

He took up a new challenge in his professional career. Instead of accepting a teaching or research position in a University, for which he was eminently qualified, he started on his own a small workshop for developing scientific instruments. Nationalist leaders like Syama Prasad Mukherjee, Dr B. C. Ray and scientists like Professors M. N. Saha and S. N. Bose lent him support in this venture. Dr B. C. Ray offered him the job of Visiting X-Ray Engineer of all the Hospitals in West Bengal and Shri Bhowmik also occasionally delivered lectures on High Voltage Engineering at the Applied Physics Department in the Calcutta University.

A research scheme for the study of permanent magnets and magnetic materials under his guidance was granted by the C. S. I. R. His efforts in research and development soon bore fruit.

A Faradic precision electro-medical instrument and other types of machines for Physiotherapy were developed for the first time in India. These machines were very useful to the country because they could serve the defence departments during the War. Within a few years, Bhowmik made a remarkable contribution in the field of High Voltage Engineering. He manufactured High Voltage Transformers with indigenous materials and this led to the foundations of X-Ray Industry. He was a pioneer in manufacturing X-Ray Equipment in India.

His achievements received recognition all over the country. Sir C. V. Raman visited his workshop and was so impressed that he mentioned in one of his lectures that he had seen in Calcutta X-Ray machines being fabricated in a little hut.



In the pre-Independence days indigenous products had to face stiff competition. In spite of these difficulties, Shri Bhowmik's X-Ray machines found a market all over India. He underwent heavy financial difficulties and immense strain to pursue his ideals but never deviated from them.

In the field of academic research, his transformers found wide application, X-Ray diffraction machines which were being imported from abroad were fabricated by him. Researches on X-Ray crystallography and electron-diffraction became more productive due to easy availability of X-Ray Units in India. Several electron diffraction units were set up using his high voltage power supply which were found useful in various branches of Physics, Chemistry, Engineering Sciences and in Testing Laboratories.

### HONOURS

He was rewarded with honours within a few years. The Indian National Science Academy elected him a Fellow in 1959. The Indian Science Congress elected him the Sectional President of the Engineering and Metallurgy Section in 1955. In a book on the International History of Development of X-Ray Industries entitled *The Trail of Invisible Light* (Ed. : E. N. Grigg), his pioneering efforts in the field of X-Ray Engineering in India found appreciation.

As pioneer founder of high voltage priority industry in India, Shri Bhowmik will be remembered throughout the country for generations. His development of technical knowhow for high voltage instruments is still an inimitable achievement.

### MARRIAGE AND FAMILY LIFE

In 1931, Shri Bhowmik married Smt Saroma Devi, who in later years became well known to art lovers of Calcutta as a distinguished painter. His only daughter, after securing a Doctorate in Physics with specialisation in X-Ray Crystallography, became actively involved in her father's enterprise.

In 1969, Shri Bhowmik went to Japan and made a tour of various centres in U.S.A. and Europe to gather experience in the latest advancements in his field of interest. He returned home in early 1970, after a successful mission, radiant with high hopes of infusing new vitality to the indigenous X-Ray industry of India. But it was destined otherwise. He fell ill shortly afterwards, and the doctors diagnosed cancer at an incurable stage. The end came on December 18, 1970 with many a dream unfulfilled, and his daughter took up the responsibility of continuing his unfinished work in the field of indigenous manufacture of X-Ray equipments in India.

GOURI RAY



**BIBLIOGRAPHY**

1936. The Sixth International Congress of Physical Medicine. *Sci. Cult.*, **2**, 32.
1938. The Industrial Welfare Movement in Great Britain. *Sci. Cult.*, **4**, 31.
1946. Manufacture of electrical measuring Instruments-I. *Sci. Cult.*, **12**, 275.
1949. Manufacture of electrical measuring instruments-II. *Sci. Cult.*, **14**, 289.
1955. Manufacture of X-ray and high voltage equipment. Sectional President's Address—  
Science Congress Session 1955 at Baroda.
1959. *High Voltage Engineering*. Radon House, Calcutta.

