AMIYA CHANDRA BANERJI

(1891-1968)

Foundation Fellow 1935

AMIYA CHANDRA BANERJI, the eldest son of Gyanendra Chandra Banerji, a Zamindar of Maheshtala in 24-Parganas was born on September 23, 1891 in Bhagalpur, the home of his maternal grandfather, where his father was practicing law. The young Amiya spent his childhood with the family of his maternal grandfather at Bhagalpur.

EARLY LIFE AND EDUCATION

Before formal school education, the child Amiya received the fundamentals of cultural education at home according to Brahmo beliefs. A high sense of duty, tolerance towards fellowmen, comprehension of human values marked this early training. His formal school education was at the Bhagalpur Zila School where he came under the influence of inspiring and devoted teachers. In his own words "I vividly remember the Head Master of my High School who inspired me to become a teacher." Thus it would appear that his resolve to become a teacher was made quite early in his life. After a brilliant school education, Banerji came to the Presidency College, Calcutta. Here he came in contact with many pioneer scientists including Acharya Jagdish Chandra Bose and Acharya Prafulla Chandra Ray. His mathematics teacher, Shyam Das Mukherji had a very original mind and encouraged challenging thoughts from his students. Banerji passed the M. Sc. examination from Calcutta University in Mathematics in 1913 in the first division. At this stage, the question of the future of young Banerji came up. He was offered a job in Government. At the same time, he came to know that the Government of Bihar had offered a scholarship to an M. A. or M. Sc. in Mathematics for further studies in England. Young Banerji had no hesitation in making the choice. He applied for the scholarship and was selected. On 5th September 1915 he left for Britain.

HIGHER EDUCATION IN U.K.

A. C. Banerji was at Clare College, Cambridge, from 1915 to 1919. He was a Foundation Scholar at the College, where he obtained a first class in Part I of the Mathematical Tripos, and became a Wrangler on passing the Part II in first class and secured the *Owst Prize* awarded to the best candidate in Mathematical

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Tripos. Soon after, he joined the Cavendish Laboratory where he came in close contact with such distinguished Professors as Eddington, Hardy, Larmour, Wilson and Chapman who had a profound influence on his life and his making. One of his students writes,*"Professor Banerji's insistence on observance of rigour in mathematical proof was almost proverbial. He tolerated no lapses, not even the slightest departures. Even at the under-graduate level, Professor Banerji's teaching had an air of freshness about it. It was not the approach of Loney and Edwards—standard text book writers of the time—but the more modern analytical approach of Hardy, Ramsay and Besant that made his mathematics lectures interesting and prompted a desire for further knowledge among students".*

His Popularity

At Clare College, he not only proved to be a brilliant student but also distinguished himself in several other spheres of college life. He was very popular among his fellow students and was 'Daddy Banerji' to many of them, an acknowledgement of his genuine interest in their well-being. He was twice elected President of the Clare College Debating Society. His contemporaries admired him for the courage with which he defended his convictions. In the words of Dr. A. H. Mc-Donald, Fellow and former Senior Tutor of Clare College, *"he was one of the most distinguished old Clare men."*

Professional Career and Contributions to New Knowledge

On his return to India he was offered an appointment at Muir Central College, which later became the nucleus of the Allahabad University. He taught applied mathematics there. His methods of teaching as well as his mastery of the subject soon earned for him the admiration from his pupils. He showed that Mathematics was more than problem solving. He demonstrated that there was elegance in mathematical methods. He was fond of rigour. His love and affection for his students who showed intelligent interest and devotion to work knew no bounds of formality. They had full and free access to his personal notes and library. He did not believe in living in an ivory tower. He was very sociable by nature and lived a life of unsophisticated simplicity. In the evenings his home was a regular rendezvous of students, teachers and people from other walks of life. The discussions were lively, informal and informative. To many they were a liberal education. The content of his lectures, his devotion and approach to the subject and his personal contact with the students prompted in them a keen desire for further knowledge and for advanced studies in Mathematics.

During his stewardship, the Mathematics Department of Allahabad University rose to great eminence. It was acknowledged as a pre-eminent Centre of Mathematical Studies throughout the country and attracted students from all parts of India. One finds today his former students occupying high academic positions and who remember him with gratitude and fondness.

He developed a good school of researches in applied mathematics in general

and theoretical astrophysics in particular. In theoretical astrophysics his association with Prof. M. N. Saha was of great importance. The two together made the school unique in the country which earned global recognition for it. Prof. Banerji's originality was recognised internationally from his very first work on 'the cepheid theory of the origin of the solar system'. It figures in almost all important books on astronomy. The idea was different from the then prevalent one of Professor Jeans of Cambridge. Almost of equal significance are his contributions, 'The physical theory of oscillating universe' and 'The method of promotion of the arms of a spiral nebula'. Each represents his deep and original thinking and boldness of expression, qualities inherent in him. Besides these, he and his students made important contributions in several fields like Astrophysics, Hydrodynamics, Wave Mechanics, Nuclear Physics, Theory of Relativity and Galactic Dynamics.

HONOURS AND DISTINCTIONS

In recognition of his eminence in his field, the Government of India wished to establish a Central Observatory and deputed him to America and England to visit laboratories and observatories there. Professor Banerji received many honours at home and abroad. He was associated with several scientific and academic organisations. He was:—

1. Fellow of the Royal Astronomical Society.
2. Foundation Fellow of the National Institute of Sciences (Indian National Science Academy) and its Founder Secretary.
3. Foundation Fellow of National Academy of Sciences of India, its Founder Secretary and elected Vice-President.
4. President of :
    (a) Debating Society of Clare College, Cambridge;
    (b) U. P. Secondary Education Conference;
    (c) Mathematics Section of Indian Science Congress (1940);
    (d) Banaras Mathematical Society (1941-44);
    (e) The Indian Astronomical Society; and
    (f) The Indian Planetary Society.
5. President, Calcutta Mathematical Society (1945-47, 1962).
6. Member, International Astronomical Union.
7. Member, Calendar Reform Committee.
8. Member, Standing Advisory Board in Astronomy.
9. President elect of Indian Science Congress, 1969.
10. Vice-Chairman of Birla Planetarium Advisory Committee.

Professor Banerji possessed many human qualities. He was honest, frank and had simple manners. He was a man of his word and a trusted friend. His students and colleagues held him in very high esteem. As a result he was elected Vice-Chancellor of Allahabad University.

As Vice-Chancellor, he proved to be a good administrator and the University made notable progress. In view of his vast experience as teacher and University

administrator he was asked to draw up the Constitution of Vindhya Pradesh University and later, after retirement, he was appointed Adviser to the Jadavpur University during 1956-58.

After 1958, he returned to Allahabad University as Emeritus Professor of Mathematics where he worked and guided research students till the very end. He died suddenly on May 31, 1968. Professor Banerji was an exemplary teacher, a great inspiring researcher, a man of vision, an affectionate 'Daddy' to his pupils, a democratic and able administrator. In tribute to him I cite the hymn of the *Rig-Veda*:

"We invoke your soul, which has journeyed in the path of space. Let it come back and be established in us".

R. S. KUSHWAHA

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