

Preface

During the late 1980s I worked on my doctorate degree in Physics at the Department of Physics of the University of Bombay (now Mumbai). As a part of my work I studied plasma physics, and there I came across Saha's equation. My curiosity was aroused and I started researching Saha's life, his research, his writings, and so on. One of his students (the late) Prof. Santimay Chatterjee, edited and published many volumes of Saha's work. It was of immense help in understanding Saha. My interest widened and I resolved to write his biography.

Meghnad Saha is one of the architects of Indian science. He played a prominent role in building scientific institutions in India. His theory of thermal ionization was a breakthrough in astrophysics. He was elected as a fellow of the Royal Society of London at the age of 34. His name was even proposed for the Nobel Prize in Physics.

He extensively studied subjects such as higher education, river management, flood control, multipurpose river valley projects, power and fuel, state reorganization, large-scale industrialization, archeology, calendar reform, and so on. He also worked on the National Planning Committee of India before independence.

Saha was an eminent scientist with vision. His editorials and articles in *Science and Culture*, the periodical he had set up, testify to this. In later life, circumstances forced him to enter Parliament, though he was interested in neither politics nor power. His sole objective was to reconstruct an independent India using science and technology, and the progress of all sectors of society. He was of the firm belief that only scientific research, quality education, and technological development can raise India to the level of advanced countries.

After the first 3–4 years of independence, Saha realized no well-defined policy existed for large-scale industrialization. The river valley development projects were not managed properly. The fields of higher and technical education were neglected. National planning was not executed the way it was intended. These facts made him restless. He always discussed these issues with his colleagues and friends, and referred to them in *Science and Culture* as well as other periodicals. But it was not enough to reach the ears of countrymen or politicians.

Because of this situation and his friends' advice, he made up his mind to enter the House of the People to raise his voice in protest. If visionary national leaders

would have involved him in an appropriate national reconstruction project with the necessary freedom, he probably would not have thought of entering Parliament.

His speeches in Parliament on diverse topics such as education, multipurpose river projects and flood control, planning, industry, atomic energy, refugees, and rehabilitation show his wide interests, depth of understanding, and sincerity. His speeches and discussions pointed out mismanagement of many programs of national importance and shortcomings of governance.

Saha had a multidimensional personality. His fervor about India's rapid progress in science and technology, the uplift of his countrymen, and optimization of the country's resources, was replete throughout the pages of *Science and Culture* and in his addresses, speeches, debates, and discussions in Parliament. Joseph Needham described Saha as one of India's most outstanding scientific men, who had intellectual interests much wider than the domain of natural science and an appreciation of the social responsibilities of scientists.

In this biography I have tried to convey his thoughts, beliefs, and work. The many topics he discussed and described, and the points he raised, are still relevant, even after 60 or 70 years. It shows his razor-sharp intellect and vision.

While reading this book, if something is too technical, please leave it and move ahead, for much information is given in the remaining text. I have no desire to belittle anyone or anything; if you find harsh words, they are the sincere opinion of a researcher.

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Saha Institute of Nuclear Physics (SINP) provided photographs related to Saha's life, and I am very thankful for these. Special thanks to Prof. M. S. Janaki of SINP for her efforts in procuring the photographs.

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Meghnad Saha

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