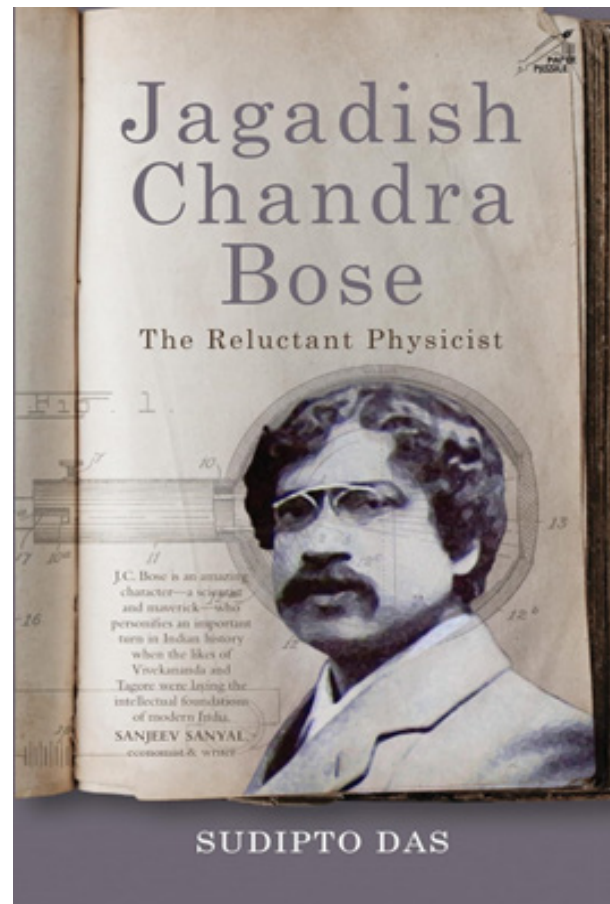


Jagadish Chandra Bose: The Reluctant Plant Physiologist and Physicist



Jagadish Chandra Bose: The Reluctant Physicist/ by Sudipto Das; Niyogi Books, New Delhi, 2024, hardcover, 392 pages, ISBN: 9789389136999.

While India is celebrating the Azadi ka Amrit Mahotsav (75th year of Independence), the book titled “Jagadish Chandra Bose: The Reluctant Physicist” is a golden tribute to the Indian scientists who made significant contributions to Swadeshi science. The concept of Aatmanirbhar Bharat (self-reliant India) was imbibed in their ideologies and practice. Sir Jagadish Chandra Bose (1858-1937) was one of the brightest scientists and institutional builders, who developed multidisciplinary interests in experimental science. He was an experimental scientist and science educator with focused

interests in physics, biophysics, plant physiology, and botany. For his experiments he indigenously designed and developed a number of scientific instruments, instead of using imported instruments. This led him to invent several scientific instruments, although he had shown disinterest in patenting those in the western nations. That is a kind of open innovations we are talking about today.

This book is consequential to another authentic biography of Sir JC Bose, written by Patrick Geddes that was published in 1920, well before the death of Bose while he was still in his prime age. Thus, the present book becomes an interesting addition to the existing literature on JC Bose with contemporary insights and twists. Sir JC Bose lately became a poster boy of Swadeshi Science Movement situated in the beginning of the third millennium, emphasizing on self-reliance in Science, Technology and Innovation (STI) ecosystems in the country. A battery of



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innovators and start-up entrepreneurs is presently engaged in development of science-based solutions to societal problems, including innovating solutions suited for the pre-COVID and post-COVID world.

This book is divided into four parts significantly describing the scientific journey of JC Bose, namely (I) In Search of Unity, (II) The Unity, (III) The Seeker of Unity, and (IV) Unity – The Search Continues. So, ‘Unity’ is a common word used in every part of this book that defines JC Bose, a personality who valued unity in diversity. The chapter title “The Prologue” gives us a glimpse of the historical meeting of JC Bose and Albert Einstein in 1926 in Geneva in the International Committee on Intellectual Cooperation of the League of the Nations. By then JC Bose already reached a legendary status and received honors from different states of Europe. He was a pioneer in many things connected to radio physics, as he published many significant findings on the optics of radio waves during 1894-1899. In 1998, a special issue of an IEEE Journal highlighted Bose’s contributions in radio science, which sparked re-emergence of Bose in the public psyche as he was closely associated with the discoveries related to radio communications (alongside Guglielmo Marconi). Although the 1909 Nobel Prize in Physics was awarded jointly to Marconi and Karl Ferdinand Braun “in recognition of their contributions to the development of wireless telegraphy”, Bose’s contributions in the radio science domain were lately recognized by IEEE and other international bodies. Bose’s theoretical framework was used in the development of 5G (5th generation) wireless technologies as well as in the giant radio telescopes, as mentioned in this book (p. 28-29). He also invented a semiconductor-based detector for electrical disturbances, which was patented in the United States Patent Office in 1904. That means India’s journey to semiconductor research began in the early 20th century by

Bose that flourished and matured in the early 21st century due to massive progress in electronic and telecommunication industries in the country and abroad.

The book then recorded Bose’s stride and struggle as a Swadeshi scientific institution builder, while establishing the Basu Bigyan Mandir (Bose Institute) in Calcutta in 1907 as a nationalist modern scientific research centre. He received whole-hearted support in his scientific experiments and research publications from Sister Nivedita and Mrs. Sara Chapman Bull, two ardent disciples of Swami Vivekananda, which was elaborated in the chapters title “Invisible Lives”, “The Lady of the Lamp”.

Bose’s close association with Rabindranath Tagore and Acharya Prafulla Chandra Ray helped him to spread his scientific knowledge to Bengal province and across India, making local intellectuals and educators aware of Bose’s scientific experiments and discoveries.

This book noted different anecdotes from his experiments and research publications reported earlier than the establishment of the Basu Bigyan Mandir. Many of the illustrations from Bose’s original publications and patents are reproduced in this book detailing their functionalities, making this book a treasure trove to the scientific enquirers of history of science in India.

The book is confined to the period earlier than 1907, the year of the establishment of Basu Bigyan Mandir. By that time many of his influencers and financiers passed away (such as Sister Nivedita, and Mrs. Bull), without experiencing the inauguration of a nascent nationalist scientific institution. The book missed a chance to include a book index to help the serious readers. The is a good read book for the enthusiasts of history of science and technology in India, intellectual history of South Asia, and Science, Technology and Society (STS) scholars.

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