A Noble Man Without A "Nobel"

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Celebrity author Leo Tolstoy has remarked in his short story entitled The Exile: God sees the truth, but waits…. This is exactly what happened, in case of J. C. Bose. Today, the world knows Marconi, an Italian experimentalist, as the inventor of radio waves. But it was Bose, who first invented a device called Mercury Coherer, which could transmit and receive radio waves. It is used in mercury tube and telephone. One of Marconi's close friends, Luigi Solari, a lieutenant in the Italian Navy, drew Marconi's attention towards Bose's invention. He made minor changes in the devices, such as the U–tube was turned into straight tube. A device just a replica of the Bose's instrument was presented for a patent by Marconi, on September 9, 1901. He was credited by the world for sending the radio signals across the Atlantic Ocean, for the first time.

He was invited to deliver a lecture on his invention at the Royal Society of England on June 13, 1902. During the speech, he did not even care to acknowledge the name of J. C. Bose whose pioneering efforts bore him the fruits.

Heinrich Rudolf Hertz was the original propounder of the theory of Radio Physics and Bose and Marconi used his research findings. Hertz died in 1894. Marconi won the Noble Prize in Physics in 1909. If Hertz had been alive then he would probably have shared the honor.

When Marconi was interviewed by the McClure magazine, the interviewer questioned, "What is the difference between these electrical waves, that can penetrate through mountains, buildings etc., and Hertz waves ?" Marconi uttered, "I can't say that, since I am not a scientist. In fact, I doubt whether any scientist knows it at all. But I can have a faint guess, that it may have something to do with waves…" The irony was, the person lacking the knowledge about the radio wave was awarded the Nobel Prize and honored as the father of solid state and microwaves. Moreover, the person, who actually devised the instrument from which the microwaves generated and transmitted for the first time, was left unrecognized and unsung in the history of science. Even one of the assistants and a biographer of Marconi, Mr. Vivian, clearly mentioned that it was nothing but the mercury coherer that Marconi used. In several writings, even Marconi admitted that he had no education or knowledge about radio waves.

During his lifetime Bose never considered all the dark games being played behind him. His belief was : It is the invention, which is of importance for the mankind, not the inventor. He never expressed grief for not receiving the prestigious Nobel Prize.

Bose invented several instruments, which have industrial applications even today. He was offered money and could have made a fortune but never accepted it. He never chased money and permitted anyone to use the fruits of his researches. He was very generous and noble; who never exploited the patents granted for personal and monetary gain. He talked about his inventions as if they were open to the entire world to adopt and accept for practical and money–making purposes. His patriotic zeal is displayed in the following words : "The spirit of our national culture demands that we should for ever be free from the desecration of utilizing knowledge for personal gain".

HIS FRIENDLY NATURE

Besides science, Bose was also interested in literature. Rabindranath Tagore, the Nobel Prize winning Indian poet, was a close friend of J.C. Bose. When Tagore visited Bose for the first time, he was not present. So Tagore put a flower bouquet on his desk, and these flowers came to form a link of friendship between the two great personalities. Bose always enjoyed his company. It was Tagore who encouraged him to spread the message of his scientific breakthrough all over the world. In those days, Rabindranath Tagore was not famous in the West. J. C. Bose helped him in publishing some of his stories. At the fag end of his life, Tagore wrote that his brothers, their families and several servants surrounded him in his huge mansion. Though he felt alone only Jagdishbabu helped him escape loneliness.

Not only Tagore, but also three other renowned personalities – Albert Einstein, Romain Rolland and George Bernard Shaw had intimate friendship with J.C. Bose.

Bose was a simple man bereft of ego and warm at heart. This helped him develop friendships with many a great personalities of his age.

BOSE RESEARCH INSTITUTE

Apart from his scientific inventions, Dr. J. C. Bose laid the foundation of Bose Bigyan Mandir, which is popularly known as Bose Research Institute. It was the first laboratory founded and funded fully by an Indian, in India. He spent about Rs. 5,00,000, the entire savings of his lifetime, to build and equip the Institute. He dedicated the Institute to the nation for the progress of science on November 30, 1917, his 60th birth anniversary. While inaugurating the Institute he said, "This is not a laboratory but a temple". Bose knew the importance of a well–equipped research center in India and wanted that every Indian should be full of enthusiasm to put India on the fast track of the scientific world.

His main aim behind the foundation of the Institute was to "wring out from nature some of her most jealously guarded secrets".

Bose worshiped in this Temple for 20 years, till his death. He stuck to the belief derived from his parents : "We should not depend on others to do our work, we ourselves must do our work, but before we can do this we must get over our pride". The Bose Research Institute, the fulfilled dream of Dr. J.C. Bose, is presently working as a full-fledged research center in Calcutta. Much of the original equipments used by Bose during the research work as well as his ashes are enshrined at the Institute.

ON J. C. BOSE

"J. C. Bose was at least 60 years ahead of his time…. In fact, he had anticipated the existence of P-type and N - type semiconductors."

- Sir Neville Mott
[Noble Laureate, 1977]

"By your discoveries you have greatly furthered the cause of Science. You must try to revive the grand traditions of your race, which bore aloft the torch light of art and science and was the leader of civilization two thousand years ago. We, in France applaud you."

- M. Cornu
[President of the Academy of Science, Paris]

"Simply stated, it is the position of the old Rishis of India, of whom he is increasingly recognized by his countrymen as a renewed type, and whose best teaching was ever open to all willing to accept it."

- Patrick Geddes
[Close friend of J.C. Bose, on Bose's anti-patent position]

J.C. BOSE: CAN WE CALL HIM THE FATHER OF RADIO?

Nearly 100 years after Guglielmo Marconi's first transatlantic wireless communication, a group of scientists of the US-based Institute of Electronics and Electrical Engineers (IEEE) reported that -"the origin and first major use of the solid state diode detector devices led to the discovery that the first transatlantic wireless signal in Marconi's world famous experiment was received by Marconi using the iron-mercury-iron coherer with a telephone detector invented by Sir J.C.Bose in 1898".

Bose's invention of the **"mercury coherer with a telephone"** which Marconi used was published in the **Proceedings of the Royal Society, London, on April 27, 1899**, over two years before Marconi's first wireless communication on **December 12, 1901, from New Foundland, now in Canada.**

Investigations by the IEE group show that both **Bose and Marconi were in London in 1896-97**. The Italian was conducting wireless experiments for the British post office and Bose was on a lecture tour. **Both the scientists were interviewed by McClure's Magazine (now defunct) in March 1897.**

In the interview, Bose came out with high praise for Marconi, then under attack from established British scientists who doubted his credentials. Marconi never could make it to college because of his poor high school record. Bose also said he was not interested in commercial telegraphy and that others could use his research work

In 1899, Bose unveiled his invention of the mercury coherer with the telephone detector in a paper at the Royal Society.

Brilliant Marconi quickly grasped the commercial importance of Bose's invention and began to explore it secretly. His childhood friend Luigi Solari started experimentally with Bose's invention and presented Marconi with a slightly modified design in the summer of 1901 for use in the upcoming transatlantic experiment.

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