

Remembering Prof. Abdus Salam in his Centenary Year

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THE partition of India in 1947 was a huge historical event that changed the course of life of so many people. A wide number of human stories are connected to the partition of India. The courses of life for a large population changed overnight. And a future Nobel laureate of Physics, Abdus Salam, is also possibly another example of this life-changing incident. He was born in a middle-class family in the undivided Punjab province of India exactly one hundred years ago and observed the partition of the country as a teenager. He has written and talked about those days in a candid manner. His life took a very different turn that led him to the pinnacle of physics research when he went on to share the 1979 Nobel Prize in physics along with two other physicists from the USA, Steven Weinberg and Sheldon Glashow. As per the Nobel citation, the Prize was awarded to them “for their contributions to the theory of the unified weak and electromagnetic interaction between elementary particles, including, inter alia, the prediction of the weak neutral current”.

Abdus Salam, in different interviews and writings, has talked about his background and about his early days in the backdrop of partition. Those have been put together in an article in a collection of essays of different frontline scientists; “One Hundred Reasons to be a Scientist” published by the International Centre for Theoretical Physics (ICTP) that Abdus Salam established at Trieste, Italy in 1964.

Prof. Salam wrote, “I was born in the country town of Jhang, then part of British India, now in Pakistan, on 29 January 1926. My father was a teacher and educational official in the Department of Education, and my mother was a housewife. I had six brothers and one sister. My family was by no means rich. My father took a vast interest in my schoolwork. He had great ambition for me.” Salam goes on to talk about this ambition of his father. Can you guess it? Did his father want him to be a physicist? Or an engineer or a doctor? Well, let us look at the reply; as Salam continues, “I was destined for the Indian Civil Service, entry to which was by competitive examination. However, that was not-to-be as events in my life took a different turn.”

Salam was a very bright student and received a government scholarship at the age of 14 for an outstanding performance in his school leaving examination, which took him to Lahore, some 150 km from his birthplace, Jhang, for the next level of study. He did very well in all the examinations and got another scholarship from the “Prime Minister of Punjab”

(of undivided India) to move to Cambridge for advanced study. Then what about the Indian Civil Service exam? Well, as Salam himself tells us, “The famous Indian Civil Services examinations had been suspended because of the war. It was 1946, and I managed to get a place in one of the boats that were full of British families leaving before Indian independence.”

The scholarship Salam received took him to St John’s College, Cambridge, where he enrolled in the undergraduate Mathematical Tripos and graduated in 1949. He had Double First-Class Honours in Mathematics and Physics. After this, the well-known astrophysicist Fred Hoyle advised Salam to spend one year in the Cavendish Laboratory to have a good exposure to research in experimental physics. However, that did not suit Salam’s interest. He settled for theoretical physics. He obtained a PhD in theoretical physics at Cambridge; his thesis, published in 1951, contained fundamental work in quantum electrodynamics, which had already gained him an international reputation.

After getting his PhD, Salam in 1951 came back to the newly formed country, Pakistan and joined the Government College, Lahore. He became a part of the mathematics faculty. Soon, he got the position of the head of the mathematics department of the University of Punjab in Lahore in 1952 and held that position for about two more years. Salam’s birthplace and his alma mater were in Pakistan after the partition. However, he felt he could not continue research along with teaching in Pakistan, and decided to leave for England. His research work was mostly done in England, and his collaborators were all from Europe or the USA. He did have a deep connection with Pakistan and contributed to a wide number of scientific programmes of that country. However, he never assumed the leadership of the academic or the scientific community of Pakistan. He remained a Pakistani citizen while carrying out his entire research work outside that country.



Prof. Abdus Salam