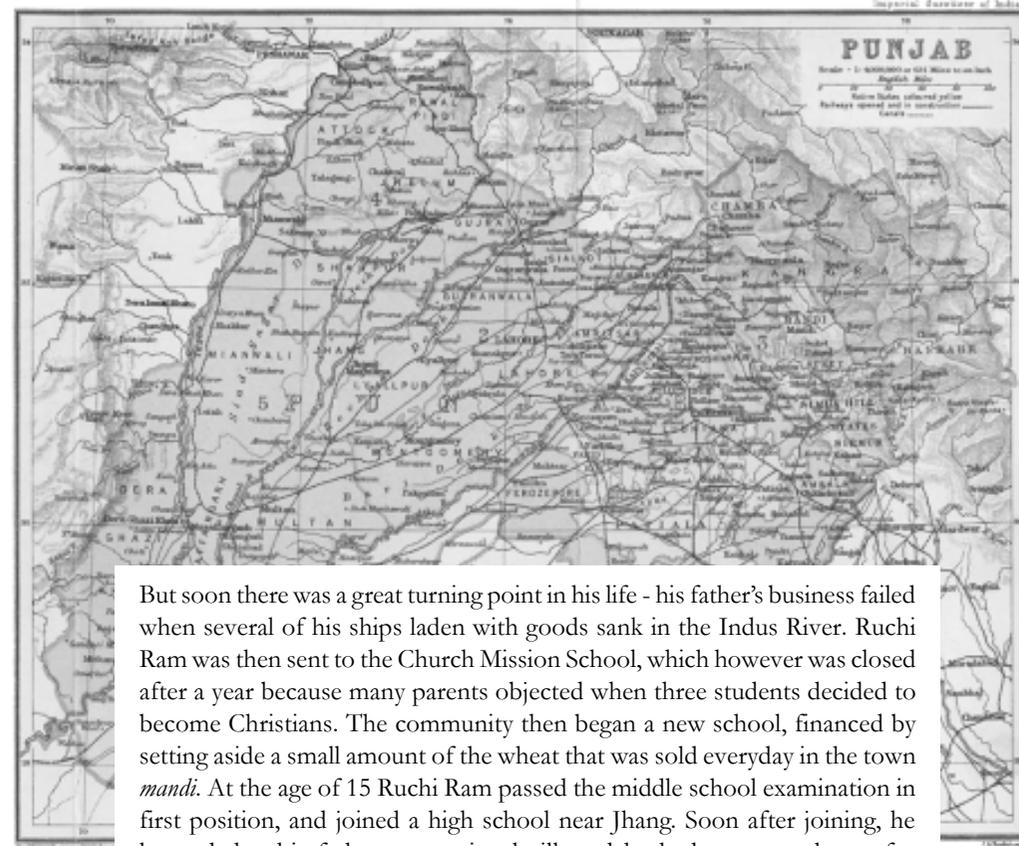
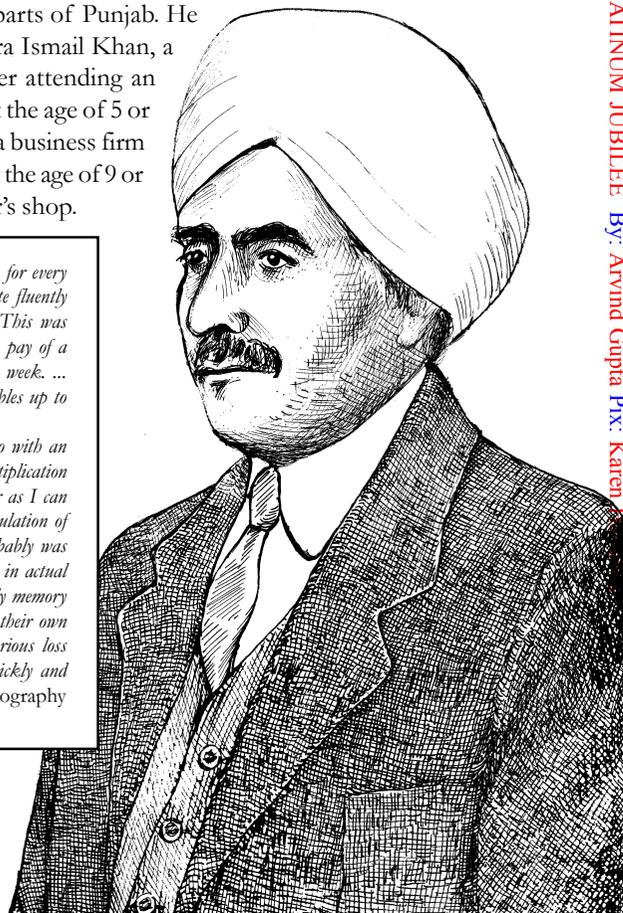


# Ruchi Ram Sahni

(1863 – 1948)

Ruchi Ram Sahni was a pioneer educationist who popularised and spread the knowledge of science in remote parts of Punjab. He was born on April 5, 1863 in Dera Ismail Khan, a small town now in Pakistan. After attending an informal school for a short time at the age of 5 or 6, he was sent to a small shop and a business firm for his practical education. Then, at the age of 9 or 10, he began working in his father's shop.

*"My father paid the Pandahji four annas in cash for every pabara (multiplication table) that I learnt to recite fluently and without hesitation or halting to my father. This was in addition to the usual fee which all boys had to pay of a certain quantity of atta, and a piece of gur once a week. ... When I left the Pandah I knew multiplication tables up to  $20 \times 35$ , and also the fractional tables. ... After leaving the Pandah, I spent a month or two with an ordinary shop-keeper - where I had to apply the multiplication table and the little arithmetic I had learnt. So far as I can remember, I had not much difficulty with the calculation of prices. The object of putting me to this work probably was to make me realise the value of what I had learnt in actual day to day transactions. The tables were not merely memory exercises - they had great practical application of their own and a mistake in their application may mean serious loss in business. The calculations had to be made quickly and correctly." - from Ruchi Ram Sahni's autobiography*



But soon there was a great turning point in his life - his father's business failed when several of his ships laden with goods sank in the Indus River. Ruchi Ram was then sent to the Church Mission School, which however was closed after a year because many parents objected when three students decided to become Christians. The community then began a new school, financed by setting aside a small amount of the wheat that was sold everyday in the town *mandi*. At the age of 15 Ruchi Ram passed the middle school examination in first position, and joined a high school near Jhang. Soon after joining, he learned that his father was seriously ill, and he had to return home for sometime. It was an arduous journey of 250 km each way, by cart, boat, and camel - or to save money, by foot. In 1879 his father died, leaving the family in dire straits. Ruchi Ram however decided to continue his studies. He passed BA from the Government College, Lahore, in 1884, securing the top position in Punjab University. Ruchi Ram was a great debater and took part in many extra-curricular activities.

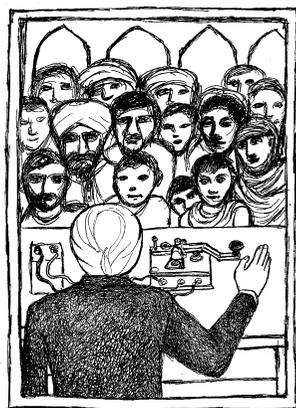
Due to economic necessity Ruchi Ram took up a job with the Meteorology Department at Calcutta. His inspiring teacher Professor Oman advised him to 'earn and learn' and complete his master's degree from the famous Presidency College. In Calcutta Ruchi Ram got deeply interested in the Brahmo Samaj and interacted closely with scientists and social reformers like Asutosh Bose, P.C. Ray and J.C. Bose. Later he was transferred to Shimla - the Headquarters of the Meteorology Department where he prepared 'daily' and 'monthly' weather reports. He made a remarkable forecast of a storm in the Bay of Bengal thus saving many ships from destruction by sending them a timely warning.

In 1887, Sahni joined as Assistant Professor of Science in Government College, Lahore and later became in-charge of the Department of Chemistry. He enlivened his lectures by experimental demonstrations and this made him a very popular teacher. The head of the department, a British Professor, felt jealous of Sahni's popularity and made life hell for him. In the end the self-respecting Sahni resigned and started a chemical factory which did not do well. In 1914, Sahni left for Europe to carry out research in the emerging field of radioactivity with Dr. Fajans in Germany. But before he could settle down World War I broke out and he had to quickly escape to England.

In England, Sahni was fortunate to work with the world renowned nuclear physicist, Lord Rutherford and collaborate with Niels Bohr. He published two research papers on scattering of alpha particles in photographic emulsion under joint authorship with Prof. Rutherford. He soon returned to India as the situation became critical in war-ravaged England.

After returning, Sahni joined the Punjab Science Institute (PSI) as its joint secretary. The PSI was set up by Prof. Oman with the objective of spreading scientific knowledge throughout the Punjab by means of popular science lectures with lantern slides and actual demonstrations. Punjab of those days stretched from Delhi to Peshawar. While in Shimla, Sahni had already given a series of popular science lectures on *Weather Forecasting*. These lectures became a great hit with common people. Village and urban folk, labourers and shopkeepers flocked to them, often buying a two-anna 'ticket' to witness the performance! This fee helped offset some of the travel costs. The themes of Sahni's popular lectures covered common, everyday subjects such as *Soap-making*, *The water Laboris drank before 1880*, *Pure and impure air*, *Electricity in the service of man*, *Electroplating*, *Glass-making*, *The Punjab and its rivers* (illustrated by a large relief map made in clay) and so on.

These popular science lectures were organized in mofussil towns and villages during festivals and fairs to attract huge crowds. To make the lectures attractive for villagers, they were projected theatrically. These lectures created a tremendous interest in the study of science. Sahni was always in demand and delivered over 500 popular science lectures!



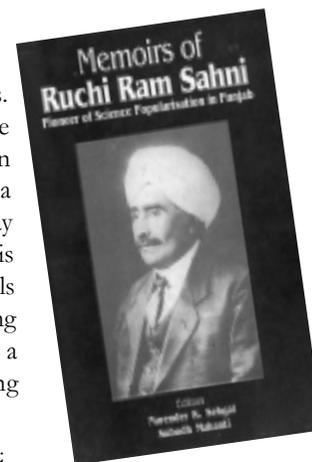
Sahni realised that schools and colleges had no labs. All science equipment was imported at a prohibitive cost. He set up a workshop in 1888, in his own house to manufacture high-quality, made-in-India science apparatus. For this he engaged a skilled railway technician, Allah Bakhsh, on a part-time basis. This science equipment was often gifted or sold to schools at cost price to promote experimental skills among students and teachers. The workshop later added a lathe and became renowned for manufacturing scientific equipment of high precision.

In 1893, Prof Sahni was invited by Sri Namjoshi - a well known social worker to attend a conference in Poona. Sahni took this wonderful opportunity to display all his scientific apparatus. A three member committee was appointed to examine and give its recommendations on the equipment. *The committee did not believe that the apparatus could have been made at Lahore or anywhere else in India.* They felt the instruments were made in England and all the PSI workshop did was to repaint them with Indian varnish to give an indigenous look! They simply couldn't believe that such precision instruments could be produced in India at half the cost.

In 1906, at a Calcutta Industrial Exhibition, these scientific exhibits were awarded the gold medal by a committee which had Prof. J.C. Bose as one of the judges.

Sahni retired as a senior professor of chemistry from the Government College, Lahore, in 1918. Later he came in contact with Mahatma Gandhi and fully immersed himself in the freedom struggle. He was a founder Trustee of *The Tribune*, which started its publication from Lahore. He was also a founder member of the Dyal Singh College and Library.

Professor Sahni had five sons and three daughters. His son Birbal Sahni – an eminent palaeobotanist was the first Indian botanist to win the FRS. In his autobiography *Self Revelations of an Octogenarian* Ruchi Ram Sahni vividly recounts his life's struggles. His grandson Prof. Ashok Sahni – an eminent geologist retired from the Geology Department of Punjab University, Chandigarh. His granddaughter Prof. Mohini Mullick inspired generations of students at IIT / Kanpur with her deep insights in *Symbolic Logic*. Prof. Ruchi Ram Sahni who ushered the scientific renaissance in Punjab died at the age of 87 on June 3, 1948, in Bombay.



*Memoirs of Ruchi Ram Sahni have been recently published by Vigyan Prasar.*