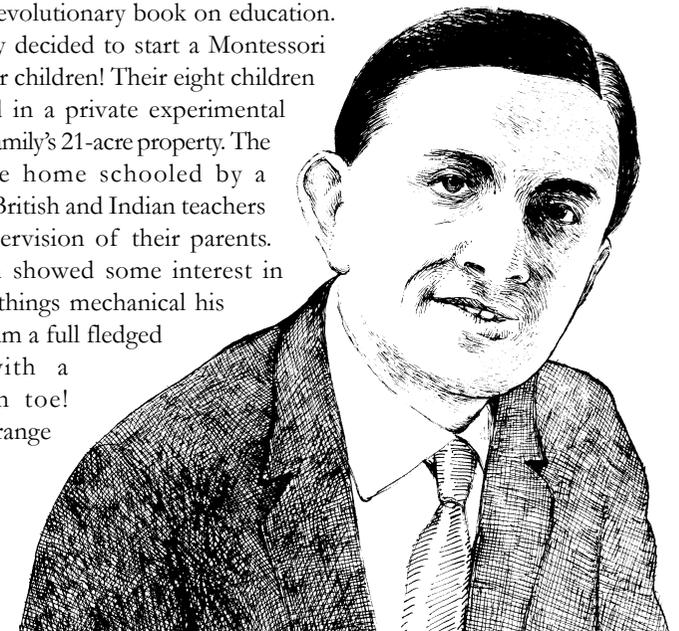




As a young boy Vikram Sarabhai loved a few cycling stunts. After his bicycle gained sufficient momentum, he would cross his arms over his chest and place his feet on the handlebars. If the road ahead was straight he would shut his eyes and let the bicycle carry him as far as it would go. All this while the terrified servants chased him and begged him to stop. This daredevilry is a bit difficult, to associate with his later scholarship – author of 80 scholarly papers on cosmic rays!

The seeds of this remarkable life were probably sown in early childhood and fostered by his unusual upbringing. Vikram Sarabhai came from a prosperous business family - which owned the famous Calico textile mill in Ahmedabad. While returning by ship in the 1920's his father Ambalal and mother Sarla read Montessori's revolutionary book on education. They promptly decided to start a Montessori school for their children! Their eight children were educated in a private experimental school on the family's 21-acre property. The children were home schooled by a succession of British and Indian teachers under the supervision of their parents. When Vikram showed some interest in tinkering and things mechanical his father gifted him a full fledged workshop with a supervisor in toe! Apart from a range



of extra-curricular activities the children had the company of distinguished visitors like Tagore, Jawaharlal Nehru and Rukmini Devi Arundale.

The Sarabhais, in addition to being wealthy, were close to Mahatma Gandhi and were known for their strong sense of social responsibility. Vikram's aunt, Anusuiya founded the city's first trade union of textile workers. His sister Mridula was deeply influenced by Gandhi. She was actively involved in the freedom movement and went to jail on several occasions.

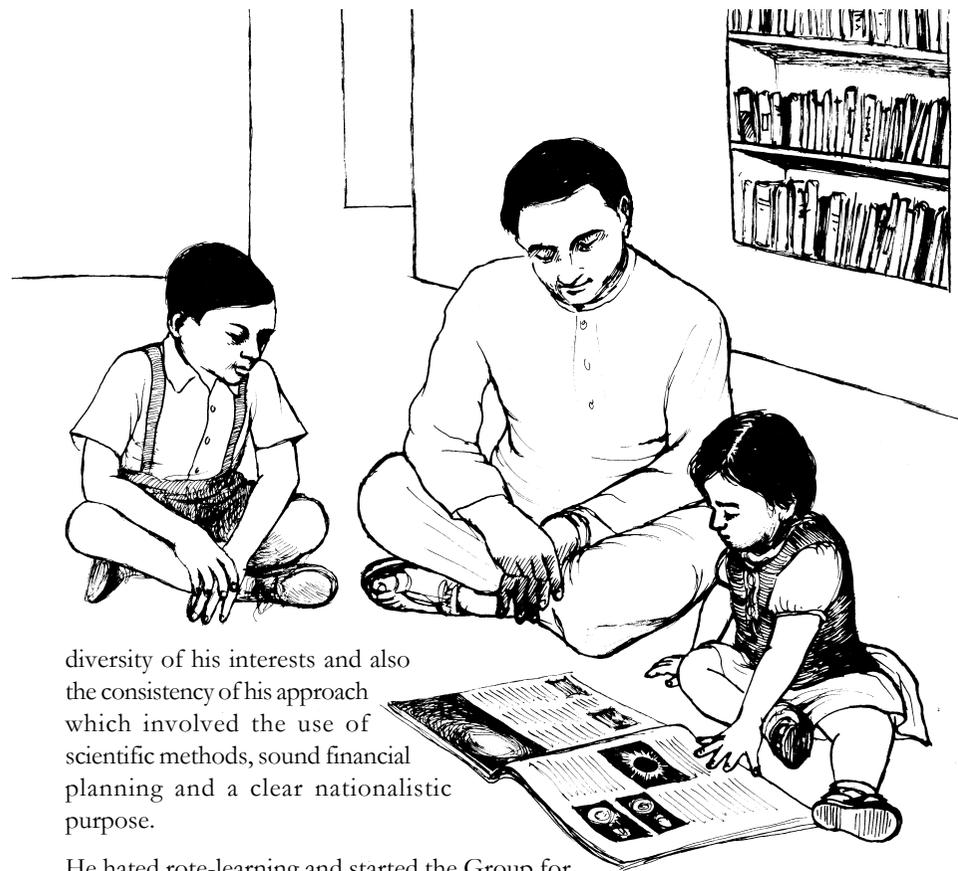
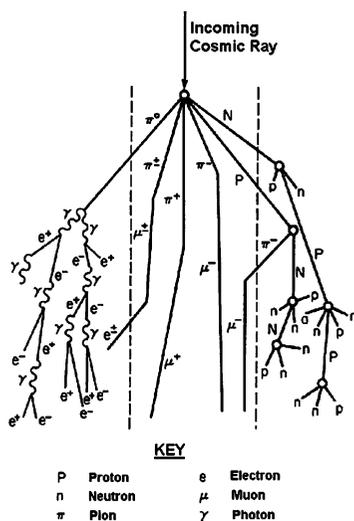
After schooling Vikram joined the Gujarat College, Ahmedabad, but before he graduated he left India to join St. John's College at Cambridge University. In 1939 he obtained his Tripos in Natural Sciences. The outbreak of World War II forced him to return to India. Here he went to work under Dr C.V. Raman on cosmic rays at the Indian Institute of Science, Bangalore.

The study of cosmic rays turned Sarabhai's attention inevitably towards space science and technology. This interest lay dormant until opportunity beckoned him to play a major role in India's space programme. While at Bangalore, Sarabhai met and married Mrinalini Swaminathan, an accomplished *Bharathanatyam* dancer. They had two children a son Karthikeya and a daughter Mallika.

In 1945, with the war over, Sarabhai returned to Cambridge. He obtained his PhD degree in 1947 on the topic, *Cosmic Ray Investigations in Tropical Latitudes* under the guidance of E.S. Shire. The thesis also included some work on nuclear fission.



In the fervently idealistic post-Independence era, Vikram Sarabhai established several institutions such as the Physical Research Laboratory; the Darpana Dance Academy, which he co-founded with his wife, Mrinalini; the Ahmedabad Textile Industry's Research Association (ATIRA), India's first textile research cooperative; the country's first market research agency, the Operations Research Group; the Indian Institute of Management, (IIM/ Ahmedabad) and helped in setting up the National Institute of Design (NID). The range of activities reveals the astonishing



diversity of his interests and also the consistency of his approach which involved the use of scientific methods, sound financial planning and a clear nationalistic purpose.

He hated rote-learning and started the Group for Improvement of Science Education (GISE). This later became a part of the Nehru Foundation for Development. He set up the Community Science Centre in Ahmedabad which was inaugurated by C. V. Raman in 1968 with his famous lecture *Why is the sky blue?* It is amazing how he found the time and energy to make outstanding contributions in so many fields.

A man of such energy and drive could hardly remain unnoticed. In 1962 Vikram Sarabhai was invited by Prime Minister Nehru to organise India's space research. While the superpowers were deploying space technology for *control* and *military power* Sarabhai had a different vision. He dreamt of a unique space programme for India - where satellites would be used for mass education, development communication, weather forecasting and mineral prospecting.

He used technology to serve the needs of the masses while simultaneously nurturing a sophisticated scientific work culture. He believed in India's capability to 'leapfrog'. He had great faith in the ability of technology to enable developing countries to circumvent the long, arduous process followed by the west.

Sarabhai laid the foundation for SITE (Satellite Instructional Television Experiment) a mass learning programme for millions of unschooled Indian children. He established a rocket launching station at Thumba, Kerala very close to the magnetic equator. It was later expanded to a full-fledged Space Science and Technology Centre (today this centre aptly bears the name Vikram Sarabhai Space Research Centre). Another rocket range was established in Sriharikota in Andhra Pradesh and a Satellite Communication Centre in Ahmedabad.

After Bhabha's untimely plane crash, Sarabhai became the Chairman of the Atomic Energy Commission (AEC). Influenced by Gandhi, Sarabhai had a highly nuanced approach to the sensitive issue of nuclear weapons. Obviously, the hawks in the nuclear establishment did not like him and he had his share of critics. He attended Pugwash Conferences to discuss misuses of atomic power and seek peaceful uses of nuclear energy.

If India has demonstrated indigenous capability in making low-cost satellites, of successfully launching its own moon probe - *Chandrayan* the credit certainly goes to the foundation laid by Vikram Sarabhai. He chose a passionate team and nurtured it assiduously— A. P. J. Kalam, E. V. Chitnis, Vasant Gowariker, Pramod Kale, U. R. Rao, Kasturirangan and other pioneers.

Vikram Sarabhai won the gratitude of his nation even during his rather short life. He was awarded the Shanti Swarup Bhatnagar Memorial Award for Physics in 1962, Padma Bhushan in 1966 and posthumously the Padma Vibhushan in 1972.

Vikram Sarabhai went about his work like a man possessed. Once he gave an appointment to A. P. J. Kalam at 3.30 a.m.! He burnt the candle at both ends, determined to achieve his goals in the shortest possible time. His strenuous lifestyle took a toll and Sarabhai suddenly died of a heart attack on 30 December 1971. The scion of a rich family, who could have easily lived a life of luxury, chose to burn himself up prematurely in the service of his country. India owes an eternal debt to Sarabhai for putting her in the league of the world's great space powers.

In 1974, a moon crater was named after Vikram Sarabhai. The International Astronomical Union at Sydney, Australia, decided that crater *Bessel* in the *Sea of Serenity* would be known as the **Sarabhai Crater**.

