

The saga of an institute of research

Today, the Indian Institute of Science, Bangalore, a premier institution for scientific research and training, begins the 100th year of its existence.

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In November 1896, Jamsetji Nusserwanji Tata wrote a letter to Lord Reay, who was Governor of Bombay and Chancellor of Bombay University. "The improvement of University Education is the key of all educational improvement," he observed, and suggested the creation of a national university. Tata, who by then had made his money from trading and textile manufacturing, offered to provide a substantial part of his wealth as an endowment for such an institution.

The chain of events that followed culminated more than 10 years later in the establishment not of a university but the Indian Institute of Science (IISc). On May 27, 2008, this premier institution for scientific research and training, which is still known in Bangalore as the "Tata Institute," will begin the hundredth year of its existence.

As the 19th century drew to a close, there were just five universities in India. The universities of Calcutta, Bombay and Madras had been founded in 1857, followed by the University of the Punjab at Lahore in 1882 and the University of Allahabad in 1887. But these universities functioned solely as examining bodies while the teaching was carried out in numerous colleges. As a result, educational standards suffered.

In a convocation address in 1889 that highlighted this issue, Lord Reay argued in favour of a teaching university that would be able to attract talented people from the West. "It is only by the combined efforts of the wisest men in England, of the wisest men in India, that we can hope to establish in this old home of learning, real universities which will give a fresh impulse to learning, to research, to criticism, which will inspire reverence and impart strength and self-reliance to future generations of our and your countrymen."

This speech set Jamsetji Tata, a remarkably far-sighted man, thinking. He was a pioneer among Indian merchants and industrialists in cotton manufacturing, cargo shipping, hotel building, iron and steel production, hydro-electric power generation, and factory and town planning, points out Kim P. Sebaly of Kent State University in the U.S., in a journal paper that traced how Tata's initiative led to the creation of the IISc.

Jamsetji Tata was quick to see the need for good scientific research and training. A codicil to his will in December 1896 shows that he envisaged a university "for meeting the growing educational and scientific needs of this country."

To flesh out his ideas for the scientific institution, Jamsetji Tata took the help of Burjorji Padshah, his ward and later close aide, who had been vice-principal of the Sindh College at Karachi. Padshah tirelessly pursued Tata's vision in subsequent years. In the process, sometimes he irritated the colonial government and later on, after the institute was established, its first director.

Padshah spent 18 months visiting scientific institutions and universities in many countries, including England, continental Europe and the U.S. After returning to Mumbai in 1898, he prepared an outline for an "Institute of Scientific Research for India."

Jamsetji Tata and Padshah took Johns Hopkins University in the U.S. as the



The Indian Institute of Science, Bangalore... an unprecedented act of philanthropy by J.N. Tata. - PHOTO: K. GOPINATHAN

model. Johns Hopkins had the distinction of being the first in the world to be founded as a post-graduate institution, pointed out B.V. Subbarayappa in his history of the IISc titled *In Pursuit of Excellence*. In October 1898, Jamsetji Tata offered property in Mumbai that would yield a sizeable annual income to help start the institution.

"The idea of a postgraduate research institution must have seemed far fetched in the 1890s, at a time when university education [in India] had an extremely limited reach," observed P. Balaram, the IISc's present Director, in an editorial in the journal *Current Science*. "J.N. Tata backed his vision with an unprecedented act of philanthropy and most remarkably did not want his name associated with the new institution, thereby paving the way for support from all quarters."

A 'Provisional Committee' was set up in 1898 at the suggestion of Jamsetji Tata to further pursue the creation of the institution. Chaired by Justice E.T. Candy, Vice-Chancellor of the University of Bombay, the committee had 23 members, including Tata himself. Padshah was its secretary.

Just two weeks before a new Viceroy, Lord Curzon, arrived in India in December 1898, the committee presented to the public more details of the scheme for the institution. It was to have a Scientific and Technical Department offering courses in physics, chemistry and technological chemistry. There was to be a Medical

Department as well as a Philosophical and Education Department.

The day after Lord Curzon landed in Mumbai, members of the committee briefed him on the scheme for a scientific research institution. The Viceroy acknowledged Jamsetji Tata's "great generosity and public spirit" but was clearly unconvinced about the need for such an institution. Would there be enough students to study in such an elite institution, and would they, after their training, find suitable employment?

In addition, the form that Jamsetji Tata's endowment for the institute should take became contentious. The colonial government did not wish to extend the financial support that was essential for the institution. The clashes, sometimes stormy, between Lord Curzon and the colonial government on the one hand, and Tata and his supporters on the other, over these and other matters took time to resolve. The path that led to the creation of the IISc was tortuous indeed.

Two sets of experts were asked for advice. At the invitation of the Provisional Committee, with the approval of the colonial government, Professor William Ramsay of University College, London, spent some two months in India during 1900-1901. (An outstanding chemist, Ramsay was later knighted and received the Nobel Prize in 1904 for his discovery of inert gases.)

"Instead of the three branches proposed by Padshah, Ramsay recommend-

ed that departments of general chemistry, engineering technology, electrical technology, and industrial technology be developed to support the proposed mission of creating new industries," comments Dr. Sebaly. Ramsay wanted the institution to be called an 'institute' rather than a 'university' as it "could not cover research in all branches of knowledge."

Both the Provisional Committee and the colonial government were disappointed with Ramsay's report, points out Dr. Sebaly. The government then turned to Professor Orme Masson, Vice-Chancellor of the University of Melbourne in Australia, and Lieutenant-Colonel J. Clibborn, director of the Engineering School at Roorkee.

Masson and Clibborn proposed the name "The Indian Institute of Science." They noted that although scientific problems were plentiful in India, lack of funds meant that in the beginning at least the scope of the institute should be restricted. They suggested that it start with just three schools: of chemistry, experimental physics and biology.

Land and money generously promised by the princely state of Mysore were key factors that made the institution possible. Jamsetji Tata had established a modern silk farm near Bangalore in the mid-1890s and become acquainted with Sir Seshadri Iyer, Dewan of Mysore. When the idea of creating an institute for research took shape, Seshadri Iyer was able to persuade Maharani Kempa Nanjamma Vani Vilasa Sannidhana, who ruled as regent during the period when her son Maharaja Sri Krishnaraja Wodeyar Bahadur IV was a minor, to pledge support for it. The Mysore government would, in the end, provide more than 371 acres of land for the institute, as well as grants to help set it up. This help from the Mysore government also ensured that the institute was situated in Bangalore.

Eventually, the colonial government agreed to provide an annual grant to the institute, and assist with the initial expenses to put up buildings and other facilities.

Jamsetji Tata did not live to see his dream turn into reality. He passed away in Germany in May 1904 and his body was buried at a cemetery near London. Nevertheless, his scheme continued to progress, albeit slowly. By the time Lord Curzon's tenure as Viceroy ended in 1905, most of the hurdles to the establishment of the institute had been crossed. In 1906, Morris Travers was appointed the institute's first director. A Professor of chemistry at University College, Bristol, he had been William Ramsay's student and later became his assistant in experiments to isolate inert gases.

Finally, on May 27, 1909, the Government of India issued the vesting order for the institute. The opening words of the order recognised the role of the great man whose vision had driven the whole enterprise. "Whereas Jamsetjee Nusserwanjee Tata, late of Bombay, Parsee gentleman, some time before his death, which took place on the 19th day of May 1904, made a proposal to the Government of India for founding an Institute of Research in India and endowing such Institute with immovable properties in the City of Bombay....," began the order that established the Indian Institute of Science.