EXPRESS magazine November 13, 1988

Two men of genius

By sheer coincidence, 1988 is the birth centenary of C. V. Raman and S. R. Ramanujan, two of India's greatest scientists. RGK profiles the two men, whose lives were a study in contrasts.

I WOULD like to consider Raman and Ramanujan together. The names seem connected, but how unlike the two men were. Chandrasekhara Venkatraman was born on November 7, 1888, more than ten months after the birth of Srinivasa Ramanujan. Ramanujan remains a vague and distant figure to most Indians of our time. Raman lived longer than the mathematician and he is fresh in our memory because he was the first Indian scientist to win the Nobel prize.

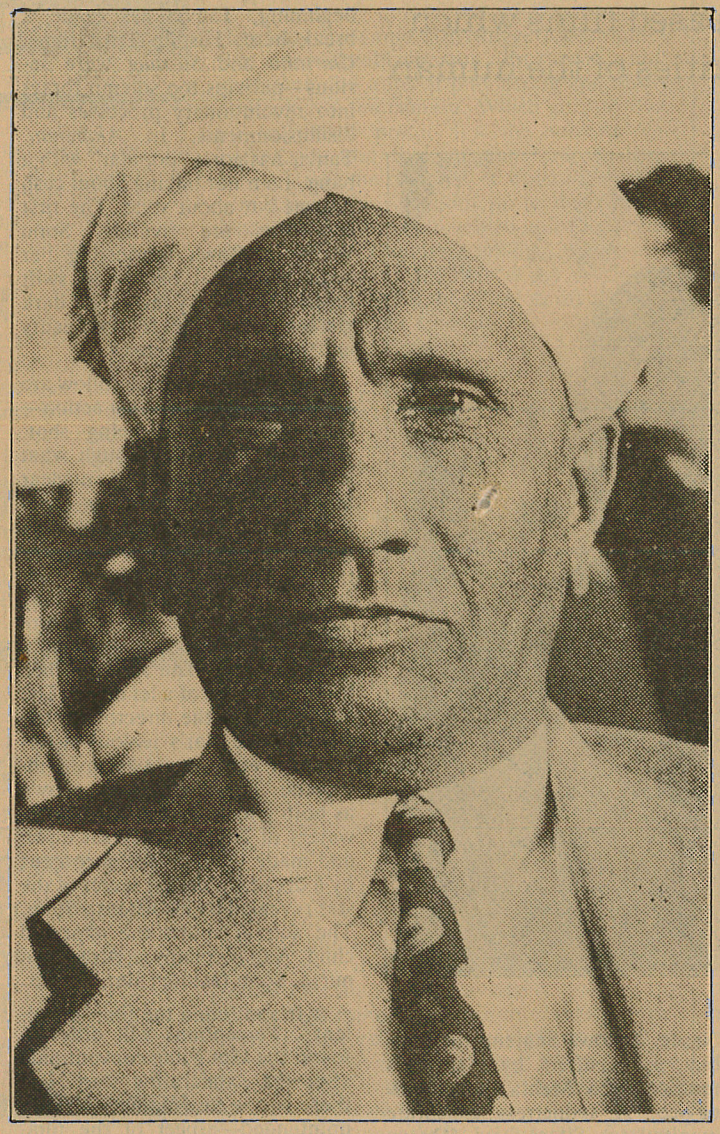
Ramanujan and Raman: their stories, their destinies took different courses. They differed in character and temperament and belonged to two separate streams. Ramanujan was a brief, intense and ecstatic candle and his genius was of a grand order. He was profoundly Indian in his inspiration and in his contradictions. It is difficult to comprehend his creativity and the workings of his mind: he was influenced by his dreams and his visions of the goddess of Namakkal. To me he is endlessly fascinating. Think of the struggles of the untutored genius, wasting precious years of his short life in discovering mathematical truths already known; a life of poverty and suffering, a triumph and tragedy.

With Raman we are on more familiar ground. He belonged to the European tradition of exactness and his was the experimental science first exemplified by Galileo. He too was a wunderkind. He became a graduate when he was only 14 years old and he published his first paper in an English journal when he was 18. Ramanujan, on the other hand, could not go beyond his first year F.A. (equivalent to today's 11th standard), but when he was 18 his mathematical genius was of the order of Jacobi or Euler.

Like other young educated people of his time Raman prepared for a career in the government, was declared first in a competitive examination and joined the audit and accounts department. It was by a quirk of fate that, instead of continuing with the government and perhaps retiring as comptroller and Auditor-General of India, he later chose science, eventually to become a Nobel laureate. The fact is that the scientist in him could not be extinguished and when he was posted in Calcutta as assistant accountant-general (he was then only 19) he spent his evening hours in the laboratory of the Indian Association for the Cultivation of Science. Before long he was discovered by Asutosh Mookerjee, who persuaded him to give up his government job and made him a professor at Calcutta University.

The young Ramanujan worked first as "officiating clerk" in the A.G.'s office, Madras, and later as a clerk in the Madras Port Trust. His salary: Rs. 20 in the first job and Rs 30 in the second. Ramanujan spent agonising years until the English mathematician Hardy called him to Cambridge and made his genius known to the world.

A number of brilliant young men assisted Raman in his experiments on the scattering of light. These led to the discovery of what was later called the Raman Effect. Of those who worked with Raman was K.S. Krishna who, according to some, deserved to share the Nobel prize with Raman. Raman remained an experimental scientist all his life. But I wonder whether, in later years, his method was less rigorous than before. I am referring to his work in the colours of flowers, in human vision, etc. It is also doubtful whether he speculated on matters other than science. Ramanujan, the intuitive genius, pondered over larger questions of existence and he became interested in Samkhya and Vedanta.



C. V. Raman: a restless spirit

Raman was a restless spirit. My first experience of him was in the early forties when we invited him to speak to us at Presidency College, Madras. As the speeches of introduction were being made, Raman was fidgety. He kept pressing his palms together or interlocking his fingers and I felt he would burst out of his chair. And, moments later, as he spoke to us he walked up and down the dais likea caged lion. There was passion in the way he spoke, and vehemence.

Some 30 years later I interviewed him in Bangalore at the Raman Institute. He was then 81 but he hadn't aged at all. Nor had he ceased to be restless at an age when people become quiet and contemplative. He was bubbly like a young man and kept talking to me, chirping to me, for almost two hours. I had been warned that he would be irritable but I found him charming, friendly. "He is animated as sodium on water," I wrote in my notebook. His comments on men and things were corrosive, revealing at the same time that he was capable of much love and much hate – and incapable of concealing his feelings.

Raman was full of himself and his very egoism was engaging. He showed me the flowers he was studying, cinnerarias which come in two colours, red and blue. "I am the first scientist in the world to look at a flower through a spectroscope," he exclaimed. And, when I saw on his desk a copy of the Raman Newsletter, a foreign publication, and asked about it, he said like an exultant child: "Raman is an adjective, not a noun".

He spoke angrily about Indian scientists going abroad. "Many Indian scientists are in a deep freeze. They are all carpetbaggers. They go to London, New York, Tokyo..." He added: "Indian students who go abroad are given the discarded crumbs from the table." He decried "foreign inspiration and foreign methods". Were he alive now he would be unhappy and angry about many things in Indian science, Indian life, Indian politics and administration.

Raman was not without a sense of humour. Once at a Party given to him at Bordeaux he refused the wine saying: "All of you know the effect of Raman on wine. I am sorry, I don't want you to know the effect of wine on Raman." Raman was sunny even when there was the shadow of anger and bitterness about him. His was an outward journey; Ramanujan voyaged inwards and much of the territory that he covered is unknown to us.