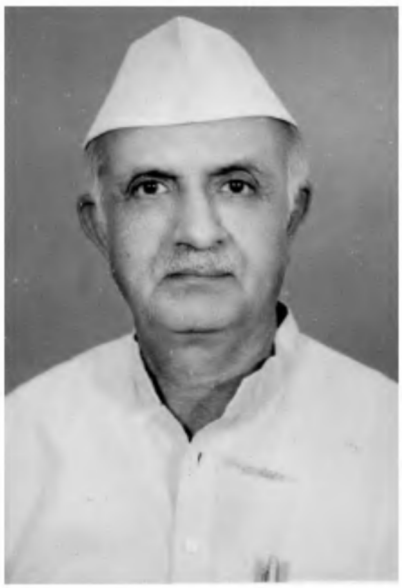
P. C. Vaidya (1918–2010)

Prahlad Chunilal Vaidya, a doyen of Indian relativists and an inspiring teacher, died on 8 April 2010 in Ahmedabad. He was a Fellow of the Indian Academy of Sciences and the Indian National Science Academy. In his own field, he was the President of the Indian Association of General Relativity and Gravitation from 1974 to 1976, besides being its Founder Member. He had the distinction of being a Founder Member of the International Committee on General Relativity and Gravitation. While gracing these research positions nationally and internationally, Vaidya was also the Founder and First President of the Gujarat Ganit Mandal, an organization that concentrated on the teaching of school mathematics.

Vaidya was born on 23 March 1918 in Shahapur in the Junagarh District of Gujarat. Right from his young days he liked and excelled in mathematics and it was clear that he would end up with a successful career in that field. After his early schooling in Bhavnagar, he studied at the Ismail Yusuf College, Andheri, Mumbai. He then went to the Royal Institute of Science to get his M Sc degree of Bombay University with specialization in Applied Mathematics.

In 1942, he enrolled himself as a student with V. V. Narlikar (VVN) in the Mathematics Department of the Banaras Hindu University (BHU), because he wanted to work on the general theory of relativity and the group under VVN was then known to be a flourishing centre for relativity. However, this was a purely informal arrangement: Vaidya had saved a certain amount of money through frugal living and he felt that he would work in BHU till that sum lasted. He had married in 1939 and had a few months old baby daughter in 1942. With a family to support, Vaidya stayed in Banaras only for ten months. But that period under an inspiring teacher was sufficient to lead Vaidya to the work for which he became best known a few years later, namely the 'Vaidya solution'. He got his Ph D degree from Bombay University in 1948.

In one year (1947–48) which he spent at the newly established Tata Institute of Fundamental Research (TIFR), he was in contact with Homi Bhabha. While he would have liked to continue at TIFR, the difficulty of getting any accommodation at an affordable price made him quit living in Bombay and make a transition to his native state of Gujarat. He found a niche in the Vallabhbhai Patel College in Vallabh Vidyanagar (which later grew into the Sardar Patel University). From there he moved to Ahmedabad where he stayed for various jobs, except for a one year position as Principal of M.N. College, Visnagar. With his growing stature in the educational field, Vaidya occupied



such prestigious positions as Chairman, Gujarat Public Service Commission and Vice Chancellor, Gujarat University.

All through his career, Vaidya was a teacher at heart and despite his administrative commitments he found time to take M Sc classes. He would cycle to work in his usual simple Gandhian dress of white *khadi kurta* with its inseparable Gandhi cap. It was his concern for fellow teachers that led him to found a new organization called the Gujarat Ganit Mandal, which arranges lectures, workshops and discussions relating to the problems of teaching mathematics. It also publishes a journal in Gujarati called *Suganitam* with useful articles for teachers.

No account of Vaidya will be complete without a description of his major work, namely the gravitational field of a radiating star. According to general relativity, the presence of a gravitating object is perceived and measured by the non-Euclidean geometry of spacetime around it. In the early days of relativity, Karl Schwarzschild had worked out the spacetime geometry near a spherical mass in an otherwise empty universe. The next question was 'how does the geometry change if the mass is radiating energy, as a typical star does?'. This is the problem that Vaidya successfully tackled and the solution is known as the Vaidya solution.

Although he had the solution in the early forties, its relevance was appreciated in the sixties when astronomers discovered compact but very powerful radiators of energy known as 'quasi-stellar objects' or 'quasars'. As the subject of relativistic astrophysics took shape, the Vaidya solution found a natural place in it.

Vaidya was working on several aspects of relativity and had publications in leading journals on topics like exact solutions, supermassive objects and black holes. His research accomplishments were all the more remarkable in that they were achieved in an environment of minimal research infrastructure. He was incredibly active, both physically and intellectually, well into his eighties. This may be ascribed to his simple style of plain living and high thinking. He was a Honorary Fellow of the Inter-University Centre for Astronomy and Astrophysics (IUCAA) and was associated with many of the Centre's pedagogical activities. Participants recall his continuous presence, with alert questions to the speakers, throughout a school or workshop.

IUCAA in collaboration with Vigyan Prasar, New Delhi has produced a film on P. C. Vaidya that deserves to be shown in all our educational establishments. It presents a unique and inspiring picture of a simple man with profound accomplishments.

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