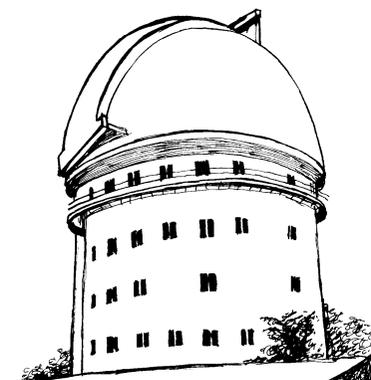


# M. K. Vainu Bappu (1927 – 1982)

Vainu Bappu was singularly responsible for weaving the warp and weft of modern astronomy research in India. His untiring efforts created the necessary infrastructure for future astronomical research in India.

Vainu Bappu was born on August 10, 1927. His family hailed from Cannanore but his father worked in the Nizamiah Observatory, Hyderabad. So, Vainu had his school and college education in Hyderabad. His gift for oratory won him widespread admiration in school. In college he organized the science club and edited the college magazine. As the secretary of the College's Physics Association he actively organized popular science lectures. In 1943, when Sir C. V. Raman delivered a series of lectures in Hyderabad, Vainu bicycled 16 km, every day each way and did not miss a single lecture!

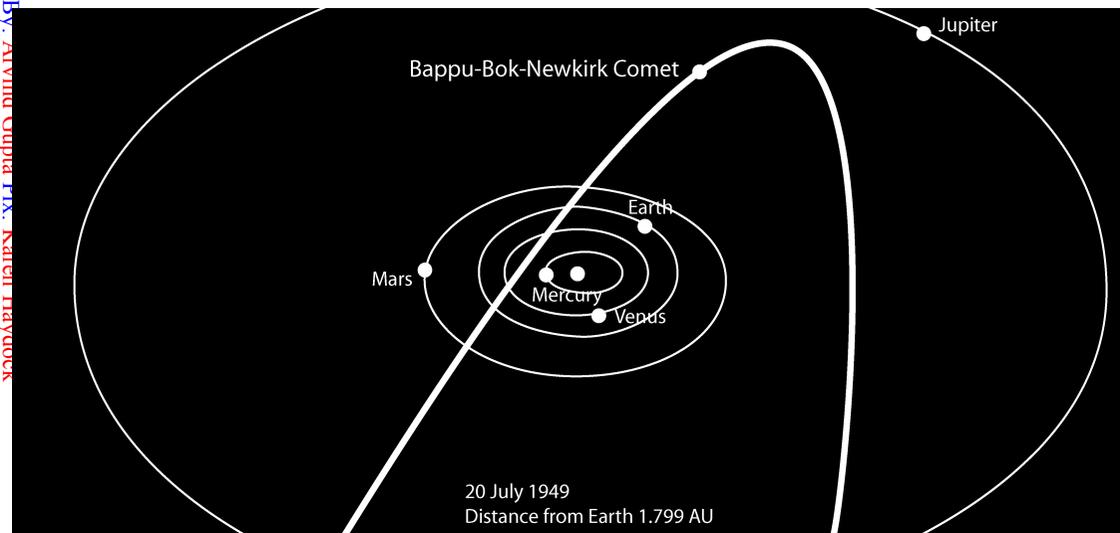
He was an amateur artist and a voracious reader of the classics. He loved English poetry and had a fascination for Urdu literature. Mirza Ghalib was his favourite poet. In college, he was an outstanding cricketer and tennis player. As an adventurer perhaps, he secretly harboured a yen to become a pilot.



His favourite book was *The Spirit of St Louis* – the immortal saga of Charles Lindbergh. Vainu had a deep admiration for Homi Bhabha both as a scientist and artist. Vainu's artistic bent is on display in the canvasses and gardens in the various observatories he inspired.

Vainu was exposed to telescopes at the Nizamiah Observatory as a child. The wonders of the night sky fascinated him from early childhood. In college he built a spectrograph, for which he exposed the 'sensitive plate' for six nights in a row from his bedroom window and published his first scientific paper in 1946.

In 1948 after finishing MSc he wanted to pursue a career in astronomy but there were few opportunities in India. As luck would have it, Sir Harold Spencer Jones, Astronomer Royal, UK and Professor Harlow Shapley of Harvard University were visiting India. Vainu met them in Hyderabad. Shapley had read about Vainu's work as an amateur astronomer. With Shapley's efforts Vainu went to Harvard University in 1949 on a Government of Hyderabad scholarship. At Harvard, Vainu found himself in the company of very capable and inspiring people. Within a few months of coming to Harvard, Vainu discovered a comet. While viewing a routine sky picture on a photo plate he noticed something unusual. With his colleagues he discovered a new comet which was named Bappu-Bok-Newkirk after its discoverers. Bappu was awarded the Donohoe Comet Medal of the Astronomical Society of the Pacific for this discovery.



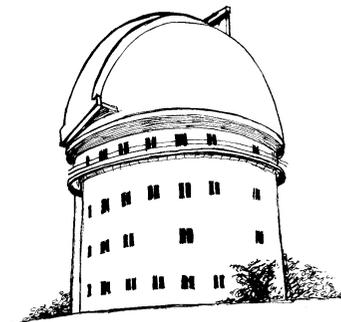
After his PhD in 1951, Bappu was the first Indian to be offered the prestigious Carnegie Mellon Fellowship in astronomy. This enabled him access to the world's biggest 200-inch Mount Palomar telescope. Here he investigated challenging problems of stellar spectroscopy. His exhaustive study of Wolf-Rayet stars made him a world authority on the subject.

In 1953, Bappu returned to India where facilities for astronomy research were primitive and the biggest telescope available was just a 15-inch refractor! In 1954, he joined the Uttar Pradesh Observatory at Varanasi as a Chief Astronomer. He was able to convince the state chief minister to shift the observatory to a better location. Bappu scouted a better site on a hill near Nainital. Here within a few years he trained a team of young and highly motivated astronomers who later contributed enormously to the growth of astronomy.

In 1960, at the behest of the Government of India, Bappu became the youngest director of the 170-year old Kodaikanal Observatory. The British East India Company set it up in 1792 at Madras and shifted it to Kodaikanal in 1899. Illustrious astronomers like N. R. Pogson and John Evershed of *Evershed Effect* fame had been earlier directors of this institute. Bappu set up an instrumentation and optics workshop where several small telescopes and spectrographs were constructed. He introduced sophisticated electronics into the old solar telescopes to enhance their capacity to study the sun. At Kodaikanal Bappu's dream of setting up a full-fledged astrophysical institute and observatory began to take shape.

Bappu soon realised the unsuitability of the Kodaikanal location for year long stellar exposures. He trekked from Kanyakumari to Tirupati scouting for a suitable site and finally homed in on the Javadi Hill in Tamil Nadu. Here he found a plateau ringed by hills which created a stable atmosphere for observations near the sleepy village of Kavalur. Bappu set up the Kavalur Observatory with a 38-cm telescope. Later he installed a 1-meter Carl Zeiss telescope in this new observatory.

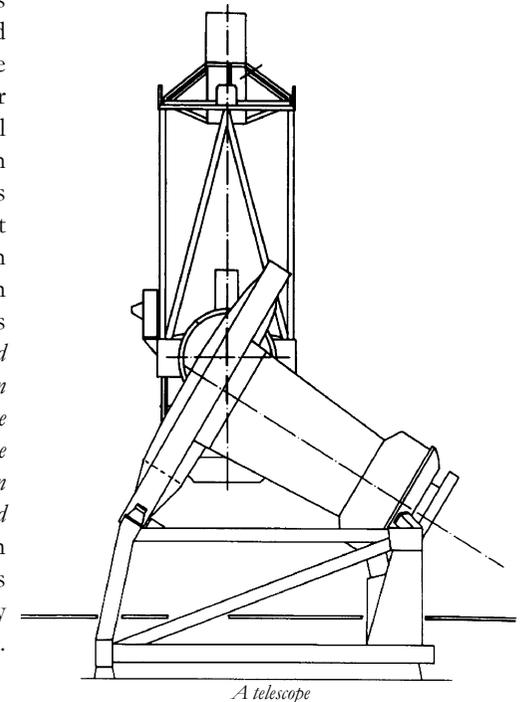
In 1971, the Kodaikanal and the Kavalur Observatories jointly formed an autonomous research centre – The Indian Institute of Astrophysics (IIA). This centre contributed enormously to astrophysical research in India. It had a strong theoretical group and an application group whose task



was to indigenously construct large optical telescopes in India. The IIA was started in the Raman Research Institute but soon shifted to its own campus in Koramangala, Bangalore. Bappu strove hard to make IIA a world class research centre. Within a fortnight of the installation of the Zeiss telescope, a rare occultation was observed at Kavalur. This provided evidence of a trace atmosphere in Jupiter's satellite - *Ganymede*. After a couple of years the same telescope discovered the rings of Uranus thus advancing our knowledge of the solar system. Bappu thus succeeded in creating an observatory with a world class capability.

Nobel Laureate S. Chandrasekhar visited the IIA in the early 1970's and was all praise for Bappu's accomplishments. Such a strenuous life took its toll and Bappu died prematurely at the age of 55 after a bypass surgery on August 19, 1982 just after being elected as President of the International Astronomical Union (IAU). His dream telescope (234-cm) was later dedicated to the nation by the then Prime Minister, Sri Rajiv Gandhi and the Kavalur Observatory was renamed the Vainu Bappu Observatory.

Bappu won many laurels during his multifaceted career. In 1970, he won the Shanti Swarup Bhatnagar Award for the Physical Sciences and the Hari Om Ashram Award in Physics in 1977. The Government of India honoured him with a Padma Bhushan in 1981. In one of his speeches he said, *"Time and again we have seen how an individual has appeared on the scene and transformed the picture of gathering confusion into one of logical rigour and aesthetic simplicity."* In uttering them he perhaps little realised that they very aptly mirrored his own life.



*A telescope*