

M. K. Vainu Bappu (1927-1982)

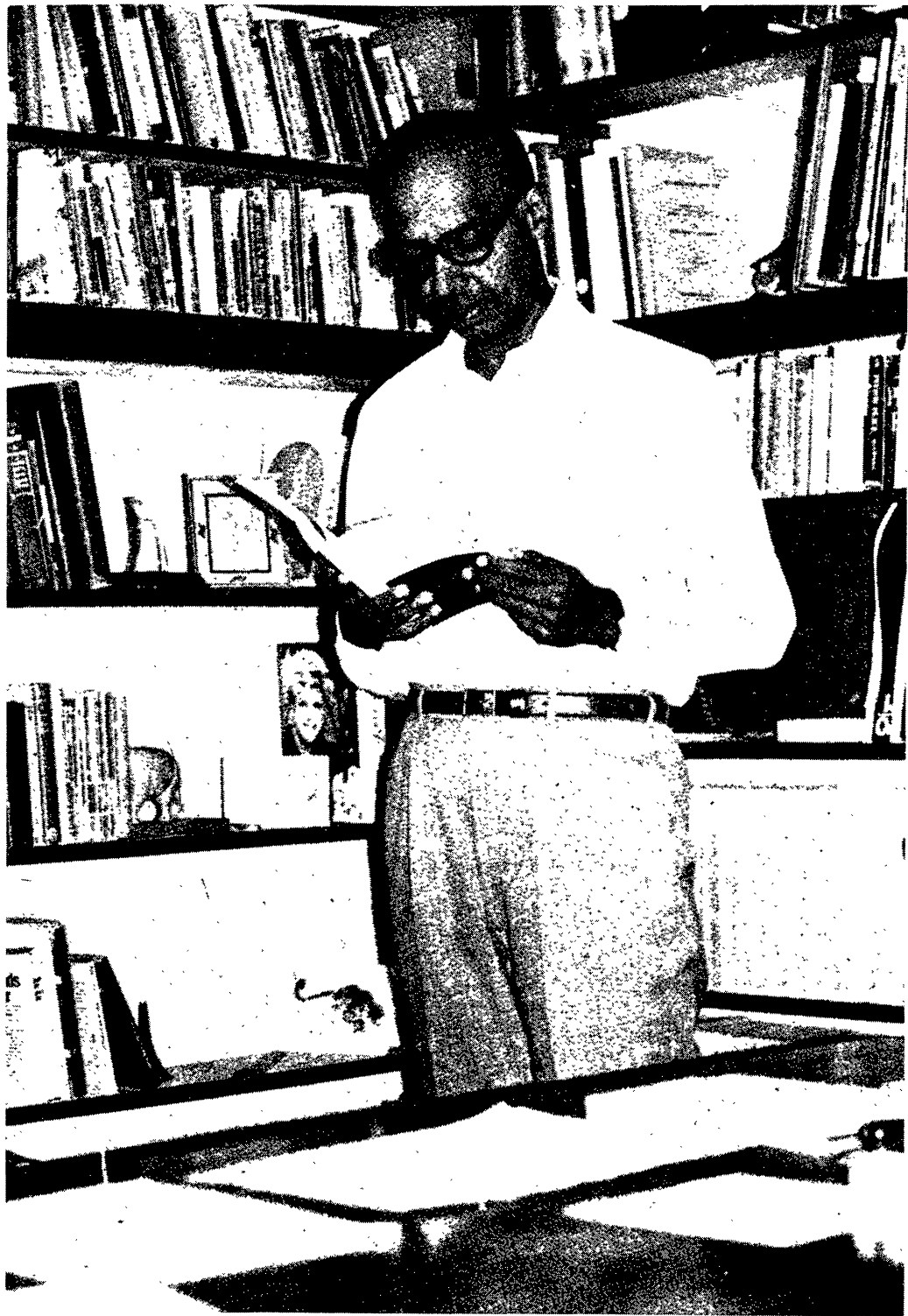
It was with profound sorrow that the news of the sudden demise of Professor Vainu Bappu on August 19, 1982 was received by the astronomical world and by all others who knew him. Professor Bappu, President of the International Astronomical Union, Director of the Indian Institute of Astrophysics and Chairman of the Editorial Board of the *Journal of Astrophysics and Astronomy* passed away due to complications following heart surgery while on an assignment at the European Southern Observatory in Munich. In the brief span of fifty-five years, he made enormous contributions to the furtherance of astrophysics not only in India, but internationally as well.

Manali Kallat Vainu Bappu was born on August 10, 1927, the only son of M. K. Bappu, who was employed at the Nizamia Observatory, Hyderabad. He graduated from Nizamia College, Hyderabad in 1946, from where he also obtained his Master's degree in physics in 1949. His research contributions started right during this period, and his first papers on visual observations of variable stars were published in 1946 in Volume 15 of *Current Science*. He also obtained at this young age of nineteen, spectra of the night sky requiring exposures of several nights, using a spectrograph of his own design.

After obtaining his Master's degree, Vainu Bappu earned a state scholarship for higher studies in astrophysics at Harvard University. Harvard was at its prime then, Harlow Shapley at its helm, and stalwarts like Donald Menzel, Bart Bok, Cecilia Payne-Gaposchkin and Fred Whipple among its staff. Within months of joining Harvard, Bappu discovered a comet on one of the celestial photographs he had obtained. More than the discovery itself, his achievement was in computing its orbit immediately, ahead of more experienced professionals. The Bappu-Bok-Newkirk comet earned him the Donohoe comet medal of the Astronomical Society of the Pacific in 1949. Bappu continued to observe variable stars and also studied the influence of solar activity on the night sky, while he was working for his Master's degree in astronomy.

Vainu Bappu submitted his thesis on spectroscopic studies of Wolf-Rayet stars under the supervision of Bart Bok and obtained his doctoral degree in 1952. He then spent a year at Mount Wilson and Palomar Observatories as a Carnegie Post-Doctoral Fellow. This gave him an opportunity to obtain high-resolution coude spectra of Wolf-Rayet and late-type stars with the 100-inch telescope. The Wilson-Bappu effect, published in detail in 1957, was based on these excellent spectra. Apart from serving as a new luminosity indicator, the Wilson-Bappu effect gave an impetus to the study of stellar chromospheres. Bappu continued to enrich the understanding of this field, and one of his last contributions, a collaborative effort with Y. Uchida, appears in this issue of the *Journal*.

The 1950s were the times when astrophysics was fast developing in the United States. But Bappu's ambition however was to foster astronomy in his own country and to create facilities for astrophysical research for future generations. He returned to India and pursued laboratory spectroscopy waiting for a suitable opportunity which presented itself in 1954, when he was appointed the Director of the U.P. State Observatory, Benares. He found soon that the dusty plains of Benares were ill-suited for astronomical observations, and a few months later, he shifted the observatory to Naini Tal at the foot of the Himalayas, where the clearest skies prevailed in winter. For the next few years, he instrumented the small telescopes available at



the Observatory and utilized them in developing H-gamma photometry for an absolute magnitude calibration of early-type stars, in addition to making observations of Mars, the polarization of comets and continuing his favourite study of Wolf-Rayet stars. He also led an expedition to observe the total solar eclipse of 1955 in Sri Lanka, to be followed by several other such expeditions over the years.

In 1960, Vainu Bappu was offered the directorship of the solar observatory of Kodaikanal, an institution which had a history dating back to the Madras Observatory founded in 1792. Its list of past directors included the illustrious names of N. R. Pogson and J. Evershed. It was at Kodaikanal that Bappu's dream of a full-fledged astrophysical institute and observatory began to take shape. He constructed a 40-cm reflector telescope at the workshop of the Observatory. Realising that the skies of Kodaikanal were not suitable for prolonged stellar exposures over a substantial portion of the year, he looked for and found a more appropriate site. Thus the Kavalur Observatory came into existence in the semi-arid region of Javadi Hills in Tamil Nadu. The 1-m Carl Zeiss telescope was commissioned here in early 1972, within a year of the creation of the Indian Institute of Astrophysics.

Subsequent years were spent in equipping the Kavalur Observatory with instruments mainly designed by him and constructed at the laboratories of the Institute, collaborating with the Raman Research Institute in setting up the low-frequency radio array at Gauribidanur, creating computing facilities for theoretical astrophysics, constructing a 75-cm telescope at the workshops of the Institute, and finally in planning and launching the construction of a 2.34-m telescope scheduled for operation by 1983. It was in this period that Bappu's organizational ability and vision in planning were demonstrated best. Professor S. Chandrasekhar, who visited the Indian Institute of Astrophysics recently, and who had also visited Kodaikanal Observatory at the beginning of Bappu's era, exclaimed that it was an example of what one dedicated individual can accomplish in a mere twenty years.

Although the recipient of numerous awards and honours, Bappu always remained a courteous and charming personality. He also retained a simplicity of thought and a dedication to his work which included a high degree of commitment to society. He took a keen interest in the affairs of the International Astronomical Union, and served it as a Commission President (1976–1979), as a Vice-President (1967–1973) and finally as its President (1979–1982). He was a great teacher and an outstanding lecturer to audiences of all levels, and his non-technical writings instantly reveal an aesthete who was deeply sensitive to the beauties of Nature.

Bappu was not only the author of numerous scientific publications, but had also served as a member of the editorial boards of several international scientific journals. However, he had always felt the need for a new international journal for astrophysics and astronomy which would help in the dissemination of new results and findings of the fast-expanding world of astronomical research. Hence it was with enthusiasm that he assumed chairmanship of the editorial board of the *Journal of Astrophysics and Astronomy*, when the Indian Academy of Sciences launched this new endeavour and requested him to guide its course. He nurtured the journal over its first two years, and took great pains to improve every aspect of its quality. It was Bappu's efforts that have brought the Journal to its present status and that will ensure its progress in the future.

V. Radhakrishnan

for the Editorial Board