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THE UNIVERSE

Visions and Perspectives

Edited by

NARESH DADHICH

*Inter-University Centre for Astronomy and Astrophysics,
Pune, India*

and

AJIT KEMBHAVI

*Inter-University Centre for Astronomy and Astrophysics,
Pune, India*



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Preface

It is with great joy that we present a collection of essays written in honour of Jayant Vishnu Narlikar, who completed 60 years of age on July 19, 1998, by his friends and colleagues, including several of his former students. Jayant has had a long research career in astrophysics and cosmology, which he began at Cambridge in 1960, as a student of Sir Fred Hoyle. He started his work with a big bang, expounding on the steady state theory of the Universe and creating a new theory of gravity inspired by Mach's principle. He also worked on action-at-a-distance electrodynamics, inspired by the explorations of Wheeler, Feynman and Hogarth in that direction. This body of work established Jayant's reputation as a bold and imaginative physicist who was ever willing to take a fresh look at fundamental issues, undeterred by conventional wisdom. This trait, undoubtedly inherited from his teacher and mentor, has always remained with Jayant. It is now most evident in his untiring efforts to understand anomalies in quasar astronomy, and to develop the quasi-steady state cosmology, along with a group of highly distinguished astronomers including Halton Arp, Geoffrey Burbidge and Fred Hoyle. In spite of all this iconoclastic activity, Jayant remains a part of the mainstream; he appreciates as well as encourages good work along conventional lines by his students and colleagues. This is clear from the range of essays included in this volume, and the variety and distribution of the essayists.

After a long stay in Cambridge, Jayant moved to the Tata Institute of Fundamental Research in Mumbai (then Bombay) in 1972. There he inspired several research students to work in gravitational theory and its many classical and quantum applications to cosmology and astrophysics, and established collaborations with his peers, which led to a fine body of work over the next 15 years. But perhaps his most enduring contribution of this period was to forge a link between distinguished senior

relativists in India, and the younger generation of aspiring researchers. This has led to the formation of a warm and congenial community, spread throughout the country, working in relativity, cosmology and theoretical astrophysics. During this period Jayant also worked hard at the popularization of science, through the press, television and most importantly through talks to ever increasing audiences. This not only exposed people to good science, but it also helped to establish Jayant as one of the public figures of science in India. Jayant has used his formidable reputation and influence, developed during this period, for the advancement of science in India, always in a very quiet manner.

In 1988, inspired and aided by Professor Yashpal, then Chairman of the University Grants Commission, Jayant set up the Inter-University Centre for Astronomy and Astrophysics at Pune. Through this centre he has been able to open up for the university community avenues for excellent research in these areas. Jayant's broad vision, and his readiness to encourage every shade of opinion and to bring out the best in his colleagues, has enabled IUCAA to develop an international reputation. The centre is now seen as an example of how the energies of the research institutes and universities in India, usually considered disparate, could be harnessed together to excellent effect.

It is the general practice to list, in a volume of this kind, the scientific and other works of the person it seeks to honour. The list in the present case would have been rather unusually long, and we have therefore decided, in consultation with Jayant, that we will enumerate only his scientific books. These expose much of the work he has presented elsewhere in the form of research papers and review articles. They also present highly readable and often pedagogic accounts of modern astrophysics, and will surely continue to be read for a long time to come. Amongst the works that we will leave unlisted will be his contributions to the annals of science fiction, which have helped much to endear him to the general public. In this matter too Jayant has followed in the steps of Fred Hoyle.

Naresh Dadhich
Ajit Kembhavi

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