Editorial

N Mukunda, Chief Editor

A recently published book *Portraits of Discovery* by astronomer and science writer George Greenstein, describing the lives and achievements of ten scientists from different parts of the world over the past century or so, refers to Homi Jehangir Bhabha as "A Gentleman of the Old School". It is often illuminating to see what others, far removed from us, have to say about us and our problems. Presuming that there is a basic sympathy in outlook, we can expect some objectivity in their assessments. In his Prologue Greenstein says:

> *"Most of Homi Bhabha's work was concerned with the development of science in India, a nation beset by problems so overwhelming as to make the practice of science incomparably more difficult than here."*

There seems to be a hint that even in the USA the pursuit of science faces difficulties! Towards the end of his account Greenstein remarks:

> *"In thinking of this man, the image perpetually rises to my mind of one of those great, larger-than-life figures of the Renaissance ...".*

Bhabha was an aristocrat in many ways: by birth, in his tastes, and in his way of life. There also seems to have been a distance between him and those with whom he otherwise worked closely. But all this seems to have been necessary for him to have had visions on a truly grand scale, and to have translated them into reality. Quoting Greenstein again:

> *"There is not the slightest doubt in my mind that Bhabha would never have achieved what he achieved had it not been for his aristocratic background and personal connections."*

A great deal has been written on the contrasting attitudes of Homi Bhabha and, say, Megh Nad Saha on what needed to be

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— *Homi Jehangir Bhabha*

done to revitalise Indian science. Here we want to tell our readers something about Bhabha's achievements in physics and other creative pursuits. G Venkataraman, the author of *Homi Bhabha and his Magnificent Obsession* published not long ago, gives a brief life sketch: Bhabha's educational career, the years in Cambridge and in Europe devoted to physics, and then the Indian period. At Cambridge Bhabha was a student of R H Fowler for his PhD (So were, incidentally, Paul Dirac and Subrahmanyan Chandrasekhar). Then comes the period he spent at the Indian Institute of Science, Bangalore, as a result of circumstances connected with World War II. Through extracts from his letters to his parents and others, on various pages of this issue, we see an expression of his passion for physics; and later of his realisation that he saw a mission for himself – the creation of conditions in India where world class science could be pursued.

B V Sreekantan (a student of Bhabha) describes the origins of cosmic ray physics, Bhabha's deep involvement in this field, and how after the decision to settle in India he created and led a major experimental and theoretical effort in this area. Bhabha's best remembered contributions to physics are his analysis of electron-positron (Bhabha) scattering, and the cascade theory of cosmic ray showers.

In the Reflections section we reproduce Bhabha's scholarly presidential address to the 1951 session of the Indian Science Congress. Considering the occasion, the range of ideas covered is remarkable: the meaning and philosophy of natural law, the importance of quantification, the developments of relativity and quantum mechanics, and elementary particle physics at that time. As fruits of his artistic talent, we present a couple of his paintings. And what better way to conclude than by quoting Bhabha himself:

> *"Art, music, poetry, and everything else that I do have this one purpose – increasing the intensity of my consciousness and life".*