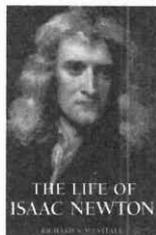


## Not a Plaster Saint

Biman Nath



*The Life of Isaac Newton*  
 Richard S Westfall  
 Cambridge University Press  
 1993  
 Price:Rs.195/-, pp.328.

One might ask if it is useful at all to read biographies of scientists. After all, science as an endeavour is supposed to be impersonal and elements of personal details in the life of scientists should be irrelevant as far as the result of their scientific research is concerned. It should not matter how a scientist lives or works or behaves in private when one knows what they have achieved and how their research should be used and interpreted.

But scientists are not robots and although the results of scientific enquiry should be ideally impersonal, especially in the long run, it is not wholly unexpected that personal matters do influence the progress of science in the short run. It then becomes important to study how scientists have conducted their lives, how they have interacted with their colleagues and how they have reacted to either their successes or their failures, if only to draw inspirations or lessons for ourselves, or simply as a study of history of science.

*The life of Isaac Newton* by Richard Westfall is the condensed version of his acclaimed piece

of work titled *Never at rest* and is a classic biography of a scientist. It is rich with allusions to letters and papers written in the 83-year lifetime of Newton, including the lesser known theological and alchemical writings, in addition to the important works like 'Optiks' and 'Principia'. It displays an impressive level of scholarship and detail and is yet marked by the biographer's dry humour from time to time.

Much has been said about Newton's troubled childhood – he lost his father before he was born and his mother married again when he was three. Westfall's account of the initial years of Newton's life leaves the sentimental issues aside and instead focusses on actual data – how little Isaac behaved with his fellow schoolmates (kept aloof most of the time), his relatives or even servants at home. The remarkable aspect of this particular biography is that instead of taking all anecdotes at their face value, Westfall attempts to sift the grain from the chaff, real information from eulogies written later by disciples and admirers. Without undue emphasis on psychoanalysis, however, Westfall's book makes the point that such a beginning contributed to the loneliness, isolation and the accompanying neuroses and obsessions in Newton's later years.

Even the formative years at the grammar school showed how his mind would work in his prime years. The mechanical bent of his mind was clearly evident in the making of sundials in and around his room and miniature, intricate, and fully working models of

windmills. These activities certainly honed his mechanistic vision of nature, and also his approach of depending on experiments to develop theories instead of relying on speculation *ad infinitum* that was fashionable around his time. After six initial years in Cambridge came the crowning ‘miraculous year’ of 1666. “By any other standard than Newtonian myth, the accomplishment of the *anni mirabiles* was astonishing. In 1660, a provincial boy ate his heart out for the world of learning which he was apparently being denied. By good fortune it had been spread before him. Six years later, with no help beyond the books he had found for himself, he had made himself the foremost mathematician in Europe and the equal of the foremost natural philosopher.”

His almost heretical approach to science (or philosophy, as he would have liked to call) was also accompanied by unorthodox views on theology. Many readers would find Newton’s heterodoxical views on the Christian concept of Trinity interesting, especially after books like the *Da Vinci Code* have attracted popular attention to the historical development of Christian theological concepts. Newton did not subscribe to the conventional wisdom of equating the Father and the Son in Christianity, but held his view a secret knowing how he would be treated if it were discovered and communicated with only a few trusted friends. Only on his deathbed did he divulge his unorthodox views, in a way, by refusing the sacraments. Westfall’s book describes this aspect of Newton’s life with

fair-mindedness, and shows how these seemingly disparate parts make up the whole of Newton’s mind. Westfall describes his ideas on alchemy as well with an eye to integrate them into Newton’s scientific enquiry and philosophy as a whole. When Newton worked on alchemical problems, his thoughts strayed into other arena – of the properties of the hypothetical ether and even the possible causes of gravity.

The other shadowy sides of Newton’s life would have been difficult on the part of any biographer to tackle, but Westfall’s account takes the reader along with many vicissitudes in Newton’s life with consummate understanding. The episodes of the maligning of Robert Hooke, the undermining of the then Royal astronomer John Flamsteed, and the vicious attacks on Leibniz over priority in the invention of the methods of calculus are all difficult to digest. “As for Newton, impatience with contradiction, which manifested itself in the young man in a readiness to throw caution to the winds in challenging established authorities such as Hooke, had become in his old age a tyrannical will to domineer, an unlovely trait which one cannot ignore.” Yet, Westfall remarks that “For me at least, the recognition of his complexity as a man helps in understanding the price his genius exacted. I find it hard to reconcile the *Principia* with a plaster saint.”

Newton did mellow down somewhat in his final years, and he enjoyed the company of a charming and witty niece, Catherine, at his



house in London. He also dispensed a considerable sum of money to various relatives in need. "Newton's charity works to soften the image left by the quarrels with Flamsteed and Leibniz. The quarrels were real. So was the charity to unfortunates, as though he hoped to compensate for his own shortcomings." In Cambridge, many years before he came to take up the important position at the Royal Mint, he was an isolated man who shunned company of his colleagues and who befriended none – an assistant in Cambridge told later that he had seen Newton laugh only once in five years (when a student had asked him of what use was a book of Euclid that he had prescribed him). In his final years, he relished the important image he carried with him, as the Master of Mint, as the President of the Royal Society and the most famous man alive in England at that time.

He was interred in a prominent place in the Westminster Abbey, where an inscription read "Let Mortals rejoice That there has existed such and so great an Ornament to the Human Race." Westfall ends with these remarks: "In this case, baroque extravagance struck the proper note. Faults Newton had in abundance. Nevertheless, only hyperbole can hope to express the reality of the man who returned to dust in the early spring of 1727."

It is a remarkable biography of a remarkable man, one can say in summary. The reader will be certainly left curious and restless to pick up the larger version of the book *Never at Rest* for more details of this extraordinary life.

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### Errata

**Resonance, Vol.11, No.9, September 2006:** Pages 83–84:– The author has made the comment that one may define a third order semi-magic square as one that has  $\mathbf{x} = (1, 1, 1)^T$  as an eigenvector. But this condition only takes care of the row sums, and therefore falls short. To take care of the column sums too, one must say instead:

A  $3 \times 3$  matrix  $M$  is a semi-magic square if and only if  $\mathbf{x}$  is an eigenvector of  $M$  as well as its transpose,  $M^T$ .

This extra condition then has to be checked in the proofs given on pages 83–85, equations (11) and (13). But, fortunately, this is routine.

**Resonance, Vol.11, No.11, November 2006:** Page 55:– Address for Correspondence is N S Vasanthi, Professor and Head, Department of Biotechnology, Bannari Amman Institute of Technology, Sathyamangalam 638401, India.

