Not a Plaster Saint

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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 \textit{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 \textit{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 \textit{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 \textit{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