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Stephen Hawking: A Life in Science, by Michael White and John Gribbin. Penguin Books, 1992, Rs. 95.

If Einstein was the symbol of science and scientists in the Atomic Age, the wheelchair ridden "black hole cosmonaut", Stephen Hawking is certainly the dominant image of late twentieth century science. A Cambridge don who is fascinated with Marilyn Monroe; a theoretical physicist par excellence; a patient of a rare and incurable motor neuron disease; the bestselling author of 'A Brief History of Time', a book which broke several records in its sales. All this and much more is Stephen Hawking.

Michael White and John Gribbin recount the story of this physicist who has attained the kind of popularity usually reserved for movie stars. Born of middle class parents, Hawking attended a local private school where he showed early signs of possessing an exceptional mind, especially in mathematics and physics. After school, came a scholarship to Oxford where he did an undergraduate degree in Maths and Physics. The rigors of an Oxford degree were not particularly taxing for an astonishing mind like Hawking, and consequently he spent a lot of his three years doing the kinds of things any undergraduate does; taking part in sports, indulging in drunken brawls and being bored.

After Oxford, Hawking started his doctorate at Cambridge with the famous cosmologist, Dennis Sciama. This was the time when his work began to be noticed by the physics community. This was also the time when the first symptoms of amyotrophic lateral sclerosis (ALS), an incurable disease of the nervous system, started appearing. The disease affects the motor neuron system leading to a creeping paralysis with the patient gradually losing control over his muscles. Intriguingly, the memory and the thought process are unaffected. Gribbin and White poignantly describe this period of Hawking's life and his coming to terms with his affliction. Battling all odds, and refusing to sink with self-pity, Hawking with the tremendous support provided by his fiancée, managed to finish his doctorate. The doctors had given him two years to live; he had not only outlived their predictions but was going to get married and join one of the Cambridge colleges as a Fellow!©

This was the beginning of his most productive period with his path breaking work on singularities and black holes in collaboration with Roger Penrose. This work established him as one of the foremost physicists of our times. The authors, with the intention of writing about Hawking's life and work, have endeavored to interweave physics and history. Thus considerable amount of space is devoted to explain Hawking's seminal work on black holes, quantum cosmology and singularities. It is here that the book disappoints. The authors being well established science ©writers (and at least one of them, John Gribbin is a trained astrophysicist) could have done a better job in explaining the highly mathematical and

esoteric work of Hawking to the lay reader. Unfortunately, their treatment of Hawking's work, though better than most other "pocket book" guides to the universe, is still not very satisfying.

Awards and Prizes started flowing for Hawking; Fellowship of the Royal Society, Wolf Prize, Einstein Prize and finally, at a remarkably early age of thirty seven, the prestigious Lucasian Professorship at Cambridge. Three centuries earlier, Isaac Newton had held this chair and now Hawking had established himself as his intellectual heir.

But the real stardom came with the publishing of his 'A Brief History of Time', a popular account of his work. Not that Hawking was a newcomer to writing. He had already written one of the most authoritative monographs on cosmology. But writing for the lay-reader is quite a different story than describing your research to your peers. Nevertheless, the book was a phenomenal success and made Hawking into a celebrity. The events leading up to the publishing of the book, the tough bargaining over advances and royalties, the hesitation of the publishers to order a large first run, the selling off of the movie rights, are all described very well. This part, which reads like a thriller, relates the effect his tremendous success had on his life, specially his marriage. For most of the book, the authors are content to eulogize their hero. Here they try and evaluate him and his success a little more critically and acknowledge his legendary stubbornness and over powering ego. But here again, several key questions are left unanswered. For instance, why amongst several equally brilliant physicists in the world, only Hawking has captured the popular imagination (much like Einstein) is a question which the book does not attempt to answer. What was special about his book which lead to its extraordinary success, when a much more comprehensive (and in some ways a much better book) , "The Emperor's New Clothes", by Hawking's former collaborator Roger Penrose did not do as well? Or what was the role of the mass media in the exceptional success of his book? Did the media subtly play on public emotions by highlighting his infirmity? If one has to understand the kind of phenomenon that Stephen Hawking has become, one must answer these questions. But then, given the almost hagiographic style of the book, any attempt towards criticism would be too much to expect.

Rich in history and anecdotal details, the book provides a valuable insight into how the academia functions. There is also a fair amount of interesting detail about Hawking's life and in spite of the hero-worshiping style, the book is immensely readable. Sadly though, Hawking's work is not very lucidly explained.

In 1963, the doctors had given Hawking two years live. Today, thirty years later, he is not only alive but active in pushing the frontiers of physics. In physics, the search is now on for the Holy Grail; the Theory of Everything, a grand synthesis of our present understanding of nature which would incorporate the knowledge of the microscopic (quantum mechanics) with the macroscopic (gravity). And Hawking is certainly at the forefront of this endeavor.

His place in history is secure not only as an outstanding physicist but also as an example of the strength of the human spirit to overcome natural adversity.©

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