

One Hundred Reasons to be a Scientist

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The preface states that the aim of ICTP in bringing out this book is *to attract the brightest young minds to pure science, especially from the third world*. To this end, it will, without a shadow of a doubt, contribute significantly. Young minds which come across this book and even browse through it should be considered fortunate; those who read all of its content would benefit tremendously.

The book consists of revelations in the first person singular by eminent scientists of the how and why (and when) of their initiation into a love for science and their adventures as they journeyed through research in science. Some scientists, in addition, share their views on the responsibilities of scientists and the need for them to play an active role as benefactors of the world at large.

The most fascinating insight the reader obtains, from the endless variety of situations and often chance events which attracted different individuals to science, is that *there is no recipe for bringing about a guaranteed attraction*.

At the same time, the threads which run through this necklace of 100 precious contributions are

a) *every single author was drawn by and lived in the joy of unravelling the mysteries of nature and did not flinch from the toil of the climb to the peak, all for the sake of the panoramic view.*

b) a shared trait or hallmark of true scientists is the child-like interest and excitement in a challenging problem in any field, very much like an adolescent trekking in the wilderness. Thus some scientists have moved from one branch of science to another and made outstanding contributions in all the branches.

c) none of these eminent scientists come through as working to bag an award, or to get ahead, they were totally immersed in solving the problem or mystery at hand. This is a pointer to the secret of truly great achievements.

d) the latent potential is invariably kindled by interaction with the great minds of great scientists, usually first by reading their books, and later fanned by direct interaction and association with them.

One interesting thing that one observes from these thoughts, not necessarily always from the most famous names in this collection, is that one need not have been in Science from the beginning of one's intellectual endeavours to become a successful scientist in the end! A few examples below make the point:

Anthony J Leggett, p.143 (A Nobel Laureate):

As a student he did classical languages, history and philosophy as an undergraduate, being drawn to physics via a chance meeting with a professor of mathematics and the *satisfaction arising out of nature doing an external, unbiased validation of theories in physics*. This is an eye-opener for the blinkered youngsters who are made to believe that they must stick to the streams in which they happen to find themselves, forever.

Edoardo Boncinelli, p.53: He moved from philosophy to physics to biology and molecular genetics. “It was a small book by Isaac Asimov entitled *The Genetic Code* that changed my life.” This impels him to write popular science books to inspire future generations and newspaper articles to explain to laymen the impact science has on our lives.

Susan Greenfield, p.101: At the school leaving stage she thought, “Science wasn’t for me.” In college she did philosophy and psychology; she found the former frustrating. The latter being a new field, she learnt that “not everything was known and cast in tablets of stone”; she found that uncertainty exciting. She went on to study the subjective world as mapped into brain activity.

Touching on some other important aspects:

Vladimir I. Kellis-Borok, p.124: He answers the FAQ as to why some people choose to become scientists rather than get into a monetarily lucrative profession: A scientist is not merely a person who theorizes and experiments; a scientist is a person who cannot live without doing science.

His participation in bringing about the nuclear test ban, gives him the conviction that “where there is science, there is hope for survival and well-being for all of us.”

b) The anecdote narrated by *Jayant V Narlikar, p.176*, from the life of Lord Kelvin drives home the point that “In scientific research it is the originality that matters.” He tells us that although Lord Kelvin (then Thomson) stood second and Parkinson stood first at the Cambridge Mathematical Tripos, the latter knew the answer to one of the very difficult questions only because he had read a paper in which it was solved, and whose author was Thomson.

This is only a review, so please refer to the book for the many more fascinating accounts and observations from the hearts of the scientists themselves.

The name of the book should have been “Inspirations to be a scientist”, as from what they have to say it is clear that becoming a scientist is not by “reason”, it is a calling, nor are inspirations countable. To trigger youngsters into a “must read” urge for this book, one would end with a sample of the titles given by some of the contributors to their pieces:

Living with physics, Electricity was not invented by trying to make better candles, Listen to your inner voice, Talent may not always be evident early, Research is about total freedom, Joy of a limitless pursuit, It is all curiosity.

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