

“The Beginning: Voyages through Time”, by Peter Ackroyd, DK, Pounds 4.20. (2003)

“Escape From Earth: Voyages through Time”, by Peter Ackroyd, DK, Pounds 4.20 (2003)

“Reptiles”, Discovery Channel, Popular Prakashan, Rs. 95 (2004)

“Nuclear Energy”, Discovery Channel, Popular Prakashan, Rs. 95(2005).

One of the most important unanswered questions in science is that of the origin of life on earth. Did life originate spontaneously from a soup of chemicals under the influence of ultraviolet rays and lightning? How did the complex, self-replicating molecules emerge from the primeval soup? Or did life actually emerge in some other part of the universe but was transported in the form of microorganisms by meteorites and asteroids?

These are questions on which there is still disagreement amongst scientists. But even if we ignore the question of the origin of life, we still need to understand how unbelievably complex organisms like human beings came into being from the humble molecular beginnings. These are fascinating questions which touch upon many fields of science- from astrophysics to climatology to geology and of course biology. Peter Ackroyd's book, “The Beginning” is an excellent attempt to put forward the known facts for the lay reader.

“The Beginning” starts appropriately with the beginning of the universe some 14 billion years ago in a cataclysmic explosion, the Big Bang which created “being out of nothingness”. Then, for some 10 billion years, galaxies, stars and everything else in the universe was made- not by a creator or designer but by the forces of nature. There are hundreds of millions of galaxies like our own Milky Way, each containing hundreds of millions of stars- one such star is our Sun. Then, about 4.6 billion years ago, a “fiery sphere, which we now call home, rushed through space as the third planet in the empire of the new Sun”.

The first age of the world is called the Hadean, from Hades, the Greek word for Hell. And hell it was with temperatures greater than 5000 C, millions of meteorites hitting it and its internal heat making it quite “unlivable”! This went on for many millions of years- the earth's crust was formed as the planet cooled and there was massive volcanic activity. And then, at some time, a miracle happened- life erupted spontaneously.

The saga of these early years of Earth is not discussed in any great detail in this book. Maybe because we know so little about it. What we do know for sure is that once life emerged it flourished, evolved according to the pressures of survival into a mindboggling diversity- From the earliest known microscopic fossils dating from over 3.5 billion years to the enormous number of species that we see today. And this despite there having been many mass extinctions in the history of the Earth. In these truly catastrophic events, a majority of the existing species die out. The most well known one is of course the extinction event which led to the disappearance of the mighty dinosaurs, some 65 million years ago.

The saga of life on earth is an exciting one. Ackroyd tells the story of the earth well. And even more exciting is the process of discovering it. The geologists look for clues in rock formations, the paleontologists search for fossils and with the help of other scientists try and piece together a story which fits the facts. And then someone finds a fossil which upsets the whole applecart and new theories come into being and so on. The book is a

good compendium of facts about this search for our roots. And that is both its strength and weakness- strength because in a visually appealing, succinct manner, it puts together a lot of information about our past. But the data-rich narrative misses on processing of this information. The questions about how exactly the scientists function, the power of Darwin's simple sounding hypothesis about natural selection being the engine of evolution etc. are not adequately answered. Short reference sections at the end just whet one's appetite. Nevertheless, the book is superbly produced, with illustrations that are integrated with the text and thus makes for fine reading.

The question of the origin and structure of the universe is perhaps the oldest questions of humankind. The early woman, in her long treks across the dusty plains of Africa must have seen the stars, the moon and other heavenly objects. Surely there must have been some curiosity as to what they are and what governs their motions. All cultures that we know of have their cosmology, i.e., a "theory" which "explains" the origin of the universe (or creation) and its structure. The Ancient Greeks for instance, thought that events repeated themselves and many Han Chinese were of the opinion that the cycle for universe's creation and destruction was 23639040 years!

At another level, human beings have always strived to explore unknown territories. The dense jungles of Africa, the desolate polar regions or even vast deserts- the history of Homo sapiens has been one of constant exploration, whether in search of food or markets or knowledge. Peter Ackroyd's "Escape from Earth" is a chronicle of our venturing into the last frontier- space.

The history of space travel began in 1903 when a little known Russian schoolteacher, Konstantin Tsiolkovsky proposed a design of a rocket with liquid hydrogen and oxygen as fuel. In 1926, the American space pioneer Robert Goddard launched the first true rocket which flew to a height of 12.5 meters in 2.5 seconds. From these humble beginnings to the massively destructive V2 rockets that were used by the Nazis towards the end of the Second World War, there were many advances in rocket technology. After the war, the Nazi scientists and technology were the prizes which both the Red Army and the Americans were coveting. Wernher von Braun, the developer of V2 rockets was taken by the Americans together with his colleagues and the plans and parts for rocket design.

The Space race began in earnest after the War. And then came the Sputnik, the first satellite in 1957 and this spread panic among the Americans. The race became hot and it was in 1961 when Yuri Gagarin became the first human being to go into space, the race for the next frontier began. The Apollo program to land a man on the moon, the development of the space shuttle and the Space Station were all part of the saga of humans trying to conquer space. Ackroyd's book is a fairly straightforward chronology of events in this story. This book too is wonderfully illustrated but lacking in any analysis or depth. It will certainly prepare you for the next round of your favorite television quiz program but will do little in increasing your understanding about the fascinating subject of space travel.

The other two books are Indian reprints of Discovery Channel Science Collections. These are slim volumes which put together a lot of information in various interesting ways about topics in science. The books under review are on "Reptiles" and "Nuclear energy". The format is very reader friendly and the books convey a lot of information in a very appealing way. There are sections on Questions & Answers for information,

Scientist's Notebook on a personal account of some important discovery, Projects, Solve-it-yourself Mystery and so. I am sure the young readers will find these of great interest and in the process of reading this, get an exposure to these topics which is more than just simple information and data.

There is one small quibble I have thought with these books. Given that they are being brought out by Popular Prakashan, a well known name in publishing, why couldn't the books been adapted for our local readers? For instance, there is a section on "Turtles in Indian myth and legend" in the book on reptiles. It turns out that the Indians in question are actually Native Americans! Similarly, all the examples that are given are from the U.S.A. Surely there are enough reptiles in India and certainly many interesting myths and legends about them. The cobra losing its "mani", the turtle supporting the world and so on. These examples would have made the books even more appealing to our local readers. But then, maybe in these days of globalization, the local and the native is not considered important enough though given the fact that Discovery Channel is now available in Hindi, this is hard to believe!

This leads me to the all important question- why is it that we can't produce similar books in India? There is certainly no dearth of talent in the sciences in India. Yes, some popular science books have been published in India but by and large their production quality and content presentation leave a lot to be desired. Popular science written for children needs to be attractively packaged, well illustrated and moderately priced. And all this being done without compromising on content quality i.e., simplifying the subject without trivializing it. Is it too much to expect of the world's second largest scientific power to produce good, appealing and affordable popular science books for our future generation?