

predictable. This deterministic view is upheld throughout, with only minor concessions to the notion of chaos, but little made regarding complexity, self-organization, and so on. The epilogue closes the book on the optimistic note that science 'gives us a means to predict the consequences of our actions and perhaps, with wisdom, to save us from ourselves'.

The universal laws and organizing principles governing matter, energy, forces and motion are presented clearly. Matter in every form, from the atom and its sub-atomic constituents to the galactic dust is discussed along with the new-fangled forms of engineered materials. The four fundamental forces and fields are linked to the mechanism of the universe. The various conservation laws are stated clearly. Two chapters describe the restless earth and the various oceanic and atmospheric cycles. Four chapters unravel the miracle of life; the operating principles of natural selection and the transmission through genetic codes and the ladder-like connection from the fundamental molecular units to the ecosystem of the biosphere are nicely brought out.

No book, written on the 'What you need to know and where to find it' for-

mula can be complete without a discussion on any of the following issues: acid rain, genetic engineering, green house effect, mass extinctions, ozone depletion and the ozone hole. The scientific components behind these issues are treated in a balanced and responsible way. The Law of Unintended Consequences is neatly brought out here: that in complex systems (eco as well as socio-economic), it is not possible to predict what the consequences of any change will be - small changes can have devastating effects while huge changes can leave the system largely unruffled.

As an aerospace structural engineer who has found that extremal-action principles play a defining role in the development of his discipline, I noticed its omission immediately. No effort was made to demonstrate that the underlying laws of the physical world are governed by a preference for economy which can be summed up by extremization or optimum principles. Perhaps, it was felt that one need not know these principles at this elementary expository level.

A very useful bibliography recommending additional reading material is organized chapter-wise and appears at the back of the book.

A compelling case is made out that science really *does* matter because of the way it has altered our daily lives. A cynic may add, lifting us from pain, drudgery and boredom but giving us a lot of things we don't need to buy and offering persuasive dream merchants the reach through the miracle media (print and electronic) to make us spend money we have not got - virtual dreams and virtual reality. Such is the trap that Socrates, Buddha and Gandhi warned us about.

Hazen and Trefil's book is informative, written in a very accessible way and draws many commonplace analogies and metaphors. Both have had excellent track records as scientists doing original research as well as being outstanding communicators of popular science. The Universities Press Edition of this book, which was issued originally in 1991, at a very affordable price is a must for every home and every school and college library.

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Applications are invited for the award of two Senior Research Fellowships to work in the Indian Council of Agricultural Research (ICAR)-sponsored project 'Rat pheromonal identification and its involvement in masking bait shyness: A novel approach in rodent pest management' under the supervision of Dr. G. Archunan at the Department of Animal Science, Bharathidasan University, Tiruchirappalli 620 024, Tamil Nadu. The fellowships are tenable for a period of three years.

Minimum qualifications: First Class M Sc degree in Zoology/Biochemistry with two years research experience in pheromones and behaviour/rodent pest management.

Applications on plain paper with necessary bio-data and reference letters should reach Dr G. Archunan at the above address within 10 days of this advertisement

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