in modern India. The book may appear to paint ominous signs for India's future and may sound too pessimistic about India but the arguments and underlying logic are powerful with facts and figures and excellent analysis. Words such as battle ground, digital colony, recolonization, etc. may appear too strong but the fact is that India has been mostly reactive and not proactive in the wake of the fast changing equations in the AI space.

This thought-provoking book is eminently accessible to everyone: technical experts in AI, non-technical readers who have no knowledge whatever of the emerging technology landscape, students, general public, bureaucrats and policy makers. In my humble opinion, this book is a must read for every Indian concerned about India's future in the wake of the rise and rise of AI and related technologies.

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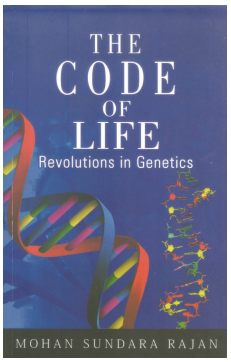

The Code of Life: Revolutions in Genetics. Mohan Sundara Rajan. National Book Trust, India, Nehru Bhawan, 5, Institutional Area, Phase-II, Vasant Kunj, New Delhi 110 070. 2020. xiv + 275 pages. Price: Rs 270.

The book under review by Mohan Sundara Rajan can be viewed as a beginner's introduction to the origin of genetics, genetic inheritance and advances in genome engineering. The first chapter titled 'An ever changing draft' sets the tone for the reader: that the genome is not a 'fixed' entity; it has been changing over millennia and will continue to do so. The chapter traces the 'Timeline' and lists some of the important developments that have contributed to the understanding of genetic inheritance till date including the deciphering of the structure of DNA, the genetic code. In the subsequent chapters, many other aspects of DNA that contribute to inheritance are discussed including the role of 'junk DNA' and, importantly, epigenetics in inheritance.

The latter half of the book mainly discusses the recent technological advances that have impacted the genetics of inheritance. The discovery of CRISPR based editing, its mechanism of action and applications are discussed in different contexts. Importantly, the ethical issues surrounding the use of CRISPR are discussed at length. The use of stem cells and stem cell technology in the treatment of neurodegenerative disorders, organ failures, and the use of CRISPR coupled with stem cell technology to 'fix' disease causing genes in embryos are explained simply. The book ends with a discussion on genetic variability in the Indian subcontinent and Southeast Asia; the DNA database in India, and Indian institutions and engaged in genome and genetic research.

The book is impressive in the range of topics it covers, the information, and the detail. It is clear that it is well researched. Beginning with the ideas of inheritance and Mendel's laws, the book goes on to discuss CRISPR-Cas9 – the latest in genome engineering. It goes a step further to also discuss the ethical issues and dangers surrounding the use of this technology. The book is almost modular in its organization in that each chapter can be read as an independent essay. The language is simple and easy to comprehend. What adds to making the read interesting are the little snippets of information placed in boxes and stories surrounding major discoveries, which highlights the often serendipitous nature of discoveries in science.

A Harvard University team has designed an *Escherichia coli* genome with only 57 codons (out of a total 64) replacing the others. The re-coded genome design had 62,214 codon replacements across 3,548 genes. The seven blank codons can be reintegrated and used to introduce non-standard amino acids. Courtesy: Harvard University.

The book falters a little in the last few chapters where many of recent advances in the interface of biology and computer science are discussed. The coherence of the earlier chapters is not visible in this section. The lack of a bibliography is another drawback, the presence of which would have enabled reader to refer to the original papers for more in-depth learning. Nonetheless, the book does well in simplifying the science of genes and inheritance, explaining the current advances and their implications for humankind. For both, science and non-science students this book will be a valuable resource of information.

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