BOOK REVIEW

The Coming Wave: AI, Power and the 21st Century's Greatest Dilemma
Mustafa Suleyman, Michael Bhaskar
Published by: Penguin Random House UK; First Edition
ISBN: 9781847927484, pp. 332

A PICHIPOO RAJA

What does the coming wave of technology mean for humanity? Artificial Intelligence (AI) answers this question in the preface of the book, boldly demonstrating what is happening. *The Coming Wave* is the story of the 21st century that is defined by the interaction between rapid developments in the fields of Artificial Intelligence and Synthetic Biology. This book tries to answer how this wave affects humans and everything around us.

Mustafa Suleyman was one of the founders of Deep Mind and Inflection AI. Therefore, Suleyman is no Luddite. From a career built from developing AI tools to transforming into someone who is writing on its potential dangers reflects genuine concerns.

The book is divided into four parts. Part one does a historic scan of how proliferation is the default pattern of technologies involving both intended and unintended consequences. Part two deals with what is this 'wave' that is coming. Part three explores the threats, while part four offers certain probable solutions.

Wing Commander **A Pichipoo Raja** is a Research Fellow at the Centre for Air Power Studies, New Delhi.

The author argues by quoting a few examples. Technology makes people's lives better. Therefore, it is widely sought and has always proliferated. Further, life-changing technologies are goldmines which attract the largest capital and best human talent. This leads to explosive growth, and establishes the law of accelerated returns. The products grew in number, reduced in individual cost and became more easily available. To quote an example from the book, the cost of human genome sequencing fell from US$ one billion in 2003 to under 1,000 US$ in 2022 – a million-fold drop in price in less than 20 years. He argues that this is the default nature of any technological progress and it cannot be contained. He argues that technological progress is driven not only by commercial interests but also by geopolitical reasons. A breakthrough by one country leads to competition, prompting another country to pour billions of dollars and the best of brains to churn out competent responses.

The other aspect of this wave is the openness of technology to a large number of humans. Sensitive technologies like nuclear are confined to selected facilities. However, AI and gene editing are readily available to everyone. They can be installed and run in a small garage. CRISPR, a tool that can edit genes, is openly available to an individual for less than US$ 2,000. This has brought down the cost and time to generate new artificial life forms and has led to biological creativity. The impact of the creation of new life forms is not known and cannot be accurately predicted.

The author speaks of the second-order effects of progress in intelligence, leading to progress in all areas of life. Complex technologies such as nuclear fusion and quantum can be developed on the rewards of the intelligence boom caused by AI. Further, on a societal level, nation-states and traditional militaries are being replaced by non-state actors and autonomous weapons. These derive their strength from the explosive growth of AI and the information domain, and unrestricted access. These are emerging as a serious threat to traditional states.

However, all is not lost yet. In the last part of the book, the author offers nine elements which can be employed to contain or temporarily slow down the coming wave. These ideas include promoting development in AI safety

through some tools like critic AI (AI that tests another AI for faults), use of policy tools like treaties, and sanctions, incentivising safety in AI, and manufacturing rules that are safe. He also promotes a safety culture to be developed in these domains. He draws parallels to the aviation industry to demonstrate how statistically in the present day an individual is safer flying in an aircraft than while he is at home. This achievement has been possible only due to an industry built over generations of individuals imbibing safety as a culture. However, this part of the book offers nothing new or unique. In some places, these go contrary to the nature of the coming wave that he has meticulously explained in the initial parts. For example, none of the suggested policy measures would be possible to enforce upon non-state actors. It is in the hands of these players that these powerful technologies are most dangerous as they would be employed with the intent to cause harm.

The beauty of the book lies in the fact that it is devoid of jargon and keeps the interest alive till the end. Bill Gates mentions this as his favourite book on AI and describes it thus, "*The Coming Wave* is a clear-eyed view of the extraordinary opportunities and genuine risks ahead." Indeed, this book does a brilliant job of identifying the risks. Perhaps, a follow-up book on solutions would be required to mitigate the threats.