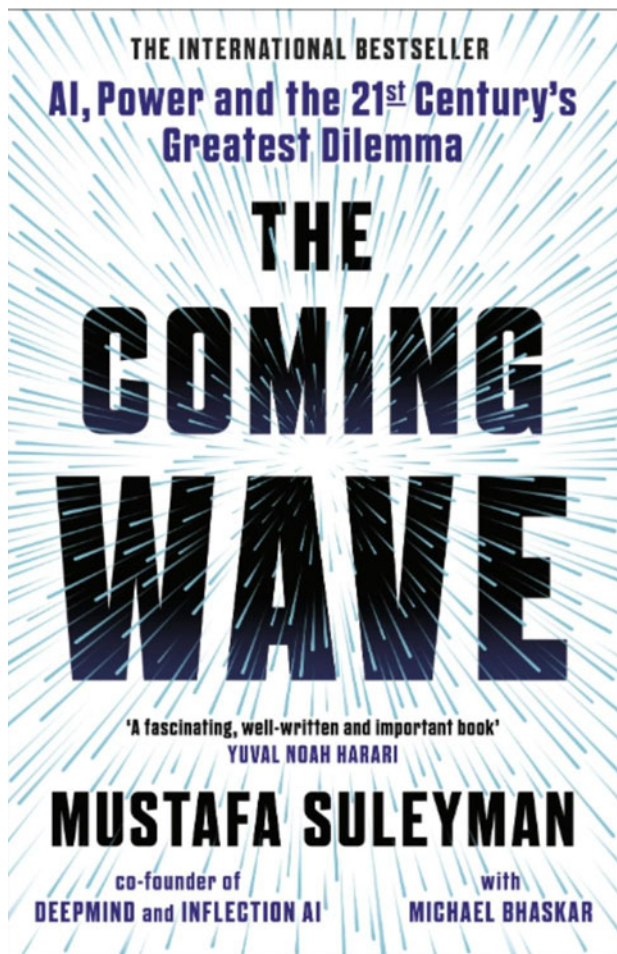


Book Review

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The Coming Wave Mustafa Suleyman (with Michael Bhaskar) Published by Bodley Head, 2023



Mustafa Suleyman is the CEO of Microsoft AI, and the co-founder and former head of applied AI at DeepMind (an AI company acquired by Google). In *The Coming Wave*, Suleyman presents an accessible, knowledgeable and informative overview of the rise of artificial intelligence and “synthetic biology”, as well as the huge range of actual and potential benefits and threats that accompany this phenomenon.

The book made a big impact on its release, was reviewed widely in the national press and elsewhere, and was shortlisted for FT Business Book of the Year 2023. My aim in reviewing it here is chiefly to identify and draw attention to any particular insights that might be of relevance to information professionals.

In a *Guardian* interview given around the time of the book's release, the author described his work as a provocation. He states that he wants to call attention to his containment plan, and to encourage readers to make suggestions for improving it.

From the start of the book, the author emphasises the challenge of steering a “narrow path” between catastrophe and control. Left uncontained, he says, the wave of AI technologies could prove catastrophic, but the measures necessary to contain them could be equally damaging. He argues that in this context, containment is not about stifling innovation, but rather about ensuring responsible and ethical use through measures, regulations, and ethical frameworks.

Reading this caused me to think about how we as information professionals can attempt to navigate this narrow path. In the information world we can see people veering towards either extreme: either wholeheartedly embracing the opportunities of this new technology, or striving to restrict its usage in what the author terms “pessimism aversion”. The most effective path, as suggested by the author, is likely to lie somewhere between these two extremes.

The analogy of a wave runs through the whole book. The author suggests that the entire history of humanity has been characterised by waves of religion, education, commerce and technology. The early chapters explore this repeated trend for proliferation, from the rapid rise of printing and publishing, to the quickly growing dominance of the car in society, and the dawn of the computer age. These chapters also introduce the concept of containment as a necessary measure, both for retaining the benefits of technology, and also for protecting the future of the human race. The author points out that such containment has hitherto proved impossible in almost every case, with the (partial) exception of the control and regulation of nuclear weapons.

Over the course of the next few chapters, Suleyman gives an overview of the emergence and progress of artificial intelligence, including examples of the remarkable work done by his team at DeepMind. He goes on to talk about the appearance of Large Language Models, such as ChatGPT. Further, he discusses the connection between AI and synthetic biology, and the scale and speed of potential future breakthroughs in research. He also explores other future effects of the AI wave, for example in clean energy and robotics. “Within a few years, AIs will be able to talk about, reason over, and even act in the same world that we do. Their sensory systems will be as good as ours ... AI will become inextricably part of

the social fabric". It is clear that the potential benefits of AI are huge. The technologies could, in time, completely transform medicine, agriculture and environmental sustainability.

Chapters 7 and 8 explore the motivations and incentives propelling the AI wave: the unprecedented power that AI gives to individuals and organisations, its adaptability for use in a wide range of contexts, and its increasing autonomy. The author also describes wider incentives which are driving the wave forward, such as national pride, the technological arms race, the open culture of research, profit motives and ego.

In chapters 9 to 12, Suleyman talks about the threat to nation states, in the face of the coming AI wave, suggesting that this will continue to destabilise democratic governments. He sets out some of the ways in which developments in AI and biotechnology could threaten national security, public safety and economic stability. "Ask yourself what happens when anyone has the power to create and broadcast material with incredible levels of realism," he says. "Eventually entire and rich synthetic histories of seemingly real-world events will be easy to generate. Individual citizens won't have time or the tools to verify a fraction of the content coming their way ... The rise of synthetic media at scale and minimal cost amplifies both disinformation (malicious and intentionally misleading information) and misinformation (a wider and more unintentional pollution of the information space) at once."

This theme is, of course, one that holds particular relevance for information professionals. On the one hand, AI may in time be able to undertake many of the fundamental research tasks we often perform. On the other hand, there may well be an increasing need for expert individuals who can interrogate original sources to differentiate between authentic and inauthentic AI output. Information professionals have the potential to fulfil this role.

Suleyman warns that the coming wave could allow authoritarian governments to increase their power, and that ideological factions could be enabled to split off into powerful, damaging, autonomous entities. He concludes that while containment may seem impossible at this stage, it needs to be attempted.

In the final chapters of the book, Suleyman sets out strategies for containing and managing the coming AI wave. He warns that regulation, while vital, will not be sufficient. He recommends that governments and industries should take a united approach to containment, including safety measures and audits. International cooperation will be vital, as well as a culture of sharing and learning, to ensure that the technology continues to serve human needs.

One of my key learnings from *The Coming Wave* is that it is vital that we do not judge AI's potential based on its performance so far. We simply cannot expect the pace of change to remain the same as it was – it will accelerate. Like many other information professionals, having been initially unnerved by the introduction of tools such as ChatGPT, I confess to having felt a little relieved when it could be shown that the output of these tools often contained hallucinations and inaccuracies. However, this limitation of AI tools will not last for long.

I believe that Mustafa Suleyman has succeeded in his intention of presenting a provocative vision of the future, whilst providing a clear and engaging overview of how we have arrived at this technological turning point. If, like me, you want to understand more about how AI has developed and the dilemmas we face in preparing for its future (and ours), I would recommend this book.

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