

Book review: The coming wave: technology, power, and the twenty-first century's greatest dilemma

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Book Review

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**The Coming Wave: Technology, Power, and the Twenty-first Century's
Greatest Dilemma**

by: Mustafa Suleyman and Michael Bhaskar

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1 Introduction

Suleyman is the Co-Founder of the world's leading AI companies including Inflection AI, and DeepMind, acquired by Google. He was behind the AI programs AlphaZero and AlphaGo Zero. It is therefore not surprising that Suleyman and Bhaskar (2023) has received attention from a wide array of prominent thinkers, academics, entrepreneurs, authors, and leaders like Yuval Noah Harari, Nouriel Roubini, Andrew McAfee, Daniel Kahneman, Jeffrey D. Sachs, Al Gore, and Bill Gates. What follows is a summary of the main themes raised by this book and how the ideas critically engage with economists studying automation, and with thinkers like Acemoglu and Restrepo (2019), Susskind (2020), Acemoglu (2021) and Qureshi and Woo (2022).

2 Overall contribution

Suleyman and Bhaskar (2023) argue that the coming technological wave is based on AI and synthetic biology, which will become cheaper and widely accessible (p.7, p.9). They also express concern of the risks of "AI-powered cyberattacks, automated wars, engineered pandemics", and the 'existential threat to nation states' (p.10). The response to such catastrophic outcomes could be authoritarian surveillance (dystopia) or bans and boycotts of technology (stagnation), both of which are unacceptable (p.10, p.206). The authors argue that we need to focus not just on the positive spillovers of technology but also on its 'unintended consequences' (p.36). Thus, they argue for containment, i.e., the capacity to control, limit, or shut down technology; and to change the research direction, or 'deny access to harmful actors' (pp.36–37). Overall, they argue that technology should be 'democratically decided' and its benefits 'widely distributed' (p.285).

3 Risks and threats

Currently, AI operates on narrow tasks and cannot properly explain its decision-making process (p.73). However, the authors state that in a few years AI will reach human level performance such as achieving ‘complex goals’ that require ‘interpretation, creativity, and decision making’ across multiple tasks and time (p.9, pp.75–76). They highlight the risk that AI can instigate automated disinformation campaigns that could disrupt financial markets or amplify ‘sectarian or racial’ divisions (p.167, p.171). On synthetic biology, they state that the cost of human genome sequencing has dropped from \$1 billion in 2023 to below \$1,000 in 2022, and that experiments that took years are now feasible for grad students in weeks (p.81, p.82). On quantum computing, they state that calculations can be completed in seconds that would have taken conventional computers ten thousand years (p.97). This entails the risk that harmful actors will use such computing power against banking and governments (p.98).

Overall, they argue that the new wave democratises access to powerful technology that is cheap and accessible, where a single experiment could cause a pandemic and a single quantum computer could make the entire world’s ‘encryption infrastructure redundant’ (p.106, p.163). Thus, the authors delineate the risks and threats posed by the coming wave, a subject that is not usually addressed by labour economists. Instead, the latter’s economics of automation focuses on automation’s impact on employment, wages, and inequality and often presents an optimistic view that like trade, technology can eventually make everyone better off despite the short run adjustment costs.¹ Their destabilising view of AI contravenes that of Acemoglu and Restrepo (2019) that AI’s potential to automate tasks is limited, e.g., tasks based on “complex reasoning, analogy-based learning, abstract problem solving, empathy, and communication skills” (p.208).² Their view is shared by Susskind (2020), who argues that machines can complete tasks that require creativity and empathy based on big data, computational power, and their own machine process (pp.53–73).

4 Labour economics and Big Tech

The authors mention that while economists argue that new technology creates jobs that require human labour, the coming wave is ‘fundamentally labour replacing’, as machines will “eventually do cognitive labour more efficiently and cheaply” (p.178, p.179).³ Furthermore, they state that people who get PhDs in machine learning will always be a small fraction of those that will be technologically unemployed, and that even if Silicon Valley creates lots of jobs, it does not help if people are not able to relocate (p.180).⁴ On Big Tech⁵, they state that the coming wave is led not by governments but by corporations that control AI processors, advanced quantum computers, and robotics (p.187). Such superstar corporations acquire market power due to the first mover advantage, having more data, and hiring the best talent (p.188, p.191). This power allows them to shift value away from labour and towards capital through surveillance in smart warehouses (p.191, p.196).

Overall, the authors argue for automation’s substitution effects vis-a-vis countervailing effects and attribute the shift in the labour and capital shares of income to the rise of superstar firms. As such, their view supports Susskind (2020) who argues that while economists have been dismissive of technological unemployment, eventually

machines will take over human tasks, as the substitution effect will eventually take over the labour complementing effect of technology (p.99, p.113).⁶ However, their ideas on value shifting by Big Tech can be fleshed out and complemented by Acemoglu (2021) who highlights the bias with subsidies for machines and a tax on employing workers that emphasises automation at the expense of ‘labour complementing technologies’, and which necessitates reversing the favourable tax treatment of machines and changing the narrative towards labour friendly technological change (pp.166–169).

5 Steps to containment

The authors advocate containing potential catastrophic outcomes associated with powerful new technologies, including advanced AI and synthetic biology. They state that regulation is inadequate as technology evolves by the week and instituting regulation takes years; it may impede research and innovation; and while it may lessen negative effects it does not eliminate them (pp.225–230). They suggest regulation via licensing requirements on advanced AI systems and quantum computers; banning research that would instigate a pandemic; policing the internet and DNA synthesisers; and instituting greater oversight (p.261, p.273, p.277). Beyond regulation, they suggest taxing robots and/or automation, offering re-skilling and education programs, and instituting a UBI to address the destabilising effects of the coming wave (pp.261–262). They also suggest redirecting a fraction of the funds channelled to robotics, biotech, and AI research towards technical safety and ethics (p.241, p.242, p.244).

Overall, the authors argue that safety should not be an afterthought but inherently designed for new technologies (p.245). Their ideas on robot taxes and UBI contravene Qureshi and Woo (2022), who argue that an UBI incentivises workers to withdraw from the labour force while robot taxes discourage innovation (pp. 21, 22). Likewise, Susskind (2020) argues for a conditional basic income as opposed to UBI so that people earn income based on their contribution to the community, as technological unemployment would hollow out the sense of purpose (p.183, p.187, p.215, p.219, p.233). Moreover, where Suleyman and Bhaskar (2023) support education programs, Susskind emphasises limits since many jobs, like care giving, do not require advanced education; some older workers do not have enough productive labour time left to justify retraining costs, others may simply be unable to re-educate themselves as it is not easy, for example, for truckers to become programmers, and some may not be able to relocate to find jobs [Susskind, (2020), pp.106–107, p.111, p.158, pp.165–166].

To recapitulate, Suleyman and Bhaskar (2023) raise the alarm on the risks of AI and synthetic biology, as each becomes increasingly cheaper and widely accessible. They discuss catastrophic outcomes and authoritarian surveillance and offer steps towards containment of the coming wave. Their ideas on the substitution effect challenge the labour economics of automation. Likewise, their ideas on robot taxes, education programs, and UBI contrast with those who take a critical view. Nonetheless, it is an excellent complement to the literature on the economics of automation and is a user-friendly book on the subject for instructors and students alike.

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Notes

- 1 See The White House (2024, pp.260–273).
- 2 Much has changed in AI, especially since 2023, so much so that it is not clear the full utility of earlier studies like Acemoglu and Restrepo (2019). However, even the later work by Acemoglu and Johnson (2023) indicates that AI cannot perform tasks that involve ‘social interaction, adaptation, flexibility, and communication’ and that technologies like AlphaZero and GPT-3 cannot perform beyond their pretrained narrow tasks (p.315, p.317). They seem to believe that there will always be scope for human labour alongside machines.
- 3 For the view that there is a strong possibility of complementary increases in labour demand, see The White House (2024).
- 4 Apart from those with a PhD in machine learning and other such skilled jobs related to AI and automation, the authors also mention that demand for ‘masseurs, cellists, and baseball pitchers’ will remain (p.180).
- 5 The context here is about mega-corporations like Apple and Google that have more valuation and assets than entire countries, and which control the largest number of AI processors, most advanced quantum computers, and most of the robotics capacity (p.187).
- 6 Susskind’s argument assumes that as machines increasingly encroach upon the tasks performed by humans, the complementing effect of technology will eventually be overtaken by the substitution effect (p.113).