THE HOPEFULL INSTITUTE

THE COMING WAVE

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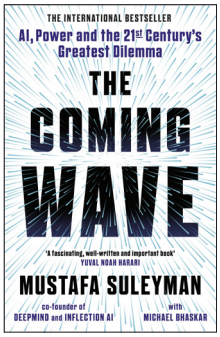
THE BOOK



The Coming Wave

By Mustafa Suleyman

INTRODUCTION

In his New Times bestseller, Mustafa Suleyman dives into society's next major technological leap and explains how rapidly developing AI and synthetic biology are set to change the world. His prediction? Along with stunning benefits, these changes will come with unprecedented perils. Suleyman draws from his expertise as co-founder of the AI company DeepMind and as a long-time contributor to coming-wave technology to outline the possible benefits and detriments of the next revolutions in innovation. From AI being able to carry out a significant portion of daily tasks to potentially engineering DNA in anyone's garage, Suleyman runs through the pros and cons of the next technological revolution and the importance of keeping new tech under control. The Coming Wave is a call to the world; get ready, the wave is coming, and everything is going to change. It's a must-read for teachers who want to prepare the next generation for what is to come.

5 BEST QUOTES

"The coming wave is going to change the world. Ultimately, human beings may no longer be the primary planetary drivers, as we have become accustomed to being. We are going to live in an epoch when the majority of our daily interactions are not with other people but with AIs. This might sound intriguing or horrifying or absurd, but it is happening."

"The irony of general-purpose technologies is that, before long, they become invisible, and we take them for granted. Language, agriculture, writing—each was a general-purpose technology at the centre of an early wave. These three waves formed the foundation of civilization as we know it. Now we take them for granted."

"Over the next ten years, AI will be the greatest force amplifier in history. This is why it could enable a redistribution of power on a historic scale. The greatest accelerant of human progress imaginable, it will also enable harms—from wars and accidents to random terror groups, authoritarian governments, overreaching corporations, plain thefts and willful sabotage."

"Consider that children who grew up travelling by horse and cart and burning wood for heat in the late nineteenth century spent their final days travelling by airplane and living in houses warmed by the splitting of the atom."

"The idea that CRISPR or AI can be put back in the box is not credible. Until someone can create a plausible path to dismantling these interlocking incentives, the option of not building, saying no, perhaps even just slowing down or taking different path isn't there."

9 BIG IDEAS

1. WAVES

History has been full of metaphorical waves. Almost every culture shares the ancient story of a major flood, an idea that demonstrates how deep the impact of a wave can go. Mythological floods created by great waves of water change and reshape the world. Technological waves have the same effect.

From the creation of tools to the onset of agriculture and the industrial revolution to the invention of the silicon chip, technological waves have had an immense effect on human civilisation.

Over the past half-century or so, computer technology has made such exponential leaps that now, having ridden the first wave of computer science, another wave is now on the way.

2. THE COMING WAVE

The coming wave is the next big technological wave that is soon to crest. It is made up of two main sectors; Artificial Intelligence (AI) and synthetic biology.

Both of these have made leaps in recent years far beyond what would have been expected only a few decades ago. Think about the chatbots only a few years ago that barely functioned compared to ChatGPT, which is now a useful tool.

The potential these tools now have is vast and all but impossible to predict. Like so many waves before it, the coming wave has as much potential for harm as it does for good. Think about bladed tools, so instrumental for early humans but also so useful as weapons against other humans. The coming wave will be a similarly double-edged sword.

This is why it's so vital to get in front of the wave now and ride it, rather than being swamped by it.

3. PESSIMISM AVERSION

One issue in dealing with the coming wave is what Suleyman calls "pessimism aversion".

Pessimism aversion is a gut response that makes it hard for people to see the possible adverse outcomes of change. It is a kind of 'burying your head in the sand'. People don't want to admit the harm that could be coming and will accuse those who seek to warn others of being naysayers or of catastrophising.

While the pessimism adverse might be correct in saying that there is so much positive to come from the next wave, they still should not be denying the upcoming dangers.

9 BIG IDEAS

4. GLOBAL ISSUES

Another problem that will fuel the coming wave is international competition.

All nations strive to be the best, and when technology is advancing, no country wants to be the one to go without.

This is how scientific boundaries are often pushed further and further, sometimes with little to no thought as to long-term consequences.

5. CONTAINMENT

The best way to ride the wave is to contain it. Suleyman describes containment as "The ability to monitor, curtail, control, and potentially even close down technologies."

The problem is containment is notoriously tricky. Many attempts in the past to contain emergent technology were futile. The Ottoman Empire attempted to ban the printing press, to no avail. Technology has a way of getting out!

The type of technology that is coming in the next wave will be tough to contain. This is because it is relatively cheap and accessible. Suleyman cites the example of the fighter jet. The technology is there, but fighter jets aren't commonplace because they are exorbitantly expensive and take complex skills to use. Digital technologies, on the other hand, will be considerably more economical and easy to use for anyone.

6. THE FOUR FEATURES

The coming wave has four specific features that will make it especially hard to stay in control of.

Asymmetry: The asymmetry that the coming wave has means small changes and developments have the potential to have massive impacts.

Hyper-evolution: As the name suggests, the coming wave has the power to evolve at an extraordinarily rapid rate.

Omni-use: New technology will potentially have multiple uses across countless disciplines, making it even more powerful.

Autonomy: Coming wave technology, especially AI, has the potential to operate autonomously, thus allowing it to speed ahead and, perhaps dangerously, make its own decisions.

9 BIG IDEAS

8. IN THE WRONG HANDS

Part of the issue with the coming wave is its potential for strife should the wrong technology fall into the wrong hands.

This is when the potential for damage becomes immensely apparent.

Hackers, terrorists and any number of ill-doers could easily utilise coming-wave technology in dramatically harmful ways. Imagine a terrorist, for example, using AI-powered drones armed with face-recognising technology and powerful firearms to hunt down specific groups. Suddenly a lone shooter becomes exponentially more of a threat.

Of course, the opposite is equally true. In the right hands, technology has the ability to do powerful good. AI can be an immense asset in fields as varied as medicine and agriculture. This is why Suleyman says that containment is all about walking the narrow path.

8. THE NARROW PATH

Suleyman calls the narrow path "The potential for humankind to strike a balance between openness and closure when it comes to containing the technologies in the coming wave that avoids catastrophic or dystopian outcomes."

Walking this narrow path is how humanity can use the new tools of the coming wave while not being destroyed by them. The fact that the path is narrow, though, shows that this is not going to be an easy task. Nor will it be a short one. The narrow path does not end. It must be walked in perpetuity by all societies and civilisations.

9. SCULPTING THE NEXT WAVE

Suleyman says the only way to get it right is to ensure that "an adaptation to technology is not simply foisted on people, as it was in the Industrial Revolution, but to ensure that technology is, from the start, adapted to people, to their lives and hopes. Adapted technologies are contained technologies. The most urgent task is not to ride or vainly stop the wave, but to sculpt it."

While the Industrial Revolution was pivotal in creating the modern world, many people suffered terribly because of it. New technology was used to enrich the few at the cost of the many. Think of the child labourers in old-fashioned factories working in unbearable conditions.

This time, people need to come first.

3 ACTION STEPS

1. ACCEPT THE WAVE IS COMING

According to Suleyman, The Coming Wave is inevitable, and you need to accept this fact.

While its outcomes are unknowable, what is certain is that this change will happen.

2. STAY IN THE LOOP

Technology is constantly evolving. If you don't want to be left behind and swamped by the next wave, you need to keep your finger on the pulse and stay in the tech loop.

If you don't know what is happening, there is no way you can protect yourself.

3. TAILOR THE WAVE

The final step is societal because the coming wave affects everybody.

The step is to ensure that new tech is made for people and not simply foisted on them. Tech should be to make life better and not to increase the struggles of many.

1 KEY TAKEAWAY

The key takeaway of the book The Coming Wave is that the next technological wave is inevitable.

As a society, we need to ride the wave and not be swamped by it. The fact that it is impossible to predict precisely what will happen means we need extra vigilance.

Whether the coming wave will significantly better society or is a disaster depends on being prepared and taking steps to understand what's possible now.

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