

Artificial Intelligence and the Future of Power

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5 Battlegrounds

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Published by
Rupa Publications India Pvt. Ltd 2020
7/16, Ansari Road, Daryaganj
New Delhi 110002

Sales centres:
Allahabad Bengaluru Chennai
Hyderabad Jaipur Kathmandu
Kolkata Mumbai

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ISBN: 978-93-XXX-XX-X

First impression 2020

10 9 8 7 6 5 4 3 2 1

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Printer at XXXXX

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*Dedicated to
the young scientists and technocrats*

INTRODUCTION

*It is extremely easy to find people who speak pleasantly.
But it is rare to find people who speak and hear true words
even when they are not pleasing to hear.*

—*Ramayana*¹

My love for both physics and philosophy, which started in childhood, went on to become a lifelong passion, a quest that continues to this day. As a college undergraduate, I immersed myself in the nascent field of consciousness studies and discovered that renowned theoretical physicists, such as Werner Heisenberg and Erwin Schrödinger, had been inspired by **Vedic** insights and used them as the philosophical lens for understanding quantum mechanics. This approach came to be accepted as one of the interpretations of quantum mechanics in the twentieth century and has, since then, influenced many scientists.

Later, while studying computer science in the US, I became interested in **algorithms**. An algorithm is a systematic, step-by-step process to achieve an outcome, like a recipe, whether for cooking, getting a driver's license, or managing payroll. Algorithms are typically used to describe streamlined, repetitive and predictable procedures.

The interplay between my spiritual quest and interest in computer science generated many questions that have intrigued me for the past several decades, such as:

- Physics can be viewed as the discovery of nature's algorithms. But is nature *only* algorithmic, or are there also natural processes that cannot be modeled as algorithms because they transcend all algorithms—such as exalted spiritual experiences?
- What are the limits of algorithms in modeling humans? In particular, is it possible to model human psychology, emotions, and intuitions as algorithms?
- If all processes could, in principle, be modeled as algorithms, what would be the implications for free will and the nature of consciousness?
- How is *rtam* (*rita*), an important term used in the **Rig Veda** to refer to the patterns that comprise the fabric of all existence, related to algorithms? Is *rtam* related to algo-rithm?

In the early 1970s, a subject of intense discussion was the investigation of a category of algorithms under the umbrella term of Artificial Intelligence (AI). That is when I started out as a graduate student specializing in AI; the aim was simply to develop algorithms for activities like playing chess. At the time, the best computer program could only just beat an average human player. But that was then. It took a quarter of a century for the major milestone in 1997 when an IBM computer program named Deep Blue defeated Garry Kasparov, the reigning world chess champion. The rest, as they say, is history.

My lifelong quest has been to understand the nature of intelligence, both natural and artificial, and how it plays out at various levels. To pursue this quest, I set up Infinity Foundation in 1994, a nonprofit organization to promote dialogue between Eastern and Western schools of thought. Its first projects included investigations in consciousness studies.

DISRUPTIONS AND BATTLEFIELDS

Fast forward a quarter century. I have recently reconnected with AI, a field of research that has been reborn as a new force. Artificial Intelligence is amplifying human ingenuity and is the engine driving the latest technological disruption silently shaking the foundations of society. My use of the term is not limited narrowly to what AI is specifically in the technical sense, but also includes the entire ecosystem of technologies that AI propels forward as their force multiplier. This cluster includes quantum computing, semiconductors, nanotechnology, medical technology, brain-machine interface, robotics, aerospace, 5G, and much more. I use AI as the umbrella term because it leverages their development and synergizes them.

On the one hand, AI is the holy grail of technology; the advancement that people hope will solve problems across virtually every domain of our lives. On the other, it is disrupting a number of delicate equilibriums and creating conflicts on a variety of fronts.

Given the vast canvas on which AI's impact is being felt, one needs a simple lens to discuss its complex ramifications in a meaningful and accessible way. After several rounds of restructuring the book, I zeroed in on using the following key battles of AI as the organizing principle. Artificial Intelligence plays a pivotal role in each of these disruptions, and each of these battlefields has multiple players with competing interests and high stakes:

1. Battle for economic development and jobs
2. Battle for power in the new world order
3. Battle for psychological control of desires and agency
4. Battle for the metaphysics of the self and its ethics
5. Battle for India's future

These battles already exist but AI is exacerbating them and changing the game. In each case, the prevailing equilibriums are disintegrating, and as a result, creating tensions among the parties held in balance. We are entering an epoch of disequilibrium in which a period of chaos is inevitable. Eventually, however, a new equilibrium will be established, and a new kind of world will emerge.

What follows is how AI is shaping these battles.

Battleground 1: Economic Development and Jobs

A recurrent debate surrounding AI concerns the extent of human work that could be replaced by machines over the next twenty years when compared to new jobs created by AI. Numerous reports have addressed this issue, reaching a wide range of conclusions. Experts consider it a reasonable consensus that eventually a significant portion of blue- and white-collar jobs in most industries will become obsolete, or at least transformed, to such an extent that workers will need re-education to remain viable. This percentage of vulnerable jobs will continue to increase over time. The obsolescence will be far worse in developing countries where the standard of education is lower. Forecasts, however, disagree on the precise timing of this disruption and on the types of human work that might remain safe from machines in the long run.

The routine assurance given to these reasonable concerns is that when AI eliminates certain jobs, those employees forced out will move up the value chain to higher-value tasks. This simplistic and misleading answer overlooks the fact that the training and education required to advance people is not happening nearly at the same feverish rate as the adoption of AI. Those that promise the solution of re-education have not thus far put their money where their mouth is. The gap of employee qualifications will inevitably widen.

Business owners and labor have always had certain competing interests, with the former looking to optimize profits and the latter concerned about wages and employment. Artificial Intelligence disrupts this precarious balance because it suddenly kills old jobs; it also creates new jobs, but the most lucrative new ones will be concentrated in communities with high levels of education and availability of capital. More broadly, AI will worsen the divide between the rich and poor, the haves and the have-nots. This will intensify the schism between the camps having divergent vested interests.

There is a real possibility that AI may trigger an unprecedented level of unemployment and precipitate social instability. Especially for countries like India, where a large percentage of the population lacks the education that is vital to survive a technological tsunami; the adverse effects could be shattering.

My approach to AI's social impact is neither haloed by utopian fantasy nor dipped in gloom. Chapter 2, *The Battle for Jobs*, discusses the potential for unemployment and economic upheaval from the widespread adoption of AI. It raises practical concerns: What will happen when AI makes large numbers of workers obsolete? Who will pay for the re-education of the literally millions of displaced workers? Will the new jobs be in places far removed from where the unemployment will hit hard? Will society's wealth become even more concentrated in the hands of a few than it already is because a minuscule percentage of humans will control the powerful AI technologies? How will the new haves and have-nots fight for resources, and how might such social disequilibrium ultimately play out?

This battleground is important for industrialists and labor activists, as well as for economists and policymakers. Civic leaders, politicians, public intellectuals and media cannot

continue to ignore the evolution of AI. More voices must enter the debates to propose appropriate, coherent responses and policy changes.

Battleground 2: Global Power

China is using AI as its strategic weapon to leapfrog ahead of the United States and achieve global domination. Chapter 3, *The Battle for World Domination*, explains the battleground where the geopolitical competition between China and the US is playing out. Both these superpowers recognize AI as the most prized summit to conquer in their race for leadership in economic, political and military affairs.

While aerospace, semiconductors, biotech, and other technologies are also crucial in this race, AI is the force multiplier that brings them together and catapults them to new levels. Both these countries are heavily invested in AI, and between them they control the vast majority of AI-related intellectual property, investments, market share and key resources.

Besides competing directly against each other, the US and China will also compete for control over satellite nations and new colonies. This results from the fact that the disruptive technology will weaken many sovereign states and destabilize fragile political equilibriums. There is a realistic scenario for the re-colonization of the world differently, i.e. as digital colonies.

Furthermore, some private companies controlling this technology could become more powerful than many countries, just as the British East India Company—a private joint-stock company—became more powerful than any country of its time. This battleground is relevant to readers interested in geopolitics and the emerging world order.

Battleground 3: Psychological Control and Agency

A troubling trend is that as machines get smarter, a growing number of humans are becoming dumber. In a sense, the public has outsourced its critical thinking, memory and agency to increasingly sophisticated digital networks. As in any outsourcing arrangement, the provider of services becomes more knowledgeable about the client's internal affairs and the client becomes more dependent on the supplier. The quest for deep knowledge and critical thinking is becoming a thing of the past because it is easier for people to use internet searches whenever any information is needed. People are operating on autopilot rather than thinking and learning on their own.

Google is becoming the *devata*, or deity, that will instantly supply all knowledge. Mastering the rituals and tricks of interacting with this digital deity is considered a mark of achievement to be proudly flaunted among peers. Education is seen merely as a prerequisite for getting a job. **Deep learning** in machines is resulting in shallow knowledge in humans—an irony indeed. Cognitive skills like memory and attention span are atrophying, even as knowledge, authority and agency are being transferred from humans to machines. In effect, AI has managed to hack human psychology.

In an era of instant access, social media has confused people between knowledge, opinion and popularity; whatever is popular is assumed to be true. Individuals who lack followers, likes, shares and comments on social media often retreat into low self-esteem, depression, substance abuse, or even suicide.

Machines surreptitiously model individual psychological behavior by identifying the patterns of users' choices, and then use these models to manipulate and control their actions.

The paradox is that the manipulation is done under the guise of free services that are difficult to resist because they have now become an all-too normal part of our lives. Those who control the psychological models can use AI to influence human emotions and behavior. What concerns me is the psychological, emotional and mental hijacking in progress through these technologies.

Some readers will have a mental block that prevents them from accepting the viability of such psychological interventions. They need reminding that the Russians hacked the 2016 US presidential election with the use of Facebook and the British firm, Cambridge Analytica. Chapter 4, *The Battle for Agency*, explains how AI is taking advantage of emotional vulnerabilities and hijacking the agency of large numbers of people worldwide.

There is a vibrant branch of AI that continually refines the construction of individual psychological profiles. The technology has two parts: building individuals' emotional maps, and using those maps to intervene and produce targeted feelings and outcomes. Most people are uncomfortable accepting that machines can uncover their private selves to the extent of knowing them better than a spouse or close friend. The truth is, in some ways, machines know individuals even better than they know themselves, because people know only their conscious selves and cannot access their unconscious levels, and also because machines are capable of detailed and extremely long term memory that exceeds human capacity. Machines penetrate us far more deeply and analyze our personal behavior microscopically and intimately. They record how we unconsciously respond to online choices and use this to develop insights into aspects of ourselves that we might not want to publicly disclose or even privately come to terms with.

Machine learning is the field that trains computers through analysis of large quantities of data. This data can be acquired by seducing the public to part with it voluntarily; people are tantalized with online carrots and their responses are monitored, tracked and recorded. Using emotional hooks as a bribe, machines tease out users' motivations, both conscious and unconscious. An entire industry of AI-based artificial pleasures is emerging. Recently, litigation has started against the large digital platforms for surreptitiously gathering private data on citizens.²

The raw material required to develop machine understanding of human desires and the artificial manipulation of them is called **big data**. Most people happily and voluntarily give up this private data, often without realizing it.

Once the digital systems capture this data, they amass unprecedented power and wealth by analyzing and manipulating our subconscious thoughts. Shoshana Zuboff, a social psychologist, and author of *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*, characterizes the transfer of data from the public to the digital giants as an act of theft.

During the last two decades, the leading surveillance capitalists—Google, later followed by Facebook, Amazon and Microsoft—helped to drive this societal transformation while simultaneously ensuring their ascendance to the pinnacle of the epistemic hierarchy. *They operated in the shadows to amass huge knowledge monopolies by taking without asking, a maneuver that every child recognizes as theft.* Surveillance capitalism begins by unilaterally staking a claim to private human experience as free raw material for translation into behavioral data. Our lives are rendered as data flows....³
(Emphasis added)

People are being duped to part with their data in exchange for freebies and goodies that are disguised as services ranging from practical help for our physical health to emotional delights. The digital capitalists constantly reassure the public that data collection is for their own good using several pretexts. For instance, we are told that surveillance is a public safety service. The cameras capturing data everywhere are keeping us safe. Airlines claim that the use of facial recognition speeds up the boarding process and makes travel safer.⁴ Medical information being captured helps develop custom diets and generates the appropriate grocery list for one's family. Cookies are installed on users' devices under the pretext that this provides more personalized experiences.

Many companies use AI to spy on us and collect our private information, justifying their behavior under the garb of serving the public. In a recent article, Zuboff exposes this hoax of free services in her powerful voice:

We celebrated the new digital services as free, but now we see that the surveillance capitalists behind those services regard us as the free commodity. We thought that we search Google, but now we understand that Google searches us. We assumed that we use social media to connect, but we learned that connection is how social media uses us. ...We've begun to understand that "privacy" policies are actually surveillance policies....

The *Financial Times* reported that a Microsoft facial recognition training database of 10 million images plucked from the internet without anyone's knowledge and supposedly limited to academic research was employed by companies like IBM and state agencies that included the United States and Chinese military....

Privacy is not private, because the effectiveness of these and other private or public surveillance and control systems depends upon the pieces of ourselves that we give up—or that are secretly stolen from us.⁵

The private flow of data from consumer to machine also promotes the transfer of human agency from humans to machines. The data that surveillance companies capture is their source of power and is the fuel for the new economy of trillions of dollars. Zuboff has called this a “bloodless coup from above” and warns of a growing gap between “what we know and what is known about us”.⁶

By figuring out the cognitive comfort zones for individuals, AI-driven systems can deliver emotional and psychological needs, thus gradually making people dependent on them. As machine intelligence increases people move toward living in a world of artificially induced emotions and gratification. Eventually this trend leads to a syndrome I call **moronization** of the masses. This mode of existence feeds into the business models of digital capitalism, as shown in Figure 1.

Those who know—or should know—about the wider consequences of this transfer of agency have been largely silent. There has been insufficient open debate in which the utopian view of AI could be counterbalanced by realistic concern. Though think tanks and industry consortia such as Open AI, Deep Mind Ethics and Society, and Partnership on AI do address concerns about AI, they tend to be founded or dominated by the big tech players and aligned with those companies’ commercial interests. While I am enthusiastic about AI’s potential, what gravely concerns me is the lack of open, thoughtful public debate on what an AI-dominated future could look like.

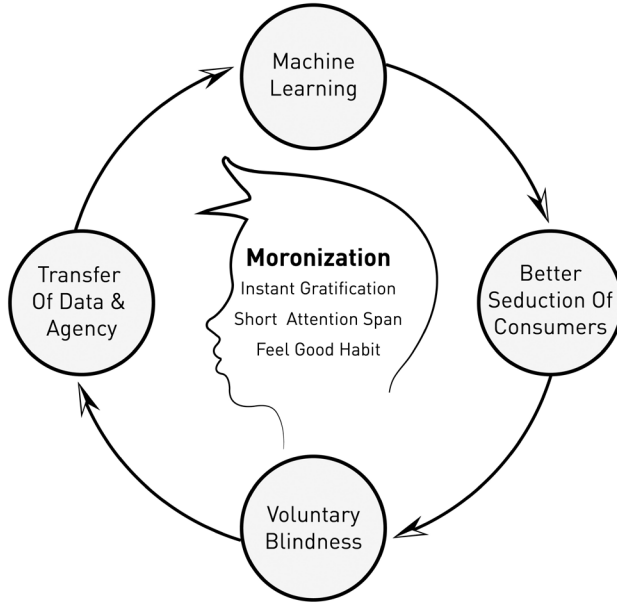


Figure 1: Moronization of the Masses

Artificial Intelligence technologies must be publicly debated as disruptors of the social structures that shape the world order—testing and redefining the limits of liberty, the future of democracy, and the meaning of social justice. Just like war is too important to be left only to the generals to discuss and resolve, AI is too important to be left to the tech giants.⁷

The asymmetric relationship between gigantic digital platform businesses—companies like Google, Facebook, Twitter, Amazon, to name a few—and their users, is of paramount importance. These companies deliver the most popular and widely used services in the world today, designed specifically to meet the demands of a public that is hungry for social media. However, beneath the surface

the suppliers and consumers have opposing interests—in privacy, data rights, agency, intellectual property rights and free speech.

This battle is distinct from the other battles in one important respect, i.e., one player is largely ignorant that such a battle is under way. The suppliers of digital services understand the game and play it skillfully, while most consumers are not even aware that the interests of producers and consumers of digital media are at odds. In fact, when people are informed that they are voluntarily surrendering psychological control of their lives, they usually dismiss it as a conspiracy theory.

Fortunately, many consumer activists, social scientists and legal experts are already raising alarms about the conflict, and they will find this battle particularly significant. For instance, Pratyusha Kalluri, an AI researcher at Stanford, has written a short but powerful piece in *Nature*.

It is not uncommon now for AI experts to ask whether an AI is ‘fair’ and ‘for good’. ...The question to pose is a deeper one: how is AI shifting power?

Law enforcement, marketers, hospitals and other bodies apply artificial intelligence to decide on matters such as who is profiled as a criminal, who is likely to buy what product at what price, who gets medical treatment and who gets hired. These entities increasingly monitor and predict our behavior, often motivated by power and profits.⁸

Chapter 4 explains the most difficult message of the book, because many people simply do not want to believe how remarkably successful AI has become at hacking our minds, psychology and emotions. This chapter is important for anyone who wishes to genuinely appreciate the emotional

power of AI. Such persons include social psychologists, policymakers, consumer rights lawyers and activists, and most of all, the public whose agency is being hijacked.

Battleground 4: Metaphysics

The success of AI is based on training machines to achieve intelligent behavior. This has empowered a worldview according to which life, mind and consciousness are merely biological processes running on human beings as machines. In effect, AI has helped biological materialism sneak in through the back door while the leaders of the consciousness movement have been blissfully taken off guard.

I come from the diametrically opposite side in this battle: I have been deeply invested in philosophies based on the primacy of consciousness. And lately I have become concerned that this worldview is being undermined by the powerful trajectory of the AI revolution. Figure 2 illustrates my intellectual journey centered on physics and **Vedanta** as shown at the top, and my algorithm-based career shown at the bottom. The middle is where they intersect, or rather clash. My struggle to reconcile these conflicts is at the core of the creative churning and tension in this book.

What troubles me is that the digital industry empowering self-learning systems is proceeding in a direction opposite to that of consciousness movements. In fact, this is the real clash of civilizations under way: *the battle between algorithm and being*.

Chapter 5, *The Battle for Self*, explains how the technical and commercial success of AI is built on the assumption that biology and mind are algorithmic machines that can be modeled, mimicked and manipulated using artificial interventions. It describes the implications of the success of materialism that detaches us from our very sense of self and

being. The digital dehumanization seems pleasant because the stimulation of pleasures and pains is being artificially managed to create a delusional life. This undermines the human concepts of free will, personal agency and the self in favor of artificially induced experiences. When the experiences become algorithmically controlled, what happens to the spiritual being that is the experienter?

Readers with a background in philosophy, spirituality and ethics will be provoked by the battle between the metaphysics of consciousness and AI's reductionist challenge to spirituality.

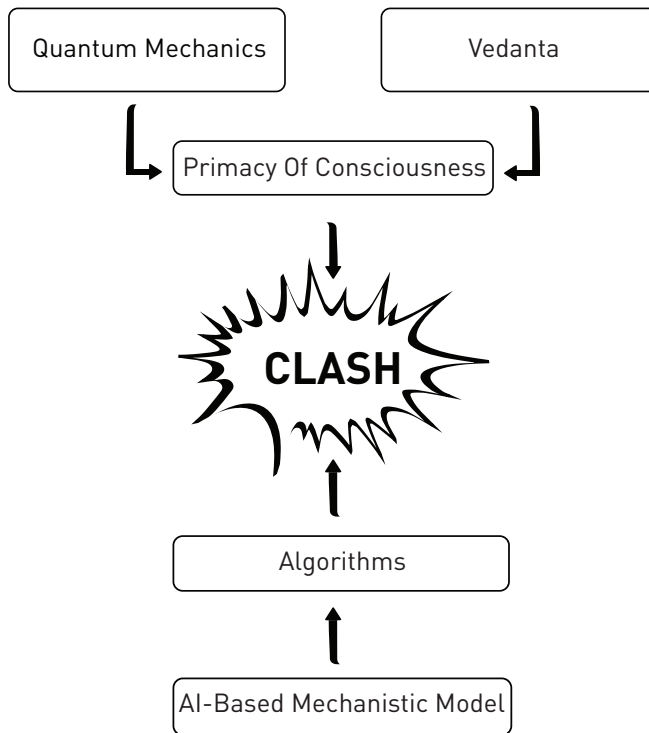


Figure 2: Consciousness of Mechanistic Models

Grid of Four Battlegrounds

As a way to position the four battlegrounds introduced above relative to each other, they can be arranged in the 2 x 2 table below.

	Physical/Sthula-Sharira	Mental/Sukshma-Sharira
External	Global/Geopolitical (Chapter 3)	Identity, Agency (Chapter 4)
Internal	Domestic Economics (Chapter 2)	Selfhood, Spirituality (Chapter 5)

In Indian metaphysics, the sthula-sharira refers to the physical body and the sukshma-sharira refers to the mental and psychological body. Though conventionally this framework is applied to individual persons, I am extending it and applying it to nations.

A nation’s sthula/physical body consists of its geography, infrastructure, resources and other tangible assets. There is a further distinction between internal affairs dealing with the domestic economy and employment, and foreign affairs to safeguard its interests internationally. Both of them concern the physical wellbeing.

The sukshma/mental body of a nation is the state of its people’s mind and psychology. It is publicly or externally expressed as their identity, confidence and pride. Internally, it is the people’s experience of selfhood and spirituality.

Battleground 5: India’s Future

India is an important case study on the impact of AI because that is where all the other four battles come together into one large and complex battleground.

As a preface to my discussion on India, I point out that Indian society has forsaken its metaphysical roots in **dharm**

to chase the Americanization of **artha** (material pursuits) and **kama** (gratification of sensual desires). As a result, it is neither here nor there—having lost its traditional strengths both individual and collective, it is at best a poor imitation of the American dream.

Overpopulation, unemployment and poor education make India especially vulnerable. Many of its industries are technologically obsolete and dependent on imported technologies. India presently has a disappointing level of AI development and it needs to embark on a rapid program to catch up.

Meanwhile, the public as well as the leaders are mesmerized by the foreign social media, seeing it as the prestigious platform on which to prove oneself. I will explain that this is like welcoming back the East India Company with hugs and gratitude.

Indians love discussing India as a superpower—either already or soon to become one. Part Two: *Battleground India* offers a sobering picture of the country's prospects. It explains that not only is India lagging behind China in AI by at least a decade, it also routinely gives away its unique data assets to foreign countries because of the ignorance of its leaders. Part Two presents the thought experiment according to which, if the present trajectory continues, India could be heading toward re-colonization, this time as a digital colony under the domination of the US and/or China.

India is home to one of the largest talent pools of young brains, yet the shortsighted policies of its leaders continue to sell them out as cheap labor to make quick profits from wage arbitrage. In this way, India has squandered its software lead. This complex battleground is important to those for whom Indian issues and trends are of special interest.

Just as this manuscript was about to be sent for publishing, there was a positive development in India. I am glad to know that Kris Gopalakrishnan, a cofounder of Infosys and major venture capitalist in India, is leading the development of policies on data rights. India's approach to regulating non-personal data is commendable and a great beginning. Gopalakrishnan is one of the few brilliant thinkers on this issue in India, and his involvement makes this a credible initiative. It is too early to evaluate this development; hopefully, it will begin a new phase in India's relationship with AI.

THE PURPOSE OF THIS BOOK

My investigations into these disruptions have not been easy on a personal level in two ways. First, my **svadharma** (core purpose) since childhood has been based on the principle of the primacy of consciousness. This worldview is now being challenged by the opposite model of biological materialism, and AI is dramatically empowering this materialistic philosophy.

Second, as a patriotic Indian I have been doing **purva-paksha** (critical analysis) of forces that threaten its civilization. The stress test of India discussed in Chapter 6 suggests a diagnosis that many of my fellow Indians will object to. Some of the hard realities I unmask will shock readers and expose truths they would rather not hear. But as I have matured in my journey, it is time to reflect on my insights and crystallize some advice out of deep affection for the youth who will be custodians of the culture I was fortunate to be born in.

Supporters suggested that I should perhaps not write such a critical analysis. But facing a problem head-on is a

crucial step toward resolving it. Determined to communicate this message in good faith and with the best of intentions, I have looked for role models in the Vedic tradition, exemplars who faced similar dilemmas and risked their popularity for the sake of presenting objective and logical arguments. I found Vidura in the *Mahabharata* a good role model in writing this book. He is considered a paragon of truth, integrity, and impartial and consistent judgment. People find in him the conscience of the *Mahabharata*; the principles he advocates have been compiled under the name *Vidurāniti*. His intellectual posture and tone have emboldened me in writing this book.⁹ A sequel to this book which is underway will offer concrete solutions to the predicaments being exposed here.

We live in an epoch defined by major disruptions, both predictable and unpredictable, desirable and undesirable. Clearly, AI is a major disruptive influence, one that to date has not been properly understood, or even discussed, outside the circles of its experts. A great deal has been written on AI's gifts to the world, but not enough on its risks. My goals are to balance the discourse and empower the advocates that speak for the underdogs in these conflicts. The emphasis of this book is to examine society's vulnerabilities to the impending technological tsunami. I hope it will shake up the thought leaders that need to be better informed and more engaged.

Artificial Intelligence has spread throughout much of society, especially since the beginning of the twenty-first century—across health, military, entertainment, education, marketing, manufacturing, and just about every other sector. Even the least technologically savvy among us interacts with AI on a daily basis when we use social media via a smartphone or rely on a car's navigation device. Whether

you are a social media fanatic and diehard AI aficionado, a paranoid skeptic that barely has a social media footprint, or something in between, it is impossible to escape the ubiquitous impact of AI technology.

But what if AI is like an iceberg with most of it hidden beneath the surface? And modern civilization, like the luxury passenger ship, Titanic, is on a collision course with it? Social and cultural thought leaders continue to embrace AI as a gateway to a technologically advanced utopia. They are equivalent to the band that continued playing on the deck of the ship even as it was sinking. This complicity must be challenged to give the general population a glimpse into AI as a potential threat to our society's rickety foundation.

Currently, people's reaction to AI is one of two extremes. Some optimistically imbue AI with an aura of seduction and magic. Others view it ominously, akin to the smarter-than-human robotic villains that take over the world in science fiction stories and films. Both these extremes overlook the practical realities of AI that we must confront.

We need institutions and regulations that guard against economic monopoly and environmental ruin; and conversation and debates are a critical first step in the process. The public must be made aware of—and help monitor—the unfair advantage companies have that can affect our liberties, our democratic processes, and our very concept of society.

Today, the charge into the future with AI technology is being led by American companies such as Google, Amazon, Microsoft, Apple, Facebook, Twitter and Netflix, as well as Chinese digital behemoths such as Alibaba, Tencent, Baidu and Huawei. To preempt public activism, technology leaders promote self-regulation, which unfortunately misses the point. Their seemingly benevolent stand furthers their own

interests while creating a fog against public investigation. The problem is the lack of intellectual engagement from competent groups that do not have a vested interest in the digital industry.¹⁰

Policymakers and other leaders in industry and public life, however, need to stop reacting as followers and start to engage the industry more assertively and aggressively. The irony is that in most democratic countries, the public does not see itself as digitally colonized. The real challenge, therefore, is to convince people they are being lulled into complacency, and that they are explicitly giving up their agency because of the seductive power of social media.

This book aims to stimulate alternative thinking and dialogue that may avert the potentially harmful outcomes of AI. Just as a cardiac stress test is not intended to kill patients, but rather to reveal vulnerabilities and prevent future catastrophe, I want to stress test present society's ability to accommodate AI socially, economically and politically. India functions as an especially important case study on the likely disruptions of AI.

This book invites nonexperts into the conversation around AI. This is important because, unlike other technical fields such as nuclear energy and genetic engineering where the public actively debates the social implications, in the case of AI the public has not yet become energized.

Just as I had finished writing this book, the world was suddenly disrupted by Covid-19. The pandemic has created a cascading effect that is reverberating through every aspect of our lives. History books will define this hinge point as a discontinuity separating life before and after. This called for a re-examination of this book and I started asking myself: Does the pandemic effectively stop, or slow down, AI? If so, the book is already obsolete because the impact of AI

would be overshadowed by the crisis. Or is it the other way around, namely, that its effect will solidify AI and accelerate its advancement?

I concluded it was the latter: The defeat of Covid-19 will be claimed as a victory for AI and the scientific materialism on which it is based, and this will produce a great leap forward in the march of AI. Though the Covid-19 pandemic has thrown economic forecasts into disarray, and many of the statistics cited in this book will need to be revised, the overall trend I explain is not likely to change. In fact, my prediction is that due to Covid-19, the effects of AI will accelerate even faster than before.

However, this crisis will also trigger greater ethical introspection. There will be a new level of concern for humankind's harmful exploitation of nature, including animals, by turning them into "property" like any other economic asset. The interconnectivity of all things, as captured in the Vedic principle of Indra's Net, deserves special attention. The pandemic is a reminder of materialism going too far and ending up disrupting its own equilibrium.

My goal is to educate and empower users and consumers of AI, as well as civic leaders, so they will be better equipped to engage the digital giants on a level playing field. We are not yet powerless in this battle but must play our cards strategically. I hope the information in these pages will inform, enlighten and provoke readers. As citizens we do have a say in how fast, and in what ways, we allow AI into our lives and becoming informed is the first step toward productive interventions.