BOOKSHELF
Summaries of Acclaimed Books

FROM THE AUTHOR OF SAPIENS

Yuval Noah Harari

21 Lessons
for the
21st Century
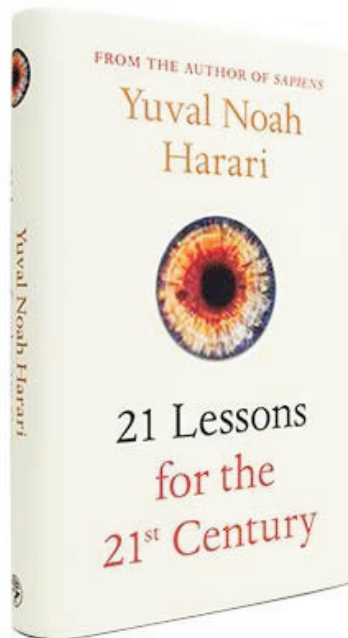
21 Lessons
for the
21st Century

ABOUT BOOKSHELF

Having a lateral reading habit acts as the cherry on top for the preparation of UPSC, as students who have a habit of general reading tend to present better examples, case-studies, and analysis. They usually have more viewpoints on any issue. Hence no one can deny the importance of general reading.

Under the 'Book Shelf' initiative, summaries of books will be provided for the purpose of familiarizing students with some of the basic and important lateral readings. These readings provide a more comprehensive understanding of topics that will help aspirants in writing Mains answers in a more critical manner instead of writing just the mugged up things. Through these books, aspirants will get insight into some of the important topics of UPSC and will broaden the horizon of their knowledge. These book-summaries will help students to know more about the key and important ideas that are popular. We hope it will be a worthy addition to our website and will help students.

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ABOUT THE BOOK

The book 21 Lessons for the 21st Century explores the present. How can we protect ourselves from nuclear war, ecological cataclysms and technological disruptions? What can we do about the epidemic of fake news or the threat of terrorism? What should we teach our children?

Yuval Noah Harari takes us on a thrilling journey through today's most urgent issues. The golden thread running through his exhilarating new book is the challenge of maintaining our collective and individual focus in the face of constant and disorienting change. Are we still capable of understanding the world we have created?

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INTRODUCTION

My agenda here is global. I look at the major forces that shape societies all over the world, and that are likely to influence the future of our planet as a whole. Climate change may be far beyond the concerns of people in the midst of a life-and-death emergency, but it might eventually make the Mumbai slums uninhabitable, send enormous new waves of refugees across the Mediterranean, and lead to a worldwide crisis in healthcare.

Reality is composed of many threads, and this book tries to cover different aspects of our global predicament, without claiming to be exhaustive. Unlike Sapiens and Homo Deus, this book is not intended as a historical narrative, but rather as a selection of lessons. These lessons do not conclude with simple answers. They aim to stimulate further thinking, and help readers participate in some of the major conversations of our time.

This book offers observations about the conduct of individuals as well as entire societies.

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PART-I

The Technological Challenge

Humankind is losing faith in the liberal story that dominated global politics in recent decades, exactly when the merger of biotech and infotech confronts us with the biggest challenges humankind has ever encountered.

1. DISILLUSIONMENT
The end of history has been postponed

Since the global financial crisis of 2008 people all over the world have become increasingly disillusioned with the liberal story. Walls and firewalls are back in vogue. Resistance to immigration and to trade agreements is mounting. Ostensibly democratic governments undermine the independence of the judiciary system, restrict the freedom of the press, and portray any opposition as treason.

- **Major events that have postponed the end of history:**

  - Brexit.
  - Election of Donald trump as US President despite popular predictions and global support to Hilary Clinton.

- **Reasons:**

  - Disillusionment with globalization.
  - It has benefitted small section and disillusioned large working class.
  - Human nature hasn't changed much and it is still about self-interest.
  - Liberalization of trade has its own impact on the occupational structure and working culture, but the same is not supported by similar liberalization in the political system (with EU as exception)
  - People have become selective, they want some aspect of liberalization, i.e. democracy, human rights, but not others.

Key Ideas

- The liberal political system has been shaped during the industrial era to manage a world of steam engines, oil refineries and television sets. It finds it difficult to deal with the ongoing revolutions in information technology and biotechnology.

- Both politicians and voters are barely able to comprehend the new technologies, let alone regulate their explosive potential. Since the 1990s the Internet has changed the world probably more than any other factor, yet the Internet revolution was directed by engineers more than by political parties.

- In 1938 the condition of the common person in the USSR, Germany or the USA may have been grim, but he was constantly told that he was the most important thing in the world, and that he was the future (provided, of course, that he was an 'ordinary person' rather than a Jew or an African). He looked at the propaganda posters – which typically depicted coal miners, steelworkers and housewives in heroic poses – and saw himself there: 'I am in that poster! I am the hero of the future!

- In 2018 the common person feels increasingly irrelevant. Lots of mysterious words are bandied around excitedly in TED talks, government think tanks and hi-tech conferences – globalisation, blockchain, genetic engineering, artificial intelligence, machine learning – and common people may well suspect that none of these words are about them. The liberal story was the story of ordinary people.

- In the twentieth century, the masses revolted against exploitation, and sought to translate their vital role in the economy into political power. Now the masses fear irrelevance, and they are frantic to use their remaining political power before it is too late.

The liberal Phoenix

- Most people who voted for Trump and Brexit didn't reject the liberal package in its entirety – they lost faith mainly in its globalising part. They still believe in democracy, free markets, human rights and social responsibility, but they think these fine ideas can stop at the border. Indeed, they believe that in order to preserve liberty and prosperity in Yorkshire or Kentucky, it is best to build a wall on the border, and adopt illiberal policies towards foreigners.

- The rising Chinese superpower presents an almost mirror image. It is wary of liberalising its domestic politics, but it has adopted a far more liberal approach to the rest of the world. In fact, when it comes to free trade and international cooperation, Xi Jinping looks like Obama's real successor. Having put Marxism–Leninism on the back burner, China seems rather happy with the liberal international order.

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2. WORK

The disappearance and shifting of jobs abroad has affected people most and they want to go back to past where, despite exploitation, at least there were jobs. Robots replacing human jobs are the grim future outlook we have for coming years.

■ **Factors that are bringing major changes:**

➤ Liberal trade policies and emergence of large production and service centers like China and India, which taking jobs from west at lower cost.

➤ Improving technology, particularly IoT and automation causing industrial revolution 4.0.

➤ Jobs that will be created will be mostly in knowledge economy, making it inaccessible for vast masses to participate in them.

➤ People with resources, who can afford higher education for their kids, will only be at benefit. This is further an important issue, given that universities fee is increasing constantly and student loans are getting more and more difficult to repay.

Key Ideas

◉ Fears that automation will create massive unemployment go back to the nineteenth century, and so far they have never materialized. Since the beginning of the Industrial Revolution, for every job lost to a machine at least one new job was created, and the average standard of living has increased dramatically. Yet there are good reasons to think that this time it is different, and that machine learning will be a real game changer.

◉ The benefits for human society are likely to be immense. AI doctors could provide far better and cheaper healthcare for billions of people, particularly for those who currently receive no healthcare at all. Thanks to learning algorithms and biometric sensors, a poor villager in an underdeveloped country might come to enjoy far better healthcare via her smartphone than the richest person in the world gets today from the most advanced urban hospital.

◉ Similarly, self-driving vehicles could provide people with much better transport services, and in particular reduce mortality from traffic accidents. Today close to 1.25 million people are killed annually in traffic accidents (twice the number killed by war, crime and terrorism combined).

Potential solutions fall into three main categories:

1. What to do in order to prevent jobs from being lost?

2. What to do in order to create enough new jobs?

3. What to do if, despite our best efforts, job losses significantly outstrip job creation?

Solutions:

◉ Slowing down the pace of change may give us time to create enough new jobs to replace most of the losses. Yet as noted earlier, economic entrepreneurship will have to be accompanied by a revolution in education and psychology.

◉ Assuming that the new jobs won't be just government sinecures, they will probably demand high levels of expertise, and as AI continues to improve, human employees will need to repeatedly learn new skills and change their profession.

- Governments will have to step in, both by subsidizing a lifelong education sector, and by providing a safety net for the inevitable periods of transition. If a forty-year-old ex-drone pilot takes three years to reinvent herself as a designer of virtual worlds, she may well need a lot of government help to sustain herself and her family during that time. (This kind of scheme is currently being pioneered in Scandinavia, where governments follow the motto 'protect workers, not jobs'.)

- One new model, which is gaining increasing attention, is universal basic income. UBI proposes that governments tax the billionaires and corporations controlling the algorithms and robots, and use the money to provide every person with a generous stipend covering his or her basic needs. This will cushion the poor against job loss and economic dislocation, while protecting the rich from populist rage.

- Alternatively, governments could subsidise universal basic services rather than income. Instead of giving money to people, who then shop around for whatever they want, the government might subsidise free education, free healthcare, free transport and so forth.

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3. LIBERTY

For we are now at the confluence of two immense revolutions. On the one hand biologists are deciphering the mysteries of the human body, and in particular, of the brain and of human feelings. At the same time computer scientists are giving us unprecedented data-processing power. When the biotech revolution merges with the infotech revolution, it will produce Big Data algorithms that can monitor and understand my feelings much better than I can, and then authority will probably shift from humans to computers.

Key Ideas:

- **The drama of decision-making:** In some countries and in some situations, people might not be given any choice, and they will be forced to obey the decisions of Big Data algorithms. Yet even in allegedly free societies, algorithms might gain authority because we will learn from experience to trust them on more and more issues, and will gradually lose our ability to make decisions for ourselves. Just think of the way that within a mere two decades, billions of people have come to entrust the Google search algorithm with one of the most important tasks of all: searching for relevant and trustworthy information. We no longer search for information. Instead, we google. And as we increasingly rely on Google for answers, so our ability to search for information by ourselves diminishes. Already today, 'truth' is defined by the top results of the Google search. As authority shifts from humans to algorithms, we may no longer see the world as the playground of autonomous individuals struggling to make the right choices. Instead, we might perceive the entire universe as a flow of data, see organisms as little more than biochemical algorithms, and believe that humanity's cosmic vocation is to create an all-encompassing data-processing system – and then merge into it.

- **Digital dictatorships:** Surveillance systems could be equally risky. In the hands of a benign government, powerful surveillance algorithms can be the best thing that ever happened to humankind. Yet the same Big Data algorithms might also empower a future Big Brother, so that we might end up with an Orwellian surveillance regime in which all individuals are monitored all the time. A total surveillance regime that follows not just all our external activities and utterances, but can even go under our skin to observe our inner experiences.

- **Artificial intelligence and natural stupidity:** We will increasingly rely on algorithms to make decisions for us, but it is unlikely that the algorithms will start to consciously manipulate us. They won't have any consciousness. Because intelligence and consciousness are very different things. Intelligence is the ability to solve problems. Consciousness is the ability to feel things such as pain, joy, love and anger. We tend to confuse the two because in humans and other mammals intelligence goes hand in hand with consciousness. Mammals solve most problems by feeling things. Computers, however, solve problems in a very different way.

Digital dictatorships are not the only danger awaiting us. Alongside liberty, the liberal order has also set great store by the value of equality. Liberalism always cherished political equality, and it gradually came to realise that economic equality is almost as important. For without a social safety net and a modicum of economic equality, liberty is meaningless. But just as Big Data algorithms might extinguish liberty, they might simultaneously create the most unequal societies that ever existed. All wealth and power might be concentrated in the hands of a tiny elite, while most people will suffer not from exploitation, but from something far worse – irrelevance.

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4. EQUALITY

- Globalisation has certainly benefited large segments of humanity, but there are signs of growing inequality both between and within societies. Some groups increasingly monopolise the fruits of globalisation, while billions are left behind. Already today, the richest 1 percent owns half the world's wealth. Even more alarmingly, the richest hundred people together own more than the poorest 4 billion.

- This could get far worse. The rise of AI might eliminate the economic value and political power of most humans. At the same time, improvements in biotechnology might make it possible to translate economic inequality into biological inequality. The two processes together – bioengineering coupled with the rise of AI – might therefore result in the separation of humankind into a small class of superhumans and a massive underclass of useless Homo sapiens.

Key Ideas:

- If we want to prevent the concentration of all wealth and power in the hands of a small elite, the key is to regulate the ownership of data. In ancient times land was the most important asset in the world, politics was a struggle to control land, and if too much land became concentrated in too few hands – society split into aristocrats and commoners. In the modern era machines and factories became more important than land, and political struggles focused on controlling these vital means of production. If too many of the machines became concentrated in too few hands – society split into capitalists and proletarians. In the twenty-first century, however, data will eclipse both land and machinery as the most important asset, and politics will be a struggle to control the flow of data. If data becomes concentrated in too few hands – humankind will split into different species.

- Perhaps the very same scientists and entrepreneurs who disrupted the world in the first place could engineer some technological solution? As global inequality rises and social tensions increase around the world, perhaps Mark Zuckerberg could call upon his 2 billion friends to join forces and do something together?

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PART-II

The Political Challenge

The merger of infotech and biotech threatens the core modern values of liberty and equality. Any solution to the technological challenge has to involve global cooperation. But nationalism, religion and culture divide humankind into hostile camps and make it very difficult to cooperate on a global level.

5. COMMUNITY

Humans have bodies. During the last century technology has been distancing us from our bodies. We have been losing our ability to pay attention to what we smell and taste. Instead we are absorbed in our smartphones and computers. We are more interested in what is happening in cyberspace than in what is happening down the street

Key Ideas:

- People estranged from their bodies, senses and physical environment are likely to feel alienated and disoriented. Humans lived for millions of years without religions and without nations – they can probably live happily without them in the twenty-first century, too. Yet they cannot live happily if they are disconnected from their bodies. If you don't feel at home in your body, you will never feel at home in the world.

- Online giants tend to view humans as audiovisual animals – a pair of eyes and a pair of ears connected to ten fingers, a screen and a credit card. A crucial step towards uniting humankind is to appreciate that humans have bodies.

- On an even deeper level, biometric sensors and direct brain–computer interfaces aim to erode the border between electronic machines and organic bodies, and to literally get under our skin. Once the tech-giants come to terms with the human body, they might end up manipulating our entire bodies in the same way they currently manipulate our eyes, fingers and credit cards. We may come to miss the good old days when online was separated from offline.

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6. CIVILISATION

While Mark Zuckerberg dreams of uniting humankind online, recent events in the offline world seem to breathe fresh life into the 'clash of civilisations' thesis. Many pundits, politicians and ordinary citizens believe that the Syrian civil war, the rise of the Islamic State, the Brexit mayhem and the instability of the European Union all result from a clash between 'Western Civilisation' and 'Islamic Civilisation'. Western attempts to impose democracy and human rights on Muslim nations resulted in a violent Islamic backlash, and a wave of Muslim immigration coupled with Islamic terrorist attacks caused European voters to abandon multicultural dreams in favour of xenophobic local identities.

Key Ideas:

- The 'clash of civilisations' thesis has far-reaching political implications. Its supporters contend that any attempt to reconcile 'the West' with 'the Muslim world' is doomed to failure. Muslim countries will never adopt Western values, and Western countries could never successfully absorb Muslim minorities. Accordingly, the USA should not admit immigrants from Syria or Iraq, and the European Union should renounce its multicultural fallacy in favour of an unabashed Western identity.

- Though widely held, this thesis is misleading. Islamic fundamentalism may indeed pose a radical challenge, but the 'civilisation' it challenges is a global civilisation rather than a uniquely Western phenomenon. Not for nothing has the Islamic State managed to unite against it Iran and the United States. And even Islamic fundamentalists, for all their medieval fantasies, are grounded in contemporary global culture far more than in seventh-century Arabia. They are catering to the fears and hopes of alienated modern youth rather than to those of medieval peasants and merchants.

- As Pankaj Mishra and Christopher de Bellaigue have convincingly argued, radical Islamists have been influenced by Marx and Foucault as much as by Muhammad, and they inherit the legacy of nineteenth-century European anarchists as much as of the Umayyad and Abbasid caliphs. It is therefore more accurate to see even the Islamic State as an errant offshoot of the global culture we all share, rather than as a branch of some mysterious alien tree.

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7. NATIONALISM

This is widely believed that the whole of humankind now constitutes a single civilisation, with all people sharing common challenges and opportunities. Contrary to this common wisdom, nationalism is not a natural and eternal part of the human psyche, and it is not rooted in human biology. True, humans are social animals through and through, with group loyalty imprinted in their genes.

Key Ideas:

- **The nuclear challenge:** Let's start with humankind's familiar nemesis: nuclear war. In 1964, two years after the Cuban Missile Crisis, nuclear annihilation was a palpable threat. But humankind successfully rose to the nuclear challenge. Since 1945 surprisingly few borders have been redrawn through naked aggression, and most countries have ceased using war as a standard political tool. This may well have been the greatest political and moral achievement of our times.

- **The ecological challenge:** Humans are destabilising the global biosphere on multiple fronts. Is there a nationalist answer to the ecological menace? Can any nation, however powerful, stop global warming by itself? If we are to keep a stable physical and economic environment it must now be retired and substituted by new technologies that do not burn fossil fuels.

- **The technological challenge:** There is no nationalist answer to technological disruptions. The nation state is simply the wrong framework to address the threat. Since research and development are not the monopoly of any one country, even a superpower like the USA cannot restrict them by itself. If even a single country chooses to pursue a high-risk, high-gain technological path, other countries will be forced to do the same, because nobody can afford to remain behind.

In order to make wise choices about the future of life we need to go way beyond the nationalist viewpoint and look at things from a global or even a cosmic perspective.Each of these three problems – nuclear war, ecological collapse and technological disruption – is enough to threaten the future of human civilisation. But taken together, they add up to an unprecedented existential crisis, especially because they are likely to reinforce and compound one another.

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8. RELIGION

- So far, modern ideologies, scientific experts and national governments have failed to create a viable vision for the future of humanity. Can such a vision be drawn from the deep wells of human religious traditions? Maybe the answer has been waiting for us all along between the pages of the Bible, the Quran or the Vedas.

- Secular people are likely to react to this idea with ridicule or apprehension. Holy scriptures may have been relevant in the Middle Ages, but how can they guide us in the era of artificial intelligence, bioengineering, global warming and cyberwarfare? Yet secular people are a minority. Billions of humans still profess greater faith in the Quran and the Bible than in the theory of evolution; religious movements mould the politics of countries as diverse as India, Turkey and the United States; and religious animosities fuel conflicts from Nigeria to the Philippines.

Key Ideas:

How relevant are religions such as Christianity, Islam and Hinduism? Can they help us solve the major problems we face? To understand the role of traditional religions in the world of the twenty-first century, we need to distinguish between three types of problems:

- Technical problems. For example, how should farmers in arid countries deal with severe droughts caused by global warming?

- Policy problems. For example, what measures should governments adopt to prevent global warming in the first place?

- Identity problems. For example, should I even care about the problems of farmers on the other side of the world, or should I care only about problems of people from my own tribe and country?

Traditional religions are largely irrelevant to technical and policy problems. In contrast, they are extremely relevant to identity problems – but in most cases they constitute a major part of the problem rather than a potential solution.

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9. IMMIGRATION

Though globalisation has greatly reduced cultural differences across the planet, it has simultaneously made it far easier to encounter strangers and become upset by their oddities. As more and more humans cross more and more borders in search of jobs, security and a better future, the need to confront, assimilate or expel strangers strains political systems and collective identities that were shaped in less fluid times. Nowhere is the problem more poignant than in Europe. The European Union was built on the promise to transcend the cultural differences between French, Germans, Spanish and Greeks. It might collapse due to its inability to contain the cultural differences between Europeans and migrants from Africa and the Middle East.

Key Ideas:

It would perhaps be helpful to view immigration as a deal with three basic conditions or terms:

- **Term 1:** The host country allows the immigrants in.

- **Term 2:** In return, the immigrants must embrace at least the core norms and values of the host country, even if that means giving up some of their traditional norms and values.

- **Term 3:** If the immigrants assimilate to a sufficient degree, over time they become equal and full members of the host country. 'They' become 'us'.

- **Debate 1:**

  - ➤ Pro-immigrationists seem to think that countries have a moral duty to accept not just refugees, but also people from poverty-stricken lands who seek jobs and a better future. Especially in a globalised world, all humans have moral obligations towards all other humans, and those shirking these obligations are egoists or even racists. Anti-immigrationists stress that one of the most basic rights of every human collective is to defend itself against invasion, whether in the form of armies or migrants.

  - ➤ What complicates matters is that in many cases people want to have their cake and eat it. Numerous countries turn a blind eye to illegal immigration, or even accept foreign workers on a temporary basis, because they want to benefit from the foreigners' energy, talents and cheap labour. However, the countries then refuse to legalise the status of these people, saying that they don't want immigration. In the long run, this could create hierarchical societies in which an upper class of full citizens exploits an underclass of powerless foreigners, as happens today in Qatar and several other Gulf States.

- **Debate 2:**

  - ➤ The second clause of the immigration deal says that if they are allowed in, the immigrants have an obligation to assimilate into the local culture. But how far should assimilation go? If immigrants move from a patriarchal society to a liberal society, must they become feminist? If they come from a deeply religious society, need they adopt a secular world view? Should they abandon their traditional dress codes and food taboos? Anti-immigrationists tend to place the bar high, whereas pro-immigrationists place it much lower.

- **Debate 3:**

  - ➤ The third clause of the immigration deal says that if immigrants indeed make a sincere effort to assimilate – and in particular to adopt the value of tolerance – the host country is duty-bound to

treat them as first-class citizens. But exactly how much time needs to pass before the immigrants become full members of society? Should first-generation immigrants from Algeria feel aggrieved if they are still not seen as fully French after twenty years in the country? How about third-generation immigrants whose grandparents came to France in the 1970s?

➤ Pro-immigrationists tend to demand a speedy acceptance, whereas antiimmigrationists want a much longer probation period. For proimmigrationists, if third-generation immigrants are not seen and treated as equal citizens, this means that the host country is not fulfilling its obligations, and if this results in tensions, hostility and even violence – the host country has nobody to blame but its own bigotry. For anti-immigrationists, these inflated expectations are a large part of the problem. The immigrants should be patient. If your grandparents arrived here just forty years ago, and you now riot in the streets because you think you are not treated as a native, then you have failed the test.

■ **Debate 4:**

➤ On top of all these disagreements regarding the exact definition of the immigration deal, the ultimate question is whether the deal is actually working. Are both sides living up to their obligations? Anti-immigrationists tend to argue that the immigrants are not fulfilling term No. 2. They are not making a sincere effort to assimilate, and too many of them stick to intolerant and bigoted world views. Hence the host country has no reason to fulfil term No. 3 (to treat them as first-class citizens), and has every reason to reconsider term No. 1 (to allow them in).

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PART-III

The Technological Challenge

Humankind is losing faith in the liberal story that dominated global politics in recent decades, exactly when the merger of biotech and infotech confronts us with the biggest challenges humankind has ever encountered.

10. TERRORISM

Terrorists are masters of mind control. They kill very few people, but nevertheless manage to terrify billions and shake huge political structures such as the European Union or the United States. As the literal meaning of the word indicates, terrorism is a military strategy that hopes to change the political situation by spreading fear rather than by causing material damage.

Key Ideas:

- When the state rises to the challenge, it usually succeeds in crushing the terrorists. Hundreds of terrorist organisations were wiped out over the last few decades by various states. In 2002–4 Israel proved that even the most ferocious terror campaigns can be suppressed by brute force.

- States find it difficult to withstand these provocations because the legitimacy of the modern state is based on its promise to keep the public sphere free of political violence. The less political violence in a particular state, the greater the public shock at an act of terrorism.

How then should the state deal with terrorism?

- Governments should focus on clandestine actions against the terror networks.

- The media should keep things in perspective and avoid hysteria. The theatre of terror cannot succeed without publicity. Unfortunately, the media all too often provides this publicity for free.

- Terrorists hold our imagination captive, and use it against us. Again and again we rehearse the terrorist attack on the stage of our mind – remembering 9/11 or the latest suicide bombings. The terrorists kill a hundred people – and cause 100 million to imagine that there is a murderer lurking behind every tree. It is the responsibility of every citizen to liberate his or her imagination from the terrorists, and to remind ourselves of the true dimensions of this threat.

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11. WAR

The last few decades have been the most peaceful era in human history. Whereas in early agricultural societies human violence caused up to 15 per cent of all human deaths, and in the twentieth century it caused 5 per cent, today it is responsible for only 1 per cent. Yet since the global financial crisis of 2008 the international situation is rapidly deteriorating, warmongering is back in vogue, and military expenditure is ballooning.

Key Ideas:

- **The lost art of winning wars:** Why is it so difficult for major powers to wage successful wars in the twenty first century? In the past, economic assets were mostly material, so it was relatively straightforward to enrich yourself by conquest. Yet in the twenty-first century only puny profits can be made that way. Today the main economic assets consist of technical and institutional knowledge rather than wheat fields, gold mines or even oil fields, and you just cannot conquer knowledge through war.

- **Cyberwarfare:** Cyberwarfare makes things even worse for would-be imperialists. If the USA now attacks a country possessing even moderate cyberwarfare capabilities, the war could be brought to California or Illinois within minutes. Malwares and logic bombs could stop air traffic in Dallas, cause trains to collide in Philadelphia, and bring down the electric grid in Michigan.

- **The march of folly:** Even if wars remain an unprofitable business in the twenty-first century, that would not give us an absolute guarantee of peace. We should never underestimate human stupidity. Both on the personal and on the collective level, humans are prone to engage in self-destructive activities. On the other hand, it would be naïve to assume that war is impossible. Even if war is catastrophic for everyone, no god and no law of nature protects us from human stupidity.

One potential remedy for human stupidity is a dose of humility. National, religious and cultural tensions are made worse by the grandiose feeling that my nation, my religion and my culture are the most important in the world – hence my interests should come before the interests of anyone else, or of humankind as a whole. How can we make nations, religions and cultures a bit more realistic and modest about their true place in the world?

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12. HUMILITY

Most people tend to believe they are the centre of the world, and their culture is the linchpin of human history. Many Greeks believe that history began with Homer, Sophocles and Plato, and that all important ideas and inventions were born in Athens, Sparta, Alexandria or Constantinople. Chinese nationalists retort that history really began with the Yellow Emperor and the Xia and Shang dynasties, and that whatever Westerners, Muslims or Indians achieved is but a pale copy of original Chinese breakthroughs.

Key Ideas:

- Throughout history, humans have created hundreds of different religions and sects. A handful of them – Christianity, Islam, Hinduism, Confucianism and Buddhism – influenced billions of people (not always for the best). The vast majority of creeds – such as the Bon religion, the Yoruba religion and the Jewish religion – had a far smaller impact. Personally I like the idea of descending not from brutal world-conquerors, but from insignificant people who seldom poked their noses into other people's business.

- Many religions praise the value of humility – but then imagine themselves to be the most important thing in the universe. They mix calls for personal meekness with blatant collective arrogance. Humans of all creeds would do well to take humility more seriously.

- Among all forms of humility, perhaps the most important is to have humility before God. Whenever they talk of God, humans all too often profess abject self-effacement, but then use the name of God to lord it over their brethren.

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13. GOD

Does God exist? That depends on which God you have in mind. The cosmic mystery or the worldly lawgiver? Sometimes when people talk about God, they talk about a grand and awesome enigma, about which we know absolutely nothing. We invoke this mysterious God to explain the deepest riddles of the cosmos. Why is there something rather than nothing? What shaped the fundamental laws of physics? What is consciousness, and where does it come from? We do not know the answers to these questions, and we give our ignorance the grand name of God. The most fundamental characteristic of this mysterious God is that we cannot say anything concrete about Him.

Key Ideas:

- **Godless ethics:** Of course the cosmic mystery doesn't help us at all in maintaining the social order. People often argue that we must believe in a god that gave some very concrete laws to humans, or else morality will disappear and society will collapse into primeval chaos. Yet though gods can inspire us to act compassionately, religious faith is not a necessary condition for moral behaviour. Morality of some kind is natural. All social mammals from chimpanzees to rats have ethical codes that limit things such as theft and murder. Among humans, morality is present in all societies, even though not all of them believe in the same god, or in any god.

- Morality doesn't mean 'following divine commands'. It means 'reducing suffering'. Hence in order to act morally, you don't need to believe in any myth or story. You just need to develop a deep appreciation of suffering. If you really understand how an action causes unnecessary suffering to yourself or to others, you will naturally abstain from it.

- Every violent act in the world begins with a violent desire in somebody's mind, which disturbs that person's own peace and happiness before it disturbs the peace and happiness of anyone else. Thus people seldom steal unless they first develop a lot of greed and envy in their minds. People don't usually murder unless they first generate anger and hatred. Emotions such as greed, envy, anger and hatred are very unpleasant. You cannot experience joy and harmony when you are boiling with anger or envy. Hence long before you murder anyone, your anger has already killed your own peace of mind.

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14. SECULARISM

Secularism is sometimes defined as the negation of religion, and secular people are therefore characterised by what they don't believe and do. According to this definition, secular people do not believe in any gods or angels, do not go to churches and temples, and do not perform rites and rituals. Self-professing secularists view secularism in a very different way. For them, secularism is a very positive and active world view, which is defined by a coherent code of values rather than by opposition to this or that religion.

Key Ideas:

- **Three secular ideals:**

  1. Truth: The most important secular commitment is to the truth, which is based on observation and evidence rather than on mere faith. Seculars strive not to confuse truth with belief.

  2. Compassion: The other chief commitment of secular people is to compassion. Secular ethics relies not on obeying the edicts of this or that god, but rather on a deep appreciation of suffering.

  3. Equality: The twin commitments to truth and compassion result also in a commitment to equality. Though opinions differ regarding questions of economic and political equality, secular people are fundamentally suspicious of all a prior hierarchies.

  ➤ Secular education teaches us that if we don't know something, we shouldn't be afraid of acknowledging our ignorance and looking for new evidence. Even if we think we know something, we shouldn't be afraid of doubting our opinions and checking ourselves again.

  ➤ Secular people cherish responsibility. They don't believe in any higher power that takes care of the world, punishes the wicked, rewards the just, and protects us from famine, plague or war. We flesh-and-blood mortals must take full responsibility for whatever we do – or don't do. If the world is full of misery, it is our duty to find solutions.

  ➤ None of these values is exclusively secular. Jews also value the truth, Christians value compassion, Muslims value equality, Hindus value responsibility, and so forth. Secular societies and institutions are happy to acknowledge these links and to embrace religious Jews, Christians, Muslims and Hindus, provided that when the secular code collides with religious doctrine, the latter gives way.

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PART-IV

Truth

If you feel overwhelmed and confused by the global predicament, you are on the right track. Global processes have become too complicated for any single person to understand. How then can you know the truth about the world, and avoid falling victim to propaganda and misinformation?

15. IGNORANCE

Democracy is founded on the idea that the voter knows best, free-market capitalism believes that the customer is always right, and liberal education teaches students to think for themselves. It is a mistake, however, to put so much trust in the rational individual. Behavioural economists and evolutionary psychologists have demonstrated that most human decisions are based on emotional reactions and heuristic shortcuts rather than on rational analysis, and that while our emotions and heuristics were perhaps suitable for dealing with life in the Stone Age, they are woefully inadequate in the Silicon Age.

Key Ideas:

◉ Not only rationality, but individuality too is a myth. Humans rarely think for themselves. Rather, we think in groups. No individual knows everything it takes to build a cathedral, an atom bomb, or an aircraft. What gave Homo sapiens an edge over all other animals and turned us into the masters of the planet was our unparalleled ability to think together in large groups.

◉ We think we know far more today, but as individuals, we actually know far less. We rely on the expertise of others for almost all our needs. This is what Steven Sloman and Philip Fernbach have termed 'the knowledge illusion'. We think we know a lot, even though individually we know very little, because we treat knowledge in the minds of others as if it were our own.

◉ Providing people with more and better information is unlikely to improve matters. Bombarding people with facts and exposing their individual ignorance is likely to backfire. Most people don't like too many facts, and they certainly don't like to feel stupid.

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16. JUSTICE

Like all our other senses, our sense of justice also has ancient evolutionary roots. Human morality was shaped in the course of millions of years of evolution, adapted to dealing with the social and ethical dilemmas that cropped up in the lives of small hunter-gatherer bands. Whether secular or religious, citizens of the twenty-first century have plenty of values. The problem is with implementing these values in a complex global world. It's all the fault of numbers. The foragers' sense of justice was structured to cope with dilemmas relating to the lives of a few dozen people in an area of a few dozen square kilometres. When we try to comprehend relations between millions of people across entire continents, our moral sense is overwhelmed.

Key Ideas:

- One can try to evade the problem by adopting a 'morality of intentions'. What's important is what I intend, not what I actually do or the outcome of what I do. However, in a world in which everything is interconnected, the supreme moral imperative becomes the imperative to know. The greatest crimes in modern history resulted not just from hatred and greed, but even more so from ignorance and indifference.

- Most of the injustices in the contemporary world result from large-scale structural biases rather than from individual prejudices, and our hunter-gatherer brains did not evolve to detect structural biases. We are all complicit in at least some such biases, and we just don't have the time and energy to discover them all.

- In trying to comprehend and judge moral dilemmas of this scale, people often resort to one of four methods. The first is to downsize the issue. The second is to focus on a touching human story, which ostensibly stands for the whole conflict. When you try to explain to people the true complexity of the conflict by means of statistics and precise data, you lose them; but a personal story about the fate of one child activates the tear ducts, makes the blood boil, and generates false moral certainty. The third method to deal with large-scale moral dilemmas is to weave conspiracy theories. These three methods try to deny the true complexity of the world. The fourth and ultimate method is to create a dogma, put our trust in some allegedly all-knowing theory, institution or chief, and follow them wherever they lead us. Religious and ideological dogmas are still highly attractive in our scientific age precisely because they offer us a safe haven from the frustrating complexity of reality.

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GSSCORE

17. POST-TRUTH

We are repeatedly told these days that we are living in a new and frightening era of 'post-truth', and that lies and fictions are all around us. In fact, humans have always lived in the age of post-truth. Homo sapiens is a post-truth species, whose power depends on creating and believing fictions.

Key Ideas:

- So if you blame Facebook, Trump or Putin for ushering in a new and frightening era of post-truth, remind yourself that centuries ago millions of Christians locked themselves inside a self-reinforcing mythological bubble, never daring to question the factual veracity of the Bible, while millions of Muslims put their unquestioning faith in the Quran.

- Truth and power can travel together only so far. Sooner or later they go their separate ways. If you want power, at some point you will have to spread fictions. If you want to know the truth about the world, at some point you will have to renounce power. As a species, humans prefer power to truth.

- **Getting out of the brainwashing machine:** All this does not mean that fake news is not a serious problem, or that politicians and priests have a free licence to lie through their teeth. It would also be totally wrong to conclude that everything is just fake news, that any attempt to discover the truth is doomed to failure, and that there is no difference whatsoever between serious journalism and propaganda. Underneath all the fake news, there are real facts and real suffering. Instead of accepting fake news as the norm, we should recognise it is a far more difficult problem than we tend to assume, and we should strive even harder to distinguish reality from fiction.

- Don't expect perfection. One of the greatest fictions of all is to deny the complexity of the world, and think in absolute terms of pristine purity versus satanic evil. No politician tells the whole truth and nothing but the truth, but some politicians are still far better than others. Similarly, no newspaper is free of biases and mistakes, but some newspapers make an honest effort to find out the truth whereas others are a brainwashing machine.

- It is the responsibility of all of us to invest time and effort in uncovering our biases and in verifying our sources of information. We need at least to investigate carefully our favourite sources of information – be they a newspaper, a website, a TV network or a person.

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18. SCIENCE FICTION

Humans control the world because they can cooperate better than any other animal, and they can cooperate so well because they believe in fictions. In the early twenty-first century, perhaps the most important artistic genre is science fiction. Very few people read the latest articles in the fields of machine learning or genetic engineering. Instead, movies such as The Matrix and Her and TV series such as Westworld and Black Mirror shape how people understand the most important technological, social and economic developments of our time. This also means that science fiction needs to be far more responsible in the way it depicts scientific realities, otherwise it might imbue people with the wrong ideas or focus their attention on the wrong problems.

Key Ideas:

◉ Perhaps the worst sin of present-day science fiction is that it tends to confuse intelligence with consciousness. As a result, it is overly concerned about a potential war between robots and humans, when in fact we need to fear a conflict between a small superhuman elite empowered by algorithms, and a vast underclass of disempowered Homo sapiens.

◉ **Living in a box:** People are afraid of being trapped inside a box, but they don't realise that they are already trapped inside a box – their brain – which is locked within a bigger box – human society with its myriad fictions. When you escape the matrix the only thing you discover is a bigger matrix.

◉ Most science-fiction movies really tell a very old story: the victory of mind over matter. Thirty thousand years ago, the story went: 'Mind imagines a stone knife – hand creates a knife – human kills mammoth.' But the truth is that humans gained control of the world not so much by inventing knives and killing mammoths as much as by manipulating human minds. According to the best scientific theories and the most up-to-date technological tools, the mind is never free of manipulation. There is no authentic self waiting to be liberated from the manipulative shell.

◉ Since your brain and your 'self' are part of the matrix, to escape the matrix you must escape your self. That, however, is a possibility worth exploring. Escaping the narrow definition of self might well become a necessary survival skill in the twenty-first century.

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PART-V

Resilience

How do you live in an age of bewilderment, when the old stories have collapsed, and no new story has yet emerged to replace them?

19. EDUCATION

Humankind is facing unprecedented revolutions, all our old stories are crumbling, and no new story has so far emerged to replace them. How can we prepare ourselves and our children for a world of such unprecedented transformations and radical uncertainties? A baby born today will be thirtysomething in 2050. If all goes well, that baby will still be around in 2100, and might even be an active citize n of the twenty-second century. What should we teach that baby that will help him or her survive and flourish in the world of 2050 or of the twenty-second century? What kind of skills will he or she need in order to get a job, understand what is happening around them, and navigate the maze of life?

Key Ideas:

- People need the ability to make sense of information, to tell the difference between what is important and what is unimportant, and above all to combine many bits of information into a broad picture of the world.

- Many pedagogical experts argue that schools should switch to teaching 'the four Cs' – critical thinking, communication, collaboration and creativity. More broadly, schools should downplay technical skills and emphasise general-purpose life skills. Most important of all will be the ability to deal with change, to learn new things, and to preserve your mental balance in unfamiliar situations. In order to keep up with the world of 2050, you will need not merely to invent new ideas and products – you will above all need to reinvent yourself again and again.

- To survive and flourish in changing world, you will need a lot of mental flexibility and great reserves of emotional balance. You will have to repeatedly let go of some of what you know best, and feel at home with the unknown. You cannot learn resilience by reading a book or listening to a lecture. The teachers themselves usually lack the mental flexibility that the twenty-first century demands, for they themselves are the product of the old educational system.

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GSSCORE

20. MEANING

Who am I? What should I do in life? What is the meaning of life? Humans have been asking these questions from time immemorial. Every generation needs a new answer, because what we know and don't know keeps changing. Given everything we know and don't know about science, about God, about politics and about religion – what is the best answer we can give today?

Key Ideas:

⊙ When people ask about the meaning of life, they expect to be told a story. Homo sapiens is a storytelling animal, that thinks in stories rather than in numbers or graphs, and believes that the universe itself works like a story, replete with heroes and villains, conflicts and resolutions, climaxes and happy endings. When we look for the meaning of life, we want a story that will explain what reality is all about and what is my particular role in the cosmic drama. This role defines who I am, and gives meaning to all my experiences and choices.

⊙ Given everything we know about universe it would seem utterly impossible for any sane person to believe that the ultimate truth about the universe and human existence is the story of Israeli, German or Russian nationalism – or indeed of nationalism in general. A story that ignores almost the whole of time, the whole of space, the Big Bang, quantum physics and the evolution of life is at most just a tiny part of the truth. Yet people somehow manage not to see beyond it.

⊙ If you really want to understand yourself, you should not identify with your Facebook account or with the inner story of the self. Instead, you should observe the actual flow of body and mind. You will see thoughts, emotions and desires appear and disappear without much reason and without any command from you, just as different winds blow from this or that direction and mess up your hair. And just as you are not the winds, so also you are not the jumble of thoughts, emotions and desires you experience, and you are certainly not the sanitised story you tell about them with hindsight. You experience all of them, but you don't control them, you don't own them, and you are not them. People ask 'Who am I?' and expect to be told a story.

⊙ The first thing you need to know about yourself, is that you are not a story. So if you want to know the truth about the universe, about the meaning of life, and about your own identity, the best place to start is by observing suffering and exploring what it is.

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21. MEDITATION

My good friend Ron Merom suggested that I try putting aside all the books and intellectual discussions for a few days, and take a Vipassana meditation course. ('Vipassana' means 'introspection' in the Pali language of ancient India.) I thought it was some New Age mumbo-jumbo, and since I had no interest in hearing yet another mythology, I declined to go. But after a year of patient nudging, in April 2000 he got me to go to a ten-day Vipassana retreat.

Key Ideas:

- The first thing I learned by observing my breath was that notwithstanding all the books I had read and all the classes I had attended at university, I knew almost nothing about my mind, and I had very little control over it. Despite my best efforts, I couldn't observe the reality of my breath coming in and out of my nostrils for more than ten seconds before the mind wandered away. For years I lived under the impression that I was the master of my life, and the CEO of my own personal brand. But a few hours of meditation were enough to show me that I hardly had any control of myself.

- You want to know what anger is? Well, just observe the sensations that arise and pass in your body while you are angry. I was twenty-four years old when I went to this retreat, and had experienced anger probably 10,000 times previously, yet I had never bothered to observe how anger actually feels. Whenever I had been angry, I focused on the object of my anger – something somebody did or said – rather than on the sensory reality of the anger.

- I think I learned more about myself and about humans in general by observing my sensations for these ten days than I learned in my whole life up to that point.

- Digging from both ends: In recent years scholars of both mind and brain have shown increasing interest in such meditation techniques, but most researchers have so far used this tool only indirectly. Meditation doesn't replace them, but it might complement them. It's a bit like engineers excavating a tunnel through a huge mountain. Why dig from only one side? Better dig simultaneously from both. If the brain and the mind are indeed one and the same, the two tunnels are bound to meet. And if the brain and the mind aren't the same? Then it is all the more important to dig into the mind, and not just into the brain.

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