

21 Lessons  
for the  
21<sup>st</sup> Century

Yuval Noah  
Harari



JONATHAN CAPE

LONDON

1 3 5 7 9 10 8 6 4 2

Jonathan Cape, an imprint of Vintage,  
20 Vauxhall Bridge Road,  
London SW1V 2SA

Jonathan Cape is part of the Penguin Random House group of companies whose  
addresses can be found at [global.penguinrandomhouse.com](http://global.penguinrandomhouse.com)



Copyright © Yuval Noah Harari 2018

Yuval Noah Harari has asserted his right to be identified as the author of this  
Work in accordance with the Copyright, Designs and Patents Act 1988

First published by Jonathan Cape in 2018

[penguin.co.uk/vintage](http://penguin.co.uk/vintage)

A CIP catalogue record for this book is available from the British Library

ISBN (hardback) 9781787330672  
ISBN (trade paperback) 9781787330870

Typeset in 11.5/14.74 pt Adobe Garamond Pro  
by Integra Software Services Pvt. Ltd, Pondicherry

Printed and bound in Great Britain by Clays Ltd, Elcograf S.p.A.

Quotation from *Brave New World* by Aldous Huxley, published by Vintage Classics,  
reprinted by permission of The Random House Group Limited © 1932

Penguin Random House is committed to a sustainable future for  
our business, our readers and our planet. This book is made  
from Forest Stewardship Council' certified paper.



To my husband Itzik, to my mother Pnina, and  
to my grandmother Fanny,  
for their love and support throughout many years.

# Contents

Introduction	ix
<b>Part I: The Technological Challenge</b>	<b>1</b>
1. DISILLUSIONMENT	3
<i>The end of history has been postponed</i>	
2. WORK	19
<i>When you grow up, you might not have a job</i>	
3. LIBERTY	44
<i>Big Data is watching you</i>	
4. EQUALITY	73
<i>Those who own the data own the future</i>	
<b>Part II: The Political Challenge</b>	<b>83</b>
5. COMMUNITY	85
<i>Humans have bodies</i>	
6. CIVILISATION	93
<i>There is just one civilisation in the world</i>	
7. NATIONALISM	110
<i>Global problems need global answers</i>	
8. RELIGION	127
<i>God now serves the nation</i>	
9. IMMIGRATION	139
<i>Some cultures might be better than others</i>	
<b>Part III: Despair and Hope</b>	<b>157</b>
10. TERRORISM	159
<i>Don't panic</i>	

11. WAR	171
<i>Never underestimate human stupidity</i>	
12. HUMILITY	181
<i>You are not the centre of the world</i>	
13. GOD	197
<i>Don't take the name of God in vain</i>	
14. SECULARISM	203
<i>Acknowledge your shadow</i>	
<b>Part IV: Truth</b>	<b>215</b>
15. IGNORANCE	217
<i>You know less than you think</i>	
16. JUSTICE	223
<i>Our sense of justice might be out of date</i>	
17. POST-TRUTH	231
<i>Some fake news lasts for ever</i>	
18. SCIENCE FICTION	245
<i>The future is not what you see in the movies</i>	
<b>Part V: Resilience</b>	<b>257</b>
19. EDUCATION	259
<i>Change is the only constant</i>	
20. MEANING	269
<i>Life is not a story</i>	
21. MEDITATION	309
<i>Just observe</i>	
Acknowledgements	319
Notes	322
Index	341

# Introduction

In a world deluged by irrelevant information, clarity is power. In theory, anybody can join the debate about the future of humanity, but it is so hard to maintain a clear vision. Frequently, we don't even notice that a debate is going on, or what the key questions are. Billions of us can hardly afford the luxury of investigating, because we have more pressing things to do: we have to go to work, take care of the kids, or look after elderly parents. Unfortunately, history gives no discounts. If the future of humanity is decided in your absence, because you are too busy feeding and clothing your kids – you and they will not be exempt from the consequences. This is very unfair; but who said history was fair?

As a historian, I cannot give people food or clothes – but I can try and offer some clarity, thereby helping to level the global playing field. If this empowers even a handful of additional people to join the debate about the future of our species, I have done my job.

My first book, *Sapiens*, surveyed the human past, examining how an insignificant ape became the ruler of planet Earth.

*Homo Deus*, my second book, explored the long-term future of life, contemplating how humans might eventually become gods, and what might be the ultimate destiny of intelligence and consciousness.

In this book I want to zoom in on the here and now. My focus is on current affairs and on the immediate future of human societies. What is happening right now? What are today's greatest

challenges and choices? What should we pay attention to? What should we teach our kids?

Of course, 7 billion people have 7 billion agendas, and as already noted, thinking about the big picture is a relatively rare luxury. A single mother struggling to raise two children in a Mumbai slum is focused on the next meal; refugees in a boat in the middle of the Mediterranean scan the horizon for any sign of land; and a dying man in an overcrowded London hospital gathers all his remaining strength to take in one more breath. They all have far more urgent problems than global warming or the crisis of liberal democracy. No book can do justice to all of that, and I don't have lessons to teach people in such situations. I can only hope to learn from them.

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.

The book was actually written in conversation with the public. Many of the chapters were composed in response to questions I was asked by readers, journalists and colleagues. Earlier versions of some segments were already published in different forms, which gave me the opportunity to receive feedback and hone my arguments. Some sections focus on technology, some on politics, some on religion, and some on art. Certain chapters celebrate human wisdom, others highlight the crucial role of human stupidity. But

the overarching question remains the same: what is happening in the world today, and what is the deep meaning of events?

What does the rise of Donald Trump signify? What can we do about the epidemic of fake news? Why is liberal democracy in crisis? Is God back? Is a new world war coming? Which civilisation dominates the world – the West, China, Islam? Should Europe keep its doors open to immigrants? Can nationalism solve the problems of inequality and climate change? What should we do about terrorism?

Though this book takes a global perspective, I do not neglect the personal level. On the contrary, I want to emphasise the connections between the great revolutions of our era and the internal lives of individuals. For example, terrorism is both a global political problem and an internal psychological mechanism. Terrorism works by pressing the fear button deep in our minds and hijacking the private imagination of millions of individuals. Similarly, the crisis of liberal democracy is played out not just in parliaments and polling stations, but also in neurons and synapses. It is a cliché to note that the personal is the political. But in an era when scientists, corporations and governments are learning to hack the human brain, this truism is more sinister than ever. Accordingly, this book offers observations about the conduct of individuals as well as entire societies.

A global world puts unprecedented pressure on our personal conduct and morality. Each of us is ensnared within numerous all-encompassing spider webs, which on the one hand restrict our movements, but at the same time transmit our tiniest jiggle to faraway destinations. Our daily routines influence the lives of people and animals halfway across the world, and some personal gestures can unexpectedly set the entire world ablaze, as happened with the self-immolation of Mohamed Bouazizi in Tunisia, which ignited the Arab Spring, and with the women who shared their stories of sexual harassment and sparked the #MeToo movement.

This global dimension of our personal lives means that it is more important than ever to uncover our religious and political



biases, our racial and gender privileges, and our unwitting complicity in institutional oppression. But is that a realistic enterprise? How can I find a firm ethical ground in a world that extends far beyond my horizons, that spins completely out of human control, and that holds all gods and ideologies suspect?

The book begins by surveying the current political and technological predicament. At the close of the twentieth century it appeared that the great ideological battles between fascism, communism and liberalism resulted in the overwhelming victory of liberalism. Democratic politics, human rights and free-market capitalism seemed destined to conquer the entire world. But as usual, history took an unexpected turn, and after fascism and communism collapsed, now liberalism is in a jam. So where are we heading?

This question is particularly poignant, because liberalism is losing credibility exactly when the twin revolutions in information technology and biotechnology confront us with the biggest challenges our species has ever encountered. The merger of infotech and biotech might soon push billions of humans out of the job market and undermine both liberty and equality. Big Data algorithms might create digital dictatorships in which all power is concentrated in the hands of a tiny elite while most people suffer not from exploitation, but from something far worse – irrelevance.

I discussed the merger of infotech and biotech at length in my previous book *Homo Deus*. But whereas that book focused on the long-term prospects – taking the perspective of centuries and even millennia – this book concentrates on the more immediate social, economic and political crises. My interest here is less in the eventual creation of inorganic life, and more in the threat to the welfare state and to particular institutions such as the European Union.

The book does not attempt to cover all the impacts of the new technologies. In particular, though technology holds many

wonderful promises, my intention here is to highlight mainly the threats and dangers. Since the corporations and entrepreneurs who lead the technological revolution naturally tend to sing the praises of their creations, it falls to sociologists, philosophers and historians like myself to sound the alarm and explain all the ways things can go terribly wrong.

After sketching the challenges we face, in the second part of the book we examine a wide range of potential responses. Could Facebook engineers use AI to create a global community that will safeguard human liberty and equality? Perhaps the answer is to reverse the process of globalisation, and re-empower the nation state? Maybe we need to go back even further, and draw hope and wisdom from the wellsprings of ancient religious traditions?

In the third part of the book we see that though the technological challenges are unprecedented, and though the political disagreements are intense, humankind can rise to the occasion if we keep our fears under control and are a bit more humble about our views. This part investigates what can be done about the menace of terrorism, about the danger of global war, and about the biases and hatreds that spark such conflicts.

The fourth part engages with the notion of post-truth, and asks to what extent we can still understand global developments and distinguish wrongdoing from justice. Is *Homo sapiens* capable of making sense of the world it has created? Is there still a clear border separating reality from fiction?

In the fifth and final part I gather together the different threads and take a more general look at life in an age of bewilderment, when the old stories have collapsed, and no new story has emerged so far to replace them. Who are we? What should we do in life? What kinds of skills do we need? Given everything we know and don't know about science, about God, about politics and about religion – what can we say about the meaning of life today?

This may sound overambitious, but *Homo sapiens* cannot wait. Philosophy, religion and science are all running out of time. People have debated the meaning of life for thousands of years. We

cannot continue this debate indefinitely. The looming ecological crisis, the growing threat of weapons of mass destruction, and the rise of new disruptive technologies will not allow it. Perhaps most importantly, artificial intelligence and biotechnology are giving humanity the power to reshape and re-engineer life. Very soon somebody will have to decide how to use this power – based on some implicit or explicit story about the meaning of life. Philosophers are very patient people, but engineers are far less patient, and investors are the least patient of all. If you don't know what to do with the power to engineer life, market forces will not wait a thousand years for you to come up with an answer. The invisible hand of the market will force upon you its own blind reply. Unless you are happy to entrust the future of life to the mercy of quarterly revenue reports, you need a clear idea what life is all about.

In the final chapter I indulge in a few personal remarks, talking as one *Sapiens* to another, just before the curtain goes down on our species and a completely different drama begins.

Before embarking on this intellectual journey, I would like to highlight one crucial point. Much of the book discusses the shortcomings of the liberal world view and of the democratic system. I do so not because I believe liberal democracy is uniquely problematic, but rather because I think it is the most successful and most versatile political model humans have so far developed for dealing with the challenges of the modern world. While it may not be appropriate for every society in every stage of development, it has proved its worth in more societies and in more situations than any of the alternatives. Therefore, when examining the new challenges that lie ahead of us, it is necessary to understand the limitations of liberal democracy, and to explore how we can adapt and improve its current institutions.

Unfortunately, in the present political climate any critical thinking about liberalism and democracy might be hijacked by autocrats and various illiberal movements, whose sole interest is to discredit liberal democracy rather than to engage in an open discussion about the future of humanity. While they are more

than happy to debate the problems of liberal democracy, they have almost no tolerance of any criticism directed at them.

As an author, I was therefore required to make a difficult choice. Should I speak my mind openly, risking that my words could be taken out of context and used to justify burgeoning autocracies? Or should I censor myself? It is a mark of illiberal regimes that they make free speech more difficult even outside their borders. Due to the spread of such regimes, it is becoming increasingly dangerous to think critically about the future of our species.

After some soul searching, I chose free discussion over self-censorship. Without criticising the liberal model, we cannot repair its faults or go beyond it. But please note that this book could have been written only when people are still relatively free to think what they like and to express themselves as they wish. If you value this book, you should also value the freedom of expression.

## 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.

# I

## DISILLUSIONMENT

*The end of history has been postponed*

Humans think in stories rather than in facts, numbers or equations, and the simpler the story, the better. Every person, group and nation has its own tales and myths. But during the twentieth century the global elites in New York, London, Berlin and Moscow formulated three grand stories that claimed to explain the whole past and to predict the future of the entire world: the fascist story, the communist story, and the liberal story. The Second World War knocked out the fascist story, and from the late 1940s to the late 1980s the world became a battleground between just two stories: communism and liberalism. Then the communist story collapsed, and the liberal story remained the dominant guide to the human past and the indispensable manual for the future of the world – or so it seemed to the global elite.

The liberal story celebrates the value and power of liberty. It says that for thousands of years humankind lived under oppressive regimes which allowed people few political rights, economic opportunities or personal liberties, and which heavily restricted the movements of individuals, ideas and goods. But people fought for their freedom, and step by step, liberty gained ground. Democratic regimes took the place of brutal dictatorships. Free enterprise overcame economic restrictions. People learned to think for themselves and follow their hearts, instead of blindly obeying bigoted priests and hidebound traditions. Open roads, stout

bridges and bustling airports replaced walls, moats and barbed-wire fences.

The liberal story acknowledges that not all is well in the world, and that there are still many hurdles to overcome. Much of our planet is dominated by tyrants, and even in the most liberal countries many citizens suffer from poverty, violence and oppression. But at least we know what we need to do in order to overcome these problems: give people more liberty. We need to protect human rights, to grant everybody the vote, to establish free markets, and to let individuals, ideas and goods move throughout the world as easily as possible. According to this liberal panacea – accepted, in slight variations, by George W. Bush and Barack Obama alike – if we just continue to liberalise and globalise our political and economic systems, we will produce peace and prosperity for all.<sup>1</sup>

Countries that join this unstoppable march of progress will be rewarded with peace and prosperity sooner. Countries that try to resist the inevitable will suffer the consequences, until they too see the light, open their borders and liberalise their societies, their politics and their markets. It may take time, but eventually even North Korea, Iraq and El Salvador will look like Denmark or Iowa.

In the 1990s and 2000s this story became a global mantra. Many governments from Brazil to India adopted liberal recipes in an attempt to join the inexorable march of history. Those failing to do so seemed like fossils from a bygone era. In 1997 the US president Bill Clinton confidently rebuked the Chinese government that its refusal to liberalise Chinese politics puts it ‘on the wrong side of history’.<sup>2</sup>

However, 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. Strongmen in countries such as Turkey and Russia experiment with new types of illiberal democracies and downright dictatorships. Today, few would confidently declare that the Chinese Communist Party is on the wrong side of history.

The year 2016 – marked by the Brexit vote in Britain and the rise of Donald Trump in the United States – signified the moment when this tidal wave of disillusionment reached the core liberal states of western Europe and North America. Whereas a few years ago Americans and Europeans were still trying to liberalise Iraq and Libya at the point of the gun, many people in Kentucky and Yorkshire have now come to see the liberal vision as either undesirable or unattainable. Some discovered a liking for the old hierarchical world, and they just don't want to give up their racial, national or gendered privileges. Others have concluded (rightly or wrongly) that liberalisation and globalisation are a huge racket empowering a tiny elite at the expense of the masses.

In 1938 humans were offered three global stories to choose from, in 1968 just two, in 1998 a single story seemed to prevail; in 2018 we are down to zero. No wonder that the liberal elites, who dominated much of the world in recent decades, have entered a state of shock and disorientation. To have one story is the most reassuring situation of all. Everything is perfectly clear. To be suddenly left without any story is terrifying. Nothing makes any sense. A bit like the Soviet elite in the 1980s, liberals don't understand how history deviated from its preordained course, and they lack an alternative prism to interpret reality. Disorientation causes them to think in apocalyptic terms, as if the failure of history to come to its envisioned happy ending can only mean that it is hurtling towards Armageddon. Unable to conduct a reality check, the mind latches on to catastrophic scenarios. Like a person imagining that a bad headache signifies a terminal brain tumor, many liberals fear that Brexit and the rise of Donald Trump portend the end of human civilisation.



## From killing mosquitoes to killing thoughts

The sense of disorientation and impending doom is exacerbated by the accelerating pace of technological disruption. 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. Did you ever vote about the Internet? The democratic system is still struggling to understand what hit it, and is hardly equipped to deal with the next shocks, such as the rise of AI and the blockchain revolution.

Already today, computers have made the financial system so complicated that few humans can understand it. As AI improves, we might soon reach a point when no human can make sense of finance any more. What will that do to the political process? Can you imagine a government that waits humbly for an algorithm to approve its budget or its new tax reform? Meanwhile peer-to-peer blockchain networks and cryptocurrencies like bitcoin might completely revamp the monetary system, so that radical tax reforms will be inevitable. For example, it might become impossible or irrelevant to tax dollars, because most transactions will not involve a clear-cut exchange of national currency, or any currency at all. Governments might therefore need to invent entirely new taxes – perhaps a tax on information (which will be both the most important asset in the economy, and the only thing exchanged in numerous transactions). Will the political system manage to deal with the crisis before it runs out of money?

Even more importantly, the twin revolutions in infotech and biotech could restructure not just economies and societies but our very bodies and minds. In the past, we humans have learned to control the world outside us, but we had very little control over the world inside us. We knew how to build a dam and stop a river from flowing, but we did not know how to stop the body from ageing. We knew how to design an irrigation system, but we had no idea how to design a brain. If mosquitoes buzzed in our ears and disturbed our sleep, we knew how to kill the mosquitoes; but if a thought buzzed in our mind and kept us awake at night, most of us did not know how to kill the thought.

The revolutions in biotech and infotech will give us control of the world inside us, and will enable us to engineer and manufacture life. We will learn how to design brains, extend lives, and kill thoughts at our discretion. Nobody knows what the consequences will be. Humans were always far better at inventing tools than using them wisely. It is easier to manipulate a river by building a dam across it than it is to predict all the complex consequences this will have for the wider ecological system. Similarly, it will be easier to redirect the flow of our minds than to divine what it will do to our personal psychology or to our social systems.

In the past, we have gained the power to manipulate the world around us and to reshape the entire planet, but because we didn't understand the complexity of the global ecology, the changes we made inadvertently disrupted the entire ecological system and now we face an ecological collapse. In the coming century biotech and infotech will give us the power to manipulate the world inside us and reshape ourselves, but because we don't understand the complexity of our own minds, the changes we will make might upset our mental system to such an extent that it too might break down.

The revolutions in biotech and infotech are made by engineers, entrepreneurs and scientists who are hardly aware of the political implications of their decisions, and who certainly don't represent anyone. Can parliaments and parties take matters into their own

hands? At present, it does not seem so. Technological disruption is not even a leading item on the political agenda. Thus during the 2016 US presidential race, the main reference to disruptive technology concerned Hillary Clinton's email debacle,<sup>3</sup> and despite all the talk about job losses, neither candidate addressed the potential impact of automation. Donald Trump warned voters that the Mexicans and Chinese will take their jobs, and that they should therefore build a wall on the Mexican border.<sup>4</sup> He never warned voters that the algorithms will take their jobs, nor did he suggest building a firewall on the border with California.

This might be one of the reasons (though not the only one) why even voters in the heartlands of the liberal West are losing faith in the liberal story and in the democratic process. Ordinary people may not understand artificial intelligence and biotechnology, but they can sense that the future is passing them by. 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!'<sup>5</sup>

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. How can it remain relevant to a world of cyborgs and networked algorithms?

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.

Brexit and the rise of Trump might thus demonstrate an opposite trajectory to that of traditional socialist revolutions. The Russian, Chinese and Cuban revolutions were made by people who were vital for the economy, but who lacked political power; in 2016, Trump and Brexit were supported by many people who still enjoyed political power, but who feared that they were losing their economic worth. Perhaps in the twenty-first century populist revolts will be staged not against an economic elite that exploits people, but against an economic elite that does not need them any more.<sup>6</sup> This may well be a losing battle. It is much harder to struggle against irrelevance than against exploitation.

## The liberal phoenix

This is not the first time the liberal story has faced a crisis of confidence. Ever since this story gained global influence, in the second half of the nineteenth century, it has endured periodic crises. The first era of globalisation and liberalisation ended in the bloodbath of the First World War, when imperial power politics cut short the global march of progress. In the days following the murder of Archduke Franz Ferdinand in Sarajevo it turned out that the great powers believed in imperialism far more than in liberalism, and instead of uniting the world through free and peaceful commerce they focused on conquering a bigger slice of the globe by brute force. Yet liberalism survived this Franz Ferdinand moment and emerged from the maelstrom stronger than before, promising that this was 'the war to end all wars'. Allegedly, the unprecedented butchery had taught humankind the terrible price of imperialism, and now humanity was finally ready to create a new world order based on the principles of freedom and peace.

Then came the Hitler moment, when, in the 1930s and early 1940s, fascism seemed for a while irresistible. Victory over this threat merely ushered in the next. During the Che Guevara moment, between the 1950s and the 1970s, it again seemed that

liberalism was on its last legs, and that the future belonged to communism. In the end it was communism that collapsed. The supermarket proved to be far stronger than the Gulag. More importantly, the liberal story proved to be far more supple and dynamic than any of its opponents. It triumphed over imperialism, over fascism, and over communism by adopting some of their best ideas and practices. In particular, the liberal story learned from communism to expand the circle of empathy and to value equality alongside liberty.

In the beginning, the liberal story cared mainly about the liberties and privileges of middle-class European men, and seemed blind to the plight of working-class people, women, minorities and non-Westerners. When in 1918 victorious Britain and France talked excitedly about liberty, they were not thinking about the subjects of their worldwide empires. For example, Indian demands for self-determination were answered by the Amritsar massacre of 1919, in which the British army killed hundreds of unarmed demonstrators.

Even in the wake of the Second World War, Western liberals still had a very hard time applying their supposedly universal values to non-Western people. Thus when the Dutch emerged in 1945 from five years of brutal Nazi occupation, almost the first thing they did was raise an army and send it halfway across the world to reoccupy their former colony of Indonesia. Whereas in 1940 the Dutch gave up their own independence after little more than four days of fighting, they fought for more than four long and bitter years to suppress Indonesian independence. No wonder that many national liberation movements throughout the world placed their hopes on communist Moscow and Beijing rather than on the self-proclaimed champions of liberty in the West.

Gradually, however, the liberal story expanded its horizons, and at least in theory came to value the liberties and rights of all human beings without exception. As the circle of liberty expanded, the liberal story also came to recognise the importance of communist-style welfare programmes. Liberty is not

worth much unless it is coupled with some kind of social safety net. Social-democratic welfare states combined democracy and human rights with state-sponsored education and healthcare. Even the ultra-capitalist USA has realised that the protection of liberty requires at least some government welfare services. Starving children have no liberties.

By the early 1990s, thinkers and politicians alike hailed ‘the End of History’, confidently asserting that all the big political and economic questions of the past had been settled, and that the refurbished liberal package of democracy, human rights, free markets and government welfare services remained the only game in town. This package seemed destined to spread around the whole world, overcome all obstacles, erase all national borders, and turn humankind into one free global community.<sup>7</sup>

But history has not ended, and following the Franz Ferdinand moment, the Hitler moment, and the Che Guevara moment, we now find ourselves in the Trump moment. This time, however, the liberal story is not faced by a coherent ideological opponent like imperialism, fascism, or communism. The Trump moment is far more nihilistic.

Whereas the major movements of the twentieth century all had a vision for the entire human species – be it global domination, revolution or liberation – Donald Trump offers no such thing. Just the opposite. His main message is that it’s not America’s job to formulate and promote any global vision. Similarly, the British Brexiteers barely have a plan for the future of the Disunited Kingdom – the future of Europe and of the world is far beyond their horizon. 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.

Resurgent Russia sees itself as a far more forceful rival of the global liberal order, but though it has reconstituted its military might, it is ideologically bankrupt. Vladimir Putin is certainly popular both in Russia and among various right-wing movements across the world, yet he has no global world view that might attract unemployed Spaniards, disgruntled Brazilians or starry-eyed students in Cambridge.

Russia does offer an alternative model to liberal democracy, but this model is not a coherent political ideology. Rather, it is a political practice in which a number of oligarchs monopolise most of a country's wealth and power, and then use their control of the media to hide their activities and cement their rule. Democracy is based on Abraham Lincoln's principle that 'you can fool all the people some of the time, and some of the people all the time, but you cannot fool all the people all the time'. If a government is corrupt and fails to improve people's lives, enough citizens will eventually realise this and replace the government. But government control of the media undermines Lincoln's logic, because it prevents citizens from realising the truth. Through its monopoly over the media, the ruling oligarchy can repeatedly blame all its failures on others, and divert attention to external threats – either real or imaginary.

When you live under such an oligarchy, there is always some crisis or other that takes priority over boring stuff such as health-care and pollution. If the nation is facing external invasion or diabolical subversion, who has time to worry about overcrowded hospitals and polluted rivers? By manufacturing a never-ending

stream of crises, a corrupt oligarchy can prolong its rule indefinitely.<sup>8</sup>

Yet though enduring in practice, this oligarchic model appeals to no one. Unlike other ideologies that proudly expound their vision, ruling oligarchies are not proud of their practices, and they tend to use other ideologies as a smoke screen. Thus Russia pretends to be a democracy, and its leadership proclaims allegiance to the values of Russian nationalism and Orthodox Christianity rather than to oligarchy. Right-wing extremists in France and Britain may well rely on Russian help and express admiration for Putin, but even their voters would not like to live in a country that actually copies the Russian model – a country with endemic corruption, malfunctioning services, no rule of law, and staggering inequality. According to some measures, Russia is one of the most unequal countries in the world, with 87 per cent of wealth concentrated in the hands of the richest 10 per cent of people.<sup>9</sup> How many working-class supporters of the Front National want to copy this wealth-distribution pattern in France?

Humans vote with their feet. In my travels around the world I have met numerous people in many countries who wish to emigrate to the USA, to Germany, to Canada or to Australia. I have met a few who want to move to China or Japan. But I am yet to meet a single person who dreams of emigrating to Russia.

As for 'global Islam', it attracts mainly those who were born in its lap. While it may appeal to some people in Syria and Iraq, and even to alienated Muslim youths in Germany and Britain, it is hard to see Greece or South Africa – not to mention Canada or South Korea – joining a global caliphate as the remedy to their problems. In this case, too, people vote with their feet. For every Muslim youth from Germany who travelled to the Middle East to live under a Muslim theocracy, probably a hundred Middle Eastern youths would have liked to make the opposite journey, and start a new life for themselves in liberal Germany.

This might imply that the present crisis of faith is less severe than its predecessors. Any liberal who is driven to despair by the



events of the last few years should just recollect how much worse things looked in 1918, 1938 or 1968. At the end of the day, humankind won't abandon the liberal story, because it doesn't have any alternative. People may give the system an angry kick in the stomach but, having nowhere else to go, they will eventually come back.

Alternatively, people may completely give up on having a global story of any kind, and instead seek shelter with local nationalist and religious tales. In the twentieth century, nationalist movements were an extremely important political player, but they lacked a coherent vision for the future of the world other than supporting the division of the globe into independent nation states. Thus Indonesian nationalists fought against Dutch domination, and Vietnamese nationalists wanted a free Vietnam, but there was no Indonesian or Vietnamese story for humanity as a whole. When it came time to explain how Indonesia, Vietnam and all the other free nations should relate to one another, and how humans should deal with global problems such as the threat of nuclear war, nationalists invariably turned to either liberal or communist ideas.

But if both liberalism and communism are now discredited, maybe humans should abandon the very idea of a single global story? After all, weren't all these global stories – even communism – the product of Western imperialism? Why should Vietnamese villagers put their faith in the brainchild of a German from Trier and a Manchester industrialist? Maybe each country should adopt a different idiosyncratic path, defined by its own ancient traditions? Perhaps even Westerners should take a break from trying to run the world, and focus on their own affairs for a change?

This is arguably what is happening all over the globe, as the vacuum left by the breakdown of liberalism is tentatively filled by nostalgic fantasies about some local golden past. Donald Trump coupled his calls for American isolationism with a promise to 'Make America Great Again' – as if the USA of the 1980s or 1950s was a perfect society that Americans should somehow recreate in

the twenty-first century. The Brexiteers dream of making Britain an independent power, as if they were still living in the days of Queen Victoria and as if 'splendid isolation' were a viable policy for the era of the Internet and global warming. Chinese elites have rediscovered their native imperial and Confucian legacies, as a supplement or even substitute for the doubtful Marxist ideology they imported from the West. In Russia, Putin's official vision is not to build a corrupt oligarchy, but rather to resurrect the old tsarist empire. A century after the Bolshevik Revolution, Putin promises a return to ancient tsarist glories with an autocratic government buoyed by Russian nationalism and Orthodox piety spreading its might from the Baltic to the Caucasus.

Similar nostalgic dreams that mix nationalist attachment with religious traditions underpin regimes in India, Poland, Turkey and numerous other countries. Nowhere are these fantasies more extreme than in the Middle East, where Islamists want to copy the system established by the Prophet Muhammad in the city of Medina 1,400 years ago, while fundamentalist Jews in Israel outdo even the Islamists, and dream of going back 2,500 years to biblical times. Members of Israel's ruling coalition government talk openly about their hope of expanding modern Israel's borders to match more closely those of biblical Israel, of reinstating biblical law, and even of rebuilding the ancient Temple of Yahweh in Jerusalem in place of the Al-Aqsa mosque.<sup>10</sup>

Liberal elites look in horror at these developments, and hope that humanity will return to the liberal path in time to avert disaster. In his final speech to the United Nations in September 2016, President Obama warned his listeners against retreating 'into a world sharply divided, and ultimately in conflict, along age-old lines of nation and tribe and race and religion'. Instead, he said, 'the principles of open markets and accountable governance, of democracy and human rights and international law . . . remain the firmest foundation for human progress in this century'.<sup>11</sup>

Obama has rightly pointed out that despite the numerous shortcomings of the liberal package, it has a much better record

than any of its alternatives. Most humans never enjoyed greater peace or prosperity than they did under the aegis of the liberal order of the early twenty-first century. For the first time in history, infectious diseases kill fewer people than old age, famine kills fewer people than obesity, and violence kills fewer people than accidents.

But liberalism has no obvious answers to the biggest problems we face: ecological collapse and technological disruption. Liberalism traditionally relied on economic growth to magically solve difficult social and political conflicts. Liberalism reconciled the proletariat with the bourgeoisie, the faithful with the atheists, the natives with the immigrants, and the Europeans with the Asians by promising everybody a larger slice of the pie. With a constantly growing pie, that was possible. However, economic growth will not save the global ecosystem – just the opposite, it is the cause of the ecological crisis. And economic growth will not solve technological disruption – it is predicated on the invention of more and more disruptive technologies.

The liberal story and the logic of free-market capitalism encourage people to have grand expectations. During the latter part of the twentieth century, each generation – whether in Houston, Shanghai, Istanbul or São Paulo – enjoyed better education, superior healthcare and larger incomes than the one that came before it. In coming decades, however, owing to a combination of technological disruption and ecological meltdown, the younger generation might be lucky to just stay in place.

We are consequently left with the task of creating an updated story for the world. Just as the upheavals of the Industrial Revolution gave birth to the novel ideologies of the twentieth century, so the coming revolutions in biotechnology and information technology are likely to require fresh visions. The next decades might therefore be characterised by intense soul-searching and by formulating new social and political models. Could liberalism reinvent itself yet again, just as it did in the wake of the 1930s and 1960s crises, emerging as more attrac-

tive than ever before? Could traditional religion and nationalism provide the answers that escape the liberals, and could they use ancient wisdom to fashion an up-to-date world view? Or perhaps the time has come to make a clean break with the past, and craft a completely new story that goes beyond not just the old gods and nations, but even the core modern values of liberty and equality?

At present, humankind is far from reaching any consensus on these questions. We are still in the nihilist moment of disillusionment and anger, after people have lost faith in the old stories but before they have embraced a new one. So what next? The first step is to tone down the prophecies of doom, and switch from panic mode to bewilderment. Panic is a form of hubris. It comes from the smug feeling that I know exactly where the world is heading – down. Bewilderment is more humble, and therefore more clear-sighted. If you feel like running down the street crying ‘The apocalypse is upon us!’, try telling yourself ‘No, it’s not that. Truth is, I just don’t understand what’s going on in the world.’

The following chapters will try to clarify some of the bewildering new possibilities we face, and how we might proceed from here. But before exploring potential solutions to humanity’s predicaments we need a better grasp of the challenge technology poses. The revolutions in information technology and biotechnology are still in their infancy, and it is debatable to what extent they are really responsible for the current crisis of liberalism. Most people in Birmingham, Istanbul, St Petersburg and Mumbai are only dimly aware, if at all, of the rise of artificial intelligence and its potential impact on their lives. It is undoubtable, however, that the technological revolutions will gather momentum in the next few decades, and will confront humankind with the hardest trials we have ever encountered. Any story that seeks to gain humanity’s allegiance will be tested above all in its ability to deal with the twin revolutions in infotech and biotech. If liberalism, nationalism, Islam or some novel creed wishes to shape the world of the year 2050, it will need not only to make sense of artificial

intelligence, Big Data algorithms and bioengineering – it will also need to incorporate them into a new meaningful narrative.

To understand the nature of this technological challenge, perhaps it would be best to start with the job market. Since 2015 I have been travelling around the world talking with government officials, business people, social activists and schoolkids about the human predicament. Whenever they become impatient or bored by all the talk of artificial intelligence, Big Data algorithms and bioengineering, I usually need to mention just one magic word to snap them back to attention: jobs. The technological revolution might soon push billions of humans out of the job market, and create a massive new useless class, leading to social and political upheavals that no existing ideology knows how to handle. All the talk about technology and ideology might sound abstract and remote, but the very real prospect of mass unemployment – or personal unemployment – leaves nobody indifferent.