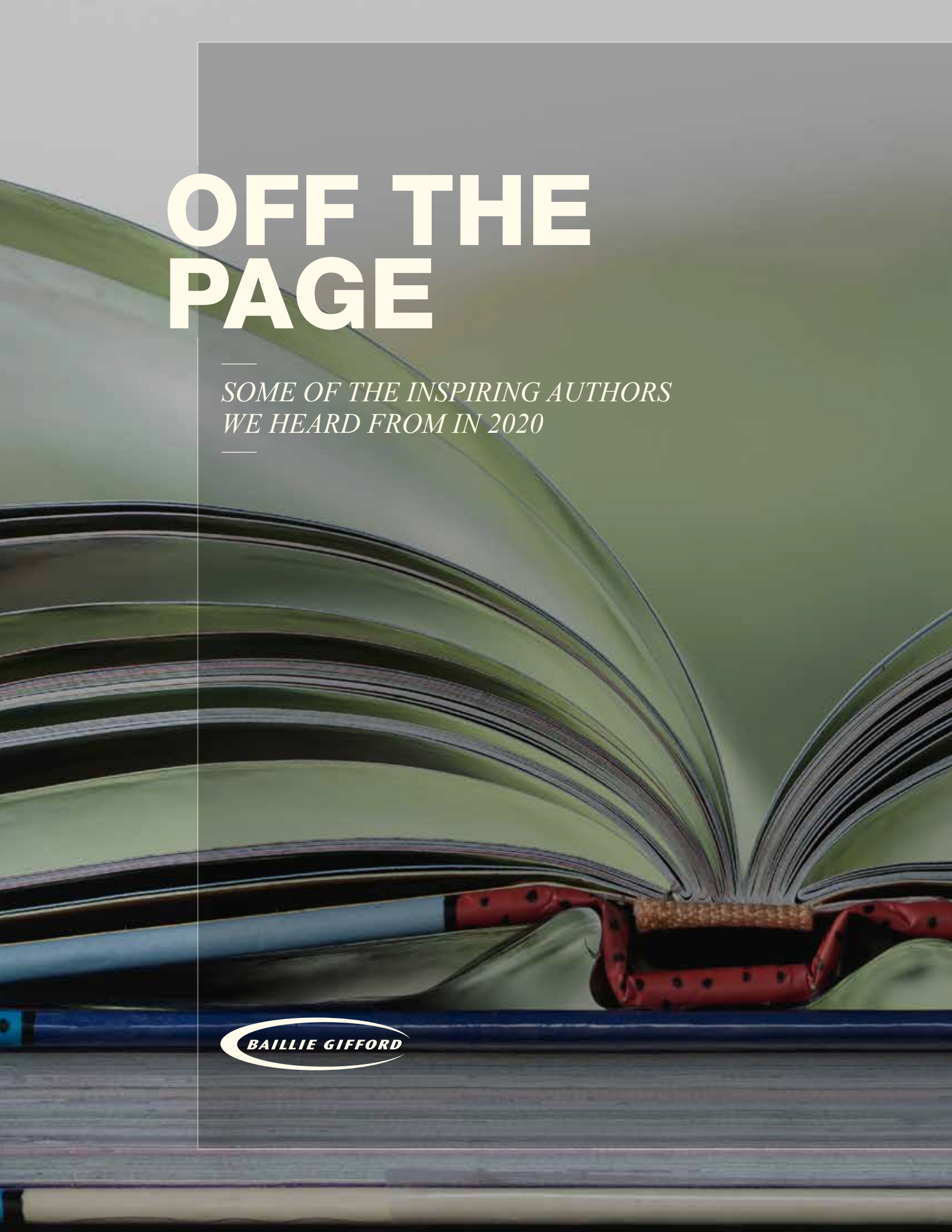

OFF THE PAGE

SOME OF THE INSPIRING AUTHORS WE HEARD FROM IN 2020

BAILLIE GIFFORD

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OFF THE PAGE

Baillie Gifford has supported literary festivals for over 10 years with a goal of helping them to flourish. This reflects the value we place on these events and the work of the fascinating authors who appear at them

In 2020, against the backdrop of a global pandemic, we maintained our sponsorship. That enabled many of the planned sessions to take place. Some were held face-to-face, but without an audience, others proceeded online. While those formats were disappointing for people who enjoy attending festivals and seeing their favourite authors in the flesh, the discussions provided some fascinating insights and a little respite from what was happening in our daily lives.

While the purpose of our sponsorship is to ensure the voices of some of the world's most talented and thoughtful writers are heard by as wide an audience as possible, our support gives us access to some of these fascinating individuals for private sessions. With Covid-19 restrictions in place, the sessions were conducted online. They gave us intriguing author insights and encouraged us to think in new ways about unfamiliar subjects.

Over the following pages, we have summarised some of our interactions with writers over the past year. We hope to provide a non-virtual platform for writers and readers to get together again over the course of 2021, when we will be sponsoring 12 literary festivals across the UK. In the meantime, please enjoy reading the following interviews, and others which appear on our website.

RISE OF THE NEW CHINA

In his new history, Michael Wood follows the continuous thread of civilisation in China from prehistory to its rise as a technological powerhouse. Erica Wagner spoke to him

Michael Wood is a globe-trotting historian and broadcaster from Moss Side in inner-city Manchester. He has written about Dark Age Britain, the Trojan War, Alexander the Great and the history of India.

Another of Wood's passions surfaces in his latest book, *The Story of China*, which emerged from his eponymous six-part BBC documentary series of 2016. It traces an unbroken line of civilisation that stretches from the prehistoric to the present day across a vast landscape, a tale told at a good clip, enlivened by Wood's feel for how great events play out in individual lives.

"You want to have a sense of what's happening in the big world and the story of the rulers – the grand narrative – but then you also want to understand the people who are working to sustain the civilisation and grass roots, and those who are reflecting on it; to try to suggest the simultaneity of all that," he says.

What's so striking in *The Story of China* is the continuity across millennia; the way in which the 'mandate of heaven', the concept of a just ruler holding legitimacy on celestial sanction, has influenced modern political thought. It first appeared in the Zhou dynasty 3,000 years ago and, in different form, still influences the actions of China's curiously hybrid communist-capitalist ruling elite.

"The idea of a centralised, bureaucratic autocracy is deep in the character of the civilisation," adds Wood. "And when you read writers who are responding to the first decade-and-a-half of Maoism after 1949, many great sinologists are saying, 'It's eerie how it has replicated the things that we study in the Ming dynasty and the Qing dynasty'."

But centralisation – and technological innovation – drove the country's astounding economic growth in centuries past. Today, China is the world's second-largest economy but, as Wood notes, as early as the Song dynasty the Chinese had developed water-powered spinning machines, coke-fired blast furnaces and the steel smelting process. Yet it is puzzling why, if China was ahead of the west in wealth and population until the 18th century, Britain and Europe then took the lead.

"Some historians see coal as the big agent when in the hands of the military-industrial complex, especially when steam ships arrive. The British dominated by their naval power. Qing China was a land power, and only in recent years under President Xi has China woken up to early 19th-century warnings about the need to control 'the Southern Ocean', what we now call the South China Sea", he explains.

"The rise of the new China", as Wood puts it, began with Deng Xiaoping's 'reform and opening up' policy in 1979. Wood calls this introduction of a socialist market economy "a crucial, crucial moment in world history". He recalls a conversation with J. Stapleton Roy, a former US ambassador to China, in which Roy argued that Deng might be the greatest leader in modern world history.

"Of course, his reputation was clouded by 1989 and the Tiananmen Square protests," Wood says. "Had [Deng] retired as he'd wished to do in 1985, his reputation probably would be as the leader who did most to advance the condition of his people."

Now, he says, the climate crisis is the advancement that counts. "They've got a fifth of the population of the world but only a tiny percentage of their land is actually arable: roughly 12 per cent. That's why we have to take President Xi seriously when he talks about an ecological civilisation."

At a time when the strength of the Chinese economy and the global pandemic that started there have stirred western fear, Wood argues for friendship and connection.

"We live on a small planet; we've got so little time left," he says. "People in China are very upset about the rise of anti-Chinese feeling around the world with the coronavirus. They're proud of their culture, they love their civilisation, of course, and they want to have dialogue."

Wood's admirable book is a fine way for any reader to open the conversation with Chinese history and culture, and to better understand the richness of this extraordinary civilisation.

The Story of China: *A Portrait of a Civilisation and its People by Michael Wood is published by Simon & Schuster.*

INVENTIVE MINDS HIDDEN FROM VIEW

The inventors Alexander Graham Bell and Thomas Edison are household names, but they were inspired by relative unknowns. Ainissa Ramirez talks to Malcolm Borthwick about the outsiders who helped shape history

Ainissa Ramirez was an inquisitive youngster. She wanted to know why the sky was blue and why leaves changed colour. However, her dream of becoming a scientist was nearly blown off course years later as she sat in a lecture hall with tears welling in her eyes, her awe crushed by a series of boring and lifeless lectures. Fortunately, Professor LB Freund at Brown University, Rhode Island, reignited her interest.

"He said that everything we know is a result of the interaction of atoms, and if you can understand how atoms interact, you can do new things," recalls Ramirez. Her wonder was rekindled. "His comments put me on the path to becoming a materials scientist."

Materials science is often overshadowed by its noisy neighbours, physics and chemistry. "You think about atoms, that's what chemists do, and you think about properties, that's what physicists do, but if you think about how they interact with each other, that's where innovation takes place. The physicist will figure out how to make things, or they'll figure out the theory, but the people who make it actually happen are the materials scientists."

In her book, *The Alchemy of Us: How Humans and Matter Transformed One Another*, Ramirez explores the genesis of inventions such as photographic film, steel rails, light bulbs and silicon chips, and looks at how these materials shaped society.

There are plenty of well-known inventors in her book. Among them are Thomas Edison, who gave us the light bulb, George Eastman, founder of The Eastman Kodak Company, and Sir Henry Bessemer, whose steel-making process transformed transportation in the 19th century. But what's more fascinating are the unsung heroes behind these inventions. Ramirez describes them as "the outsiders. They're not inventors. What's intriguing is that they created industries without ever setting out to do so."

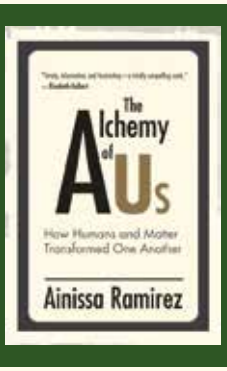
In the rest of the interview, she picks out her top four outsiders and explains why she finds these individuals so fascinating. The first is William Wallace. He grew up in Manchester and, in 1832, aged seven, moved to America with his family. "I love the story about Wallace. Not only was he an outsider, he really wanted to be the tinkerer inventor," says Ramirez. "He made a laboratory in his Victorian house and spent all his time there." The lab contained microscopes, telescopes and a static electricity machine, and rivalled the best physics departments in the land.

His inventions attracted the interest of Edison. "When Edison came to visit Wallace, a thickly bearded man of few words, he was enamoured by his arc lamp, an early form of electric light. At the time, Edison wasn't thinking about electric lights, but when they met, he saw it as a possibility. So Wallace, in many ways, inspired Edison to invent the light bulb."

A similar tale attaches to George Coy. On 27 April 1877, hundreds of people turned up to watch Alexander Graham Bell present a 'telephone concert' at the Skiff Opera House in New Haven, Connecticut. George Coy, a disabled Civil War veteran with a walrus moustache, was one of them. Ramirez sets the scene: "Bell talked about how the telephone was going to be great, it's going to go directly to people's homes, but he couldn't figure out how to link people together. And Coy is sitting in the audience thinking I can work on this. I'm going to make a switchboard. Coy is the one who came up with the idea." Immediately after the lecture, Coy approached Bell with his idea. Bell later granted him the right to form the world's first telephone exchange and that was the birth of the telephone system.

Bessie Littleton was another unsung hero. Raised on a remote Mississippi plantation, she moved to New York when her husband Jesse took a job at Corning Glass Works, one of the first US glass companies to use the element boron, which can withstand fast temperature changes. One summer's day in 1913, while entertaining some of her husband's colleagues, she explained that her earthenware casserole dish had broken the last time she used it, and she challenged them to make a new glass dish that wouldn't break in the oven. "The next day Bessie's husband brings home a sawn-off glass battery jar and she bakes a cake in it. He takes it to work and everybody says this is a fantastic cake. He mentions it was cooked in glass, and you can imagine everybody just dropping food out of their mouth." Bessie tried out other foods and Corning's confidence grew. The first commercial sample was a pie plate, so they called it 'Py-right', which was renamed Pyrex in 1915. Bessie's suggestion and experimentation led to a multi-million-dollar brand which endures today.

Ramirez rounds off her quartet with the tale of Hannibal Goodwin, which has a less happy ending. A New Jersey preacher in the 1880s, his other passion was the chemistry workshop in his attic. Goodwin wanted to illustrate Bible stories for his Sunday school classes. "After an appeal, he got a donation from his congregation for a magic lantern, which was the projector of its time," says Ramirez. "The children helped him with the lantern but would often break the glass slides. After nearly 10 years of experimentation, he created plastic camera film." Goodwin started a correspondence with Eastman that ended in a protracted patent battle. "Goodwin won, but never saw his money or achieved his rightful recognition," she concludes.



The Alchemy of Us: *How Humans and Matter Transformed One Another by Ainissa Ramirez is published by The MIT Press.*

MAKING SENSE OF NEUROSCIENCE

Renowned neuroscientist and best-selling author David Eagleman brings clarity and relevance to a complex subject as he discusses his latest book with Julia Angeles

Few people understand their subject better than David Eagleman, the neuroscientist, who has built a strong following thanks to his opening up of a complex topic to non-specialists. Now Eagleman, who teaches brain plasticity at Stanford University, has used his latest book to burnish his reputation for clarity in explaining complex ideas.

Livewired: The Inside Story of the Ever-Changing Brain, Eagleman's eighth book, brings to life his views on adaptability and his thoughts on a range of topics from synaesthesia to wearable devices. In addition to his academic work, Eagleman is co-founder of Neosensory, a company which creates aids such as wristbands that enable deaf people to feel sounds. That leaves him ideally placed to offer insights into all aspects of neuroscience and its applications to daily life.

"I find everything about the brain endlessly fascinating, which is why I've devoted my career to that," he explains at the start of an absorbing session for Baillie Gifford staff held over Zoom and hosted by Julia Angeles. "The first principle that I outlined in the book is that there's something very stunning about the brain, which is that it operates nothing like the way we build our modern computers."

Eagleman illustrates this assertion with the example of a child from his home town who suffered from epilepsy and had to have half his brain removed. Yet, he explains, despite the severity of the situation, the child may have been left with a slight limp but cognitively will be unaffected as the remainder of the brain takes over the functions of the parts that have been removed.

That ability of the brain to compensate for lost capacity by generating new neural connections is a major theme of the book. The extent to which it happens can vary according to the age of the person and the gravity of the injury.

Eagleman offers insights into the results of many years of research into how the brain functions and adds his own findings. What makes his views so engaging is the accessible style he uses to make a complex subject suitable for the layman. One example of his ability to open up the darker recesses of neuroscience to the less scientifically savvy, is a comparison he makes with historic explorers.

“In the book I use, as an example, the waxing and waning of the French grip on the New World,” he says. “It had everything to do with how many ships were being sent over. So, in the face of fierce competition from the British and the Spanish and so on, when the French were sending more ships, they took over more territory. When they had fewer ships, their territory shrank, and eventually they had to give it up altogether.

“And it turns out the same story plays out constantly in the brain. When a part of the body no longer sends data to the brain, it loses territory. So, for example, when somebody loses an arm in an accident, the maps of the body change based on how many ships are coming in from different parts of the body,” he adds. “And, when you look at something like blind mice, if you do brain imaging and look at where activities are happening, you’ll find that the area of the brain that we normally think of as the visual system gets taken over by hearing and by touch. So, in a blind person, that area of the brain is no longer the visual cortex, it just gets taken over because the ships carrying visual data have stopped arriving and so the coveted territory is taken over by the competing kingdoms of sensory information.”

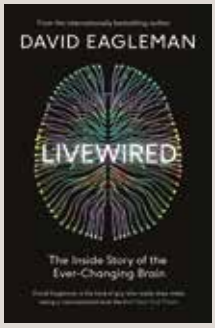
In addition to his views on long-established areas of research, he uses the book to exhibit his expertise in synesthesia – a perceptual phenomenon in which people report using an alternative sense, such as hearing music as colours. He also talks about dreams, wearable devices and unconscious behaviour.

On this latter subject, he explains the intriguing findings of a study in simple terms, saying, “If you’re holding a warm cup of coffee, you will describe your relationship with your mother as closer than if you’re holding an ice coffee.”

And he illustrates why he finds his subject so enthralling by recounting a story that is surprising but, on reflection, resonates.

“You can go through the marriage registries in any country, and you find that people who have the same first letter of their first name tend to marry each other – Joe and Jenny or Alex and Amy or Donald and Daisy. This is a terrible reason to marry somebody, but the reason people do it is what’s called implicit egotism, which is that we like things that remind us of ourselves,” he explains.

As with everything else in an hour listening to David Eagleman, it’s thought-provoking, fascinating and, of course, entertaining.



Livewired:
The Inside Story of the Ever-Changing Brain by David Eagleman is published by Canongate Books.

THIS TIME JOBS ARE ON THE LINE

Historically, fears over jobs being lost to technological advances have been unfounded. Daniel Susskind explains to Iain Campbell why he believes this time is different

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For centuries, disruption – from railways to the internet – has created anguish among the incumbents who have feared for the future of their jobs. Their concerns have generally been unfounded. Indeed, such developments have often heralded better prospects for many of those who had worried most. This has vindicated observers who insist that progress brings opportunity. Many are equally dismissive of the dangers of the current situation, believing that artificial intelligence (AI) is simply a further evolution. Daniel Susskind is not one of them.

In his latest book, *A World Without Work*, Susskind sets out the reasons for his stance, showing why he believes that this time is different and many industries are at risk. He argues that machines are now capable of carrying out tasks in areas such as healthcare and law that previously required some human input. While that outlook may sound gloomy, Susskind – a Fellow in economics at Balliol College, Oxford – insists that it need not be the case. Better technology may damage jobs but it can mean greater prosperity. The challenge, he believes, is working to ensure a fair distribution of the wealth.

Introducing the concepts explored in his book, Susskind says, "Every day, we hear stories of systems and machines taking on tasks we thought only human beings could ever do – making a medical diagnosis, driving a car, drafting a legal contract, designing beautiful buildings.

"I should say that I think the starting point has to be that really ever since modern economic growth began, people have worried about the threat of automation leading to mass unemployment, and they've turned out to be wrong. Time and again, despite remarkable technological advances, there has been enough work for people to do."

He adds, "You have to ask why this time is different. The general argument that I'm trying to make is just that these systems and machines are becoming increasingly capable. They're taking on tasks we thought only human beings could ever do.

"The deeper reason though is that when you look at the various economic forces that might have helped workers over the last few hundred years, I worry that there are reasons to think that those economic forces are weakening because of this process of what I call task encroachment."

He then suggests that we are not taking a serious enough approach to addressing the threats inherent in the technological changes that are occurring. That was one of his reasons for writing the book. However, he insists that change will be gradual.

"It's worth saying that anyone who picks up the book expecting an account of some dramatic technological Big Bang in the next few years is going to be disappointed. I don't think there's going to be some moment after which everyone wakes up and finds themselves without a job," he states.

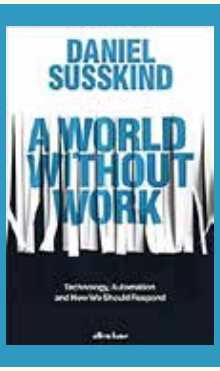
Nevertheless, he believes that the next iteration of change to our lives will present three particularly tough challenges. The book seeks to investigate those challenges and how we should address them. The first issue, he believes, revolves around the economy, specifically unequal wealth distribution.

"For most people, their job is the main source, if not their only source, of income. The vast inequalities we already see in the working world, where some people receive far more for their efforts than others, show that this approach is already creaking," he suggests. "Technological unemployment is just, in my view, a more extreme version of that same story, but one that ends with some people receiving nothing at all. So, for me, the great economic challenge is the distributional challenge. How do we share our prosperity in society when we can't rely upon the traditional mechanism that we might have relied upon, namely the world of work?"

The additional concerns relate to other aspects of life, the first being the expanding political power of technology companies – a development that has replaced fears over economic power and the influence of corporations over profits, pricing and market concentration.

The other challenge relates to meaning and purpose. Work is not only a source of income, it's also a source of direction and fulfilment. Susskind says AI might not only hollow out the labour markets but, more worryingly, it might also hollow out the sense of meaning and purpose that many people have in their lives.

"Each of these is going to demand a response from us, and my book is about what we ought to do in response to each of those challenges," he says. "But it's important to note that the book is fundamentally an optimistic one, and I hope it reads that way. There is a strain of optimism running through it. The reason is quite simple – that in the 21st century, technological progress is likely to solve the fundamental economic problem that has dominated humanity until now."



A World Without Work: *Technology, Automation and How We Should Respond by Daniel Susskind is published by Penguin.*

LIVE LONG AND PROSPER

Longer lifespans mean we need to prepare for greater as well as more leisure. Andrew J Scott and Lynda Gratton tell Erica Wagner the importance of getting ready for the long road ahead

"We are living through a period of profound change that will impact everyone," write Professors Andrew J Scott and Lynda Gratton in *The New Long Life: A Framework for Flourishing in a Changing World*, a blueprint for the age of 'staggering medical improvements', AI and other fruits of human ingenuity.

The duo's latest investigation of what longer lifespans mean for us, our families and our careers follows The 100 Year Life (2016). That book considered the structure of elongated lives. This new one looks at quality, and requires us to challenge what the authors call the "school-work-retire" narrative.

Profound change is topical in the age of coronavirus. Though the book was completed before the crisis, the authors feel their argument is strengthened by the behaviours that the pandemic has revealed.

"We had seen that there were deep-seated changes happening," Gratton says about the book's inspiration. "We looked at two things: technology and ageing. Looking at an ageing population led us to a set of assumptions about the changing world, which hold up well under Covid-19."

The duo's collaboration began at the London Business School (LBS). With a background in psychology, Gratton is a professor of management practice and directs the course titled, 'Human resource strategy in transforming companies'. Scott is professor of economics and consulting scholar at Stanford University's Center on Longevity. He is co-founder of the Longevity Forum and a member of the advisory board of the Office for Budget Responsibility. On an LBS trip to Asia a few years ago, they realised they were looking at similar issues in different ways.

"I'm a macroeconomist," Scott says. "I tend to do big-picture: how the system fits together and how that comes down to what the individual should do. Lynda, of course, tends to look at things from the individual and how they go outwards."

The book's subtitle, A Framework for Flourishing in a Changing World, can be summarised in three words: narrate, explore, relate. It means navigating our life stories; exploring and continuing to learn; thinking about our relationships and what they mean to us.

Scott and Gratton stress the importance of individual resilience – especially vital when life expectancy has vastly increased. In 1908, when the UK state pension was introduced, median life expectancy was 45. Now a person aged 65 can expect to live another 20 years.

Gratton says: "In terms of 'narrate', we said, 'explore your possible selves'. People are going to think a great deal more about their life course, the sort of decisions they make about themselves."

In the case of 'relate' she cites how the coronavirus has "reconnected us to our families and communities and helped us realise how much we took societal bonds for granted.

"And then finally, we talk about 'explore' – the whole learning agenda."

Education is a key theme on the basis that lifelong learning will enable us not only to adapt to the technologies of a changing world, but to continue to be inspired by that world. The way we have all moved to new ways of working during the pandemic shows how change is possible. Education, she says, enables people "to re-form their identity, to connect to each other, to form networks. We think that's going to be a very important part of adult learning."

"Social ingenuity" is Scott and Gratton's key term. We're all going to have to work hard to break social and political habits that used to serve us well. Covid-19 is only an accelerant of changes already underway. The three-stage life no longer holds up.

As Scott says: "Stage two is earning money for stage three. We have a whole pension industry and investors thinking about a pension pot. What we're saying is that now there's a multi-stage life. We're saying 'your portfolio [contains] a lot more than just money. You've got your health, you've got your skills, you've got your relationships, the community, your family, and money. And in this multi-stage life, you're going to think differently about them'." There is much to consider here for the investment and pensions industries, challenged by the changing practicalities – not much explored in the book – of filling those pots for their clients.

Both authors stress that planning for "the new long life" means imagining the lives we wish to live: in other words what really matters to us. That concerns our finances, certainly, but much more than that. "The danger of sticking to the three-stage life is that we arrange our lives to support our finances" Scott says, noting the absurdity. "We need to arrange our finances to support the life we want."

The New Long Life: A Framework for Flourishing in a Changing World by Andrew J Scott and Lynda Gratton is published by Bloomsbury.

CURIOUS ABOUT THE WORLD

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