

Don't panic. Yet.

Climate change – the scale of the problem and the possible solutions

GABRIELLE WALKER

Bill McKibben

FALTER

Has the human game begun to play itself out?
304pp. Wildfire. £20.
978 1 4722 6650 7

Nathaniel Rich

LOSING THE EARTH

The decade we could have stopped climate change
256pp. Picador. £14.99.
978 1 5290 1582 9

Bruno Latour

DOWN TO EARTH

Politics in the new climatic regime
Translated by Catherine Porter
140pp. Polity. £12.99.
978 1 5095 3057 1



Great Abaco Island, Bahamas, after Hurricane Dorian, September 4

A few weeks ago I opened an email from the *Atlantic* containing its take on the latest news. It read: “A new report from the UN-led Intergovernmental Panel on Climate Change – wait, don’t go away panicking just yet – is out today”. *Has it come to this?* I wondered – and yet I could see their point. The report contained horrifying news about the impact we humans are having on arable land. It followed the devastating recent UN report on species loss, and the one before about how unlikely we are to stick to the climate safety limit that is supposed to be our target. And then there is the almost daily backdrop of the very unnatural disasters that are already upon us. When I started working on climate change more than two decades ago, images were hard to find of the fires, floods and droughts that the world’s scientists were warning us about. Now it’s hard to choose between them. Then, we had a few trees listing slightly to show that patches of the Siberian permafrost were melting. Now, as I write, Siberia is on fire, the cloud of smoke pouring from the conflagration expanding to the size of Europe.

But wait, don’t go away panicking just yet. I do believe there is still a lot to play for. Though facts like these don’t solve the problem, we have a lot to learn from past mistakes in the battle against climate change. Some of the reasons we are in this mess come down to the egregious actions of a handful of players. But others reflect our past inability to forge the kind of alliances across traditional divides that can mobilize mass human creativity. And we can definitely learn from that.

In *Falter: Has the human game begun to play itself out?*, the author and long-time climate activist Bill McKibben identifies three specific threats to humanity: climate change, bioengineering and artificial intelligence. I heartily recommend his analysis of all three. His points about the implications of tampering with the human germ line, and his images of a planet filled with nothing but paper clips

thanks to rogue AI, have haunted me for weeks. But it’s to the part on climate change that I turn here. McKibben again identifies three grave threats, this time to the environment, threats “so large in quantity that they become different in quality, their effects so far-reaching that we can’t be confident of surviving them with our civilizations ... intact”. The first is the destruction of the ozone layer, which has thankfully been all but solved; the second is the threat of nuclear war, which is still shadowing us, with recently renewed vigour. The third is the most disturbing of all: the effects of a rapidly heating planet.

McKibben avoids the trap of battering us with lists of terrifying facts that leave us reeling and unable to take them in. He has a charming writing style – inclusive, funny, intelligent and lucid. And he is a delightful companion on the journey – so delightful in fact that the terrifying nuggets are slipped in like a stiletto knife, in and out before you even notice. He accomplishes this in part with information that is quirkily distinctive. McKibben tells us, for example, that the heat we have been putting into the atmosphere to create this crisis is the equivalent of four Hiroshima bombs every second. And that Hurricane Harvey dumped so much rain on Houston that the entire city actually sank by a couple of centimetres.

He also personalizes and humanizes the raw facts with moving details. There is the devas-

tating fire in Kansas that left a few cattle still alive, stumbling like broken toys with their plastic identification tags melted to their ears, and the sixty-nine-year-old rancher walking among them who felt compelled to apologize to these gentle creatures before he shot them. And there are the two dozen people in Attica, Greece, who couldn’t flee the raging fire fast enough to reach the safety of the sea; and so they formed a circle and embraced one another as they died.

The effects on our own food system, the availability of water, the ways in which it could get so much worse – it’s all here, in one of the most articulate and compelling descriptions of our changing climate that I have yet read. But many books have set out the terrifying reality of climate change, and yet we continue on the wrong path. If we are to fix this, we first need to understand how we get to this point.

This is where Nathaniel Rich comes in. In *Losing Earth: The decade we could have stopped climate change*, Rich traces the global warming story throughout the 1980s, showing how much we knew even then about the perils of a warming planet – and how close we came to meaningful action. His tale is vividly told, through the eyes of many fascinating characters, and it is packed with valuable reminders of the chances we missed. (One gripe is that the book suffers from a lack of notes and references; McKibben’s, by contrast, is meticulously refer-

enced.) In the wildly polarized world of today, it is easy to forget that it was George H. W. Bush who said, in 1988, that “those who think we are powerless to do anything about the greenhouse effect are forgetting about the White House effect”. Efforts to tackle climate change were once bi-partisan. So what went wrong?

Rich’s first finger of blame points to the innate suspicion we tend to have of apocalyptic pronouncements, something exacerbated by the tendency of scientists to over-qualify their statements, and of policymakers to demand certainty where none can exist. The author memorably describes what happened when a group of “policy gurus, deep thinkers, an industry scientist and an environmental activist” met to draft proposals for new climate legislation. The first hurdle was the opening paragraph. Was it fair to say that climate changes were “likely to occur”? “Will occur”, said one. “Highly likely to occur”, offered another. “Almost sure.” “Almost surely.” “Changes as yet of a little understood nature.” “Highly or extremely likely to occur.”

In the end they didn’t even get to the second paragraph.

Rich lays more blame on the members of the National Academy of Sciences who were, in 1979, charged by Jimmy Carter with preparing a comprehensive \$1 million analysis of the carbon dioxide problem. Four years later, Rich tartly tells us, the commission announced its

results in “the only setting commensurate with its self-regard: a formal gala”. Though the report urged action, the grandees presenting it were more circumspect. They talked about “caution, not panic”, and advised that, though serious, the problem would be manageable over the next century or so. It was important not to be “unnecessarily alarmist”. The *Washington Post* later described these statements as “clarion calls to inaction”.

Next up for opprobrium come the politicians who, the author argues, tend to approach major problems by “muddling through” with “half measures”. This was partly because there were no obvious answers. Rich quotes one Republican Party staffer in 1985 agreeing that the greenhouse effect was an existential problem: “the fate of civilization depended on it, the oceans would boil, all of that. But it wasn’t a *political problem* ... Political problems had solutions and climate change had none”.

And, of course, the “White House effect” that Bush had boasted about fizzled into nothing. Rich lays much of the blame for this in the hands of John Sununu, Bush’s chief of staff, who, in Rich’s telling, was innately suspicious of apocalyptic predictions demanding big government actions, and became a major stumbling block in the climate fight. The climax of *Losing the Earth* is a description of the Noordwijk conference on climate change in November 1989 at which the US delegation, at Sununu’s behest, nixed any chance of a global political agreement on freezing emissions.

But the story did not end there. Although Rich’s book identifies the 1980s as the decade we could have stopped climate change, there were plenty of missed opportunities in the 90s, too, some of which he crams into an afterword. Chief among these was the rise of the climate denialists, contrarian scientists funded by vested interests in business and politics with the aim of confusing and distracting the public. McKibben has much more detail about this, and reading it takes a strong stomach. (I would also recommend the excellent analysis in Naomi Oreskes’s *The Merchants of Doubt*, 2010.) He lays the ultimate blame on the pernicious philosophy, originally spread by the novelist Ayn Rand, that “government is bad, and people need to be freed from its clutches”. McKibben makes a convincing case for the pervasiveness of this philosophy in the US corridors of power, and for its effect on the US government and powerful corporations in preventing action on climate change. It certainly hasn’t helped that most solutions to the crisis *require* collaboration, government interventions, global agreements and human solidarity, and that much of this is anathema to the conservative values of self-reliance and small government. But he goes further, attributing the US’s shameful abdication of leadership on climate change to the specific influence of a small number of very powerful Rand disciples exerting what he calls “leverage on top of leverage”.

This point also chimes with the central thesis of Bruno Latour’s book, *Down to Earth*. In prose that contrasts most unfavourably with McKibben’s light touch, Latour laboriously attempts to link four recent “historic” events: Brexit, the election of Donald Trump, the rise and effect of migrations, and the 2016 Paris Agreement on climate change. Latour argues that these arose in part because a small number of “obscurantist elites”, believing that they don’t inhabit the same world as the rest, are seeking to insulate themselves. Hence obses-

sive deregulation, climate denialism and the dizzying rise in inequality.

Latour acknowledges that this sounds like a wild conspiracy theory. But he says it arises because of the legitimate fear that we are all now feeling: “The sense of vertigo, almost of panic that ... the ground is giving way beneath everyone’s feet at once, as if we all felt attacked everywhere, in our habits and in our possessions”. Our response the world over, he says, has been to retrench. And those shadowy elites, with their outsized resources, are the ones to retrench most. They have been the driving force behind the nationalistic populisms of Brexit and Trump. They are afraid of migrants, they have added up how many planets it would take to allow everyone their lifestyles, and they have decided that they need to grab their own unfair share of Earth, Rand style, and abandon everyone else. Latour even, memorably, casts Donald Trump’s decision to pull out of the Paris Agreement as a “declaration of war, authorizing the occupation of all the other countries, if not with troops, at least with CO₂, which America retains the right to emit”. And to justify this, he says, the elites have fostered a climate of uncertainty and denial of the obvious facts of climate change. “When the time comes to judge ... this is a crime for which there is no atoning.”

But as Rich points out, denialism has not simply been a case of the “moustache twirling depravity” of the vested interest campaigns. There has also been “gaslighting by omission”: moderators of presidential debates who don’t ask the questions, newspaper editors who don’t run the stories, school boards who don’t want to be seen as too political – and all of us who see and don’t say, or who run away panicking with our hands over our ears.

So what, then, should we do? Though Latour says that “it is not the aim of this essay to disappoint”, I confess myself disappointed with his rather vague answer to this question: “attaching oneself to the soil on the one hand, becoming attached to the world on the other”. McKibben’s solutions are more concrete. First, he highlights the immense power of non-violent campaigning, which he calls one of the greatest inventions of the twentieth century. Indeed, McKibben’s own organization, 350.org, has been hugely successful in this regard. And the divest/invest campaign that it spearheaded is one of the reasons that the investment world is now taking climate risk so seriously. The striking success of Extinction Rebellion is another case. Less than a year old, this movement has galvanized citizens; with beautifully judged campaigns full of artistry and humour, it has brought the urgency of the climate crisis back onto the political agenda in the UK, inspired related groups to spring up around the world, and given agency to the many real people who before felt utterly helpless. And then there are the school climate strikes led by Greta Thunberg, who has become an icon for our times. “These new ideas will continue to flourish”, says McKibben, “because they draw on precisely what is most human about us: creativity, wit, passion, spirit.”

McKibben’s other favourite solution is the solar panel – and its cousins the wind turbine and the lithium-ion battery. Indeed, renewable energy is a vital part of the answer, though it only applies to electricity, and there’s a lot

more to the climate problem than that. Rich’s list of solutions is more comprehensive. It includes “carbon taxes, renewable energy investment, expansion of nuclear energy, reforestation, improved agricultural techniques and ... machines capable of sucking carbon out of the atmosphere”.

To these I would add a few others: energy efficiency; hydrogen for heating, transportation and energy storage; widespread electrification; carbon capture and storage; redesigned business models to incorporate the circular economy; and science-based targets for businesses. I would also include strengthening, refreshing or replacing our moribund international institutions and mandating investors to redirect capital flow towards zero-carbon bodies. The exciting thing is that we have all of these things ready to go, and indeed many of them are already underway. But to accelerate them with the urgency the crisis requires, those of us who wish to save our planet need an awful lot of allies. And many, perhaps most, of these solutions will have to be delivered by businesses.

I am an unusual person to be defending business. I have never worked for a major corporation, though lately I have worked with many of them. And around ten years ago, when I started delivering business keynotes on climate change, it did not begin well. One of the first was to a room of oil and gas executives, who watched me in stony silence as I set out the climate case, and who then clapped and stamped when the person following me said, “I agree with Gabrielle that we *should* act, but I don’t believe that we *will*”. After one man (and they were almost all men) told me that I was “too young to know better”, and others sidled up to me in the corridors afterwards, nervously whispering that I was “on the right side of the aisle”, I returned home to London and took up boxing.

Times have changed. Many of those people who sidled up to me in the corridors have since become emboldened, as have the influencers in companies who have spent decades trying to be heard. And as I met and worked with more and more business leaders, I began to realize that they had the potential leverage I was looking for. Unlike politicians, their purview crosses national boundaries. With command-and-control management structures, they can make things happen quickly. They have, in some cases, billions of customers, not to mention all their suppliers. And many of those are staffed with people at the top ready to make decisions based on evidence rather than popularity, and who genuinely want to do the right thing. Since then I have worked with – and continue to work with – businesses in every sector of the economy, including oil and gas companies, trying to figure out how to use their leverage to put a rocket under the deployment of all of the above climate solutions. This is not a popular view among many people on the traditional left who view businesses with suspicion. And I understand that. But I believe that we cannot afford to let action on climate change belong exclusively to any one group.

McKibben himself cautions against this: “There is a tendency on the left to attribute all this – the inequality, the sanctioned greed, the environmental destruction – to ‘capitalism’”. But he also points out that, for example, Sweden is a recognizably capitalist country with a strong and effective commitment to equality and environmental responsibility. And he describes how he and his wife visited

the Soviet Union in its latter days and saw for themselves how its decidedly non-capitalist system neither protected the environment nor addressed inequality. Latour makes a similar point. “The Green parties remain rump parties everywhere”, he says. “They never quite know what foot to put forward ... People continue to oppose economics to ecology, the demands of development to those of nature, questions of social justice to the activities of the living world.”

Instead of this, he says,

There must be a way to shake up this row of toy soldiers – first the far left, then the left, the centre, the right, and finally the far right ...

Allies have to be sought among people who, according to the old gradation, were clearly “reactionaries”. And of course, alliances will have to be forged with people who, again according to the old reference points, were clearly “progressives” and perhaps “liberals” or even “neoliberals”.

Here are some examples of what this looks like when it works: Firstly, the Paris Agreement. This accord, which seemed functionally impossible, was achieved through many parallel strands, notably the relentless optimism of Christiana Figueres, then executive secretary of the UN’s Framework Convention on Climate Change, the tireless work of armies of negotiators behind the scenes, and the brilliant diplomacy exercised by the French hosts. (When discussions faltered, they sent in teams of so-called climate “musketeers”, tasked with consulting on the thorniest issues.) But the most striking part was the role of what came to be known as “non state actors”. Throughout the Paris negotiations, an alliance of NGOs, union leaders and – yes – business CEOs took to the stage collectively to announce their own climate-friendly measures and to pile the pressure onto politicians. These leaders helped to force through the accord not just by their individual actions but by the way they showed unity.

Secondly, there is an obscure change to the arcane US tax code. I’ve been playing a game recently, asking my friends in the climate movement what it would take to get the current administration in Washington to give a tax break of \$50 per tonne for reducing CO₂ emissions. They usually say it’s impossible, but it’s a trick question. In 2018, the US Congress (House and Senate) passed a bipartisan bill to do just that. It was ten years in the making, and succeeded only because a wide coalition, from NGOs to oil and gas companies, lobbied for it together, arm in arm, and everyone was allowed to have their own reasons for doing so – without being allowed to shout down anyone else’s. To conservatives it was a business subsidy; to liberals it was a climate strategy. Everybody won.

Thirdly, many changes of heart are emerging as the realities of climate change hit home. Among the most recent of these is the US pollster Frank Luntz, who in the 1990s infamously advised Republicans how to cast doubt on climate science. After being forced to flee a Californian wildfire threatening his home and family, Luntz is now convinced that climate change is real. This is the kind of reckoning that ever more deniers will doubtless be forced to face. At a recent Senate testimony, Luntz stated: “We’ve had irreconcilable differences in the past, but both parties have proven that they can – and will – put aside fundamental differences when the survival of the country is at stake”.

And yet political unity is something that environmental movements continue to struggle with. For example, even though Extinction Rebellion is famously inclusive, a short-lived businesses arm called “XR Business” was hastily rebranded and removed from the fold in April after an outcry from a coterie of the movement’s members.

At one point in his book, following a description of the successful action taken to close the ozone hole back in the 1980s, Rich describes a resurgence of collectivism and optimism around the climate issue. At a dinner party in the middle of a conference in Washington, DC called “Preparing for climate change”, he describes how “the oil and gas men joked with the environmentalists, the trade group representatives chanted up the regulators and the academics got merrily drunk ... It all seemed like the start of a grand bargain, a virtuous realignment – a solution”. *Losing the Earth* serves as a salient reminder that the polarization we have become accustomed to was not always thus, and it gives me hope that we can resuscitate that grand bargain, that virtuous realignment, now that all the actual solutions are there to be had.

I don’t want to be naive about this. We still need to remove the very real and influential blockers who continue to fight on the wrong side of history, some of whom sit in board rooms as well as cabinet offices. I am also aware that we will need every influencer, every business leader, every investor, every campaigner and every on-the-ground problem-solver we can get to make the solutions to climate change happen quickly enough, and on a big enough scale. (Big companies are packed with on-the-ground problem solvers, many of whom are itching to get at this.)

If that’s too many shades of grey for you, then let’s get back to monochrome. Greta Thunberg has been criticized for making the issue too black-and-white. And indeed, I often worry about the polarizing effect that can come with lazy stereotyping. But there is nothing lazy about Thunberg’s pronouncements. “We need to focus every inch of our being on climate change,” she says, “because if we fail do so then all our achievements and progress have been for nothing.” And then she adds, with devastating clarity: “Solving the climate crisis is the greatest and most complex challenge that *Homo sapiens* has ever faced. The main solution, however, is so simple even a small child can understand it. We have to stop our emissions of greenhouse gases.” This is a sentence that should be taped to every wall and shone in great LED lights from every billboard.

“We are messy creatures”, writes McKibben. “Often selfish, prone to short-sightedness, susceptible to greed ... You could argue that our disappearance would be no great loss.” “And yet”, he adds, “most of us, most of the time, are pretty wonderful: funny, kind.” Yes, we humans are all that. Few people, in my experience, wake up in the morning thinking, “what can I destroy today?” – in spite of the apparent evidence to the contrary. I still think humans are worth saving. And I also think that the missing piece now is to build more bridges, to reach across more divides, to march arm-in-arm more frequently into the corridors of political power, harnessing our collective human creativity to get those problem-solvers sitting around the tables to accelerate the deployment of the solutions that are already with us, and to fix this thing before it really is too late.

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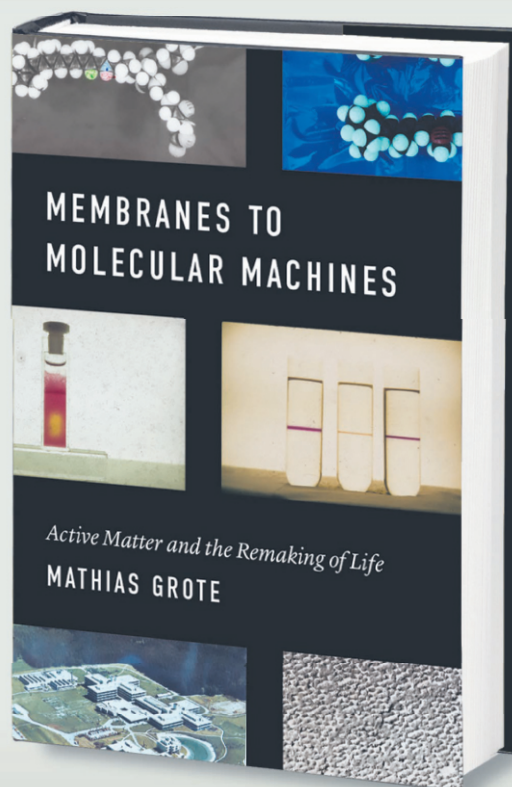
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