

t is 50 years since Rachel Carson's landmark book *Silent Spring* appeared – the first major wake-up call for environmental action on a global scale. Since then, awareness of humanity's negative effect on the environment has been regularly raised. There have been 18 international summits, the International Panel on Climate Change has published five reports, and the Club of Rome has generated enough publications to fill a library, yet no substantial coordinated action has been taken to rein in the headlong gallop toward planetary disaster.

It is also just 50 years since the first Chinese atomic bomb was detonated, marking the beginning of nuclear proliferation. Some progress was made in 1970 when the Nuclear Non-proliferation Treaty was signed, and the USA and USSR began to scale back their nuclear arsenals. However, since then, the number of states with nuclear weapons has continued to expand, increasing the likelihood of nuclear war, whether by design or accident.

One way or another, then, the prospects for the future of humankind look pretty bleak. It seems appropriate, therefore, to review just a few recent publications touching on these issues.

#### 10 Billion

Stephen Emmott takes as the starting point for his book the fact that by 2050 the Earth will be supporting a population of about 10 billion, maybe more. He then explores the implications: 'As our numbers continue to grow, we continue to increase our need for far more water, far more food, far more land, far more transport and far more energy.' He then leads us through the consequences of this in pressure on land and water resources, species extinction, loss of forest, etc, with some interesting facts: 'It takes around 3,000 litres of water to produce a burger.' He moves on to our addiction to fossil fuels. Contrary to popular belief, there is no immediate danger of our running out of them. The danger lies in our continuing to use them. One result is that climate change is accelerating. The global carbon cycle, on which the fragile and complex balance of the world's eco-systems depend, is being destroyed, and at an accelerating pace. Quite apart from the increase in extreme weather, this will lead to degradation of soils, depletion of water resources and widespread famine and disease. Emmott examines two possible ways out of our predicament: technology and radical behavioural change. In his view, none of the main technical solutions is feasible.

Green energy, nuclear power, desalination, geo-engineering and a second green revolution are all either unfeasible or cures which are worse than the disease. Radical behavioural change would need radical government action, yet 'politicians are currently part of the problem, not part of the solution ... despite 20 years of pledges to tackle carbon emissions, we just keep on emitting more carbon'. The book is short and devastatingly simple. The charts are chilling: almost all show an exponential increase round about now, whether of rates of species extinction, ocean warming, growth of cars, floods in Asia, fires in America or global carbon emissions. By the way, Emmott is not some kind of eccentric: he is a professor of computational science and heads a Cambridge research lab.

#### The Burning Question

The Burning Question by Mike Berners-Lee and Duncan Clark offers a more detailed and nuanced take on the same issues. The foreword, by Bill McKibben, emphasises that two degrees is the maximum temperature increase the Earth can support, which means we can only safely burn another 565 gigatonnes of carbon. Yet there are 2,795 gigatonnes left in the ground! 'We have five times as much oil



and coal and gas ... as climate scientists think is safe to burn.' The rest of the book expands on this uncomfortable fact. In Part 1, The problem of abundance, it shows how carbon extraction is increasing exponentially, with no internationally agreed limitations in prospect. In Part 2, Squeezing the balloon, it shows how fuel economies get absorbed in the upward curve of consumption. Governments pursue contradictory policies of minimising the demand for fossil fuels while simultaneously maximising the supply. And this is exacerbated by the growth of population and of affluence. In Part 3, What's stopping us? it examines the reluctance of those owning carbon assets to write them off, the failure so far to implement carbon capture and storage,



and the problem of a continuing belief in growth at all costs. The great global slumber, is a key chapter. Awareness of the magnitude of the problem is still insufficient. And humans are good at refusing to think about the unthinkable, especially when there is massive sabotage by vested interests. Part 4, Not just fossil fuels, looks at other major sources of global warming, especially agriculture and deforestation. Part 5, What now? offers six possible strategies to counteract the crisis. But none of them is convincing, since all depend on everyone taking responsibility and acting. Unless we do, the book's cautious optimism that things might somehow turn out well is no more than whistling in the dark to keep our spirits up. It ends on a question: '... we could keep on as we are, ignoring or playing down the risks and putting responsibility for action elsewhere ... that would mean taking a monumental gamble with our children's future, and a species as intelligent as ours surely wouldn't do that. Would it?'

### Nuclear War and **Environmental** Catastrophe

The first half of this book consists of Noam Chomsky's interviews with Laray Polk on a range of issues, including the environment and nuclear weapons. Chomsky has long been a radical critic of the US government, so it is not surprising to find some trenchant views expressed here. Whether he is discussing the role of the US Chamber of Commerce in lobbying against environmental controls, or that of the President in condoning nuclear weapons development in some countries while condemning it in others, or that of the Pentagon in funding university research, he is unremittingly damning. In some ways, this weakens his case, since he sometimes comes across as carping and repetitive. This does not lessen the force of his argument, though.

The second half of the book comprises a number of documents relating to the issues in the first half. These include the top secret transcript of a telephone conversation between two ranking US officers in 1945, where a general is trying to cover up the radiation effects in Hiroshima and Nagasaki by ascribing them to thermal burns: 'they just got a good thermal burn, that's all.' Perhaps the most poignant document is a letter from a leader of the Marshall islanders affected by US nuclear testing. It reads: 'I realize now that your entire career is based on our illness. We are far more valuable to you than you are to us ... For me and the other people on Rongelap, it is life which matters most. For you it is facts and figures.'

As a postscript to the nuclear issue, you could do worse than read When the Wind Blows by Raymond Briggs. This cartoon-strip story of a naïve, gormless old couple attempting to continue their normal life in the aftermath of a nuclear strike is both very funny and utterly terrifying.



As teachers focusing exclusively on language, we may find ourselves trivially correcting Bush Junior's pronunciation of 'nukelar'. As educators, we are up against the power of denial, apathy and wilful distortion of the facts by powerful vested interests. Reactions range from 'Oh, not that again! How many more times do we have to do pollution?' to Scarlett O'Hara's

words in Gone with the Wind: 'I can't think about that right now. If I do, I'll go crazy. I'll think about that tomorrow' and 'I don't believe it. You can't prove it. Anyway, what can I do about it?'

I believe we should not short-change our students by pretending that things are other than the way they are. Remember the fate of the frog in Charles Handy's book The Age of Unreason: 'If you put a frog in water and slowly heat it, the frog will eventually let itself be boiled to death. We too will not survive if we don't respond to the radical way in which the world is changing.'

Berners-Lee, M and Clark, D The Burning Question Profile Books 2013

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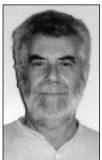
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