

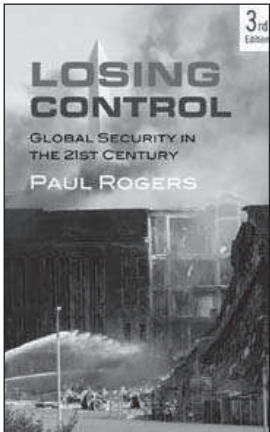
Top books of last 21 years

Stuart Parkinson picks his choice of the best non-fiction books of recent years to mark SGR's 21st anniversary.

It may be a bit presumptuous of me to try to come up with a list of the 'best' books published since SGR was founded in the summer of 1992, but I thought it useful for two important reasons. Firstly, these books (and others like them) have had a strong influence on both my thinking and the direction of SGR's work. Secondly, they deserve a much wider readership among science, design and technology professionals, as well as policy-makers and the public.

Top 10

My top 10 books are listed in the box. Contrary to convention, I am going to start my review with the number one spot!



Losing Control was written by Paul Rogers, Professor of Peace Studies at Bradford University, and you will not find a more insightful and accessible analysis of the security challenges that the world currently faces. The book starts by delving into the

Cold War, assessing military and security strategies and policies during this period. Drawing on government documents and academic studies, it details just how close we came to nuclear armageddon as military leaders, in both the East and the West, seriously contemplated how they could try to 'win' a nuclear war. It then tracks how security policies since 1990 have evolved, with military thinking remaining dominant. While the 'dragon' of the Soviet Union had been 'slain', it was argued the West now faced 'a jungle full of poisonous snakes'. The first edition of this book was published in 2000, and Rogers warned then that if the West didn't take action to tackle the roots of conflict – especially the unfair economic system, rapidly growing environmental problems, and the spread of weapons – insurgencies and terrorism would likely grow. The September 11th attacks happened just a year after the book was published. The book is now in its third edition (published in 2010) and, in new chapters, Rogers argues that the militaristic mindset – demonstrated so clearly by the 'War on Terror' – is

still dominant. We urgently need to change course if we are to have any hope of improving global security.

Such a perspective is reinforced by the second book on my list, *Collapse* by Jared Diamond, Professor of Geography at the University of California, Los Angeles. This book is an in-depth assessment of environmental and related factors that lead to the collapse of human societies. By drawing on an extensive academic literature, he examines how historical societies such as the Mayans and the Norse Greenlanders collapsed whereas others such as Tokugawa Japan (of the 16th-17th centuries) were able to successfully overcome severe environmental problems and survive. He also looks at more recent examples such as the Rwandan genocide. The key, he argues, is the society's ability to identify the activities that are causing the severe problems – often over-consumption of key resources – and to change course before it is too late. There are clear lessons for today's societies.

The third book on my list, *Frontiers of Illusion* by US researcher Daniel Sarewitz (1997), is a well-grounded and very accessible critique of mainstream science and technology policies. It argues that there are five 'myths' underlying these policies, including the idea that more science and technology necessarily leads to more public benefit, that current systems adequately ensure the objectivity of science, and that science can resolve political disputes. He convincingly challenges each myth, and suggests key reforms based on increasing the diversity and democratic accountability of work in science and technology – in short, reducing the power of vested interests.

Fourth on my list is a book that also challenges deeply ingrained orthodoxies, this time in economics. *Prosperity Without Growth* was written by Tim Jackson, Professor of Sustainable Development at the University of Surrey. The book is based on a report produced by the Sustainable Development Commission, a UK government advisory body. This report sent ripples around UK policy circles following its publication in 2009 because it dared to question the central political idea that a growing economy is beneficial to society and the environment. There have been many books in recent years that have tried to do this, but this is the most thorough, most accessible and most convincing critique that I have seen.

Books on climate change are very common these days, but I've found it difficult to find one that adequately explains the scale of the threat we face, makes the necessary links with other environmental

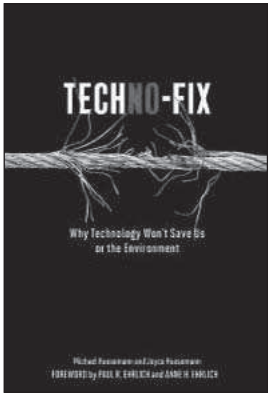
Top 10 books

1. *Losing Control: Global Security in the 21st Century* – Paul Rogers (2010)
2. *Collapse: How Societies Choose to Fail or Survive* – Jared Diamond (2005)
3. *Frontiers of Illusion: Science, Technology and the Politics of Progress* – Daniel Sarewitz (1996)
4. *Prosperity Without Growth: Economics for a Finite Planet* – Tim Jackson (2011)
5. *Bankrupting Nature: Denying our Planetary Boundaries* – Anders Wijkman and Johan Rockstrom (2012)
6. *Techno-fix: Why Technology Won't Save Us or the Environment* – Michael Huesemann and Joyce Huesemann (2011)
7. *The Spirit Level: Why Equality is Better for Everyone* – Richard Wilkinson and Kate Pickett (2010)
8. *Democratizing Technology: Risk, Responsibility and the Regulation of Chemicals* – Anne Chapman (2007)
9. *How Bad are Bananas? The Carbon Footprint of Everything* – Mike Berners-Lee (2010)
10. *60 Years of Nuclear History: Britain's Hidden Agenda* – Fred Roberts (1999)

problems and, when discussing solutions, doesn't cop out by focusing mainly on technology. The next book on my list, *Bankrupting Nature*, is rare in avoiding these three pitfalls. Written by Swedish academics Anders Wijkman and Johan Rockstrom, it defines nine 'planetary boundaries'. These are thresholds for key biophysical parameters that, if exceeded due to human activities, would likely lead to disastrous consequences for human society and ecosystems. One of these parameters is, unsurprisingly, the concentration of carbon dioxide in the atmosphere. The authors argue that we have passed 'safe' thresholds, not only for atmospheric carbon dioxide, but also for biodiversity loss and nitrogen emissions. The authors argue for a comprehensive response to this multi-dimensional crisis through a combination of technologies and, critically, fundamental reforms of the economic system.

My sixth choice book goes further, by questioning whether high-technology provides adequate solutions to any of the major problems that humanity

Publication Reviews



faces. *Techno-fix*, written by US scientists Michael Huesemann and Joyce Huesemann, critically assesses the current role of technology in areas such as agriculture, health care, security, transport, and energy, and argues that benefits

are generally over-stated and problems often down-played or ignored. It examines a range of major social and environmental problems facing society today, and argues that a range of economic, political and social change, supported by careful use of (e.g.) eco-friendly technologies would be far more successful than a reliance on 'techno-fixes'. This book is a welcome breath of fresh air, given the recent high profile media coverage given to a handful of environmentalists who have changed their minds and now support risky technologies such as nuclear power.

The next book on my list has already become a classic of social science research. *The Spirit Level*, by British professors Richard Wilkinson and Kate Pickett, draws on extensive academic analysis of a wide range of data to make the case that societies that are more equal suffer from markedly lower levels of social and health problems. They look at data from across the industrialised world on issues such life expectancy, mental health, education standards, drug use, obesity and violence. They find that even the wealthier sections of society are better off in more equal societies. They give a range of explanations for these effects. For example, in more equal societies, violence is lower because economic differences are less and thus greater trust is able to develop.

Number eight on my list is *Democratizing Technology* by Anne Chapman. This book is an excellent critique of the risk-based approach to managing technology, so beloved of technological optimists. Chapman explores the theoretical underpinnings of this approach and finds it is based on a range of questionable value-based judgements. She argues that this has allowed economic considerations to dominate in policy decisions on new technologies, and demonstrates this using the case study of synthetic chemicals. She comes up with a range of innovative suggestions for tackling this problem, including defining criteria for assessing the 'riskiness' of new technologies and applying practices from the UK's planning system to

allow greater public involvement in decisions on their introduction.

How Bad are Bananas? by Mike Berners-Lee, rapidly became a best-seller upon its release in 2010. Using a range of academic and industrial sources, it estimates the carbon footprint for a selection of common and not-so-common items, from something as tiny as an email to something as large as the world's fossil fuel reserves. Its accessible 'coffee-table' style allows readers to dip in to compare the climate impacts of different aspects of their life. Of all the books that try to help people live an 'eco-friendly life', this is my favourite because it combines robust data (well, about as robust as you can get in this area!) with an entertaining style.



The final book in my top 10 is *60 Years of Nuclear History* by former UK government scientist Fred Roberts. It focuses on Britain, documenting in a very accessible style the parallel developments of nuclear weapons and nuclear power in this country, and the deeply interlinked nature of the two. With an insider's perspective, Roberts is able to highlight the secret decisions and poor management that have led to a costly and dangerous industry. With the current British government absolutely determined to have a new generation of both nuclear weapons and nuclear power stations, the book is a comprehensive and powerful reminder of the folly of these paths.

Other recommended reads

There are several other books that have particularly impressed me in the fields most relevant to SGR.

In the security field, there are three others that have caught my eye. *Beyond Terror*, by Chris Abbott and colleagues (2007), develops the ideas in *Losing Control* (see above), defining a new concept called 'sustainable security', which underpins progressive approaches to tackling the root causes of conflict. Vijay Mehta's *The Economics of Killing* (2012) exposes the power of the military-industrial complex in shaping world affairs. Finally, *Atrocitology* (2011) is a brave attempt to try to document the full extent of war-related casualties throughout recorded history, in contrast to much military history, which so often just focuses on 'who won'.

In the field of climate change, there are four others that I think deserve a particular mention. *Global Warming: The Complete Briefing* by John Houghton – now in its fourth edition (2009) – has become the default reference book in this field, drawing together the latest scientific evidence and policy. *Dire Predictions: Understanding Global Warming* by Michael Mann and Lee Kump (2009) is one of the most accessible books I've read on climate change, giving a good introduction to climate science and policy, and dispelling a few climate myths along the way. *Surviving Climate Change*, edited by David Cromwell and Mark Levene (2007), is a welcome critique of recent national and international policies in this area, highlighting key inadequacies related to economic, political and social change. *Finally, How to Live a Low Carbon Life* by Chris Goodall (2010) is a thorough data-based book that documents which actions are most effective in reducing personal carbon emissions.

In the field of science and technology policy, there are many I'd like to recommend, but I'll focus on the following. Sheldon Krinsky's *Science in the Private Interest* (2003) is a damning critique of the way in which commercial interests distort the biomedical sciences. It helped to inspire the SGR report, *Science and the Corporate Agenda* (2009), and has been followed by numerous other books highlighting similar problems across science, notably *Merchants of Doubt* by Naomi Oreskes and Eric Conway (2012) and *Bad Pharma* by Ben Goldacre (2012).

The last book I want to mention is *Our Final Century* by Martin Rees (2004). Rees – a former President of the Royal Society and an SGR sponsor – warns about a wide range of threats to humans, especially the dangers posed by technology. It is rare to see such a strong critique from someone who has been at the heart of the British science establishment.

So how do these books compare with your favourite choices? Please let us know via the letters page or our email-list, sgrforum.

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