

BOOKS & ARTS

Call for a climate culture shift

A new book describes the rapid reshaping of human priorities needed to save the planet from global warming. Some of that change is already under way at the community level, explains **Robert Costanza**.

**Down to the Wire:
Confronting Climate Collapse**

by David W. Orr

Oxford University Press: 2009. 288 pp.
\$19.95

In the fight against climate change, humans will need to do more than switch to energy-efficient light bulbs and buy 'green' goods. As environmental scientist David Orr points out in *Down to the Wire*, what is needed is a radical shift in culture that alters our priorities. The question is whether that task, which seems impossible, can be made to happen. Orr's book, along with recent research and social initiatives, give hope that it can.

There is a growing scientific consensus that humanity is rapidly approaching a global climate catastrophe. Although we have increasing knowledge of the dangers and costs ahead there is little time to avert a disaster. Orr acknowledges these dire circumstances, but does not wallow in despair or defeatism. His book is a clear-sighted view of what we need to change now.

He describes three essential categories of radical change, in increasing order of difficulty. The first and most easily achievable is a redesign of the infrastructure for producing food, energy, water and other commodities so that it is powered by renewable sources. Second is an overhaul of education systems to develop ecological literacy and encourage creative, real-world problem solving. The third is to reform our political systems from the current corporate plutocracies to true democracies with real leaders.

We live, as Orr says, "amid the ruins of failed '-isms'". Both communism and capitalism have pursued policies of 'growth at all costs' that have failed to account adequately for the value of natural and social capital assets, such as a stable climate, functioning ecosystems

and successful human communities. An alternative solution is needed to formulate a fundamentally different set of economic goals for society. Orr prescribes three such goals "that presently appear to be utterly impossible". First, he advocates a change in priority: instead of economic growth, we should switch to development that genuinely improves the

"A worldwide movement rejects the idea that we are fated to end the human experiment with a bang or a whimper."



Many communities choose to build sustainably, such as the solar-powered Lewis Center in Oberlin, Ohio.

quality of life for everyone. Second, consumer culture should be focused on needs, not wants; and third — hardest of all — we should summon "the compassion and wisdom to fairly distribute wealth, opportunity, and risk".

These goals and the policies to achieve them have long been on social and political agendas. Why have things not changed, and how can they be made to change? Orr addresses this adroitly, showing that human nature is flexible and that rapid cultural shifts have happened before. In the United States after the Second World War, for example, the culture changed to allow new social and taxation policies that created the middle class. The rapid fall of the Soviet Union resulted from the slow build-up of social problems until a tipping point was reached. It may only be a matter of time before people who share the goals of quality of life, fairness and sufficiency begin to outweigh those whose world view is locked into growth at all costs.

Some evidence that such attitudes are on the rise comes from the work of sociologist Paul H. Ray and psychologist Sherry Ruth Anderson, who have surveyed and categorized world views in the United States over the past four decades. In their book *The Cultural Creatives*

(Crown Publishing; 2000), they break the US population into three groups: 'traditionals', who include the religious right and others who hark back to the past; 'moderns', who are the current dominant group and include the 'growth at all costs' type; and 'cultural creatives', including those with the values and goals that Orr promotes. The percentage of cultural creatives in the United States increased from almost nothing in the 1960s to 25% by the year 2000, and is now close to 30% by some estimates. A political tipping point will occur when this percentage is large enough to begin to radically change the political dynamics of the country and, by extension, the world.

As Orr points out, many varied initiatives are already pressing towards a cultural shift. Examples include the 'transition town' movement, spearheaded by the charity Transition Network in Totnes, UK, which aims to help communities reduce their carbon emissions; the 'sustainable cities' effort based in Vancouver, Canada, which supports urban sustainability projects worldwide; and Orr's own initiative to plan and construct sustainable buildings in the city of Oberlin, Ohio.

Other indicators of this shift include the thousands of organizations that are devoted to restoring the environment and fostering social justice, as described by Paul Hawken in his 2007 book *Blessed Unrest* (Viking).

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And a French government commission, set up in 2008 to assess economic performance, is one of many attempts to account for the limitations of the gross domestic product as a measure of social progress. Such examples are evidence of the growing global dialogue on providing real solutions to the problem of building a sustainable and desirable future. A journal entitled *Solutions* (of which I am editor-in-chief, and Orr and Hawken are associate editors) is due to launch soon to add to these discussions.

All of this shows that a global cultural shift

and transformation is indeed in progress. As Orr concludes, this transformation “has grown into a worldwide movement that rejects the idea that we are fated to end the human experiment with a bang or a whimper on a scorched and barren Earth”. We still have a choice, but it is now or never. Orr’s book will do much to help achieve the required cultural transformation, hopefully just in time. ■

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mathematics. Tett, who runs the coverage of global markets for the *Financial Times* newspaper, came to journalism after taking a doctorate in social anthropology. Her book describes how a small group of young bankers with training in mathematics, physics and actuarial science created a class of financial products known as credit derivatives, the misuse of which helped to precipitate today’s crisis.

Tett recounts how a group at J. P. Morgan, one of the United States’ oldest commercial banks, came up with a scheme designed to free up more of the bank’s capital for profit-making investment: selling the loans on their books to third-party buyers. The regulators were unsure whether this was allowed, but Tett shows how they were eventually won over following an aggressive lobbying campaign led by the bank.

Interestingly, J. P. Morgan decided not to shift bundles of mortgage loans in the same way as they were selling off commercial loans. This is because the bank did not have enough data to accurately predict the numbers of borrowers who would default, or the extent to which one defaulter might trigger others. Other banks, however, began to offer bundles of individual mortgages — including those given to ‘sub-prime’ clients. This practice was helped along by David Li, an actuarial scientist who published a formula that claimed to predict patterns of defaulting without needing data on individual financial histories. The market for sub-prime loan bundles went through the roof, and when these sub-prime borrowers began to default, the world economy went through the floor.

Tett concludes that banking needs to go back to an earlier philosophy: products should be simple to understand, bankers need to respect the fact that regulators are acting in the public interest, and regulators need to be more on the ball. This checklist sounds like the regulatory hurdles that many scientists have experience of — especially

those working in areas such as food safety and environmental protection.

For example, after the bovine spongiform encephalopathy (‘mad cow’) epidemic and controversies over genetically modified crops in the 1990s, there was much soul-searching in Britain over how best to protect the public from possible future harm. One outcome was

The wider lessons for finance

One of the unintended effects of the near-collapse of the world economy is the creation of a market for scientific advice to the banking sector. Senior officials at the Bank of England, for example, are consulting the theoretical ecologist and former Royal Society president Robert May, whose research interests include modelling ecosystem collapses and the spread of infectious diseases. Why? Because May’s work could provide signposts on how to develop a comprehensive model for the movement of money around the world and the myriad connections between cash, individuals and institutions.

Two books highlight insights from other fields, such as psychology and anthropology, on the current global financial situation, and the damage done in the past by inappropriately applied mathematics. They also suggest that finance can learn even greater lessons from science, by taking account of the experiences of scientists and science’s ideal of transparency and regulation.

In *Animal Spirits*, two Keynesian economists — George Akerlof, a Nobel-prizewinning economist at the University of California, Berkeley, and Robert Shiller, an economist at Yale University — use findings from psychology to amplify one of economist John Maynard Keynes’s theories. In his signature 1936 work, *The General Theory of Employment, Interest and Money*, Keynes explained that economies should fluctuate because people behave in unpredictable ways — under the influence of what he called “animal spirits”.

Keynes’s theory countered the mainstream view in economics that people, and therefore markets, behave in rational ways. But people often decide which house to buy or which car to drive because it ‘feels right’, or for other

reasons that economists may find irrational or cannot measure accurately. Akerlof and Shiller remind us that emotional and intangible factors — such as confidence in institutions, illusions about the nature of money or a sense of being treated unfairly — can affect

how people make decisions about borrowing, spending, saving and investing.



Animal Spirits is an affectionate tribute to the man whose ideas, unfashionable for the past 30 years, have resurged. Having advised governments through the Depression, Keynes became convinced that

more government spending was needed to maintain employment during a recession — a prescription that has been adopted by many national leaders, including UK Prime Minister Gordon Brown and US President Barack Obama.

What *Animal Spirits* doesn’t do is illustrate how descriptions of human behaviour can be used in quantitative financial and economic models. Bankers, analysts and policy-makers reading the book will want to know where they can find data on human behaviour, and how

these data can be reduced to the indices, constants and variables that make up their equations. Akerlof and Shiller would have done well to have included a chapter covering this issue.

Insights from science have the potential to be misused, however. Gillian Tett’s book *Fool’s Gold* is an exceptional account of how today’s financial world became in thrall to advanced

Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism

by George A. Akerlof and Robert J. Shiller
Princeton University Press: 2009.
264 pp. £16.95

Fool’s Gold: How Unrestrained Greed Corrupted a Dream, Shattered Global Markets and Unleashed a Catastrophe

by Gillian Tett
Little, Brown: 2009. 352 pp. £18.99