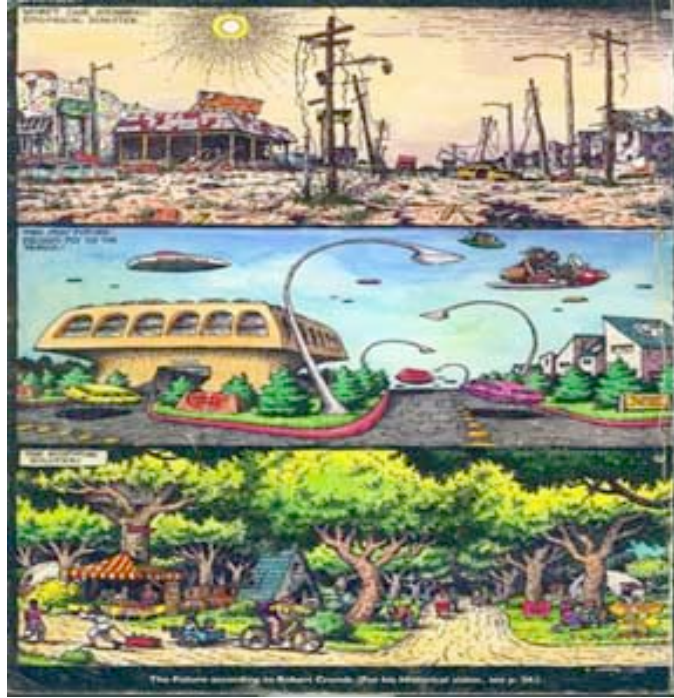


ARE WE HISTORY IN THE MAKING?

Richard Neville, *The Australian Literary Review*, Sept 5.07



BOOKS about the future tumble off the press like there's no tomorrow. Few become bestsellers and many are outdated before they hit the shelves. Yet the futures field will continue to expand as the pace of change accelerates and global threats multiply.

Burning questions arise. How to create a carbon-neutral society? Is it fair to put the national interest above the interests of the globe? Why can't politicians think beyond the next election? That wind, sun and sea will solve tomorrow's energy needs is a notion embraced by many who are in for a big shock, as we shall see.

"Each laptop requires 10 times its weight in carbon to manufacture," Robyn Williams writes in **Future Perfect** (Allen & Unwin, Sydney), a breezy beginner's guide to planetary perils, laced with awkward facts. Australia ranks 29th in the

world in maths and science studies, Williams notes, as our student intake in business courses keeps doubling. Like others, Williams foresees the decline of air travel as oil supplies shrink and predicts the rebirth of railways, citing the overseas success of fast trains. Yet at last count, Australia's investment in rail infrastructure was \$28 billion below requirement.

The rapid acquisition of cars by the Chinese prompts the grizzly revelation that such vehicles will "kill two people every minute worldwide if present trends continue", and Williams reveals that Australia's big cities "sacrifice 40 per cent of their surface to cars or their requirements". He condemns road building, which in New Delhi consumes 80 per cent of the city's budget, though car owners are a privileged minority. Each hour in the city, "one person dies from pollution".

Jumping about like a deranged gnat is part of Williams's inimitable style: Missouri one minute, Mali the next, seasoned with dashes of autobiography and snappy biographies of his scientist friends. He condemns in one breath the bottling of water in plastic and the "incessant automatic flushing of the ABC's men's toilets", a sign that he may have stayed at the national broadcaster too long.

Future Perfect portrays a future imperfect, although on the whole, Williams strains to be positive, even patriotic. Vanadium redox batteries, "patented by UNSW in 1986", may offer unlimited storage for on again-off again renewables, he writes, avoiding the issue of their cost, which is likely to limit their use. He sees hope in the jatropha tree, which yields cattle feed and a diesel-like nut oil, adding to the ever-growing list of energy options.

He laments the lack of funding for innovation in NSW, comparing the figures unfavourably with Victoria and Queensland. Overall, reading Williams's chatty book is like listening to 50 of his Science Shows on ABC radio, which is a compliment.

Richard Watson, in **Future Files** (Scribe, Melbourne), says his aim is not to predict the future, because "anyone who says they can is either a liar or a fool", and yet his work is subtitled *A History of the Next 50 Years*. This ambivalence haunts the territory. Futurists, of which I am one, are drawn by the cheap thrill of saying, "I told you so", and frightened by the prospect of being caught with their pants down.



In *Anthony and Cleopatra*, Shakespeare found a neat resolution to this dilemma. When asked if he knew things, Cleopatra's soothsayer replied: "In nature's infinite book of secrecy, a little I can read." How can you quarrel with that? A mild flirtation with things to come is usually harmless and sometimes useful, as evidenced by the works of H.G. Wells, Jules Verne and Bob Dylan.

Watson sees his role as "liberating the imagination", usually to be extrapolated from the trends he cites: THE more technology becomes embedded in our lives, the more we will run away from it. BY the year 2050, there will be two highly intelligent species on earth: genetically pure humans and technologically aided hybrid humans. (In American futurist Joel Garreau's version it's the "naturals" versus the "enhanced").

- YOUR toothbrush will be able to analyse your breath, detect a disease and alert a doctor.
- WE will move a cursor across a screen with our thoughts and exchange messages telepathically.
- WHAT will we be afraid of in 2050? The speed of change. Uncertainty. Nasty surprises. People will seek escape with

holidays and nonstop entertainment, Watson believes. Add sport to this list and it sounds like Australia.

Watson's chapter on government is meatier. He predicts _ sorry, suggests _ the march of globalisation and hi-tech will further accentuate public anxiety. Although he fears anti-global, anti-US attitudes might "fuel a swing to the Left in developing countries" (it's happening already) and merge with the rise of authoritarian Russia and China, leading to "a new world order" (like the old world order), dominated by protectionism and patriotism.

Both these tendencies are far from dormant. As Watson later points out, there were only 50 regional trade agreements in 1990 and five times that number in 2005. Patriotism is being assiduously cultivated, it seems to me, in the mandating of "functioning flagpoles" at schools, Gallipoli fever, the militarisation of history and the blimpish call for gap-year students to join the army.

Global provincialism is taking over from global co-operation as a dominant theme for modern politics, according to Watson, which, despite its shallow parochialism, explains John Howard's rapport with Australian values and is "increasingly what the voters want". We shall soon see about that.

Future Files is filled with common sense and surprising data (six British companies produce more CO₂ than all the cars in Britain) and offers intriguing connections (after the collapse of the Soviet Union, Cuba was forced to rely on 10 per cent of its pre-1992 oil supply, thrusting bicycles to the fore and boosting national fitness). Thus the arrival of peak oil will herald the end of obesity.

Watson's contention that the "desire to be green" started with governments, trickled down through organisations and has "landed at the feet of ordinary individuals" is way off the mark. It ranks with Malcolm Turnbull's repeated claim that "Australia leads the world on climate change". For more than 25 years, ecological awareness has been championed by

citizen activists and thwarted by blinkered governments, as will one day be commemorated with a statue of the Unknown Greenie. Overall, Watson delivers a sane, crisp and stimulating report from the futures frontier.

The Upside of Down by Thomas Homer-Dixon (Text Publishing, Melbourne), a professor of political science at the University of Toronto in Canada, is the monster in the pack, with 429 pages, including an index, 700 footnotes and a scattering of ominous images. It opens with a salutary account of the fall of Rome, which differs from the familiar narrative of restive hordes and incompetent emperors.

Drawing on his own research, which includes a forensic analysis of the costs of the Coliseum, Homer-Dixon blames the decline of the empire on its profligate use of energy. The need to defend ever-expanding borders, the erection of monuments and infrastructure, the provision of bread and circuses, etc, required vast farm lands, a huge labour force and secure water supplies. The empire eventually collapsed, having overreached its capacity.

The contemporary parallel is obvious, as the West today is splurging energy to get energy. On top of which we are also faced with short-sighted leaders and restless hordes. "But today's energy problems are minuscule compared with those we face tomorrow," writes Homer-Dixon, who publishes a fetching snapshot of himself as a roughneck on an oil rig. Black gold is "truly special", he reminds us, because of its bang for the buck: three tablespoons of crude provides the energy equivalent of eight hours of manual human labour. A car full of petrol equals about two years of human sweat.

Abundant oil has quadrupled the world's population as well as food output per hectare; it's the catalyst of prosperity, the lubricant of consumer desire. Homer-Dixon quotes a geologist: "It's as if each of us had a team of slaves working for us for next to nothing."

Homer-Dixon is in no doubt about the imminence of an oil peak and the inevitability of its decline. China shares this view, judging by its efforts to craft a total energy supply line from Siberia to the north, Central Asia to the west, Canada and Venezuela to the east and Indonesia to the south, plans that will push it into conflict with other energy-seeking nations.

What to do? While Homer-Dixon believes nuclear power and hydrogen offer solutions, the downsides are critical. The creation of hydrogen requires energy; nuclear power requires total security, as its waste can be stolen and converted to weapons. The motive for acquiring such weapons will intensify as the gap widens between the rich and the poor.

While there are well-meaning advocates on both sides of the debate about the impact of globalisation on the future distribution of wealth, Homer-Dixon is blunt: "Never in history have the differences between income and opportunity among us been so great, and these differences are prima facie evidence of moral failure of almost incomprehensible magnitude."

On this point at least, Karl Marx may prove to be right. World Bank economist Branco Milanovic has found the "widening inequalities inside China and India have counterbalanced any reduction in global inequality that might have come from these countries' overall growth". It's what Homer-Dixon calls the "dirty little secret of development economics" and he believes wealth disparities will continue to widen "not just for a few years or even decades, but for hundreds of years to come". But surely the patience of the impoverished hordes is unlikely to last that long.

As a depiction of Western attitudes, the term moral failure has lately come into vogue. This is a reaction to the grim reign of realpolitik and a realisation that the future is under threat from politicians who can't see beyond the next election.



At a youth forum in Sydney last month, when 17-year-old Alex Meekin seized his chance to put questions to Alexander Downer, he focused on the impact of climate change on the rights of future generations. Was it fair for politicians leave a "dirty legacy?" As Meekin later wrote in The Sydney Morning Herald: "The idea of a moral dimension was lost on Mr Downer. In their failing to make a link between today's

consumption and tomorrow's consequences, Mr Downer and the Government are doing a disservice to the young people of Australia." Hear, hear. And to the world. Before climate change comes to be seen as a global moral issue, it will take a lump of Arctic ice to fall on the Prime Minister's head.

American defence analyst Michele Flournoy, an adviser to Hillary Clinton, recently told ABC television's Lateline that "US credibility, our international standing and our moral authority is at an all-time low. So restoring that standing is probably job No.1 for the next president." A Herculean task if oil gets scarce. As the supply declines, Homer-Dixon suggests, US leaders will use every means at their disposal, including force, to "organise and control the world's territory to permit the extraction of energy", and in so doing will clash with India and China, "two rising giants without remotely enough energy at home to satisfy their ravenous appetites".

The US is already hawking nasty weapons to authoritarian regimes that produce oodles of oil and thousands of indolent, profligate princes. In Saudi Arabia, where the population will reach 34 million in the next 15 years, a simmering underclass of jobless teenagers is schooled by Wahhabists to hate America. Marvin Cetron, a former consultant to the White

House (1961-98) and now a professional futurist, says he would "not be surprised" if Osama bin Laden one day returns to Saudi Arabia and sets up an Islamist government in Riyadh, with "dire consequences for the US economy and for national security".

Accompanying the lack of a moral dimension is an entrenched culture of denial. Not a single Western leader who championed the invasion of Iraq has apologised for igniting the lethal chain reaction. Almost every day innocent lives are destroyed by bombs, delivered by insurgents, al-Qa'ida and the US Air Force. The same politicians who poured the petrol and lit the match blame Iraqis for not quenching the fire. This includes a government that bombed Saddam Hussein while bribing him to buy its wheat.

As an architect of the carnage in Iraq, Howard is mysteriously unscathed, despite Australia's freedoms being diminished, our reputation trashed and our destiny entwined with the most aggressive nation on earth. Citizens are lied to and spied upon. Our taxes are milked to fund the ads that urge us to spy on each other, even on a whim, and to report anonymously to a hotline if "something's not quite right". For example, a "suspicious blog".

Such are the footprints of the kind of future our Government envisions, and perhaps is unconsciously creating. A future stalked by dirty bombs or lethal viruses created from genetic codes and DNA acquired online. That our actions have swelled terrorist ranks is not admitted. Alas, a dark future is plausible, made darker because it arouses in older men a wistful attachment to imperial glories and offers them a fantasy of playing Winston Churchill. This is a threadbare vision, emanating from a time when the maps were pink. IT has been a long day's journey to come to grips with climate change and interrelated perils: water peak, pandemics, resource wars, the decline of free speech and the rise of lethal ideas such as fundamentalism. It's not just about nations any more. All the flag waving in the world won't stop the sea rising or the icecaps melting. This is crunch time.

Happily, the wine still flows, carbon trading shows promise, we watch disaster movies on laptops. The food gets finer, even as the fish disappear. We acquire new mind skills, such as adjusting to paradox, adapting to change and engaging the future. Maybe hot rocks in the outback will replace the need for coal; skyscrapers will grow food, water tables can be refreshed with artificial rain or the tears of the gods.

But there's an elephant herd in the think tank. Can fossil fuels be phased out without impinging on economic growth? The Stern review and the UN's International Panel on Climate Change are optimistic, suggesting renewable sources can provide jobs and be rapidly scaled up. Others are sceptical. Australians use about 128 gigajoules of liquids (oil plus gas) per capita annually, so to provide this with ethanol would require 16.3 tonnes of biomass annually. Each Australian would need 2.6ha of biomass to provide for their liquid and gas consumption. To meet the needs of the 9 billion people expected on earth by 2050, it will take 24 billion hectares of biomass plantations. But the world's total land area is only 13 billion hectares.

Bleak conclusions on a range of alternative options are presented in Ted Trainer's new book, **Renewable Energy Cannot Sustain A Consumer Society** (Springer). Electricity demands cannot be met by wind, waves, solar, nuclear or compressed air, the University of NSW academic argues, nor can transport needs be provided by electric or hydrogen-fuelled vehicles.

On the other hand, new research keeps raising expectations. In July, a report by the Centre for Alternative Technology concluded that by 2027 Britain could meet 100 per cent of its electricity needs without the use of fossil fuels or nuclear power, and that it could do so while almost tripling its supply (www.zerocarbonbritain.com).

The future fluctuates. Promise at dawn, perils at twilight. James Hansen, director of NASA's Goddard Institute for Space Studies, has just published a peer-reviewed study

showing that ice at the poles does not melt gradually, but flips suddenly from one state to another. During the last big melt 3.5 million years ago, sea levels rose by 25m, far in excess of the 59cm of present forecasts. Hansen believes the world has a 10-year window to achieve carbon neutrality or face catastrophe.

On the back cover of a counter-cultural magazine published 20 years ago, American cartoonist Robert Crumb depicts three futures. The first is a post-apocalyptic wasteland (it brings to mind Iraq). The second is a Jetsons hi-tech vista, exuding loneliness amid busyness. The third is a juicy village of cheerful hippies and their children.

Each scenario is still relevant and under construction. But politicians, lobbyists, CEOs and upwardly mobile movers and shakers see the future as a global, action-packed shopping spree driven by innovation and consumer demand, reinforced by ads, marketing, and product tie-ins. Its engine of evolution is the growth imperative; its mantra is "Consume or die". The people in the driving seat don't want to slow down, no matter how hot the sun, how empty the dams, how toxic the air.

Others are jumping off. There is a frenzy of exploration, in the office, at home, in the suburbs. It's like the Blitz spirit, a smouldering awareness there's a job to be done. A subtle shift in values, a few small steps. No fancy name. Anything from installing solar panels to seeking justice for refugees. Perhaps a personal quest for carbon neutrality, protecting cultural heritage or campaigning against torture. Or joining the Relocalisation Network (relocalize.net), one of numerous movements set up to help communities prepare for life after the age of fossil fuels.

Can futurists be useful? Alfred Lord Tennyson published *Locksley Hall* in 1842, in which he "dipped into the future, far as human eye could see, / Saw the Vision of the world, and all the wonder that would be". After accurately conjuring a commercial boom and oceans filled with cargo ships, he continues:

*Till the war-drums throbbed no longer, and the battled-flags were furl'd
In the Parliament of man, the Federation of the world.
There the common sense of most shall hold a fretful realm in awe,
And the kindly earth shall slumber, lapped in universal law.*

According to The Wall Street Journal, Winston Churchill regarded this as "the most wonderful of modern prophecies" and Harry Truman reportedly carried the verse in his wallet. Instead of keeping a poem in their pocket, today's politicians are more likely to keep their hands in the pocket of developers.

As well as inducing Blitz Spirit II, tomorrow's turbulence might heighten imaginations and compel a reassessment of values. Robert Socolow, professor of mechanical and aerospace engineering at Princeton University, suggests "our descendants could find themselves spending their time and treasure moving cities inland, managing refugee populations, relocating agriculture and keeping other creatures from going extinct".

In the event of a planetary emergency, what kind of values might underpin a future community? A radical concept of the common good, perhaps, such as helping each other succeed. It would be continuously innovative, and balance materialism with spirituality. It might emphasise collaborative individualism and connective listening. It could be self-organising with constant feedback. Its inhabitants would not regard themselves as the crown of creation and value everything else on the planet according to its usefulness.

In such a community a politician might emerge who is able to reassert honesty and integrity, tackle core problems and achieve a landslide victory. Is such a world possible?