HUMAN PROGRESS – AND COLLAPSE?

A Review of Jared Diamond's *Collapse: How Societies Choose to Fail or Succeed*

Wolfgang Kasper

New Zealand Business Roundtable
August 2005

This essay was first published in Energy & Environment*, Vol 16 Nos 3–4, July 2005, Multi-Science Publishing Co Ltd and is republished with permission.*

First published in 2005 by
New Zealand Business Roundtable,
PO Box 10–147, The Terrace,
Wellington, New Zealand
http://www.nzbr.org.nz

ISBN 1–877394–05–X

Printed and bound by *Astra Print Ltd, Wellington*

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Abstract

Against the human experience of long-term stagnation and misery, the record of growing prosperity over the past two centuries and, in particular, the last 50 years, is astounding. Economic growth owes much to the mobilisation of resources and structural flexibility, but this depends on the 'software of economic development' – institutions, which change slowly. Now, old fears and growth-impeding policies are being justified on environmental grounds. One example is Jared Diamond's recent book *Collapse: How Societies Choose to Fail or Succeed*, which discusses the possibility of a swift descent of the world into social disintegration. To anyone familiar with long-term economic history and the theory of growth, the book is pure millennial pessimism. It could become self-fulfilling if environmentalist doomsayers win the political argument with the doers – the engineers, entrepreneurs and economists.

Malthus predicted the past

The long-term experience of people around the world has been of low and stagnant living standards. The average European or Chinese before industrialisation had to cope with almost the same poor productivity and living standard as their forbears experienced during Roman or Han dynasty times. Economic historians estimate that the average human being in the first one-and-a-half millennia AD, after adjusting for inflation, had living standards markedly below even those in the poorest African countries today. Diseases, famines, hard toil, grime, ignorance and discomfort made for a tenuous existence and early ageing. Readers of this essay will hardly be able to imagine the poverty and brevity of life. In Roman Egypt during the first two centuries AD or in Medieval England, for example, average life expectancy at birth was a mere 24 years (Maddison 2001, p 28, Table 1-2; see also Rostow 1978) (compared with 70–80 years in the West and Japan at present). Over the long-term past, improvements in technology and discovery of new resources allowed some growth of production, but the number of hungry mouths again soon matched or exceeded the available goods. The ex-clergyman and economist Thomas Robert Malthus (1766–1834) asserted that food supply and other resources to meet human wants always increase slowly and in an arithmetic, linear way, whereas population growth has the potential to expand exponentially, with any gain in production soon having to be divided

amongst more people (Malthus 1798). Without controls, living standards would always fall back to the survival minimum. This glum assertion did much to earn economics the sobriquet of being the 'dismal science'.

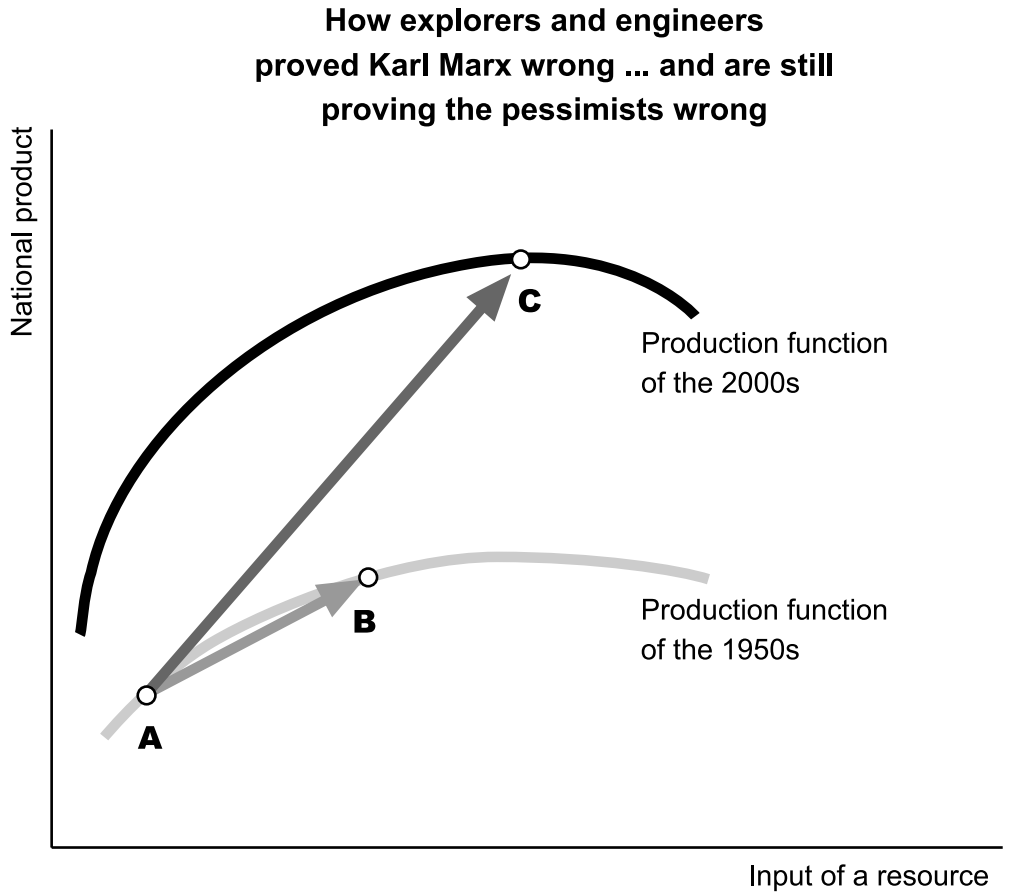
It is one of the great ironies of the history of ideas that Malthus wrote in 1789, precisely when the industrial revolution was fundamentally changing all this. Since then, in one country after the other, production outpaced population. Per-capita incomes – the usual measure of living standards – began to climb in sustained and unimagined ways. Average world living standards are, at present, some nine times those of 1820, when the first industries had emerged. Amazingly, the world population has not only become richer and more secure, but has grown nearly sixfold.

The process of population and income growth has accelerated over the past half century, as modernisation has been eagerly embraced in more and more parts of the world, consigning the traditional, miserable condition increasingly to oblivion. Contrary to what the Jeremiahs predicted, average world living standards have more than doubled since the end of the Second World War. The volume of goods and services produced per inhabitant of the world has increased by 2.1 percent per annum (a total of 3.5 times) over the past 60 years, and the number of people on earth has multiplied 2.5 times. In the West, per-capita incomes went up by about 60 percent, but the big change was in Asia, which began to catch up. Economic growth there was unprecedented, more than 370 percent over the period 1950–2000 (Maddison *ibid*, p 126, Table 3-1b).

And every country that has experienced this growth has also seen improving health, education, longevity and environmental amenity, as well as great reductions in working hours and absolute poverty. (The objective facts about the costs and benefits of growth are well documented. One may nevertheless differ about the *normative* question of whether growth is desirable. See Norberg 2001, pp 19–106). Only parts of Africa, the Middle East and the former Soviet empire are still caught in a Malthusian poverty trap or have, in recent decades, suffered even declining material welfare. Little wonder that economists are nowadays among the optimists about humanity's future.

What drives economic growth?

Economists have long studied the forces that drive the growth of productivity and living standards. Fifty years ago, students would have learnt that growth has a lot to do with capital formation, the somewhat unstable process by which income is sidetracked from immediate consumption and taken up by borrowers, who wish to invest to raise productivity (see Kasper and Streit 1998). A little later, economists focused on the role of innovation. New technology was seen as a key driver, and that led to changes in the use of capital and labour.



Some economists also began to emphasise the importance of learning new skills (acquiring 'human capital'). Technology and skills were seen as shifting the 'production function' – the observed relationship between outputs of national product and resource inputs, for example of capital – upwards; in other words, technology and skills employed scarce inputs (such as inputs of capital on the horizontal axis in the adjoining graph) with higher yields.

At the height of the Cold War, growth economists were producing much empirical and theoretical evidence to show that national economies were not moving *along* a given production function (say, from point A to B), but that entrepreneurs were shifting the entire production function *upwards*, so that the economy moved from A to C. In other words, additions to the capital stock made mighty additions to production. This was an important insight since Karl Marx and his followers had used the idea of a slide along a given production function, implying a declining marginal product, as the basis for predicting the eventual collapse of capitalism. In reality, entrepreneurs kept saving capitalism from that dismal fate.

Economics Nobel laureate Friedrich Hayek pointed out that modern economics has little to do with *oikos* – the deliberate rationing of a given, scarce harvest to last the traditional household through the winter – but much more with *katallaxis* (Hayek 1973). This Greek word refers to the spontaneous discovery of new, useful knowledge when

people exchange ideas and goods, widening production possibilities. Whereas rationing of scarcity is the dismal face of economics, catallactics is its optimistic, humane face.

When discussing innovation in the 1970s, the economics profession rediscovered the contributions of Austrian-American economist Joseph A Schumpeter (1883–1950), who had focused attention on the risk-taking entrepreneur (Schumpeter 1961). Entrepreneurs are the catalyst necessary to get the economic chemistry going. Schumpeter had stressed that scientific discoveries were, by themselves, not very important for the economy, nor were mere inventions (developments of laboratory models). What mattered was innovation, the application of technical and commercial knowledge to test new products and processes in the market, a risky business. For every profit bonanza, there are numerous disappointments. Seemingly promising concepts often incur losses in the market. Successful innovators earn 'pioneer profits' until imitators erode them, dispersing the innovation and making it more affordable. Prices determine profits and losses, which communicate what is wanted and what not. For prices to work as an efficient signalling system, markets have to be free. Interventions and regulations introduce a kind of static in the radio traffic between millions of producers and buyers. If the interference proliferates, markets become dysfunctional. Political agents and groups of producers nevertheless use political interventions to shift advantage to well-organised groups, who support the politicians. This is called 'rent seeking', which is typically at the expense of the unorganised public and – to reiterate the point – hampers discovery and economic growth.

From the 1970s, other researchers focused on the mobilisation and absolute availability of natural resources – land, water, minerals, energy sources and the like – and on the dumped output that burdens the environment. They saw 'limits to growth' and predicted the collapse of underdeveloped economies, if not the entire Western industrial civilisation. The (politically orchestrated) first oil crisis initially gave considerable credence to this view, although most economists rejected it. They argued that the price of resources, such as oil, would rise when they become scarcer. This signal would curb demand and mobilise new supplies. Indeed, this is what happened after the oil crises of the 1970s: almost immediately, people drove fewer miles, made better industrial use of energy and replaced oil with coal. Overall, oil demand plummeted. At the same time, supplies were expanded by non-OPEC producers, who opened new wells, pumped harder and refined petroleum more efficiently. In the longer run, people substituted more fuel-efficient cars for their gas-guzzlers, and industry and transport installed more energy-efficient equipment. Suppliers not only explored new sources of oil and gas, but also researched how to extract useful hydrocarbons from coal, tar sands, oil shale and deep-sea deposits. These entrepreneurial efforts solved the scarcity problem and brought prices down again. Now, industrial entrepreneurs are applying their mental energy to developing

alternatives to hydrocarbons, such as fuel cells and nuclear fusion, which will overcome supply bottlenecks and emission problems. Innovation and enterprise are once more lifting the production function (this time with regard to inputs of petroleum). Yet again, the curse of declining marginal productivity is being overcome.

Economists also pointed out that measured economic growth is not a quantity of material output. Of course, goods and services use materials, but the growth contribution is mainly due to people valuing the materials much more highly. Whilst there is entropy in the physical world, economic growth can be open-ended. Just think of the huge contribution to growth that a grain of silicon makes when used in your computer chip. The real additions to world production are the technical ideas and the skills to implement them. Moreover, some scarce materials are increasingly being recycled – and, as economist Pierre Desrochers demonstrates, business enterprises have always engaged in such recycling practices (Desrochers 2000 and 2002).

The emblematic attempt to refute the economists' optimism in the 1970s was a neo-Malthusian report by the 'Club of Rome' (published as Meadows *et al* 1972). It led to a much-publicised bet between mathematician-turned-environmentalist Paul Ehrlich and Julian Simon, who predicted that prices of a wide range of natural resources would drop in real terms. Simon also argued that human skills and knowledge were the only real limits to economic growth. He won the bet easily because the relative prices of all listed minerals dropped. Ehrlich refused to renew the bet. (This story is told in Lomborg 2001.) Later, Simon documented that the state of humanity was better than it had ever been (Simon 1995).

Since the 1980s, the enemies of economic growth have shifted from fears about resource depletion to environmental destruction, pointing to local calamities and climate change, which is generally attributed to human interaction with the climate and not, for example, to fluctuating natural factors such as solar cycles (Singer 1999, Kasper and Dutton 2003). On climate change, the verdict is open, but one does well to note the ideological intent, as Aaron Wildavsky did:

> Global warming is the mother of all environmental scares ... Warming (and warming alone), through its primary antidote of withdrawing carbon from production and consumption, is capable of realising the environmentalists' dream of an egalitarian society based on the rejection of economic growth in favour of a smaller population eating lower on the food chain, consuming a lot less, and sharing a much lower level of resources much more equally (Wildavsky 1992).

One has to point out the ideology, because the social sciences often deal with overt or covert normative intentions. The end of economic growth may not yet be nigh.

Another fall-out from adopting a Schumpeterian worldview was that economists began to understand economic growth as a complex, evolutionary process, in which structural flexibility mattered greatly. If political intervention or other forces rigidified industrial structures, for example by featherbedding declining industries or handing out tariff protection, growth would be hampered. Indeed, entrepreneurs are diverted from creative competition with innovations into becoming 'rent seekers', that is, lobbyists (Olson 1982). Flexible economies, full of alert entrepreneurs, are rapid-growth economies, as the East Asian 'Tigers' have been demonstrating.

Institutions – the software of growth

In recent decades, it has been recognised that the mobilisation of capital, labour, technology, skills and natural resources was only the proximate cause of growth. Experts on economic development and scholars of long-term economic history have shown that resource mobilisation for economic growth occurs when societies share and obey a number of general rules (or institutions) that empower individuals to make decisions freely and allow peaceful mediation in unavoidable conflicts. Such rules make for a better division of labour, which enables people to exploit often highly specific technical and commercial knowledge – an insight that goes back to Adam Smith's *Wealth of Nations* (1776).

By now, economists and scholars have arrived at a broad interdisciplinary consensus on modern economic growth – as far as that will ever be possible amongst diverse academics.[1] Countless case studies have added flesh to the consensus and furnished solid empirical evidence for the assertion that social rules which provide for economic freedom (secure property rights, freedom to use them and the rule of law) are closely associated with high and growing incomes, whereas arbitrary government and heavy regulation breed poverty and stagnation (Gwartney and Lawson 2004; see also Miles *et al* 2005; Kasper and Streit 1998, pp 452–485).

These institutions can be understood as the social software, which helps or hinders the coordinated use of the hardware of development (labour, capital, natural resources, as discussed above). They promote prosperity because productive assets are mobilised by enterprising, competing producers and buyers, who explore new 'factor combinations' and test whether specific resource uses are profitable (benefits exceeding the costs). Such competition demands alertness, as well as much effort and treasure. These 'transaction costs' can be high when innovations are involved (Kasper, forthcoming). In societies where property rights are well defined and secure, where these rights can be

[1] Bernholz *et al* 1998; Fukuyama 1992; Jones 2003; Jones 2002; Kasper 2002; Kasper and Streit 1998, chapters 1 and 12; Landes 1998; McNeill 1980; Mokyr 1990 and 1999; North and Thomas 1973; North 1981; Olson 1982; Powelson 1994; Quigley 1986; Sorman 1987; Weaver 1953; Weede 1996. For a full historical account see Stokes 2001.

exploited freely through voluntary contracts to buy and sell, and where all are equal before predictable laws, people explore lots of new uses and discover new property rights. Millions of these discoveries add up to economic growth. Moreover, voluntary coordination contributes to freedom, which is a fundamental value in its own right.

Appropriate institutions carry sanctions for violations; only then will people be able to cooperate confidently and effectively. Confidence is necessary to expedite cooperation among strangers. Institutions are therefore a valuable capital asset, which reduces the costs and risks of cooperation. They thus serve important utilitarian purposes. The critical questions are: How are the rules shaped to support development and enterprise? How are they adapted to evolving circumstances? Before we can turn to institutional evolution, a little more has to be said about what we mean by 'institution'.

By far the most important rules in society are so-called *internal institutions*. They evolve in the light of experience and are enforced spontaneously by the members of a community – for example, by tit-for-tat, ostracism or loss of reputation. Such internal institutions can be moral standards, customs, habits of the mind and work practices.

A second set of rules of this type is designed, imposed and enforced from above by rulers, parliaments, bureaucracies, and other political agents, for example in the form of constitutions, legislation and administrative regulations. These *external institutions* are typically expensive to supervise and enforce, not least because government agents only have limited, imperfect knowledge of compliance. It is therefore essential for the smooth functioning of a community that the imposed (external) institutions are largely in harmony with the internal institutions (Kasper and Streit 1998, chapters 4–6; see also Jacobs 1992). The fact that external rules are expensive and problematic also means that those rulers who ignore traditional habits, customs and practices often engage in no more than futile social engineering.

Prosperity and peace elude regimes that persist without both sets of institutions, or with institutions that discriminate against the majority, concentrate political and economic power in a few hands, or exclude outside influences. Societies in which 'might is right' may of course persist with their traditional ways, but they then have to bear the consequences – including, in the long term, that more dynamic neighbours take control or that they collapse when new challenges emerge. Not all sets of institutions are of equal value for attaining prosperity and coping with unavoidable change. The historic evidence certainly speaks against cultural and institutional relativism.

Time-honoured institutions may sometimes be based on delusions and stand in the way of attaining fundamental values. Examples are the Aztec habit of sacrificing copious numbers

of young people to the Sun God, widespread admiration for bribery and lying in some traditional societies, religious prohibitions of charging interest on loans, the compulsion to erect costly edifices or uphold unsustainable luxuries for a God-like elite, or the belief that animals and plants have rights independent of humans. In many third-world societies, such rules still impede economic progress (de Soto 2001; Roll and Talbot 2001).

The evolution of institutions that promote the modern economy and broad-based growth is most likely to occur when individuals enjoy mainly *individual* property rights and can deal freely with members of other communities (the open society). It is important that successes and failures of competition and cooperation have direct feedback to individual decision makers through profits and losses. This is most likely when trucking and bartering, migrating and learning are free of discriminatory social and political controls. Then, the internal institutions are adapted to changing circumstances in evolutionary ways, by experimentation, experience and individual selection. Typically, political institutions become freer and simpler only after economic freedom has advanced, as more affluent generations fight for and attain greater civil and political freedom. This was the case in Europe in the early modern age and in East Asia over the past generation.

Rulers and elites are most likely to enhance the external institutions when they themselves are exposed to political competition and consider broad-based prosperity a precondition for staying in power. Their motives do not matter – whether they constrain their own powers to earn more taxes for military pursuits, to build palaces, or to prove they have a 'mandate of heaven'. Once citizens can trade freely, migrate or shift their capital elsewhere, the rulers will have to make their jurisdictions attractive by limiting their own power and subjecting themselves to rules (Jones 2003; Kasper and Streit 1998). And once the economy prospers, this inspires domestic conservatives and neighbouring regimes that previously resisted institutional change. In post-Medieval Europe and among the Far Eastern 'Tigers' post-1950, the political rivalry among small states led to enterprise-friendly institutions and cultural and economic progress, and this approach to policy making spread. By contrast, inward-looking, autocratic regimes – for example, in Habsburg-Bourbon Spain, post-Ming China, the Soviet Union and Mao's China – never achieved much economic growth. At present, new means of communication and lower transport costs are gradually spreading the institutions of economic growth to the furthest corners of the world. Globalisation stimulates the unprecedented outburst of global economic growth mentioned at the start of this essay. As prosperity gradually brings down birth rates and economic creativity spreads, the Malthusian condition is slowly disappearing.

Values and institutions normally metamorphose gradually, by a million little mutinies. For example, the cataclysm of the Second World War and China's Communist convulsions

produced subtle shifts in Confucian societies. Some began to de-emphasise traditional submission and embraced future-oriented institutions. The entire Confucian system moved from an anti-development constellation to 'neo-Confucianism', which was – at least for a while – seen as a mighty asset in economic development. By their great adaptive capacity and understanding of the need for institutional order, the Chinese have maintained the longest continuous civilisation and managed – most of the time – peaceful and productive interaction of densely packed populations, even in the face of natural calamities.

Where the institutions favour individual freedom, creative people congregate and high accomplishments are concentrated. Thus, Western Europe and more recently the United States have been the places with the highest incidence of creativity. It is no coincidence that this is where growing affluence took off (Murray 2003, pp 295–307; Florida 2002).

In the long run, prosperity depends on the continuing control of political power and a pragmatic priority for economic growth (Kasper 1998). Where, as in Latin America, ongoing liberal reforms are held up by quasi-feudal power constellations, spurts of growth have alternated with backlashes and stagnation. The same may yet happen in China, India and Russia. The progressive move to modernity is certainly not automatic, and economic growth can never be taken for granted.

The fear of swift 'collapse'

Even when most observers see good reason to celebrate human achievement, some Jeremiahs will always predict imminent collapse. In 1014, Archbishop Wulfstan of York declared: "The world is in a rush and is getting close to its end". The latest such Jeremiah comes from American geographer, physiologist and World Wildlife Fund associate Jared Diamond. He became well known through his insightful bestseller *Guns, Germs and Steel: A Short History of Everybody for the Last 13,000 Years*, in which he discussed many of the biological and physical features that contributed to the rise of civilisations.

The key hypothesis in his new book, *Collapse: How Societies Choose to Fail or Succeed*, is that humans tend to over-exploit fragile and sometimes fluctuating environments (Diamond 1998; Diamond 2005). He says that when external factors – such as climate change – impact, swift, unexpected collapses of civilisation and population numbers occur because of weakened environments. Therefore, "ecocide has now come to overshadow nuclear war and emerging diseases as a threat to global civilisations" (p 7).

The template for his vision of collapse is the history of Easter Island prior to the arrival of Europeans in 1722. The remote and supposedly well-forested island was populated circa AD 900 by Polynesians. By the 1600s, an obsession with erecting stone

platforms and giant statues, and rivalry between clans to do so, led to the felling of the last tree and ecological disaster.

Diamond describes in vivid detail how seafood became inaccessible when no more canoes could be built, and how erosion and wind converted a food surplus into starvation rations, with people surviving on mice for food and grass and shrubs for fuel. Cannibalism and civil strife spread, and the completely isolated, small population declined – according to Diamond – by an estimated 70 percent from its estimated peak. Self-inflicted environmental damage had interacted with climate changes to produce 'ecocide'.

Although some of the elements in his story are speculative, the deductions are meticulously argued, well documented and quite plausible. Yet, Diamond then leaps to a huge and unproven assertion: "The parallels between Easter Island and the whole modern world are chillingly obvious ... Polynesian Easter Island was as isolated in the Pacific Ocean as the Earth is today in space" (p 119).

Really? Humanity has always been 'running out' of natural resources, but discovered and normally mobilised new ones all along. For example, Athens ran out of timber in the early Classical period once Attica was deforested. Thanks to the institutions of free markets and private property, timber prices went up and induced merchants to import timber from Asia Minor. No one liked the increasing cost, but the building boom went on. Likewise, when oil was artificially rationed by the OPEC cartel in the 1970s, exactly the same mechanism saved civilisation from collapse, as outlined above.

This is the normal state of affairs; collapses are rare exceptions. As long as we adhere to the rules that underpin trade, free markets and enterprise, it is plain nonsense to expect that the whole modern world will descend into Easter Island-like cannibalism and starvation, or even stoop to Rwanda-style genocide, which Diamond attributes to ecological degradation. These stories may make for chilling reading – but "we must defend the normal", as Orwell once said.

Of course, economic development has occasionally led to local environmental accidents and disasters. Diamond draws on some of these to buttress and modify the Easter Island pattern. We are treated to accounts of social collapses into impoverishment, cannibalism, possible mass murder, insanity, and depopulation in other Pacific Islands, and Diamond again generalises by offering unfounded conclusions about "risks ... of our increasing globalization and increasing worldwide economic interdependence" (p 135).

Specialisation and trade – which have (as discussed above) been a driving force of prosperity and institutional innovation – are presented by Diamond only as dangerous risks of

dependency. Although Diamond does not spell out the merits and downsides of self-sufficiency, he reiterates the theme, time and again. The story of collapse is also buttressed by accounts of environmental decline, climatic change and depopulation in the US Southwest and the Maya world. Population growth, land development and trade produced a fragile situation in erratic climate zones, in which dire Malthusian scarcity led to war, strife and cannibalism. Malthus gets at least six honourable mentions in the book.

Of course, many native people in North and South America survived to become the forbears of those living today. The cheerful Maya with whom I trod through the notorious 'Maya loam' to Bonampak and cruised down the Usumacinta River spoke about the splendid ruins that their forefathers had left, as I would about the ruined castles of Europe, and they spoke of the folly of war that had wreaked destruction. That war is costly and squanders lives was not news to them. To leap from the excessive expenses of Maya kings and builders to "extravagant conspicuous consumption by modern American CEOs" (p 177) seems another of Diamond's absurd generalisations.

The story of the small, tenuous Viking settlements in Greenland, which were abandoned circa 1600 – in the 'Little Ice Age', and as a consequence of the Black Death terminating the Norse voyages in the North Atlantic – is described by Diamond in all its heart-rending, erudite detail. But does this really offer lessons for the future of humanity? Of course, Viking violence and cultural inflexibility were costly to the small, isolated communities with a narrow base of resources, capital and knowledge. Admittedly, conflicts between the "short-term interests of those in power, and the long-term interests of society as a whole" (p 276) are frequent. But such conflicts and rent-seeking by the powerful can be constrained, as discussed in the preceding section, by openness and competition, based on institutions that resolve conflicts and ensure an optimum measure of freedom.

In discussing social division as a reason for the decline of the Maya, Diamond says:

> Socially stratified societies ... consist of farmers, who produce food, plus non-farmers who ... are in effect parasites on farmers ... In the United States ... farmers make up only 2% of our population, and each farmer can feed on the average 125 people (American non-farmers plus people in export markets overseas) (p 164).

Does Diamond really mean to imply that 98 percent of the American population are parasites? Can anyone be totally unaware of value of goods and services for which farmers exchange their produce – in the case of US farmers, quite voluntarily?

Diamond also dedicates a chapter to present-day Australia. Having long studied Australia's economic growth, I grew suspicious when I saw the list of Diamond's sources, which includes Robert Hughes's tendentious and discredited historic account in *The Fatal Shore*

and Tim Flannery's polemic *The Future Eaters*, as well as some other Left-Green writing. More serious analyses were overlooked. Certainly, this vast continent suffers from periodic water shortages and salinity in places (salt pans indeed existed long before White settlement). No doubt Diamond is right in castigating many misguided government schemes which added to land degradation. This might have made him a little more sceptical about central planning and grand government designs, but he places naive trust in the visible hand of government throughout the book.

I would also advise the reader to take Diamond's alarmist projections of the end of native forests and spreading salinity with a big grain of salt. Anyone who has seen hundreds of miles of Australian forest canopy will find Diamond's assertions somewhat one-sided. His detailed, repetitive account of Australia's ecological problems is greatly exaggerated, and the margins of my review copy are littered with 'No' and question marks. Australia is not faced with "a steadily deteriorating environment" (p 409), whatever Diamond's Australian sources, such as Australian Green Party leader Bob Brown, may have told him. Diamond's farrago of biased material does not convince, nor does his prediction that Australia's fate foreshadows that of the entire world. Out of the blue comes the breathtaking statement (p 398) that "the best estimate of population sustainable at the present standard of living is 8 million people" – no source, no reasons, no strategy how to dispose of the remaining 12 million Australians!

Australians have enjoyed growing prosperity, longevity, decent public life, and high standards of justice, health and education – precisely for the reasons discussed in the previous section: great openness to ideas, people, products and capital, democracy, and a can-do spirit. This favours institutional innovation. From the start, British law ensured secure property rights, free contracts, the rule of law, and limited government, turning the Australian colonies into the richest places on earth in the late nineteenth century (Kasper *et al* 1980). Recent economic reforms and foreign trade still make this one of the most prosperous and well-governed places on earth. Australians have pioneered many institutional innovations, from electoral voting systems and the administration of the law to strata titles and expedient, electronic land title registers. Diamond recognises Australia's pragmatic, innovative tradition in technology and institutions when he speaks of "signs of hope ... [which] involve changing attitudes, rethinking by Australia's farmers, private initiatives and the beginnings of governmental initiatives" (p 409).

Most of the changes to nature conservation now discussed are, however, far from radical. By contrast, some of the policy changes in Australia that Diamond suggests amount to more top-down regulation and the confiscation of private property rights on (spurious) environmental grounds. These measures go directly against cultivating

the adaptive capacity that proofs our modern, open knowledge societies against eco-collapse (Kasper 2004). The *dirigiste* economic policy stance, which Diamond advocates, would indeed have unexpected, costly side effects – not least for the environment.

Collapse contains numerous implausible, indeed irritating prognostications about the entire modern world. Time and again, the author generalises from narrow, closed, rigid communities with woeful institutions to statements about humankind's dubious future, all the while with hardly any reference to the sources of his information. In none of this does he show any awareness of the rich literature about economic growth, institutions and political economics. None of the works or authors cited above has, as far as I can tell, been quoted by Diamond.

Over 575 pages, he does not refer even once to studies about economic decline such as, for example, Dennis Mueller (1998), or the classic, seminal study of economic, political and cultural decline, Edward Gibbon's *The History of the Decline and Fall of the Roman Empire* (1983). The one exception is the late economist Julian Simon, whom he slanders by citing him directly in quotation marks, as not knowing that copper is an element and for ignoring that an endless, exponential growth of the world population would eventually have the weight of people exceed the weight of the globe (pp 509–511).

Unfortunately, in this instance, Diamond does not cite any of Simon's work, where Simon might have said what is alleged. I can only assume that Julian Simon, one of the most intelligent people I ever met, was misunderstood as having said that copper, if scarce, will be replaced by other technologies, such as glass fibres in communication and aluminium tubes in power transmission cables. As to the Green assertion of "standing room only", readers will note that, with increasing affluence, population growth tends to level off. So far, we cannot generalise from small, overcrowded locations to the entire world. In reality, all of humankind – with five souls to a modest, semi-detached house in a small garden, all set fence-to-fence – could squeeze into an area somewhere between twice the size of the United Kingdom and Ireland, or half the Australian state of Queensland; the remaining 95 percent of the world's land area would still be left for infrastructure, agriculture and untouched nature.

Had Diamond been even vaguely aware of the literature on long-term economic growth, he might have written more positively about civilisations with a long history of successful continuity, such as historic China, and not only about the central planning and dirigiste, top-down controls in repressive Tokugawa Japan or Communist China.

Chapter 12 deals with the undeniable and major ecological woes of Communist China, and Diamond cannot resist extrapolating the resource-demand consequences of the

Chinese shifting to first-world consumption. Yet innovation and learning in present day China are already invalidating the mechanistic Malthusian and Marxist forecasts of declining returns and collapse. Central planning has, of course, done much to destroy China's environment, for example the mad 'Great Leap Forward' in which – by central fiat – iron bedsteads and farm implements were melted down in backyard furnaces, burning local forests to produce – wait for it – iron bedsteads and farm implements. Now, Diamond sees great promise in China's centrally planned nature conservation programmes. Some are impressive, such as new plans to re-afforest an area bigger than Germany within a decade (which he does not mention), advancing nuclear power generation, mandating strict auto emission standards, and setting aside nature reserves covering 13 percent of China's land.

He acknowledges that central planning led policy to lurch from one priority to the next – always at the expense of all other values. But he underrates or overlooks China's many decentralised, local initiatives to reconcile wealth with nature conservation. When I last visited China, I was impressed by urban renewal in Shanghai, where sprawling slums had been replaced by modern high rises, but population density is retained by surrounding the new buildings with new parkland. Where prices are freed and people gain property rights and responsibilities, much spontaneous improvement is happening.

I, too, lurch between despair and hope about China, but my hopes rest on private agriculture and industry. Nor can I share Diamond's abhorrence at China's growing foreign trade and investment, which he believes are making matters worse. On the contrary, as a look at those gleaming new foreign-owned enterprises shows, openness is setting much-improved standards. China's emerging leadership in gene modification and other biotechnologies promises to enhance food security and cut the use of land and pesticides.

A little bit of knowledge of economic and institutional evolution would have prevented Diamond from making breathtaking misanthropic statements, such as (when he discusses pests and vermin exported from China): "Still another species ... which China is exporting in increasing numbers is *Homo sapiens*" (p 371). He decries the aspirations of the Chinese to reach first-world standards, owning household amenities and cars and eating as well as Americans like himself (p 372). He is no doubt correct when he concludes that "China will of course not tolerate being told not to aspire to First World levels"; but then he continues: "… the world cannot sustain China and other Third World countries and current First World countries all operating at First World levels" (p 376). This is the Malthusian error, which Diamond would not have committed had he known even a little of the theory and history of economic and institutional evolution.

He might also have discovered that only rich and growing economies will spare effort and wealth for remedying ecological damage and conserving nature. Most importantly, he might have shown a little empathy with the legitimate aspirations of the third-world poor. If he and his associates want to deny them the luxury of a regular balanced diet, electricity, low infant mortality, modern medications, pesticide-saving gene-modified seeds, and irrigation pumps, he should come clean and tell us by what repressive means this could be achieved.

Jared Diamond is an experienced author who writes cleverly, hedging and covering all bases. But, in the final analysis, his book demonstrates how one can lie with true sentences – by skilful omissions. His generalisations from half-truths only serve to support the *angst* industry. This may go down with those who believe that what discomfits and instils fear must be good. But it will promote interventionism with unexpected political side effects that will hurt the poor and future generations.

One cannot help but conclude that *Collapse* is another attempt out of southern California to produce a sequel to a blockbuster. As so often, the sequel disappoints.

On conflicting visions

In view of the contradiction between humanity's obvious material progress and predictions of an ecologically caused cataclysm of the world economy, one feels compelled to ask: How can intelligent people who look at the same natural and social phenomena come to such opposing conclusions? Some welcome growing population numbers as a potential basis for greater diversity of creative ideas, along the lines of the Icelandic proverb which says that "man is man's greatest joy!". Others dwell on past episodes of overpopulation and preach depopulation.

Natural scientists and engineers are typically trained in positive science – what can be proven by observation and utilised to our benefit. They are often bewildered by the normative aspects of the social sciences – what is good or bad, and what ought to be. Individual valuations, on which opinions may legitimately differ, play a big role, whether implied or openly admitted. When assessing social-science assertions and predictions, one is therefore obliged to speculate about the deeper motives of those who proffer their subjective valuations.

One observer of the controversies about resource use and progress recently concluded that the dissensus had deep, quasi-religious roots. On the one hand, there are people who are inspired by the deeply held beliefs of the Protestant ethic that individual effort

and search must be rewarded materially and that the earth is ours to exploit. On the other, post-modernists have rejected the old religious beliefs and adopted an *ersatz* religion, which personalises nature and takes material progress for granted (Evans 2004).

In affluent, post-modernist Europe, the latter worldview has become dominant. In the younger Anglo-Saxon off-shoots, such as America and Australia, the Protestant ethic still prevails, indeed has been intensified in response to the Islamist terrorist attacks. This underpins political conflicts about ecology and environment, which now divide the West. The ascendancy of China, capitalist East Asia and India – with their appetite for natural resources and the wish, without guilt, to catch up with the West – will add to the coalition of those who are not given to deep angst about material satisfactions and limits to growth.

Another, related explanation for differing worldviews has been offered by the prominent American economist-philosopher Tom Sowell (1987 and 1995). It has much to do with political rent seeking, as discussed already, and a tendency of elites in affluent countries to self-promote themselves by using fear and advocating simplistic remedies. These self-anointed elites live off government grants by first identifying a crisis, then offering 'The Solution', which gives self-seeking politicians and bureaucrats a new cause. When 'The Solution' fails, they walk away in search of new causes and government grants. They can never be satisfied.

Economic systems, like natural ones, are complex; interference tends to produce deleterious, unforeseen side effects. Natural scientists and ecologists such as Jared Diamond understand this well when dealing with nature. Then they tell us: 'Do not interfere with Nature for you cannot know what you are doing'. But oddly, they advocate clumsy interference when they discuss fields of complex interaction in which they have no expertise, such as economies. And they remain blissfully *insouciant* about the consequences of interventionism for the economically weak and future generations.

In affluent societies, these activities might be harmless and affordable, were it not for the danger of self-fulfilling predictions. The 'solutions' all too easily lead to political interventions, which destroy the very institutions on which modern wealth and the survival of our very civilisation are built, as emphasised by Nobel laureate Friedrich Hayek (1989). The only defence against a return to the Malthusian condition is a better understanding of what drives economic growth and human progress. This depends not only on physical factors and the hardware of development, but also on the software of evolving, problem-solving institutions, which allow enterprise and creativity to cope with new circumstances and changing preferences in societies.

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