

Jared Diamond and the Terrible Too's

by

Fred L Smith Jr.

Reprinted from

**ENERGY &
ENVIRONMENT**

VOLUME 16 No. 3&4 2005

MULTI-SCIENCE PUBLISHING CO. LTD.
5 Wates Way, Brentwood, Essex CM15 9TB, United Kingdom

JARED DIAMOND AND THE TERRIBLE TOO'S

Fred L Smith Jr.¹

I. INTRODUCTION

Having enjoyed Jared Diamond's book *Guns, Germs and Steel*, I expected to find much to admire in *Collapse*.² Advance publicity suggested that the book's theme would be provocative and certainly the question raised in the title – “Why do some societies collapse, others survive?” – is interesting and important.

Having now read *Collapse*, I am disappointed. The intriguing insights of *Guns* have disappeared, and have been replaced with the conventional eco-theological view first formalized by the Reverend Thomas Malthus in 1798: humanity's numbers, consumption levels and misuse of technology inevitably lead to collapse.

Diamond draws his examples from primitive communal societies (where cultural norms discipline human activities) and traditional hierarchical societies (where authoritarian dictates control). He has little understanding of modern market economies which have evolved elaborate feedback mechanisms which focus human energy and ingenuity towards emerging problems. His view of the world presented in *Collapse* is static; he lacks an understanding of human civilization as the gradual evolution of institutions (private property, contracts, trade, science and technology, the market) which permit societies to harness an ever greater fraction of the humanity's energies and genius to resolve problems, to create wealth and knowledge.

Diamond does not seem to realize that nations with liberal institutions have consistently refuted Malthus's prediction. Indeed, in the centuries since Malthus first published his first gloomy tract, he has been proven wrong in almost all respects. Greater food production and the additional wealth-creating energies thereby released have not led to higher birth rates; indeed, the opposite has happened in many wealthy countries. Many nations in Europe seem at risk of disappearing from low birthrates in coming decades.

Yet the Malthusian view – what I sometimes call the “Terrible Too's” – still dominates the worldview of Diamond and most conventional environmental thinkers. The paradigm is simple: There are too many people, we consume too much, we rely too heavily on technologies that we understand too poorly! Salvation is feasible but only if we abandon the false gods of progress and learn to live in a sustainable, steady state world.

¹ Founder and President, Competitive Enterprise Institute, Washington, DC. Email: flsmith@cei.org

² References obtained from US edition.

Had Diamond sought to present a modern-day defense of this position – to make the case as to why Malthus was proven correct at last – then *Collapse* would have represented an interesting contribution to the modern environmental policy debate. Unfortunately, he doesn't really do so. The book lacks any conceptual or theoretical framework which would indicate which societies are more likely to collapse, which more likely to survive.

Rather, Diamond floods his pages with factoid after factoid, as though enough anecdotes would create that theory, as if data is self-organizing. Instead of hypotheses, Diamond gives us *check lists*. He lists 8 factors which might have contributed to the collapse of past societies: “deforestation and habitat destruction, soil problems (erosion, salinization, and soil fertility losses), water management problems, overhunting, overfishing, effects of introduced species on native species, human population growth, and increased per-capita impact of people.” (6) And, to these eight traditional environmental problems, he adds “four new ones: human-caused climate change, buildup of toxic chemicals in the environment, energy shortages, and full human utilization of the Earth's photosynthetic capacity.” (7)

In his final chapter, however, Diamond groups these 12 factors into 4 categories: Destruction of natural resources (natural habitats, wild food sources, biological diversity and soil); ceilings on natural resources (energy, freshwater and photosynthetic capacity); harmful substances that “we produce or move around” (toxic chemicals, alien species and atmospheric gases) (491); and population issues (487–88).

Nowhere does Diamond provide any scheme to assign some value to these 12 factors or to combine them into a “survivability score.” Indeed, he notes that their “relative importance differs from case to case.” (6) Along the way, Diamond notes that “Efforts to understand past collapses have had to confront one major controversy and four complications.” (8) The controversy is to accept that primitive societies were rarely Edens; we must reject the “dancing with wolves” romantic vision. The complexities cast doubt on his very thesis: not all societies collapse even when some or all of the factors listed above are present, societal collapse cannot be attributed solely to environmental damage.

Diamond's discussions of complexities are confusing, but essentially he argues that nothing is determined – all depends upon the society's resiliency. However, he presents no suggestion as to what factors might make a society more or less resilient. In the midst of all this, he comes up with a “five-point framework” of “possible contributing factors” to a society's collapse: damage that people inadvertently inflict on their environment, changes in the climate, hostile neighbors, decreased support by friendly neighbors, and society's responses to its problems (11–15). After presenting this confusing typology, Diamond observes that environmental damage “may or may not contribute to a particular society's collapse”.

This checklist approach is not very helpful. Diamond seeks to examine the question why some nations survive and others collapse. The main issue, therefore, is the extent to which a society is resilient to both exogenous and endogenous changes. This requires some understanding of the institutions of a specific society and their effectiveness in responding to such stresses.

Thus, although Diamond asks the right questions, his lack of understanding of the ways in which societies evolve institutions that enhance or reduce its ability to solve

problems, means he cannot answer them. As a result, *Collapse* is little more than a longer version of the dozens of doom-and-gloom environmental disaster books that have appeared like clockwork in the decades after Rachel Carson penned *Silent Spring* in 1962.

Indeed, the book is far less effective or interesting than most of this genre. The book is akin to a jumble of jigsaw puzzle pieces laid out on the table – no structure, no serious organization. The book is hastily written, a pastiche of poorly linked essays rather than a book. Moreover, it is repetitive — anything but captivating. Readers of *Guns* will be disappointed.

Individuals favoring freedom will view this book as merely another doomsday chronicle, a series that began with Rachel Carson's *Silent Spring* and continues with Paul Ehrlich's *One with Nineveh*. Yet, *Collapse* will certainly have its champions. After all, today's intellectual class in the affluent West is largely Malthusian. The book is likely to be less well received in newly affluent Asia and Latin America. Their new middle classes value civil, economic and political freedom highly and aspire to sustained prosperity. These new competitors in world markets are demonstrating anew what has long been the formula to surmount the Malthusian dilemma: freedom and can-do optimism.

II. ORGANIZATION OF BOOK

The first three sections (Chapters 1–13) of *Collapse* supposedly provide the factual basis for the final policy section (Chapters 14–16). The first part deals in some details with the tensions of modern day Montana. The second part examines a diverse selection of isolated historic cultures that did collapse (or did they?). The third part examines a selection of modern states which Diamond considers problematic.

The Montana chapter (Chapter 2) is a romantic view of the changing cultural and economic nature of that state but has little relevance for the rest of the book. Montana is rapidly becoming one of America's prime retirement communities as the significance of earlier economic sectors (mining, forestry and ranching) dwindles. Nostalgic articles dealing with the Vanishing West are not novel. Indeed, articles detailing the shift from the hard-working industrial caterpillar society of yesteryear to the high-tech recreational butterfly society of today have been appearing in magazines for the last century. Montana has been changing but it certainly hasn't collapsed.

The societies evaluated in the second part (Chapters 2–9) did apparently collapse, and seem somewhat more relevant to the story. These include Easter Island, two other even more obscure Pacific islands (Pitcairn and Henderson), the Anasazi who abandoned their settlements in the American southwest long ago, the Mayans, and the Viking settlements in Greenland. Diamond ends this section with a brief review of a few societies that did not collapse – highland villages in Papua New Guinea and the Japanese after the the Tokugawa regime.

The third section addresses four modern societies – Rwanda, the Dominican Republic and Haiti, China, and Australia – as societies where (in Diamond's view) things aren't going (or haven't gone) well.

In sections two and three, Diamond ploughs through statistic after statistic about the findings in layer after layer of archeological excavations, mechanically reviewing his

various checklists for signals that these societies were approaching their breakpoints. But, lacking any clear framework, the reader has little hope of deciding whether the factoids presented were representative or merely selected to prove his point. There is no real discussion of the massive ambiguities and conflicts that surround all attempts to interpret history, especially the history of these isolated remote examples. Without a conceptual framework, the reader must either accept the claims or reject them. Diamond doesn't provide enough context for any meaningful discussion about how these examples might help us determine whether or not any specific society will survive or collapse.

Having evaluated these societies ancient and modern, the fourth section makes a variety of observations about the alleged state of our planet, outlines some of the perils of globalization and technology, and proposes some vague policy prescriptions.

III. JARED DIAMOND I VS. JARED DIAMOND II

Diamond's earlier book *Guns, Germs and Steel* posed a different question: Why did the Spanish conquer the Incas? Why didn't the Incas conquer the Spanish? His explanation relied heavily on geography and biological factors. Nature had dealt different cards to the Spanish and the Incas – with far more aces in the Spanish hand. Spain had benefited from its location in the east-west organized Eurasian landmass. Also, perhaps because of that fact, most of the dominant food crops and animals suitable for domestication were found in the Old World, not the New World. When specific societies in Eurasia began to exploit that advantage, knowledge could be rapidly diffused to the east and west since these lifeforms tend to do best in similar climatic bands. In contrast, in the New World, the crops of Mesoamerica could not be readily used until one had reached southern Peru. This slowed the evolution of agrarian innovation in the New World.

Although Diamond emphasized the biological factors (germs and the horse), Diamond does (as his title, *Guns, Germs and Steel* indicates) discuss technology. However, he gave little attention to the institutional innovations in Spain and the west which had made it possible for Spain to organize such large scale expeditions. Nor did he say about the entrepreneurial spirit of the Spanish as contrasted with the passive civilization of the Incas. Yet, since *Guns* dealt with an event that occurred at the dawn of the Industrial Age, these omissions were less serious than they are in *Collapse*.

The east-west orientation of Eurasia not only gave the Spanish a biological advantage, it also encouraged more rapid societal innovation. The great potential of learning how to share knowledge encouraged the development of institutions to exchange information and technology. Specifically, the fact that trade even in agricultural commodities was mutually beneficial would have been much quickly realized in Eurasia because not only the foodstuffs but the seeds and animals could be easily introduced as self-sustaining crops. Cooperative behavior between disparate groups of people was more rewarding in east-west societies than in north-south societies. This is an interesting point but rather than develop it further to explain the survival of the linked societies that characterize our modern world, Diamond sees the degree of interconnectedness in our modern world as a weakness. His examples in *Collapse* are generally rather isolated societies.

Diamond dealt only with one institutional advantage that the Eurasian-scale phenomena had endowed to the Spaniards, the greater political skills (Machiavellian, to be sure) that the balkanized reality of Eurasia had stimulated. Diamond had comparatively little to say about the variety of political systems, alternative forms of property rights and inheritance rules, and the distinctions between the rival hierarchies of the Church and State — factors which have played the major role in the explanations of economic growth and innovation taking off in Europe. However, these omissions were forgivable because *Guns* dealt with events at the dawn of the Industrial Age.

In both *Guns* and *Collapse*, Diamond seems mostly interested in static societies, buffeted only by exogenous changes. Although he alludes to resiliency as a key factor in determining a society's risk of collapse, he has little understanding of the way in which alternative institutional arrangements affect that resiliency. As discussed later, societies can be classified as fatalist, communal, hierarchic and individualist, depending on their ability to release the creative energies of their populations.

In that framework, it is clear that Diamond has some understanding of early communal societies (tribal societies with weak hierarchial leadership, working largely through shared communal values) and of hierarchic societies (where tribal or state leaders dictate society's responses to crises). Diamond has little understanding of modern market economies where resiliency is provided by individual responses to market incentives. Diamond can thus understand why one society might survive because its customs, its values, were "superior." He can understand that hierarchic societies survive or collapse in large part because of the wisdom or foolishness of their leaders. He seems to have no understanding of the way in which market prices mobilize the populace to respond to specific threats *without* the need for any wise leader or any emergence of new values. He discusses values and leaders but not institutions, although it is institutional change more than either which defines civilization.

Specifically, Diamond writing in *Collapse* doesn't understand the extent to which individualist societies – characterized by the market, limited government, private property, enforceable contracts and a wide array of economic, legal and political institutions – have effectively resolved the Malthusian dilemma. Once individuals had economic freedom which gave them the confidence that they could keep the gains from innovative experiments, they trucked and bartered and tested new ideas. If circumstances changed and new natural and human challenges emerged, they could respond constructively and avert the collapse of their economy and society. Diamond seems unaware of these fundamental insights.

Indeed, the only endogenous variables that Diamond evokes to explain how societies can fail or succeed are if they are guided by wise, enlightened leaders [e.g. the modern Chinese on population control (439–440; 291; 300)], the Tokugawa forest management regime), or if people's values become more sensitive to environmental realities (e.g. some of Diamond's fellow Montanans, the residents of Tikopia Island in the southwest Pacific). Good values are important and wise leaders are always preferred, but Diamond is oblivious to the emergence of economic liberal institutions which have done so much to liberate and mobilize the individual spirit. As noted he doesn't even mention the extent to which the mercenary nature of many conquistadores gave them a military entrepreneurial advantage that the Incas and Aztecs could not begin to rival.

IV. THE MALTHUSIAN THESIS

Diamond's lack of a conceptual framework to compare and contrast societies is much more evident in *Collapse*. Diamond's explanation as to why some nations fall, others survive, is little more than warmed-over Malthusianism. As other eco-theocrats, Diamond is convinced that progress is illusory, that any gains will simply be eaten away by more mouths. According to this worldview, mankind is akin to lemmings condemned to breed until we are forced into societal suicide. He accepts without consideration, the Malthusian equation:

$$I = PAT$$

That is, man's destructive impact (I) on our planet is the result of Population (P), Affluence (A) and Technology (T). This is the standard '*Terrible Toos*' view of the problem: There are too many people. We all consume too much. Finally, we rely too heavily on technologies that we understand too little.

If we are to ensure a sustainable earth, we must discipline ourselves to live within the Malthusian $I = PAT$ restraints: we must control our populations (and Diamond on several occasions notes the "responsible" acts of the Chinese governments of recent years in "family planning", 440), we must ensure that gains from population control are not frittered away in mindless consumerism (this from a man who jets around the world and has homes in both Los Angeles and Montana), and we must be wary of technology, which makes man even more likely to cause environmental demise, and produces substances that are rare in nature and against which, he claims, mankind has no defenses:

"It's true that there are big differences between the situations of those past societies and our modern situation today. The most obvious difference is that there are far more people alive today, packing far more potent technology that impacts the environment, than in the past. Today we have over 6 billion people equipped with heavy metal machinery such as bulldozers and nuclear power, whereas the Easter Islanders had at most a few tens of thousands of people with stone chisels and human muscle power." (515)

According to Diamond, agricultural technology does not yield benefits to people; rather it simply renews the Malthusian dilemma – "an increase in population proportional to an increase in available food." (508)

Diamond, like other Malthusians eco-theocrats, argues that salvation is possible – but only if mankind recognizes that current society is non-sustainable. Diamond clearly believes we must reduce population, slash consumption, and slow innovation. That this strategy views death, poverty and ignorance as "good things" seems not to have occurred to him.

Again, Diamond does not understand that although individuals do indeed have stomachs, they also have hands and brains. Societies that have evolved or adopted institutions (the market, for example) that reward people who respond to problems find that their citizenry will not only fill their own bellies but also produce a surplus to feed others. Diamond's lack of understanding of modern market economies was

occasionally irritating in *Guns*; it is fatal in a book which purports to discuss the problems of the 21st century.

V. A STATIC VERSUS DYNAMIC APPROACH

Like many neo-Malthusians, Diamond views the world in static, local terms — a strange position for someone who purports to contribute to long-term history and futurology. He makes no effort to define “sustainability” in time or space. Any activity that cannot be repeated forever is viewed as non-sustainable. But this definition would render almost all human activities “non-sustainable.” After all, current practices must over time become more efficient if they are to continue. Absent productivity gains, the cutting of trees, the depletion of the soils, the mining of any resource — all are non-sustainable and therefore bad.

Communal societies address this problem by creating strong cultural rules to ensure sustainability: certain practices are banned, some practices are mandatory. Don't eat the fruit of a certain tree, for example. Hierarchic societies assign the power for resource use to a select elite who have reasons to ensure stability.

Communal and Hierarchic societies change very slowly and are, therefore, vulnerable to sudden exogenous shocks. In contrast, Individualist societies have been able to more rapidly respond to changes (internal and external). Market economies specifically have evolved elaborate institutional responses which embed resource use patterns in a system of market feedbacks so that as relative scarcities emerge, signals are created (in the form of prices) to ensure that counter-actions are taken.³ As noted earlier, human civilization can be understood as the slow accumulation of institutional arrangements that create effective feedback mechanisms, ensuring that as any resource shortages emerge (or, indeed, are even anticipated), someone responds to expand supply, to moderate use or to invent alternatives.

In this view, sustainability is a process — not an outcome. The way that human beings approach the environment varies dramatically depending on their relative wealth, the homogeneity of a society, the institutional setting (e.g. their system of property rights) and numerous other factors.

For instance, in its early colonial days the United States deforested much of the eastern coast, tobacco and cotton farming depleted the fertility of the soil, wildlife was decimated with some species (the famed passenger pigeon, among others) driven to extinction. But that resource use was converted into wealth and knowledge, making it possible to reduce our reliance on forests and marginal farmland. The timely invention of coke reduced reliance on charcoal for iron and steel production, while fertilizers enabled restoration of soil fertility.

America's higher agricultural productivity meant that marginal agricultural lands soon returned to wildlife habitat, allowing species recovery. And those gains continue

³ A variety of literature has been produced in recent years to explore the dynamic relationship between institutions and environmental protection. Those wishing to explore the subject more extensively than what is provided here are referred to Hayek (1945), Demsetz (1967), Coase (various), Libecap (1989), Anderson and Leal (2001), Kasper and Streit (1998).

today wherever technology is deployed in a system of institutional restraints – for instance, biotechnology. Sustainability is achieved when productivity gains have outstripped demand increases.

The reality is that most resource and environmental gains have resulted from institutional changes – expanded reliance on private property and other market institutions, the development of new technologies, the growth in insurance and other risk management strategies. Diamond sees little hope here, arguing that it isn't possible to privatize common property resources such as fisheries. In fact however, fisheries are a good example of where institutions have evolved to address changing needs. The transferable quota for fish developed in New Zealand and Iceland, while not without some problems, has generally solved the problem of fisheries depletion by extending property rights to the ocean. (DeAlessi 2003; Gissurarson 2000)

Because Diamond overlooks institutional evolution, mankind can, in his world, survive only by adopting aesthetic lifestyles (making poverty a virtue) or by surrendering its freedom.

VI. MARSHALLING THE EVIDENCE

Diamond's selection of societies and marshalling of evidence are not convincing. *Collapse*, after all, is seemingly concerned about the future, not the past. Thus, we would expect the book would deal with modern famines – the Kulaks in Russia or the disasters in China between 1949 and 1975, contrasted with the growing availability of food in the more market-oriented economies and in China since the re-privatisation of rural land.

History provides wonderful comparisons of this sort: North and South Korea, East and West Germany, Eastern and Western Europe generally (Kasper–Streit 1998; 2005, 411–420); however, these comparisons do not fit Diamond's template. Diamond sees only two responses to threats: good values or wise leaders. His worldview sees no role for institutions.

Diamond seems to view the risks of change as inherently more dangerous than the risks of stasis. Yet his example of the Norse settlers in Greenland (Chapters 7 and 8) belies this point. He believes that the key to their success would have been to eschew their European, Christian agrarian culture, replacing it with the Inuit hunter/gatherer culture, (learning how to use kayaks, to engage in fishing, sealing and whaling, and to build different dwellings). In history, few agrarian societies have retreated to the earlier hunter/gatherer phase. It seems not to have occurred to Diamond that the preferred alternative, when circumstances change, might have been to declare the settlement bankrupt – especially if the conditions for survival had deteriorated because of the Little Ice Age – and sail back to Norway.

Still, it is from these shards of history that Diamond builds his case of mankind's failure to note the fragility of the biosphere, the need to heed the Malthusian concerns discussed in the final chapters. Little wonder that he arrives at his case for the two pillars of modern environmentalism – Sustainable Development (less people using fewer resources) and the Precautionary Principle (the bias against institutional and technological innovation) – but even these are not well buttressed by his arguments.

VII. SOCIETY'S RESPONSE TO THE TRAGEDY OF THE COMMONS

Diamond seeks to avert the many tragedies that always await the common property resources of the world. One central intellectual threat of *Collapse* is the well-explored tragedy of the commons – the situation in which a valued resource is exploited in an institutional setting that fails to encourage adequate foresight. But without an understanding of why western societies have become sustainable and why they have managed to avert these problems, he fails to provide a coherent explanation of collapse or progress.

For Diamond, only exogenous questions matter, and a society's response is monolithic, as illustrated by the subtitle of his book: "How *Societies Choose*" (emphasis added). Of course, societies do not choose; rather the citizens of that society – guided and incentivized by the relevant institutions of that society – make choices which then determine the nature, direction and extent of that society's response. The selection of successful solutions to emerging resource challenges is typically done in the decentralized, dynamic competition process (Hayek 1978), as the sustained and unabated progress of free market economies demonstrates.

Human nature has changed little over recorded history. Humans value the immediate more highly than the more distant—both in time and space. We emphasize those things that affect us rather than others, and we continually face conflicts of interest between competing goals—for example, more food today versus the potential tightening of our belts tomorrow. And all this occurs in an environment where mistakes have consequences, which are often very painful. Effective institutions, therefore, create incentives relevant to man as he is — not man as we think he ought to be.

As a dabbler in anthropology, Diamond should have known of the work of the famed British scholar Mary Douglas and the late political scientist Aaron Wildavsky (1982). The work of these individuals examined how societies responded to change and threats. Douglas and Wildavsky identified four cultural types: Fatalist, Communal, Hierarchist, and Individualist.

Diamond does recognize three variant ways in which societies might resolve the tragedy of the commons: the society can rely on shared cultural norms to ensure consistent management; the society can rely on centralized authority; or a society can rely on private action by ensuring that resources are owned privately. (429) Yet only the first and second receive any extensive treatment, despite Diamond's occasional recognition that incentives stemming from the private sphere have motivated people to behave prudently towards the environment and natural resources.

Civilization can be viewed as a gradual effort to free more of the energies and genius of their populations. In this framework, civilization constitutes the gradual move from fatalism to communal to hierarchic to individualist societies.

Fatalist

The Fatalist believes that risk is random. The appropriate response is to resign oneself to whatever fate the capricious gods might dole out. Progress is an illusion; whatever one person gains, another has certainly lost. All is a zero-sum game. Wealth creation and the prudent risk-taking activities necessary for progress have little traction in such

cultures. In Fatalist cultures, prudence is irrelevant since risk is random. Fatalists aren't political—there's no use fighting city hall!

Such extremely risk-averse societies were characteristic of man's early history—when our powers were weak compared to nature, and our understanding of the world was rudimentary. Even today, many non-developing nations and some minorities within developing nations adhere to this dead-end cultural value. There are few risk takers in societies where the potential of gaining from action is viewed as nil and where the successful individual is seen to harm others. The Fatalist culture gives way to more change-oriented cultures only when forced to do so by external circumstances or by internal collapse.

Communalism

Over time, fatalist societies may evolve into more communal societies. Groups that find ways to cooperate – to pool their risks – find themselves doing better than their more isolated brethren. Customs and values evolve which reinforce these societal survival traits – share the wealth, help your family member, don't destroy the common properties of the group.

Communitarian societies when small and isolated can prove very sustainable indeed. Their weakness is their inability to deal with outsiders who do not share their values and with their resistance to innovation. To deal with outsiders is to weaken the cultural norms that reinforce their sustainability policies; innovations also weaken these cultural norms since the rules are not readily adapted to the newer techniques.

For such reasons, Communal societies often view change in a negative way. The world is too fragile and change too likely to allow much innovative risk taking. We should not expend time or energy in the search for ever-greater economic and technological growth; rather, we should seek fairness by finding ways to equate wealth and power in the current world. Many intellectuals have long romanticized Communal societies and Diamond is not immune to that temptation. Indeed, one of his "solutions" to the threat of collapse is that some Communal societies adopt "good values." He says little about how we might encourage that process.

Hierarchy

The weaknesses of communal societies lead to their gradual evolution into Hierarchic societies. As wise or charismatic individuals emerge, they gain power and authority. The ruling elite then determine which types of responses to threats are most appropriate. Hierarchic societies can and do innovate, but these experiments are selected, monitored and supervised by the wise. Prudence is best ensured by leaving the decision as to which risks can be taken in the hands of those most qualified to decide for all.

Traditional societies and much of modern society have long been organized along Hierarchic lines. The tribe or hunting band looks to the headman or chief to decide which risky actions should be banned and which encouraged. Today, similar faith and power are given to bureaucrats manning the various centralized political risk management institutions and a host of other risk management agencies.

Hierarchic regulators realize that risk taking is essential; however, they are the sole arbiters of what constitutes “prudent” risk. Note that hierarchic regulators do not capture the full gains of prudent risk taking (regulators are rarely residual claimants). However, they will face heavy criticism or demotion if their approval leads to some mishap. As a result, Hierarchic agencies tend to adopt some variant of the precautionary principle—the policy that the risks of innovation should generally be weighed more heavily than the risks of stasis.

In practice, Hierarchical risk managers seek *trial without error* and thus, in practice, tend to slow or even ban institutional and technological change. Hierarchic risk managers operate at some distance from the actual risk-taking activity, which makes it very difficult for them to incorporate the specialized knowledge that is dispersed widely. Further, the costs incurred in gaining approval to take some specific risk discourage some innovations. Hierarchic societies can be very stable—there are few internal tensions to encourage reform. Regulators typically liberalize their anti-change rules only when faced by external competitive pressures from less restrictive risk management regimes (other political jurisdictions, for example).

National Hierarchic cultures are even more stable. For example Japan, after the civil war that created the Tokugawa dictatorship, sought stability and for some time, largely succeeded. Change did not occur until the Europeans entered Asia in force in the late nineteenth century.

Individualism

Most modern societies have moved beyond traditional hierarchy, creating institutions that reassure the elites that some level of individual innovation is permissible. Market economies represent the most effective step toward such Individualist societies. In such societies, the individual is free to respond to resource threats or other issues as he sees fit. Society's role is to develop generalized rules to assign responsibility and to ensure that the consequences of individual actions are isolated.

Individualist societies arise as institutions evolve target the risks of innovation at the innovator rather than society at large and as external threats force change. Individualist cultures enlist a greater fraction of the citizenry in the critical task of fending off collapse, at expanding the effective resource base. Individualist societies permit each person to use the information that he or she alone possesses – thus society benefits from dispersed information unavailable in hierarchic risk management systems.

Individual risk taking requires, of course, a wide array of institutional arrangements to ensure that the well-being of the society is not endangered by the careless acts of a few aberrant members. Modern society, as discussed in the next section, has evolved a wide array of institutions – private property, contracts, and the rule of law – to advance that objective. These generalized rules make decentralized risk taking more palatable to the society's more risk-averse members.

Moreover, as risks are incurred and sometimes disasters result – that is, when the potential risks of the trial and error approach become reality – individualist societies respond by seeking out new institutional arrangements to reduce the likelihood of a reoccurrence of such disasters. By opening the frontier to entrepreneurial risk takers and because expected profits rewards are commensurate

with perceived risks, Individualist cultures have greatly accelerated economic and technological growth.

In *Collapse*, Diamond introduces these alternative societal arrangements for avoiding the tragedy of the commons; however, he deals only with the 'Hierarchic' and Communal (egalitarian) alternatives.

Easter Island and several other examples in *Collapse* in fact deserve to be characterized as Fatalist societies: the gods have given you a finite world and you might as well enjoy it while you can, *après le deluge!* Such societies can survive for considerable periods; however, they have little resiliency and must fail whenever some adverse event occurs.

Diamond recognizes that some small communal societies can be resilient as he indicates in his favorable discussion of Tikopia and some of the tribal groups in the New Guinea highlands. In dealing with communal societies, Diamond has clearly been influenced by the work of Elinor Ostrom and her colleagues. Her work notes the ways in which close-knit communities can ensure sustainability with shared values, reduced privacy and communal management techniques. However, Diamond does not seem to understand the limitations of the communal society (its barriers to exchange with outsiders, its reluctance to innovate). Communal systems require spontaneous (cultural or familial) enforcement of regulatory restraints and rely on disapproval, shunning and – in unusual cases – exile.

Diamond speaks approvingly of such egalitarian societies. He recognizes that such societies have sometimes achieved sustainability, but that this communal approach is less applicable for societies that are larger and heterogenous. In today's globalized world, it is difficult to maintain the isolation, the barriers to external influence that are essential for communal societies to survive. Only the institutions of civilization – formal rules of law and ownership – can make it possible to ensure sustainability in larger societies while still unleashing the creative talents of the individual.

Diamond tends to favor hierarchies, at least those led by "wise" leaders (the U.S. under Kennedy, modern China, Japan under the Tokugawas). He seems largely indifferent to the means used by these leaders to achieve resource and environmental goals. One of his criteria for evaluating environmental protection is the amount of government-owned parks ("natural reserves") that a country possesses. The Dominican Republic, for instance "encompasses 32% of the country's land area in 74 parks or reserves." (332, 351) Joaquín Balaguer, the two-time president of the Dominican Republic, used a variety of coercive top-down measures – including evicting squatters, killing loggers and other authoritarian policies to achieve this – but "he really did care about the environment." (348) Diamond also speaks approvingly of Indonesia's infamous dictatorship – which to his surprise "set up a comprehensive and effective national park system in Indonesian New Guinea." (349)

He also admires the forest-management practices of Tokugawa Japan. The Tokugawa society ensured 'sustainability' by creating a rigid class system, suppressing wealth creation, preventing trade and interaction with outsiders, and depriving almost all Japanese people of freedom. These changes, says Diamond, "were led from the top by successive shoguns, who invoked Confucian principles to promulgate an official ideology that encouraged limiting consumption and accumulating reserve supplies in

order to protect the country against disaster.” (299) He says little about the rigidity of that society and its highly stratified caste system. He has also provided no historical context, failing to discuss why the Japanese power hierarchy consciously moved to suppress the economic and technological forces that had helped the country to advance rapidly in the pre-Tokugawa era.

However, note that even when Diamond comments on the role of private property in ensuring sustainability, he fails to understand the significance of his own observation. In Tokugawa society

“the real control of Japan’s forests fell increasingly into the hands of people with a vested long-term interest in their forest: Much village common land became divided into separate leases for individual households, thereby minimizing the tragedies of the common.” (305)

This institutional reform combined with new technologies (such as the increased use of coal and lighter construction methods) was the reason that Japan’s forests were sustainable. Yet Diamond does not explore whether societies that suffered severe deforestation might have lacked such quasi-private property rights or prevented the development of new technologies. Neither does he imagine that this observation could reasonably be applied to myriad examples of resource scarcity in the book.

About Individualist societies, about market economies, Diamond has little to say. This is surprising because he purports to offer advice about the risks facing modern, mostly market-oriented societies. To offer advice about societies which he doesn’t understand is strange. There is no doubt that Diamond is not happy with individualist societies – as evidence, note his disparaging comment that “Montanans’ pioneer commitment to individual freedom and self-sufficiency has similarly made them reluctant to accept their new need for government planning and for curbing individual rights.” (432)

He certainly would reject the proposition that it is decentralized, risk-friendly institutions, combined with technological developments, which have made the Malthusian fears irrelevant in the western civilization for the last three hundred years. A discussion as to why he finds this “solution” unacceptable would be useful; he offers none.

Readers not already persuaded of Diamond’s Malthusian views will find themselves frustrated again and again by his failure to clarify and even discuss the institutional factors that might have triggered these collapses. In fact, Diamond sees little difference between the isolated cultures of the Greenland Norse and the Easter Island, and those of modern America or Australia. Indeed, without giving any reasons, he claims that the world of today – with its larger population, its higher levels of consumption, and its global interconnectivity – is even more subject to collapse than were these earlier societies.

VIII. CRITICISMS IN THE PAST CENTURY

Predictions by the ‘Church’ of Malthus have been proved wrong over the course of the past few centuries. In market economies, resource scarcity raises resource prices encouraging people to use less of that resource, to seek out new supplies of that

resource and to find ways to substitute other materials or technological substitutes. While many members of this 'Church' continue to propagate Malthus's view, numerous empirical critiques exist which belie these apocalyptic predictions. (See Goklany, numerous;)

However, *Collapse* spends little time fending off the 'Church's' critics. Only one brief section ("One Liner Objections") in the final chapter addresses the arguments against Malthusianism. Diamond doesn't do well here; he dismisses rather than confronts his critics.

An example is his response to the charge: "*Look at how many times in the past the predictions of the gloom-and-doom predictions of fear mongering environmentalists have proved wrong. Why should we believe them this time?*" He mentions the famous bet between economist Julian Simon (whom he reviles without giving any source, rhyme or reason) and ecologist Paul Ehrlich over the price of natural resources during the course of a decade (a bet that Simon won), only to note that "My impression is that [Ehrlich and company] ... have on the average been much more realistic." One accepts or rejects Diamond on faith, not reason, grounds.

Who indeed is more realistic – the ecological doomsayers, represented by Ehrlich, or the 'doomslayers', represented by Simon? A simple comparison of the external sources consulted for Simon's last hefty book, *The Ultimate Resource 2*, and *Collapse*, is revealing. Simon's book, filled with empirical data which is heavily footnoted, utilized 73 pages of notes and references to document his hypothesis; Diamond's contains 31 pages, mostly descriptive text referring to the reader to articles he found relevant, and the book fails to utilize any citations.

He compares the flawed predictions of the 'Church' to 'a complaint about false alarms': "In other spheres of our lives, such as fires, we adopt a commonsense attitude towards false alarms ... Only if false alarms become an inordinately high proportion of all fire alarms do we feel that something is wrong. By the same reasoning, we must expect some environmentalist warnings to turn out to be false alarms." (510)

Here, Diamond gives a standard justification for the precautionary principle: a high level of false alarms is optimal, we only have the one earth! The problem is that false alarms too have consequences, and too many false alarms mean that too great a fraction of society's scarce resources are spent on low level threats, leaving too little available for the higher level risks that do harm mankind. Moreover, a society that cries "wolf" too frequently will deaden society's response system overall. All decisions entail risks. The question that should concern us is how effectively a society's institutional setting enables the relevant tradeoffs – the risk of change versus the risk of stagnation – to be balanced.

IV. CONCLUSION

The question of why some societies succeed and others fail is the most important question in the world today – and many groups from policy think tanks to academics to the World Bank have sought answers for decades. Answers have converged around the idea that societies which create institutional structures to empower their citizenry – to ensure that the rewards and risks of innovations are commensurate and are evaluated by as many people as possible – will succeed; those that do not will fail or languish. Diamond's book explores many failures, but few successes.

One might have thought Diamond would have compared failures against successes: the Soviet Union versus the US, Chile versus Argentina, North versus South Korea, East versus West Germany. In all of these cases, the successes have fostered the evolution of institutions which enable enterprising people in those societies to be more resilient to change, and in many cases, to accommodate changing values. Instead, *Collapse* offers us isolated unique communities – Easter Island, the Mayans and Greenland and a few others – which most would view as falling outside the mainstream of western civilization.

The one case where Diamond offers such a contrast between societies is that of the Dominican Republic and Haiti (Chapter 11), which share the island of Hispaniola in the Caribbean. But there, as noted, he focuses primarily on the (in his view) wise decisions of the Dominican Republic's leaders.

Diamond emphasizes deforestation – which has been rampant in Haiti – but his chapter fails to mention the destructive minifundia system (an artifact of Napoleonic law). The fragmentation of agricultural lands in the absence of economic development has forced the farmers to engage in extensive and destructive agricultural practices. Nor does he discuss the exceptionally high degree of corruption which made most property rights, indeed human life, insecure. Not surprisingly, the result is bad for both agriculture and the protection of natural resources.

Diamond sought to write a “big book”, one about civilization, and its survival possibilities. But civilization is the process by which the energies and genius of an ever greater fraction of humanity is liberated to produce wealth and knowledge. In *Collapse*, Diamond seems unaware of this perspective. He believes that societies are shaped and determined by external limiting factors, and they have only two options: societies can have good leaders, or “good” values. He has little to say about how either of these desirable situations are to be achieved. This is where his ignorance of the sociology of problem-solving, as outlined above with reference to Wildavsky and Douglas, becomes a fatal flaw of the argument.

Of course, one always hopes for wise leaders and good customs, but in fact sustainability is less a function of external factors than of institutions. These institutions include (but are not limited to) a political system responsive to the concerns of the population, a culture resistant to corruption, a reasonably consistent rule of law, widespread private property rights which are well-defined, permanent and transferable, the ability to make and enforce contracts, and trade which is reasonably free. It is true that these institutions have been rare throughout much of human history and are lacking in much of the world today. Still, they account for mankind's increased ability to do more with less, to create wealthier, healthier societies which have been able to escape the Malthusian dilemma.

On rare occasions, Diamond seems to recognize that societal flexibility is critical; his criticism of the Norse settlers in Greenland for their failure to adopt the Inuit means of surviving in that harsh climate illustrates that perspective. However, *Collapse* does not recognize that these “retreat adaptations”, while perhaps sometimes necessary, have proved far inferior to the positive, creative adaptations by which western civilization has overcome resource bottlenecks. Though the book warns against “creeping normalcy” and “landscape amnesia”, Diamond doesn't understand that these

traits are far more typical of illiberal societies which rely too much on authoritarian measures and not enough on decentralized institutions that empower individuals. The creatively destructive storm of competition, characteristic of our modern market economies, rarely suffers from these phenomena.

Diamond protests (too vigorously methinks) that he is not an environmental determinist, though he does occasionally distance himself from the alarmist claims of modern environmentalism. Still, his focus on deforestation, on soil erosion, on climate change suggests that he is indeed one of the faithful. He seems much like the individual who spent his whole life seeking to demonstrate that the Iliad was not written by Homer at all, but rather by another Greek with the same name!

Collapse may betray what is increasingly obvious – the growing panic of the Green-tinted ‘Chattering Classes’ as they see their credibility and standing eroding away with the collapse of collectivism in all its guises. As the superiority of a Mandarinate becomes ever more dubious, the need for Mandarins declines.

Intellectuals once believed that only *they* could bring about “Heaven on Earth” (a view characteristic of the Progressive Era, explored in Nelson 1993), but the dystopias that emerged from socialism and communism have undercut that claim to the moral high ground. The intellectual elite have now shifted from views which espouse technological, pro-growth optimism (carried out through ‘scientific management’), to the ecological pessimism of the ‘Church’ of the Reverend Malthus: “We can’t produce Heaven – but we can prevent Hell.”

Tragically, by ignoring the institutional feedback loops that make it possible for the population of a nation to respond to environmental and resource issues, the unintended consequence may well be that rather than protection, we actually create Hell on Earth. The Soviet Union and North Korea are all too salient examples of this tragedy.

Modern societies have evolved institutional and technological innovations that make it possible for humans to achieve more and more, while lightening our footprint on the earth. Human beings and societies make mistakes – but successful societies have evolved to learn from their past mistakes, integrating this experience with evolving circumstances into future decisions. We need to extend those feedback institutions to allow us to experiment more widely and more prudently, to more rapidly innovate as humanity’s needs grow and change. Unfortunately, while *Collapse* seeks to answer interesting questions, it is sadly a diversion from achieving real answers.

REFERENCES

- Anderson, T. and Leal, D. (2001). *Free Market Environmentalism, Revised*. New York, Palgrave.
- Coase, R.H. (1990). *The Firm, the Market and the Law*, University of Chicago Press, Chicago.
- Demsetz, H. (1967). “Towards a theory of property rights”, *American Economic Review* 57, 347–359.
- Douglas, M. and Wildavsky, A. (1982). *Risk and Culture: An essay on the selection of technical and environmental dangers*. Berkeley: University of California Press.
- Hayek, F.A. (1945). The Use of Knowledge in Society, *American Economic Review*, September, 519–530.

Hayek, F.A. (1978). "Competition as a Discovery Procedure" in *New Studies in Philosophy, Politics, Economics, and the History of Ideas*, Chicago: University of Chicago Press, pp. 179–90.

Goklany, I.M. (1998). Saving habitat and conserving biodiversity on a crowded planet. *Bioscience* 48, 941–953.

Goklany, I.M. (2002). "Affluence, Technology and Well-being", *Case Western Reserve Law Review* 53, pp. 369–90.

Goklany, I.M. (2002). "The globalization of human wellbeing", Washington DC: Cato Institute.

Kasper, W. and Streit, M. (1998). *Institutional Economics*, Cheltenham: Edward Elgar.

Libecap, G.D. (1989). *Contracting for property rights*, Cambridge University Press, Cambridge, UK.

Nelson, R.H. (1993). *Reaching for Heaven on Earth*. Lanham, MD: Littlefield Adams.

