Growth causes terrorism

Cronin 3Senior Associate at the Oxford Leverhulme Programme on the Changing Character of War (Audrey Kurth, “Behind the Curve: Globalization and International Terrorism”, Project MUSE)

The objectives of international terrorism have also changed as a result of globalization. Foreign intrusions and growing awareness of shrinking global space have created incentives to use the ideal asymmetrical weapon, terrorism, for more ambitious purposes. The political incentives to attack major targets such as the United States with powerful weapons have greatly increased. The perceived corruption of indigenous customs, religions, languages, economies, and so on are blamed on an international system often unconsciously molded by American behavior. The accompanying distortions in local communities as a result of exposure to the global marketplace of goods and ideas are increasingly blamed on U.S.- sponsored modernization and those who support it. The advancement of technology, however, is not the driving force behind the terrorist threat to the United States and its allies, despite what some have assumed. Instead, at the heart of this threat are frustrated populations and international movements that are increasingly inclined to lash out against U.S.-led globalization. As Christopher Coker observes, globalization is reducing tendencies toward instrumental violence (i.e., violence between states and even between communities), but it is enhancing incentives for expressive violence (or violence that is ritualistic, symbolic, and communicative). The new international terrorism is [End Page 51] increasingly engendered by a need to assert identity or meaning against forces of homogeneity, especially on the part of cultures that are threatened by, or left behind by, the secular future that Western-led globalization brings. According to a report recently published by the United Nations Development Programme, the region of greatest deficit in measures of human development—the Arab world—is also the heart of the most threatening religiously inspired terrorism. Much more work needs to be done on the significance of this correlation, but increasingly sources of political discontent are arising from disenfranchised areas in the Arab world that feel left behind by the promise of globalization and its assurances of broader freedom, prosperity, and access to knowledge. The results are dashed expectations, heightened resentment of the perceived U.S.-led hegemonic system, and a shift of focus away from more proximate targets within the region. Of course, the motivations behind this threat should not be oversimplified: Anti-American terrorism is spurred in part by a desire to change U.S. policy in the Middle East and Persian Gulf regions as well as by growing antipathy in the developing world vis-à-vis the forces of globalization. It is also crucial to distinguish between the motivations of leaders such as Osama bin Laden and their followers. The former seem to be more driven by calculated strategic decisions to shift the locus of attack away from repressive indigenous governments to the more attractive and media-rich target of the United States. The latter appear to be more driven by religious concepts cleverly distorted to arouse anger and passion in societies full of pent-up frustration. To some degree, terrorism is directed against the United States because of its engagement and policies in various regions. Anti-Americanism is closely related to antiglobalization, because (intentionally or not) the primary driver of the powerful forces resulting in globalization is the United States. Analyzing terrorism as something separate from globalization is misleading and potentially dangerous. Indeed globalization and terrorism are intricately intertwined forces characterizing international security in the twenty-first century. The main question is whether terrorism will succeed in disrupting the [End Page 52] promise of improved livelihoods for millions of people on Earth. Globalization is not an inevitable, linear development, and it can be disrupted by such unconventional means as international terrorism. Conversely, modern international terrorism is especially dangerous because of the power that it potentially derives from globalization—whether through access to CBNR weapons, global media outreach, or a diverse network of financial and information resources.

## 1NC

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#### Societal collapse is inevitable due to complexity and diminishing returns from innovation---delaying the collapse only makes it worse

Mackenzie 8 – Debora Mackenzie, Science Journalist for New Scientist and other publications, April 5, 2008, “Are We Doomed?,” New Scientist, Vol. 197, No. 2650

The end of civilisation. Literature and film abound with tales of plague, famine and wars which ravage the planet, leaving a few survivors scratching out a primitive existence amid the ruins. Every civilisation in history has collapsed, after all. Why should ours be any different?¶ Doomsday scenarios typically feature a knockout blow: a massive asteroid, all-out nuclear war or a catastrophic pandemic. Yet there is another chilling possibility: what if the very nature of civilisation means that ours, like all the others, is destined to collapse sooner or later?¶ A few researchers have been making such claims for years. Disturbingly, recent insights from fields such as complexity theory suggest that they are right. It appears that once a society develops beyond a certain level of complexity it becomes increasingly fragile. Eventually, it reaches a point at which even a relatively minor disturbance can bring everything crashing down.¶ Some say we have already reached this point, and that it is time to start thinking about how we might manage collapse. Others insist it is not yet too late, and that we can - we must - act now to keep disaster at bay.¶ History is not on our side. Think of Sumeria, of ancient Egypt and of the Maya. In his 2005 best-seller, Jared Diamond of the University of California, Los Angeles, blamed environmental mismanagement for the fall of the Mayan civilisation and others, and warned that we might be heading the same way unless we choose to stop destroying our environmental support systems.¶ Lester Brown of the Earth Policy Institute in Washington DC agrees. He has that governments must pay more attention to vital environmental resources. "It's not about saving the planet. It's about saving civilisation," he says.¶ Others think our problems run deeper. From the moment our ancestors started to settle down and build cities, we have had to find solutions to the problems that success brings. "For the past 10,000 years, problem solving has produced increasing complexity in human societies," says Joseph Tainter, an archaeologist at the University of Utah, Salt Lake City, and author of the 1988 book The Collapse of Complex Societies. ¶ If crops fail because rain is patchy, build irrigation canals. When they silt up, organise dredging crews. When the bigger crop yields lead to a bigger population, build more canals. When there are too many for ad hoc repairs, install a management bureaucracy, and tax people to pay for it. When they complain, invent tax inspectors and a system to record the sums paid. That much the Sumerians knew.¶ Diminishing returns¶ There is, however, a price to be paid. Every extra layer of organisation imposes a cost in terms of energy, the common currency of all human efforts, from building canals to educating scribes. And increasing complexity, Tainter realised, produces diminishing returns. The extra food produced by each extra hour of labour - or joule of energy invested per farmed hectare - diminishes as that investment mounts. We see the same thing today in a declining number of patents per dollar invested in research as that research investment mounts. This law of diminishing returns appears everywhere, Tainter says.¶ To keep growing, societies must keep solving problems as they arise. Yet each problem solved means more complexity. Success generates a larger population, more kinds of specialists, more resources to manage, more information to juggle - and, ultimately, less bang for your buck.¶ Eventually, says Tainter, the point is reached when all the energy and resources available to a society are required just to maintain its existing level of complexity. Then when the climate changes or barbarians invade, overstretched institutions break down and civil order collapses. What emerges is a less complex society, which is organised on a smaller scale or has been taken over by another group.¶ Tainter sees diminishing returns as the underlying reason for the collapse of all ancient civilisations, from the early Chinese dynasties to the Greek city state of Mycenae. These civilisations relied on the solar energy that could be harvested from food, fodder and wood, and from wind. When this had been stretched to its limit, things fell apart. ¶ Western industrial civilisation has become bigger and more complex than any before it by exploiting new sources of energy, notably coal and oil, but these are limited. There are increasing signs of diminishing returns: the energy required to get is mounting and although global is still increasing, constant innovation is needed to cope with environmental degradation and evolving - the yield boosts per unit of investment in innovation are shrinking. "Since problems are inevitable," Tainter warns, "this process is in part ineluctable."¶ Is Tainter right? An analysis of complex systems has led Yaneer Bar-Yam, head of the New England Complex Systems Institute in Cambridge, Massachusetts, to the same conclusion that Tainter reached from studying history. Social organisations become steadily more complex as they are required to deal both with environmental problems and with challenges from neighbouring societies that are also becoming more complex, Bar-Yam says. This eventually leads to a fundamental shift in the way the society is organised."To run a hierarchy, managers cannot be less complex than the system they are managing," Bar-Yam says. As complexity increases, societies add ever more layers of management but, ultimately in a hierarchy, one individual has to try and get their head around the whole thing, and this starts to become impossible. At that point, hierarchies give way to networks in which decision-making is distributed. We are at this point.¶ This shift to decentralised networks has led to a widespread belief that modern society is more resilient than the old hierarchical systems. "I don't foresee a collapse in society because of increased complexity," says futurologist and industry consultant Ray Hammond. "Our strength is in our highly distributed decision making." This, he says, makes modern western societies more resilient than those like the old Soviet Union, in which decision making was centralised.¶ Things are not that simple, says Thomas Homer-Dixon, a political scientist at the University of Toronto, Canada, and author of the 2006 book The Upside of Down. "Initially, increasing connectedness and diversity helps: if one village has a crop failure, it can get food from another village that didn't."¶ As connections increase, though, networked systems become increasingly tightly coupled. This means the impacts of failures can propagate: the more closely those two villages come to depend on each other, the more both will suffer if either has a problem. "Complexity leads to higher vulnerability in some ways," says Bar-Yam. "This is not widely understood."¶ The reason is that as networks become ever tighter, they start to transmit shocks rather than absorb them. "The intricate networks that tightly connect us together - and move people, materials, information, money and energy - amplify and transmit any shock," says Homer-Dixon. "A financial crisis, a terrorist attack or a disease outbreak has almost instant destabilising effects, from one side of the world to the other."¶ For instance, in 2003 large areas of North America and Europe suffered when apparently insignificant nodes of their respective electricity grids failed. And this year China suffered a similar blackout after heavy snow hit power lines. Tightly coupled networks like these create the potential for propagating failure across many critical industries, says Charles Perrow of Yale University, a leading authority on industrial accidents and disasters.¶ Credit crunch¶ Perrow says interconnectedness in the global production system has now reached the point where "a breakdown anywhere increasingly means a breakdown everywhere". This is especially true of the world's financial systems, where the coupling is very tight. "Now we have a debt crisis with the biggest player, the US. The consequences could be enormous."¶ "A networked society behaves like a multicellular organism," says Bar-Yam, "random damage is like lopping a chunk off a sheep." Whether or not the sheep survives depends on which chunk is lost. And while we are pretty sure which chunks a sheep needs, it isn't clear - it may not even be predictable - which chunks of our densely networked civilisation are critical, until it's too late.¶ "When we do the analysis, almost any part is critical if you lose enough of it," says Bar-Yam. "Now that we can ask questions of such systems in more sophisticated ways, we are discovering that they can be very vulnerable. That means civilisation is very vulnerable."¶ So what can we do? "The key issue is really whether we respond successfully in the face of the new vulnerabilities we have," Bar-Yam says. That means making sure our "global sheep" does not get injured in the first place - something that may be hard to guarantee as the climate shifts and the world's fuel and mineral resources dwindle.¶ Scientists in other fields are also warning that complex systems are prone to collapse. Similar ideas have emerged from the study of natural cycles in ecosystems, based on the work of ecologist Buzz Holling, now at the University of Florida, Gainesville. Some ecosystems become steadily more complex over time: as a patch of new forest grows and matures, specialist species may replace more generalist species, biomass builds up and the trees, beetles and bacteria form an increasingly rigid and ever more tightly coupled system.¶ "It becomes an extremely efficient system for remaining constant in the face of the normal range of conditions," says Homer-Dixon. But unusual conditions - an insect outbreak, fire or drought - can trigger dramatic changes as the impact cascades through the system. The end result may be the collapse of the old ecosystem and its replacement by a newer, simpler one.¶ Globalisation is resulting in the same tight coupling and fine-tuning of our systems to a narrow range of conditions, he says. Redundancy is being systematically eliminated as companies maximise profits. Some products are produced by only one factory worldwide. Financially, it makes sense, as mass production maximises efficiency. Unfortunately, it also minimises resilience. "We need to be more selective about increasing the connectivity and speed of our critical systems," says Homer-Dixon. "Sometimes the costs outweigh the benefits."¶ Is there an alternative? Could we heed these warnings and start carefully climbing back down the complexity ladder? Tainter knows of only one civilisation that managed to decline but not fall. "After the Byzantine empire lost most of its territory to the Arabs, they simplified their entire society. Cities mostly disappeared, literacy and numeracy declined, their economy became less monetised, and they switched from professional army to peasant militia."¶ Pulling off the same trick will be harder for our more advanced society. Nevertheless, Homer-Dixon thinks we should be taking action now. "First, we need to encourage distributed and decentralised production of vital goods like energy and food," he says. "Second, we need to remember that slack isn't always waste. A manufacturing company with a large inventory may lose some money on warehousing, but it can keep running even if its suppliers are temporarily out of action."¶ The electricity industry in the US has already started identifying hubs in the grid with no redundancy available and is putting some back in, Homer-Dixon points out. Governments could encourage other sectors to follow suit. The trouble is that in a world of fierce competition, private companies will always increase efficiency unless governments subsidise inefficiency in the public interest.¶ Homer-Dixon doubts we can stave off collapse completely. He points to what he calls "tectonic" stresses that will shove our rigid, tightly coupled system outside the range of conditions it is becoming ever more finely tuned to. These include population growth, the growing divide between the world's rich and poor, financial instability, weapons proliferation, disappearing forests and fisheries, and climate change. In imposing new complex solutions we will run into the problem of diminishing returns - just as we are running out of cheap and plentiful energy.¶ "This is the fundamental challenge humankind faces. We need to allow for the healthy breakdown in natural function in our societies in a way that doesn't produce catastrophic collapse, but instead leads to healthy renewal," Homer-Dixon says. This is what happens in forests, which are a patchy mix of old growth and newer areas created by disease or fire. If the ecosystem in one patch collapses, it is recolonised and renewed by younger forest elsewhere. We must allow partial breakdown here and there, followed by renewal, he says, rather than trying so hard to avert breakdown by increasing complexity that any resulting crisis is actually worse.¶ Lester Brown thinks we are fast running out of time. "The world can no longer afford to waste a day. We need a Great Mobilisation, as we had in wartime," he says. "There has been tremendous progress in just the past few years. For the first time, I am starting to see how an alternative economy might emerge. But it's now a race between tipping points - which will come first, a switch to sustainable technology, or collapse?"¶ Tainter is not convinced that even new technology will save civilisation in the long run. "I sometimes think of this as a 'faith-based' approach to the future," he says. Even a society reinvigorated by cheap new energy sources will eventually face the problem of diminishing returns once more. Innovation itself might be subject to diminishing returns, or perhaps absolute limits.¶ Studies of the way by Luis Bettencourt of the Los Alamos National Laboratory, New Mexico, support this idea. His team's work suggests that an ever-faster rate of innovation is required to keep cities growing and prevent stagnation or collapse, and in the long run this cannot be sustainable. ¶ 1nc—environment disad¶

#### Growth’s unsustainable---raising world consumption levels to current Western standards guarantees ecological collapse

Ulrich Witt 11, Max Planck Institute of Economics, Jena, Germany, 2011, “Sustainability and the Problem of Consumption,” <https://papers.econ.mpg.de/evo/discussionpapers/2011-16.pdf>

A good part of the human kind today enjoys what by historical standards are affluent consumption opportunities. Average per capita consumption has in many places grown way beyond what was – in view of “nature’s parsimony” (as Ricardo once put it) – not even dared to be hoped for in earlier times. The soaring quantitative growth of consumption was made possible by technical progress, injected into human production processes via capital accumulation. Labor productivity thus grew, i.e. the value of labor rose relative to the value of the natural resources processed with labor’s help. As a result, human claims on materials, biomass, energy, atmosphere, and space that serve consumption directly or indirectly expanded ever since. The consequence is a seriously increasing environmental stress, degradation, and resource depletion. Due to the ignorance of the complex ecological system the threats implied have for long gone unnoticed (Faber, Manstetten, and Proops 1992). At least since the Brundtland report (United Nations World Commission on Environment and Development 1987; for a more recent assessment see the Millennium Ecosystem Assessment 2005) the problems are, however known to the general public.

The environmental impact has so far been caused mainly by expanding consumption in the developed economies, representing the lesser fraction of the world population. (In the U.S., for example, consumer expenditures grew in real terms by no less than 500% over just hundred years from 1901 to 2000, see U.S. Bureau of Labor Statistics, Report 991,2006). If per capita consumption were to unfold similarly for the rest of the world population – as all developmental policies propagate and aim to support – environmental damages would multiply. Without decisive changes being made, global environmental stability and the long-term quality of life on this planet are going to be severely threatened. It is a pressing question, therefore, what can be done to make a transition to consumption patterns that are sustainable.

#### Their args only account for resource sustainability---growth’s unsustainable because of waste byproducts of resource use---makes collapse of the growth economy structurally inevitable

John Harte 12, Professor of Ecosystem Sciences at the University of California, Berkeley, September/October 2012, “Alarmism is Justified,” Foreign Affairs, Vol. 91, No. 5, p. 169-175

In his essay, Bjørn Lomborg begins by criticizing the notion that the primary constraint on economic growth is the finiteness of resources, as if that remains the belief of the scientific community. Environmental scientists have long recognized, however, that the main limit to growth is not running out of resources but rather running out of space for the byproducts of that growth. Humans are filling the world's atmosphere with greenhouse gases, tainting its aquifer and surface water with deadly pollutants, eroding its soils, and allowing damaging toxics to build up in human bodies.

Obsessed with the numerical accuracy of projections made decades ago in The Limits to Growth, Lomborg ignores the importance of that study's qualitative insights, still valid today, concerning the interconnections between humanity and the natural world. The book illustrated the many ways in which increases in the human population and consumption levels undermine the sustainability of human society, including through pollution, the depletion of both renewable and nonrenewable resources, and industrial production. Lomborg also ignores some of the study's accurate quantitative insights: recent analyses by scientists show that The Limits to Growth was eerily correct in at least some of its most important projections. In a reexamination of the study, the ecologists Charles Hall and John Day showed that if a timeline were added to the book's predictions with 2000 at the halfway point, "then the model results are almost exactly on course some 35 years later in 2008."

The Limits to Growth countered the blissful ignorance of many economists and business magnates who wanted to believe in the convenient pipe dream of unlimited growth, denying the finiteness of the natural environment. Many policymakers did understand the value of the study, however, and tried to inculcate its basic concepts into our civilization, but without success. The scientific community thus still has educational work to do, and finishing it is essential to securing a future for our civilization.

WHAT THE SCIENCE SAYS

Lomberg promotes numerous misconceptions in his essay. Bemoaning The Limits to Growth's results as neither "simple nor easy to understand," Lomborg fails to grasp what many reputable scientists and policymakers have long known: that predicting the details of complex phenomena is difficult. In that light, The Limits to Growth was just a first stab at analyzing the elaborate dynamics that cause continued economic growth to threaten the sustain-ability of human society.

Lomborg further displays scientific ignorance when he talks about pesticides. His estimate of 20 U.S. deaths annually from pesticides ignores both the ecological harm they cause and the human health problems, including cancer, hormone disruption, and neurological effects, associated with pesticide exposure. His argument that DDT is a cheap, effective solution to malaria overlooks the ability of mosquitoes, like other pests, to evolve resistance. Pesticides can be valuable tools when used as scalpels, but when they are used as bludgeons, the evolution of resistance often undoes their efficacy. This is why many epidemiologists fear that society is regressing from the happy era of working antibiotics.

Lomborg also perpetuates the denial of the multiple ways in which civilization is underpinned by a healthy environment. Yes, we can continue to expand into previously untapped arable land, but only at the cost of undermining the giant planetary ecosystems that assure humanity will have clean air, clean water, and a sustainable and benign climate. Yes, we can forgo recycling and grow plantations for paper, but only at the expense of biodiversity. Indeed, as increasing population growth and overconsumption degrade the environment, none of the economic growth that Lomborg hopes for will be possible. Moreover, the capacity of society and its institutions to maintain, let alone improve, the quality of life -- a capacity that Lomborg takes for granted -- will be at risk.

#### Growth’s unsustainable and locks in warming which guarantees extinction---Lomborg’s wrong

Jorgen Randers 12, Professor of Climate Strategy at BI Norwegian Business School, September/October 2012, “It’s a Small World,” Foreign Affairs, Vol. 91, No. 5, p. 167-169

The fundamental message of The Limits to Growth was that the world is small, and that if we want to live well and long on a small planet, we need to limit our ecological footprint. The sad fact is that despite the study's warnings, humans are already overwhelming the earth's carrying capacity. Today, humans emit twice as much greenhouse gases per year as the world's oceans and forests can absorb. This so-called overshoot cannot last. If human society does not reduce the size of its footprint, the ecological systems that underpin its well-being will collapse. The world must now either accept long-term chaos for the sake of short-term comforts

or make short-term sacrifices for the sake of long-term comforts. Unfortunately, around the world and particularly in market democracies, decision-makers too often disregard long-term consequences.

The Limits to Growth was supposed to help humanity make wiser policy choices. It warned that it was necessary to take action before distant problems became immediate crises and to spend on solutions while the sailing was still smooth. But the world's elites feared that such a change in the status quo would end both economic growth and their own privileged positions. And so the critics of The Limits to Growth instead tried to deny the problems it addressed and attacked the messenger.

Rather than joining in the critical effort to reduce man-made greenhouse gas emissions, Lomborg revives a number of straw men and inaccurate claims about what The Limits to Growth said. The study did not predict that oil and other resources would run out before 2000. It did not assume that population and GDP would grow exponentially; their growth rates vary and were computed as an outcome of other drivers in the model. Nor did The Limits to Growth state that air pollution could or would kill humanity. Rather, it tried to estimate how strong the effect of persistent long-term pollutants would be on human health and food production. In other words, the study did not simply forecast the end of the world as we know it; it encouraged a wise human response to create a sustainable world.

Lomborg's assessment of the present state of affairs is even more troubling. He sees a world that is well on its way toward solving its environmental crisis and cites the progress that it has made in curbing air pollution. But by ignoring emissions of carbon dioxide, Lomborg overlooks the single greatest long-term threat to the environment. Emissions of carbon dioxide matter much more than those of shorter-lived pollutants, such as sulphur dioxide, since those are washed out of the atmosphere in weeks. Carbon dioxide has a half-life of 100 years, and emitting it causes lasting damage to the planet's climate.

In my recent book and Club of Rome report, 2052: A Global Forecast for the Next Forty Years, I argue that emissions of greenhouse gases will cause the world's temperature to rise to two degrees Celsius higher than in preindustrial times by 2052. In the following decades, the world will be three degrees Celsius warmer and probably warm enough to trigger a further and uncontrollable increase in the global average temperature caused by the gradual melting of the tundra. In short, this future is unpleasantly similar to the "persistent pollution scenario" from The Limits to Growth, with carbon dioxide as the persistent pollutant.

The rise in greenhouse gas emissions will be the critical factor that shapes the future of life on earth. These emissions could easily be reduced if humanity decided to take action. But held back by myopic decision-making, humanity will not likely change its behavior. In modern, democratic market economies, investments mainly flow to what is profitable, not to what is needed. And regulators, who could in principle consider both economic growth and larger social needs, do not receive the necessary political mandates from shortsighted voters who want low taxes and cheap prices. Society can address the environment's problems only if it regains some control over the flow of investments.

### 1NC Enviro / UQ

#### Growth’s unsustainable and causes extinction because of physical demands on space, water, forests, and habitat---tech can’t solve because collapse of ecosystem services is irreversible

David Shearman 7, Emeritus professor of medicine at Adelaide University, Secretary of Doctors for the Environment Australia, and an Independent Assessor on the IPCC; and Joseph Wayne Smith, lawyer and philosopher with a research interest in environmentalism, 2007, The Climate Change Challenge and the Failure of Democracy, p. 153-156

Hundreds of scientists writing in Millennium Assessment and other scientific reports pronounce that humanity is in peril from environmental damage. If liberal democracy is to survive it will need to offer leadership, resolve, and sacrifice to address the problem. To date there is not a shred of evidence that these will be provided nor could they be delivered by those at the right hand of American power. Some liberal democracies that recognize that global warming is a dire problem are trying but nevertheless failing to have an impact on greenhouse emissions. To arrest climate change, greenhouse reductions of 60 to 80 percent are required during the next few decades. By contrast the Kyoto Protocol prescribes reductions of only a few percent. The magnitude of the problem seems overwhelming, and indeed it is. So much so, it is still denied by many because it cannot be resolved without cataclysmic changes to society. Refuge from necessary change is being sought in technological advances that will allow fossil fuels to be used with impunity, but this ignores the kernel of the issue. If all humanity had the ecological footprint of the average citizen of Australia or the United States, at least another three planets would be needed to support the present population of the world.2 The ecological services of the world cannot be saved under a regime of attrition by growth economies that each year use more land, water, forests, natural resources, and habitat. Technological advances cannot retrieve dead ecological services.

The measures required have been discussed and documented for several decades. None of them are revolutionary new ideas. We will discuss the main themes of a number of important issues such as the limits to growth, the separation of corporatism and governance, the control of the issue of credit (i.e., financial reform), legal reform, and the reclaiming of the commons. Each of these issues has been discussed in great depth in the literature, and a multitude of reform movements have been spawned. Unfortunately, given the multitude of these problems and the limited resources and vision of the reformers, each of the issues tends to be treated in isolation. From an ecological perspective, which is a vision seeking wholeness and integration, this is a mistake. These areas of reform are closely interrelated and must be tackled as a coherent whole to bring about change. Banking and financial reform is, for example, closely related to the issue of control and limitation of corporate power, because finance capital is the engine of corporate expansion. The issue of reclaiming the commons and protecting the natural environment from corporate plunder is also intimately connected to the issue of the regulation of corporate power. In turn this is a legal question, and in turn legal structures are highly influenced by political and economic factors. Finally, the issue of whether there are ecological limits to growth underlies all these issues. Only if an ecologically sustainable solution can be given to this totality of problems can we see the beginnings of a hope for reform of liberal democracy. And even then, there still remains a host of cultural and intellectual problems that will need to be solved. The prospects for reform are daunting, but let us now explore what in principle is needed.

THE LIMITS TO GR OWTH

Our loving marriage to economic growth has to be dissolved. The dollar value of all goods and services made in an economy in one year is expressed as the gross domestic product (GDP). It is a flawed measurement in that it does not measure the true economic and social advance of a society,3 but it is relevant to our discussion here for most of the activities it measures consume energy. Each country aims for economic growth, for every economy needs this for its success in maintaining employment and for the perceived ever-expanding needs of its populace. Politicians salivate about economic growth, it is their testosterone boost. Most would be satisfied with 3 percent per annum and recognize that this means that the size of the economy is 3 percent greater than the previous year. On this basis the size of the economy doubles every 23 years. In 43 years it has quadrupled. Now in 23 years let us suppose that energy needs will also double in order to run this economy. Therefore if greenhouse emissions are to remain at today’s level, then approximately half the energy requirements in 23 years’ time will have to be alternative energy. The burgeoning energy requirements of the developing countries have not yet been included in these considerations. To date, these countries have been reluctant to consider greenhouse reductions saying that they have a right to develop without hindrance, and in any case the developed countries are responsible for most of the present burden of carbon dioxide in the atmosphere. It is not difficult to calculate therefore that there is no future for civilization in the present cultural maladaptation to the growth economy. Sustainable economic growth is an oxymoron. These arguments about doubling time apply to all other environmental calculations. Other forms of pollution that arise from the consumer society will also increase proportionally to growth, the human and animal wastes, mercury, the persistent organic pollutants, and so on. And even if some of these are ameliorated, others will arise from the activities of the burgeoning population. Science tells us that we have already exceeded the capacity of the earth to detoxify these.

In advocating a no-growth economy it has been shown in many studies that beyond the basic needs of health, nutrition, shelter, and cultural activity, which can be provided with much less income than Westerners presently enjoy, there is little correlation between wealth and happiness or well-being. A no-growth economy4 would supply the essentials for life and happiness. Human and economic activity fuelling the consumer market would be severely curtailed and the resources redeployed to truly sustainable enterprises, basic care and repair of the environment, conservation of energy, and the manufacture of items and systems that support these needs. The standard of living as measured at present (again by flawed criteria) will fall, but there may be no alternative. The fundamental question is how can a transition be made under a liberal democracy that has consumerism and a free market as its lifeblood?

#### Earth’s on the verge of crossing vital ecological tipping points---years of inter-disciplinary study create an overwhelming scientific consensus

Mark Swilling 12, Professor, Sustainability Institute and School of Public Leadership, Stellenbosch University, programme coordinator of the Sustainable Development Programme in the School of Public Leadership, Stellenbosch University, project leader of the Centre for the Transdisciplinary Study of Sustainability and Complexity, and Academic Director of the Sustainability Institute, 2012, “So what is so unsustainable about the global economy?,” Continuing Medical Education, Vol. 30, No. 3, p. 68-71

Seven globally significant, mainstream documents will, in one way or another, shape the way our generation sees the world which we need to change. These are as follows:

• Ecosystem degradation. The United Nations (UN) Millennium Ecosystem Assessment, compiled by 1,360 scientists from 95 countries and released in 2005 (with virtually no impact beyond the environmental sciences), has confirmed for the first time that 60% of the ecosystems upon which human systems depend for survival are degraded.7

• Global warming. The broadly accepted reports of the Intergovernmental Panel on Climate Change confirm that global warming is taking place due to release into the atmosphere of greenhouse gases caused by, among other things, the burning of fossil fuels, and that if average temperatures increase by 2˚C or more this is going to lead to major ecological and socio-economic changes, most of them for the worse, and the world’s poor will experience the most destructive consequences.17

• Oil peak. The 2008 World Energy Outlook, published by the International Energy Agency, declared the ‘end of cheap oil’.18 Although there is still some dispute over whether we have hit peak oil production or not, the fact remains that mainstream perspectives now broadly agree with the once vilified ‘peak oil’ perspective (see www.peakoil.net). Even the major oil companies now agree that oil prices are going to rise and alternatives to oil must be found sooner rather than later. Oil accounts for over 60% of the global economy’s energy needs. Our cities and global economy depend on cheap oil and changing this means a fundamental rethink of the assumptions underpinning nearly a century of urban planning dogma.

• Inequality. According to the UN Human Development Report for 1998, 20% of the global population who live in the richest countries account for 86% of total private consumption expenditure, whereas the poorest 20% account for 1.3%.19 Only the most callous still ignore the significance of inequality as a driver of many threats to social cohesion and a decent quality of life for all.

• Urban majority. According to generally accepted UN reports, the majority (i.e. just over 50%) of the world’s population was living in urban areas by 2007.6 According to the UN habitat report entitled The Challenge of Slums, one billion of the six billion people who live on the planet live in slums or, put differently, one-third of the world’s total urban population (rising to over 75% in the least developed countries) live in slums or what we refer to in South Africa as informal settlements.20

• Food insecurity. The International Assessment of Agricultural Science and Technology for Development21 is the most thorough global assessment of the state of agricultural science and practice that has ever been conducted. According to this report, modern industrial, chemical-intensive agriculture has caused significant ecological degradation which, in turn, will threaten food security in a world in which access to food is already highly unequal and demand is fast outstripping supply. Significantly, this report confirmed that ‘23% of all used land is degraded to some degree’.21

• Material flows. According to a 2011 report by the International Resource Panel (http://www.unep.org/resourcepanel), by 2005 the global economy depended on 60 billion tonnes of primary resources (biomass, fossil fuels, metals and industrial and construction minerals) and 500 exajoules of energy, an increase of 36% since 1980.22

The above trends combine to conjure up a picture of a highly unequal urbanised world, dependent on rapidly degrading ecosystem services, with looming threats triggered by climate change, high oil prices, food insecurities and resource depletion. This is what the mainstream literature on unsustainable development is worried about. This marks what is now increasingly referred to as the Anthropocene – the era in which humans have become the primary force of historico-geophysical evolution.23

Significantly, although these seven documents are in the policy domain they reflect the outcomes of many years of much deeper research on global change by scientists and researchers working across disciplines and diverse contexts on all continents. Although this process of scientific inquiry leading to policy change is most dramatic with respect to climate science,24 it is also true for the life sciences that fed into the outcomes expressed in the Millennium Ecosystem Assessment, the resource economics that has slowly established the significance of rising oil prices and, most recently, of all the rise of material flow analysis (more on these later). The rise of our ability to ‘see the planet’ has given rise to what Clark et al. have appropriately called the ‘second Copernican revolution’.25 The first, of course, goes back to the publication of De Revolutionibus Orbium Coelestium by Copernicus in 1530, but only ‘proven’ a century later by Galileo, who established by observation that Copernicus was correct when he claimed that the sun rather than Earth was the centre of the universe. This brilliant act of defining the planetary system through observation was a – perhaps the – defining moment that paved the way for the Enlightenment and the industrial epoch that followed.

Clark et al. date the second Copernican revolution to the meeting in 2001 when delegates from over 100 countries signed the Amsterdam Declaration which established the ‘Earth-System Science Partnership’.25 The logical outcome of this profound paradigm shift is an increasingly sophisticated appreciation of what Rockstrom et al. have called our ‘planetary boundaries’ which define the ‘safe operating space for humanity’.26 The significance of the Rockstrom article is that it managed to integrate, for the first time, the quantifications of these ‘planetary boundaries’ that had already been established by various mono-disciplines. These included some key markers, such as not exceeding 350 parts per million of CO2 in the atmosphere; extracting 35 million tonnes of nitrogen from the atmosphere per year; an extinction rate of 10; global freshwater use of 4 000 km3 per year, and a fixed percentage of global land cover converted to cropland.26 Without the ‘second Copernican revolution’ a new science appropriate for a more sustainable world and the associated ethics would be unviable.

### 1nc enviro

#### Growth causes global environmental destruction and extinction---tech can’t solve because political commitment to growth distorts market signals

Speth 8 – James Gustave Speth, dean of the Yale School of Forestry and Environmental Studies at Yale University, founder of the World Resources Institute, Professor at Vermont Law School, Former Chairman of the Council on Environmental Quality in the Executive Office of the President, Co-founder of the Natural Resources Defense Council, 2008, The Bridge at the Edge of the World, p. 6-9

But the much larger and more threatening impacts stem from the economic activity of those of us participating in the modern, increasingly prosperous world economy. This activity is consuming vast quantities of resources from the environment and returning to the environment vast quantities of waste products. The damages are already huge and are on a path to be ruinous in the future. So, a fundamental question facing societies today—perhaps the fundamental question—is how can the operating instructions for the modern world economy be changed so that economic activity both protects and restores the natural world?¶ With increasingly few exceptions, modern capitalism is the operating system of the world economy. I use “modern capitalism” here in a broad sense as an actual, existing system of political economy, not as an idealized model. Capitalism as we know it today encompasses the core economic concept of private employers hiring workers to produce products and services that the employers own and then sell with the intention of making a profit. But it also includes competitive markets, the price mechanism, the modern corporation as its principal institution, the consumer society and the materialistic values that sustain it, and the administrative state actively promoting economic strength and growth for a variety of reasons.¶ Inherent in the dynamics of capitalism is a powerful drive to earn profits, invest them, innovate, and thus grow the economy, typically at exponential rates, with the result that the capitalist era has in fact been characterized by a remarkable exponential expansion of the world economy. The capitalist operating system, whatever its shortcomings, is very good at generating growth.¶ These features of capitalism, as they are constituted today, work together to produce an economic and political reality that is highly destructive of the environment. An unquestioning society-wide commitment to economic growth at almost any cost; enormous investment in technologies designed with little regard for the environment; powerful corporate interests whose overriding objective is to grow by generating profit, including profit from avoiding the environmental costs they create; markets that systematically fail to recognize environmental costs unless corrected by government; government that is subservient to corporate interests and the growth imperative; rampant consumerism spurred by a worshipping of novelty and by sophisticated advertising; economic activity so large in scale that its impacts alter the fundamental biophysical operations of the planet—all combine to deliver an ever-growing world economy that is undermining the planet’s ability to sustain life.¶ The fundamental question thus becomes one of transforming capitalism as we know it: Can it be done? If so, how? And if not, what then? It is to these questions that this book is addressed. The larger part of the book proposes a variety of prescriptions to take economy and environment off collision course. Many of these prescriptions range beyond the traditional environmental agenda.¶ In Part I of the book, Chapters 1–3, I lay the foundation by elaborating the fundamental challenge just described. Among the key conclusions, summarized here with some oversimplification, are:¶ • The vast expansion of economic activity that occurred in the twentieth century and continues today is the predominant (but not sole) cause of the environmental decline that has occurred to date. Yet the world economy, now increasingly integrated and globalized, is poised for unprecedented growth. The engine of this growth is modern capitalism or, better, a variety of capitalisms.¶ • A mutually reinforcing set of forces associated with today’s capitalism combines to yield economic activity inimical to environmental sustainability. This result is partly the consequence of an ongoing political default—a failed politics—that not only perpetuates widespread market failure—all the nonmarket environmental costs that no one is paying—but exacerbates this market failure with deep and environmentally perverse subsidies. The result is that our market economy is operating on wildly wrong market signals, lacks other correcting mechanisms, and is thus out of control environmentally.¶ • The upshot is that societies now face environmental threats of unprecedented scope and severity, with the possibility of various catastrophes, breakdowns, and collapses looming as distinct possibilities, especially as environmental issues link with social inequities and tensions, resource scarcity, and other issues. ¶ • Today’s mainstream environmentalism—aptly characterized as incremental and pragmatic “problem solving”—has proven insufficient to deal with current challenges and is not up to coping with the larger challenges ahead. Yet the approaches of modern-day environmentalism, despite their limitations, remain essential: right now, they are the tools at hand with which to address many very pressing problems.¶ • The momentum of the current system—fifty-five trillion dollars in output in 2004, growing fast, and headed toward environmental disaster— is so great that only powerful forces will alter the trajectory. Potent measures are needed that address the root causes of today’s destructive growth and transform economic activity into something environmentally benign and restorative.

#### Growth means that sufficient emission reductions are impossible---4 degree change is inevitable by 2020 and will be unstable and cause extinction---adaptation is impossible

Roberts 12/8/2011 David Roberts is a staff writer for Grist "The brutal logic of climate change mitigation" www.grist.org/climate-policy/2011-12-08-the-brutal-logic-of-climate-change-mitigation

In my last post, I discussed a new peer-reviewed paper by climate scientists Kevin Anderson and Alice Bows. It paints a grim picture:

The commonly accepted threshold of climate "safety," 2 degrees C [3.6 degrees F] temperature rise over pre-industrial levels, is now properly considered extremely dangerous;

even 2 degrees C is drifting out of reach, absent efforts of a scale and speed beyond anything currently proposed;

our current trajectory is leading us toward 4 or 6 (or 8 or 10) degrees C, which we now know to be a potentially civilization-threatening disaster.

Like I said, go ahead and pour yourself a stiff drink.

So, what does this grim situation say about our current climate policy efforts? The paper also contains some important insights on that front. Here is how Anderson and Bows frame it:

Over the past five years a wealth of analyses have described very different responses to what, at first sight, appears to be the same question: What emission-reduction profiles are compatible with avoiding "dangerous" climate change? However, on closer investigation, the difference in responses is related less to different interpretations of the science underpinning climate change and much more to differing assumptions related to five fundamental and contextual issues.

(1) What delineates dangerous from acceptable climate change?

(2) What risk of entering dangerous climate change is acceptable?

(3) When is it reasonable to assume global emissions will peak?

(4) What reduction rates in post-peak emissions is it reasonable to consider?

(5) Can the primacy of economic growth be questioned in attempts to avoid dangerous climate change?

Keep question (5) in mind. It is almost never raised explicitly in these discussions, but it turns out to be central to how we answer the other questions.

Long story short, Anderson and Bows argue that we are systematically blowing smoke up our own asses. (Though, ahem, that's probably not how they would put it.)

The thing is, we have ostensibly answered question (1). The Copenhagen Accord has been signed by 141 countries representing over 87 percent of global emissions, including the U.S. and the E.U. It explicitly recognizes "the scientific view that the increase in global temperature should be below 2 degrees Celsius." Climate communiques the world over are full of categorical language: we "must" avoid 2 degrees C! (Despite the fact that new science reveals 2 degrees C to be well within extremely dangerous territory.)

We pretend that 2 degrees C is our threshold. Yet the climate scenarios and plans presented to policymakers do not actually reflect that threshold. As Anderson and Bows say, "most policy advice is to accept a high probability of extremely dangerous climate change rather than propose radical and immediate emission reductions."

Note, also, that most popular climate scenarios include an implausibly early peak in global emissions -- 2010 in many cases, 2015-16 in the case of the Stern Report, the ADAM project, and the U.K.'s Committee on Climate Change.

Why do climate analysts do this? Why do they present plans that contain wildly optimistic assumptions about the peak in global emissions and yet a high probability of overshooting the 2 degrees C target?

The answer is fairly simple, and it has to do with the answer to question (4), regarding what level of emissions reductions is reasonable to expect. According to the Stern Review and others, emissions reductions of 3 to 4 percent a year are the maximum compatible with continued economic growth. And so that's the level they use in their scenarios. Yet reductions at that pace offer very little practical hope of hitting 2 degrees C.

In other words, climate analysts construct their scenarios not to avoid dangerous climate change but to avoid threatening economic growth.

That would make sense if being richer would help us prosper in a 4 degrees C [7.2 degrees F] world. But ... no such luck. Says Anderson in his slideshow presentation:

There is a widespread view that a 4 degrees C future is incompatible with an organised global community, is likely to be beyond "adaptation," is devastating to the majority of ecosystems, and has a high probability of not being stable (i.e., 4 degrees C would be an interim temperature on the way to a much higher equilibrium level).

To be sure, there is plenty of uncertainty about the impacts of particular levels of temperature rise. (See: recent controversy over climate sensitivity.) Predictions are hard, especially about the future. But if the "widespread view" Anderson identifies is correct -- or even half correct! -- it completely scrambles conventional approaches to the problem. It implies that 4 degrees C must be avoided at literally any cost.

### 1NC War

#### Growth causes war

Trainer 2 Senior Lecturer of School of Social Work @ University of New South Wales (Ted, If You Want Affluence, Prepare for War, Democracy & Nature, Vol. 8, No. 2, EBSCO)

If this limits-to-growth analysis is at all valid, the implications for the problem of global peace and conflict and security are clear and savage. If we all remain determined to increase our living standards, our level of production and consumption, in a world where resources are already scarce, where only a few have affluent living standards but another 8 billion will be wanting them too, and which we, the rich, are determined to get richer without any limit, then nothing is more guaranteed than that there will be increasing levels of conflict and violence. To put it another way, if we insist on remaining affluent we will need to remain heavily armed. Increased conflict in at least the following categories can be expected. First, the present conflict over resources between the rich elites and the poor majority in the Third World must increase, for example, as ‘development’ under globalisation takes more land, water and forests into export markets. Second, there are conflicts between the Third World and the rich world, the major recent examples being the war between the US and Iraq over control of oil. Iraq invaded Kuwait and the US intervened, accompanied by much high-sounding rhetoric (having found nothing unacceptable about Israel’s invasions of Lebanon or the Indonesian invasion of East Timor). As has often been noted, had Kuwait been one of the world’s leading exporters of broccoli, rather than oil, it is doubtful whether the US would have been so eager to come to its defence. At the time of writing, the US is at war in Central Asia over ‘terrorism’. Few would doubt that a ‘collateral’ outcome will be the establishment of regimes that will give the West access to the oil wealth of Central Asia. Following are some references to the connection many have recognised between rich world affluence and conflict. General M.D. Taylor, US Army retired argued ‘... US military priorities just be shifted towards insuring a steady flow of resources from the Third World’. Taylor referred to ‘… fierce competition among industrial powers for the same raw materials markets sought by the United States’ and ‘… growing hostility displayed by have-not nations towards their affluent counterparts’.62 ‘Struggles are taking place, or are in the offing, between rich and poor nations over their share of the world product; within the industrial world over their share of industrial resources and markets’.63 ‘That more than half of the people on this planet are poorly nourished while a small percentage live in historically unparalleled luxury is a sure recipe for continued and even escalating international conflict.’64 The oil embargo placed on the US by OPEC in the early 1970s prompted the US to make it clear that it was prepared to go to war in order to secure supplies. ‘President Carter last week issued a clear warning that any attempt to gain control of the Persian Gulf would lead to war.’ It would ‘… be regarded as an assault on the vital interests of the United States’.65 ‘The US is ready to take military action if Russia threatens vital American interests in the Persian Gulf, the US Secretary of Defence, Mr Brown, said yesterday.’66 Klare’s recent book Resource Wars discusses this theme in detail, stressing the coming significance of water as a source of international conflict. ‘Global demand for many key materials is growing at an unsustainable rate. … the incidence of conflict over vital materials is sure to grow. … The wars of the future will largely be fought over the possession and control of vital economic goods. … resource wars will become, in the years ahead, the most distinctive feature of the global security environment.’67 Much of the rich world’s participation in the conflicts taking place throughout the world is driven by the determination to back a faction that will then look favourably on Western interests. In a report entitled, ‘The rich prize that is Shaba’, Breeze begins, ‘Increasing rivalry over a share-out between France and Belgium of the mineral riches of Shaba Province lies behind the joint Franco– Belgian paratroop airlift to Zaire. … These mineral riches make the province a valuable prize and help explain the West’s extended diplomatic courtship …’68 Then there is potential conflict between the rich nations who are after all the ones most dependent on securing large quantities of resources. ‘The resource and energy intensive modes of production employed in nearly all industries necessitate continuing armed coercion and competition to secure raw materials.’69 ‘Struggles are taking place, or are in the offing, between rich and poor nations over their share of the world product, within the industrial world over their share of industrial resources and markets …’70 Growth, competition, expansion … and war Finally, at the most abstract level, the struggle for greater wealth and power is central in the literature on the causes of war. ‘… warfare appears as a normal and periodic form of competition within the capitalist world economy. … world wars regularly occur during a period of economic expansion. ’71 ‘War is an inevitable result of the struggle between economies for expansion.’72 Choucri and North say their most important finding is that domestic growth is a strong determinant of national expansion and that this results in competition between nations and war.73 The First and Second World Wars can be seen as being largely about imperial grabbing. Germany, Italy and Japan sought to expand their territory and resource access. Britain already held much of the world within its empire … which it had previously fought 72 wars to take! ‘Finite resources in a world of expanding populations and increasing per capita demands create a situation ripe for international violence.’74 Ashley focuses on the significance of the quest for economic growth. ‘War is mainly explicable in terms of differential growth in a world of scarce and unevenly distributed resources … expansion is a prime source of conflict. So long as the dynamics of differential growth remain unmanaged, it is probable that these long term processes will sooner or later carry major powers into war.’75 Security The point being made can be put in terms of security. One way to seek security is to develop greater capacity to repel attack. In the case of nations this means large expenditure of money, resources and effort on military preparedness. However there is a much better strategy; i.e. to live in ways that do not oblige you to take more than your fair share and therefore that do not give anyone any motive to attack you. Tut! This is not possible unless there is global economic justice. If a few insist on levels of affluence, industrialisation and economic growth that are totally impossible for all to achieve, and which could not be possible if they were taking only their fair share of global resources, then they must remain heavily armed and their security will require readiness to use their arms to defend their unjust privileges. In other words, if we want affluence we must prepare for war. If we insist on continuing to take most of the oil and other resources while many suffer intense deprivation because they cannot get access to them then we must be prepared to maintain the aircraft carriers and rapid deployment forces, and the despotic regimes, without which we cannot secure the oil fields and plantations. Global peace is not possible without global justice, and that is not possible unless rich countries move to ‘The Simpler Way’.

#### Economic growth fuels fast power transitions and democratic revolutions that undermine global political stability

Dani Rodrik 11 is Professor of political economy at Harvard University "Economic growth is not enough" Feb 13 www.thestar.com/opinion/editorialopinion/article/937726--economic-growth-is-not-enough

Perhaps the most striking finding in the United Nations’ recent 20th anniversary Human Development Report is the outstanding performance of the Muslim countries of the Middle East and North Africa. Here was Tunisia, ranked sixth among 135 countries in terms of improvement in its Human Development Index (HDI) over the previous four decades, ahead of Malaysia, Hong Kong, Mexico, and India. Not far behind was Egypt, ranked 14th. ¶ The HDI is a measure of development that captures achievements in health and education alongside **economic growth**. Egypt and (especially) Tunisia did well enough on the growth front, but where they really shone was on these broader indicators.¶ At 74, Tunisia’s life expectancy edges out Hungary’s and Estonia’s, **countries that are more than twice as wealthy**. Some 69 per cent of Egypt’s children are in school, a ratio that matches much richer Malaysia’s. Clearly, **these were states that did not fail in providing social services or distributing the benefits of economic growth widely.**¶Yet in the end it did not matter. The Tunisian and Egyptian people were, to paraphrase Howard Beale, mad as hell at their governments, and they were not going to take it anymore. If Tunisia’s Zine El Abidine Ben Ali or Egypt’s Hosni Mubarak were hoping for political popularity as a reward for economic gains, they must have been sorely disappointed.¶ One lesson of the Arab annus mirabilis, then, is that good economics need not always mean good politics; **the two can part ways for quite some time**. It is true that the world’s wealthy countries are almost all democracies. But democratic politics is neither a necessary nor a sufficient condition for economic development over a period of several decades. **Despite the economic advances they registered**, Tunisia, Egypt, and many other Middle Eastern countries remained authoritarian countries ruled by a narrow group of cronies, with corruption, clientelism and nepotism running rife. These countries’ rankings on political freedoms and corruption stand in glaring contrast to their rankings on development indicators.¶ In Tunisia, Freedom House reported prior to the Jasmine revolution, “the authorities continued to harass, arrest, and imprison journalists and bloggers, human rights activists, and political opponents of the government.” The Egyptian government was ranked 111th out of 180 countries in Transparency International’s 2009 survey of corruption.¶ And of course, **the converse is also true**: India has been democratic since independence in 1947, yet the country didn’t begin to escape of its low “Hindu rate of growth” until the early 1980s.¶ A second lesson is that rapid economic growth does not buy political stability on its own, unless political institutions are allowed to develop and mature rapidly as well. In fact, **economic growth itself generates social and economic mobilization, a** fundamental source of political instability.¶ As the late political scientist Samuel Huntington put it more than 40 years ago, “social and economic change — urbanization, increases in literacy and education, industrialization, mass media expansion — extend political consciousness, multiply political demands, broaden political participation.” Now add social media such as Twitter and Facebook to the equation, and the destabilizing forces **that rapid economic change sets into motion can become** overwhelming.¶ These forces become most potent when the gap between social mobilization and the quality of political institutions widens. When a country’s political institutions are mature, they respond to demands from below through a combination of accommodation, response and representation. When they are underdeveloped, they shut those demands out in the hope that they will go away — or be bought off by economic improvements.¶ The events in the Middle East amply demonstrate the fragility of the second model. Protesters in Tunis and Cairo were not demonstrating about lack of economic opportunity or poor social services. They were rallying against a political regime that they felt was insular, arbitrary and corrupt, and that did not allow them adequate voice.¶ **A political regime that can handle these pressures need not be democratic** in the western sense of the term. One can imagine responsive political systems that do not operate through free elections and competition among political parties.¶ Some would point to Oman or Singapore as examples of authoritarian regimes that are durable in the face of rapid economic change. Perhaps so. But the only kind of political system that has proved itself over the long haul is that associated with western democracies.¶ Which brings us to China. At the height of the Egyptian protests, Chinese Web surfers who searched the terms “Egypt” or “Cairo” were returned messages saying that no results could be found. Evidently, the Chinese government did not want its citizens to read up on the Egyptian protests and get the wrong idea. With the memory of the 1989 Tiananmen Square movement ever present, China’s leaders are intent on preventing a repeat.¶ China is not Tunisia or Egypt, of course. The Chinese government has experimented with local democracy and has tried hard to crack down on corruption. Even so, protest has spread over the last decade. There were 87,000 instances of what the government calls “sudden mass incidents” in 2005, the last year that the government released such statistics, which suggests that the rate has since increased. Dissidents challenge the supremacy of the Communist Party at their peril.¶ The Chinese leadership’s gamble is that a rapid increase in living standards and employment opportunities will keep the lid on simmering social and political tensions. That is why it is so intent on achieving annual economic growth of 8 per cent or higher — the magic number that it believes will contain social strife.¶ But Egypt and Tunisia have just sent a sobering message to China and other authoritarian regimes around the world: don’t count on economic progress to keep you in power forever.

#### Extinction

Chase-Dunn 96 Distinguished Professor of Sociology and Director of the Institute for Research on World-Systems at the University of (Christopher, Conflict Among Core States: World-System Cycles and Trends, 23 January 1996, http://wsarch.ucr.edu/archive/papers/c-d&hall/warprop.htm)

Note-figure omitted

Late in the K-wave upswing (i.e. in the 2020s), the world-system schema predicts a window of vulnerability to another round of world war. This is when world wars have occurred in the past. Intensified rivalry and competition for raw materials and markets will coincide with a multipolar distribution of military power among core states. The world-system model does not predict who the next hegemon will be. Rather it designates that there will be structural forces in motion that will favor the construction of a new hierarchy. Historical particularities and the unique features of the era will shape the outcome and select the winners and losers. If it were possible for the current system to survive the holocaust of another war among core states, the outcome of the war would be the main arbiter of hegemonic succession. While the hegemonic sequence has been a messy method of selecting global "leadership" in the past, the settlement of hegemonic rivalry by force in the future will be a disaster that our species may not survive. It is my concern about this possible disaster that motivates this effort to understand how the hegemonic sequence has occurred in the past and the factors affecting hegemonic rivalry in the next decades. What are the cyclical processes and secular trends that may affect the probability of future world wars? The world-system model is presented in Figure 1. This model depicts the variables that I contend will be the main influences on the probability of war among core states. The four variables that raise the probability of core war are the Kondratieff cycle, hegemonic decline, population pressure (and resource scarcity) and global inequality. The four variables that reduce the probability of core war are the destructiveness of weaponry, international economic interdependency, international political integration and disarmament. The probability of war may be high without a war occurring, of course. Joshua Goldstein's (1988) study of war severity (battle deaths per year) in wars among the "great powers" demonstrated the existence of a fifty-year cycle of core wars. Goldstein's study shows how this "war wave" tracks rather closely with the Kondratieff long economic cycle over the past 500 years of world-system history. It is the future of this war cycle that I am trying to predict. Factors that Increase the Likelihood of War Among Core States The proposed model divides variables into those that are alleged to increase the probability of war among core states and those that decrease that probability. There are four of each. Kondratieff waves The first variable that has a positive effect on the probability of war among core powers is the Kondratieff wave -- a forty to sixty year cycle of economic growth and stagnation. Goldstein (1988) provides evidence that the most destructive core wars tend to occur late in a Kondratieff A-phase (upswing). Earlier research by Thompson and Zuk (1982) also supports the conclusion that core wars are more likely to begin near the end of an upswing. Boswell and Sweat's (1991) analysis also supports the Goldstein thesis. But several other world-system theorists have argued that core wars occur primarily during K-wave B-phases. This disagreement over timing is related to a disagreement over causation. According to Goldstein states are war machines that always have a desire to utilize military force, but wars are costly and so statesmen tend to refrain from going to war when state revenues are low. On the other hand, statesmen are more likely to engage in warfare when state revenues are high (because the states can then afford the high costs of war). Boswell and Sweat call this the "resource theory of war."

### 1NC Turns Disease

Growth causes diseases mutations --- escalates to spread rampantly

Hamburg 8**—**FDA Commissioner.Senior Scientist Nuclear Threat Initiative. MD (Margaret, Germs Go Global: Why Emerging Infectious Diseases Are a Threat to America, http://healthyamericans.org/assets/files/GermsGoGlobal.pdf)

Globalization, the worldwide movement toward economic, financial, trade, and communications integration, has impacted public health significantly. Technology and economic interdependence allow diseases to spread globally at rapid speeds. Experts believe that the increase in international travel and commerce, including the increasingly global nature of food handling, processing, and sales contribute to the spread of emerging infectious diseases.47 Increased global trade has also brought more and more people into contact with zoonosis -- diseases that originated in animals before jumping to humans. For example, in 2003, the monkeypox virus entered the U.S. through imported Gambian giant rats sold in the nation’s under-regulated exotic pet trade. The rats infected pet prairie dogs, which passed the virus along to humans.48 International smuggling of birds, brought into the U.S. without undergoing inspection and/or quarantine, is of particular concern to public health experts who worry that it may be a pathway for the H5N1 “bird flu” virus to enter the country. Lower cost and efficient means of international transportation allow people to travel to more remote places and potential exposure to more infectious diseases. And the close proximity of passengers on passenger planes, trains, and cruise ships over the course of many hours puts people at risk for higher levels of exposure. If a person contracts a disease abroad, their symptoms may not emerge until they return home, having exposed others to the infection during their travels. In addition, planes and ships can themselves become breeding grounds for infectious diseases. The 2002-2003 SARS outbreak spread quickly around the globe due to international travel. SARS is caused by a new strain of coronavirus, the same family of viruses that frequently cause the common cold. This contagious and sometimes fatal respiratory illness first appeared in China in November 2002. Within 6 weeks, SARS had spread worldwide, transmitted around the globe by unsuspecting travelers. According to CDC, 8,098 people were infected and 774 died of the disease.49 SARS represented the first severe, newly emergent infectious disease of the 21st century. 50 It illustrated just how quickly infection can spread in a highly mobile and interconnected world. SARS was contained and controlled because public health authorities in the communities most affected mounted a rapid and effective response. SARS also demonstrated the economic consequences of an emerging infectious disease in closely interdependent and highly mobile world. Apart from the direct costs of intensive medical care and disease control interventions, SARS caused widespread social disruption and economic losses. Schools, hospitals, and some borders were closed and thousands of people were placed in quarantine. International travel to affected areas fell sharply by 50 - 70 percent. Hotel occupancy dropped by more than 60 percent. Businesses, particularly in tourism-related areas, failed. According to a study by Morgan Stanley, the Asia-Pacific region’s economy lost nearly $40 billion due to SARS.51 The World Bank found that the East Asian region’s GDP fell by 2 percent in the second quarter of 2003.52 Toronto experienced a 13.4 percent drop in tourism in 2003.53

## Block on Dedev

#### Complexity means quick collapse is net-better for human welfare even if they win their offense---delay magnifies environmental and human impacts

Vail 5 – Jeff Vail, attorney at Davis Graham & Stubbs LLP in Denver, Colorado specializing in litigation and energy issues, former intelligence officer with the US Air Force and energy infrastructure counterterrorism specialist with the US Department of the Interior, April 28, 2005, “The Logic of Collapse,” online: http://www.jeffvail.net/2005/04/logic-of-collapse.html

But despite the declining marginal returns, society is not capable of reducing expenditure, or even reducing the growth in expenditure. I discuss this at length in A Theory of Power, but the basic fact is that society is—at its very root—an evolutionary development that uses a continual increase in complexity to address social needs—and to ensure its own survival. So, as societies continue to invest more and more in social complexity at lower and lower marginal rates of return, they become more and more inefficient until eventually they are no longer capable of withstanding even commonplace stresses. They collapse.

This may seem too deterministic—after all, it suggests that all societies will eventually collapse. While that may cause our inherent sense of hubris to perk up for a moment, we should remember that this equation fits our data quite well—every civilization that has ever existed has, in fact, collapsed. Our present global civilization is, or course, the sole exception. A look back at the contemporary chroniclers of history shows that every “great” civilization thinks that they are somehow different, that history will not repeat with them—and their hubris is shared with gusto by members of the present global civilization.

Of course, as discrete empires and societies grow ever more cumbersome they do not always collapse in the spectacular fashion of the Western Roman Empire. If they exist in a “peer-polity” situation—that is, they are surrounded by competitors of similar levels of complexity—then they will tend to be conquered and absorbed. It is only in the case of a power vacuum—like the Chacoans or Western Romans—that we witness such a spectacular loss of complexity. In the “modern” world, we have not witnessed such a collapse as we exist in a global peer-polity continuum. When the Spanish empire grew too cumbersome the British were there to take over, and the mantel has since passed on to America, with the EU, China and others waiting eagerly in the wings. In the modern world there can no longer be an isolated collapse—our next experience with this will be global.

In fact, the modern civilization continuum has existed for so long without a global collapse because we have managed to tap new energy sources—coal, then oil—each with a higher energy surplus than the last. This has buoyed the marginal return curve temporarily with each discovery, but has not changed the fundamental dynamics of collapse.

Perhaps we should take a step back and look at collapse in general. Our psychological investment in the “goodness” of “high-civilization” leads to the commonly held conclusion that collapse is bad—and that to advocate it would be irrational. But from a purely economic point of view, collapse actually increases the overall benefit that social complexity provides to society for their level of investment. It makes economic sense. In the graph above, C3-B1 and C1-B1 provide the same benefit to society—but for dramatically different support burdens required to maintain their respective levels of complexity. C1-B1 is a much more desirable location for a society than C3-B1, so collapse from C3-B1 to C1-B1 is actually a good thing. With the growing burden of today’s global society, the global inequality and injustice that seems to grow daily, collapse is beginning to make economic sense. In fact, an entire philosophical movement, Primitivism, has sprung up dedicated to convincing the world that a “C1-B1”, hamlet society is in fact a far better place.

Despite the growing logic of collapse, in today’s peer-polity world that option does not exist except on a global scale. Today we have 3 options:

1. Continue business as usual, accepting declining marginal returns on investments in complexity (and very soon declining overall returns) until an eventual, inevitable collapse occurs globally. Continuation of present patterns will continue the escalating environmental damage, and will continue to grow the human population, with population levels in increasing excess of the support capacity of a post-collapse Earth (i.e. more people will die in the collapse).

2. Locate a new, more efficient energy source to subsidize marginal returns on our investments in complexity. This does not mean discover more oil or invent better clean coal technology—these, along with solar or wind power still provide lower marginal returns than oil in the heyday of cheap Saudi oil. Only the development of super-efficient fusion power seems to provide the ability to delay the decline of marginal returns any appreciable amount, and this will still serve to only delay and exacerbate the eventual return to option #1.

3. Precipitate a global collapse now in order to reap the economic benefits of this action while minimizing the costs of the collapse that will continue to increase with the complexity and population of our global civilization. When combined with a strategy to replace hierarchy with rhizome, as outlined in A Theory of Power, Chapter 9, this may even represent a long-term sustainable strategy.

Whoa. Am I seriously suggesting the triggering of a global collapse? For the moment I’m just suggesting that we explore the idea. If, after deliberation, we accept the totality of the three options as outlined above, then triggering collapse stands as the only responsible choice.

 It is—admittedly—a choice that is so far outside the realm of consideration of most people (who are strongly invested in the Myth of the West) that they will never take it seriously. But critically, it does not necessarily require their consent…

These may seem like the ramblings of a madman. But in the late Western Roman Empire, there is a fact that is simply not taught today because it is too far outside our tolerance for things that run counter to the Myth of the West: The citizens of Rome wanted to end the Empire, to dissolve its cumbersome structure, but could not reverse its pre-programmed course. Many—perhaps most—welcomed the invading barbarians with open arms.

So should collapse be triggered now, or should we wait as long as possible? If we accept the inevitability of collapse, then it should be triggered as soon as possible, as the cost of implementing a collapse strategy is continually growing…

Throughout history, when collapse has occurred, it has been a blessing. The mainstream continues to cling to the beliefs that collapse will be a terrible loss, and that it is not inevitable. Even with all of our cultural brain-washing, do we really have so much hubris as to hold on to the tired mantra that “this time, in our civilization, things will be different”?

#### Only collapse now ensures there’s enough natural resources and ecosystem resilience left to create sustainable societies---delay means extinction

Barry 8 – Glen Barry, Ph.D. in Land Resources from the University of Wisconsin-Madison, MS in Conservation Biology and Sustainable Development from Madison, Founder and President of Ecological Internet, January 14, 2008, “Economic Collapse and Global Ecology,” online: http://www.countercurrents.org/barry140108.htm

Humanity and the Earth are faced with an enormous conundrum -- sufficient climate policies enjoy political support only in times of rapid economic growth. Yet this growth is the primary factor driving greenhouse gas emissions and other environmental ills. The growth machine has pushed the planet well beyond its ecological carrying capacity, and unless constrained, can only lead to human extinction and an end to complex life.

With every economic downturn, like the one now looming in the United States, it becomes more difficult and less likely that policy sufficient to ensure global ecological sustainability will be embraced. This essay explores the possibility that from a biocentric viewpoint of needs for long-term global ecological, economic and social sustainability; it would be better for the economic collapse to come now rather than later.

Economic growth is a deadly disease upon the Earth, with capitalism as its most virulent strain. Throw-away consumption and explosive population growth are made possible by using up fossil fuels and destroying ecosystems. Holiday shopping numbers are covered by media in the same breath as Arctic ice melt, ignoring their deep connection. Exponential economic growth destroys ecosystems and pushes the biosphere closer to failure.

Humanity has proven itself unwilling and unable to address climate change and other environmental threats with necessary haste and ambition. Action on coal, forests, population, renewable energy and emission reductions could be taken now at net benefit to the economy. Yet, the losers -- primarily fossil fuel industries and their bought oligarchy -- successfully resist futures not dependent upon their deadly products.

Perpetual economic growth, and necessary climate and other ecological policies, are fundamentally incompatible. Global ecological sustainability depends critically upon establishing a steady state economy, whereby production is right-sized to not diminish natural capital. Whole industries like coal and natural forest logging will be eliminated even as new opportunities emerge in solar energy and environmental restoration.

This critical transition to both economic and ecological sustainability is simply not happening on any scale. The challenge is how to carry out necessary environmental policies even as economic growth ends and consumption plunges. The natural response is going to be liquidation of even more life-giving ecosystems, and jettisoning of climate policies, to vainly try to maintain high growth and personal consumption.

We know that humanity must reduce greenhouse gas emissions by at least 80% over coming decades. How will this and other necessary climate mitigation strategies be maintained during years of economic downturns, resource wars, reasonable demands for equitable consumption, and frankly, the weather being more pleasant in some places? If efforts to reduce emissions and move to a steady state economy fail; the collapse of ecological, economic and social systems is assured.

Bright greens take the continued existence of a habitable Earth with viable, sustainable populations of all species including humans as the ultimate truth and the meaning of life. Whether this is possible in a time of economic collapse is crucially dependent upon whether enough ecosystems and resources remain post collapse to allow humanity to recover and reconstitute sustainable, relocalized societies.

It may be better for the Earth and humanity's future that economic collapse comes sooner rather than later, while more ecosystems and opportunities to return to nature's fold exist. Economic collapse will be deeply wrenching -- part Great Depression, part African famine. There will be starvation and civil strife, and a long period of suffering and turmoil.

Many will be killed as balance returns to the Earth. Most people have forgotten how to grow food and that their identity is more than what they own. Yet there is some justice, in that those who have lived most lightly upon the land will have an easier time of it, even as those super-consumers living in massive cities finally learn where their food comes from and that ecology is the meaning of life. Economic collapse now means humanity and the Earth ultimately survive to prosper again.

Human suffering -- already the norm for many, but hitting the currently materially affluent -- is inevitable given the degree to which the planet's carrying capacity has been exceeded. We are a couple decades at most away from societal strife of a much greater magnitude as the Earth's biosphere fails. Humanity can take the bitter medicine now, and recover while emerging better for it; or our total collapse can be a final, fatal death swoon.

#### It’s linear---the longer we wait the worse it’ll be

Barry 10 – Glen Barry, Ph.D. in Land Resources from the University of Wisconsin-Madison, MS in Conservation Biology and Sustainable Development from Madison, Founder and President of Ecological Internet,

The human family faces imminent and (Copenhagen would suggest) inevitable collapse of the biosphere – the thin layer of life upon an otherwise lifeless planet – that makes Earth habitable. Marshes and rivers and forests and fish are far more than resources – they and all natural ecosystems are a necessity for humanity’s existence upon Earth. A few centuries of historically unprecedented explosion in human numbers and surging, albeit inequitable, consumption and resultant resource use, ecosystem destruction and pollution; is needlessly destroying being for all living things. Revolutionary action such as ending coal use, reforming industrial agriculture and protecting and restoring old forests and other natural ecosystems, is a requirement for the continuation of shared human being.

Earth is threatened by far more than a changing atmosphere causing climate change. Cumulative ecosystem destruction – not only in climate, but also water, forests, oceans, farmland, soils and toxics -- in the name of “progress” and “development” -- threatens each of us, our families and communities, as well as the Earth System in total and all her creatures. Any chance of achieving global ecological sustainability depends urgently upon shifting concerns regarding climate change to more sufficiently transform ourselves and society to more broadly resist global ecological change. Global ecological, social and economic collapse may be inevitable, but its severity, duration and likelihood of recovery are being determined by us now. It does not look good as the environmental movement has been lacking in its overall vision, ambition and implementation.

The growing numbers of ecologically literate global citizens must come forward to together start considering ecologically sufficient emergency measures to protect and restore global ecosystems. We need a plan that allows humans and as many other species as possible to survive the coming great ecological collapse, even as we work to soften the collapse, and to restore to the extent practicable the Earth’s ecosystems. This mandates full protection for all remaining large natural ecosystems and working to reconnect and enlarge biologically rich smaller remnants that still exist. It is time for a hard radical turn back to a fully functioning and restored natural Earth which will require again regaining our bond with land (and air, water and oceans), powering down our energy profligacy, and taking whatever measures are necessary to once again bring society into balance with ecosystems.

This may mean taking all measures necessary to stop those known to be destroying ecosystems for profit. As governments dither and the elite profit, it has become dreadfully apparent that the political, economic and social structures necessary to stop human ecocide of our and all life’s habitats does not yet exist. The three hundred year old hyper-capitalistic and nationalistic growth machine eating ecosystems is not going to willingly stop growing. But unless it does, human and most or all other life will suffer a slow and excruciating apocalyptic death. Actions can be taken now to soften ecological collapse while maximizing the likelihood that a humane and ecologically whole Earth remains to be renewed.

#### The current economic decline is different---multiple structural differences mean decline will cause capitalism to completely collapse---causes a smooth transition---key to solving extinction

Dr. Minqi Li 10, Assistant Professor Department of Economics, University of Utah, “The 21st Century Crisis: Climate Catastrophe or Socialism” Paper prepared for the David Gordon Memorial Lecture at URPE Summer Conference 2010

The Structural Crisis of Capitalism

The impending climate catastrophe is but one of several aspects of the structural crisis of capitalism in the 21st century. We are currently in the beginning of a prolonged period of global instability and chaos. Similar periods of systemic chaos had happened before (for example, during the first half of the 20th century). Capitalism had managed to survive earlier crises, through institutional adjustments without changing the system’s essential features (production for profit and endless accumulation of capital).

Because of this historical observation, some have developed the belief that capitalism is such a remarkably “flexible” and “creative” system that it can always reform itself, adapt to change, survive crises, and meet challenges. But this belief is short-sighted and fundamentally ahistorical.

Like every other social system, for capitalism to exist and function, it requires certain necessary historical conditions. Capitalism would remain viable (and therefore “reformable”) only to the extent the necessary historical conditions required for its normal operations are present. But the development of capitalism inevitably leads to fundamental changes in the underlying historical conditions. Sooner or later, a point will be reached where the necessary historical conditions are no longer present, and capitalism as a historical system will cease to exist.

If one compares the current systemic crisis with earlier instances of systemic crisis, what are some of the major differences?

First, in previous periods of crisis, the world’s natural resources remained relatively abundant and the global environment remained largely intact. Today, the global ecological system is literally on the verge of complete collapse. The impending climate catastrophe is only one among many aspects of global environmental crisis. Global capitalism has already exhausted the environmental space for further capital accumulation.

Secondly, the successful operations of the capitalist world system require it be regulated by an effective hegemonic power at the systemic level. However, with the decline of the US hegemony, no other big power was in a position to replace the US to become the new hegemonic power. Without an effective hegemonic power, the system would be unable to pursue its own long-term interest and solve system-wide problems.

Thirdly, in the past the capitalist system had managed to survive crisis through social reforms. In essence, social reform is for the system to buy off certain opposition groups by making limited concessions. The concessions have to be limited so that they do not undermine the essential interest of the ruling class. Today, the system has run out of its historical space for social compromise.

In virtually all the advanced capitalist countries, now a restoration of favorable conditions for capitalist accumulation would require nothing short of large and sustained declines of working class living standards. Will the western working classes simply surrender and give up their entire historical gains since the 19th century? If not, Western Europe and North America will again become major battlegrounds of class struggle in the coming decades.

Fourthly, the world has reached the advanced stage of proletarianization

. Marx famously predicted that the proletariat would become the grave diggers of capitalism. For the entire 19th and much of 20th century, the process of proletarianization was largely limited to the “West” (the advanced capitalist countries). In the neoliberal era, as capital is relocated from advanced capitalist countries to the rest of the world to exploit the reserve army of cheap labor force, there have been large formations of industrial working classes in the non-western world.

Over time, the non-western working classes will have developed the organizational capacity and demand a growing range of economic, social, and political rights. For the capitalist world system, if its economic and ecological resources are already so limited that it is no longer possible to accommodate the historical demands of the western working classes, what is the chance for the system to accommodate the demands of the much larger non-western working classes?

If the system can no longer survive by buying off its potential oppositions, can it simply survive by repression, and for how long?

How will the combination of these trends play out in the coming decades? Will the current structural crisis turn out to be the terminal crisis of capitalism? One thing is clear. If capitalism does survive the current crisis, there is probably not much hope for the humanity to survive the coming global climate catastrophe. For the humanity’s sake, end capitalism before we are ended by capitalism.

#### Growth and consumption aren’t biologically inevitable---expectations of consumption get re-scaled to adjust to income

Ulrich Witt 11, Max Planck Institute of Economics, Jena, Germany, 2011, “Sustainability and the Problem of Consumption,” <https://papers.econ.mpg.de/evo/discussionpapers/2011-16.pdf>

In view of the importance of the problems it seems warranted to extend the discussion of possible policy strategies to measures that target consumption directly. If the anthropogenic use of nature cannot be reduced otherwise so as to reach sustainability, sacrifices in the level and in the further growth of consumption may be deemed legitimate. Moreover, how sure is it that a growing consumption is always satisfying the needs or preferences of human beings better? To assess this question a thorough explanation of the way in which humans satisfy their needs or preferences is required, i.e. an explanation of the sources of human welfare. Canonical economic theory offers little in that direction. It simply assumes that the consumers’ invariable preferences are insatiable (an assumption not least motivated to ensure unique solutions for the utility maximization calculus, see Deaton and Muellbauer 1980, Chap. 2.1). By implication every expansion of consumption then qualifies as welfare gain. Yet the sweeping claim that more is always preferred to less does not do justice to what happens on the demand side of growing economies. It is a well known fact that the income elasticity of demand differs substantially between expenditure categories. In some categories, the dramatic growth of disposable income has created a situation showing signs of satiation. In other categories, in contrast, there are no signs of satiation whatsoever (see, e.g., Lebergott 1993).

In order to come to grips with an explanation of what seems to be rather complex need or preference satisfaction patterns a more elaborate theory is necessary. The present paper suggests a behavioral approach that is molded in an evolutionary paradigm (Witt 2001, 2010a). It allows to inquire more deeply into the – changing – motivation underlying the consumers’ spending behavior. By doing so, the normative implications of both the present patterns of consumption and possible, policy induced, sacrifices can better be assessed. It is often claimed that

consumer preferences co-evolve with rising income (see, e.g., Norton et al. 1998). To be more specific regarding the explanation of preference change the hypothesis of a multi-level learning process will be introduced. Where the canonical version of preference theory is based on a uniform preference index, this learning process implies a decomposable preference index. It corresponds to quite a variety of different motivational mechanisms. With a growing consumption their effects on welfare call into question some of the established views on preference satisfaction.

#### Warming is real, anthropogenic and causes extinction---the tipping point’s 500 ppm

Hansen 12 James, directs the NASA Goddard Institute for Space Studies, "Game Over for the Climate", New York Times, May 9, www.nytimes.com/2012/05/10/opinion/game-over-for-the-climate.html?\_r=2

GLOBAL warming isn’t a prediction. It is happening. That is why I was so troubled to read a recent interview with President Obama in Rolling Stone in which he said that Canada would exploit the oil in its vast tar sands reserves “regardless of what we do.”¶ If Canada proceeds, and we do nothing, it will be game over for the climate.¶ Canada’s tar sands, deposits of sand saturated with bitumen, contain twice the amount of carbon dioxide emitted by global oil use in our entire history. If we were to fully exploit this new oil source, and continue to burn our conventional oil, gas and coal supplies, concentrations of carbon dioxide in the atmosphere eventually would reach levels higher than in the Pliocene era, more than 2.5 million years ago, when sea level was at least 50 feet higher than it is now. That level of heat-trapping gases would assure that the disintegration of the ice sheets would accelerate out of control. Sea levels would rise and destroy coastal cities. Global temperatures would become intolerable. Twenty to 50 percent of the planet’s species would be driven to extinction. Civilization would be at risk.¶ That is the long-term outlook. But near-term, things will be bad enough. Over the next several decades, the Western United States and the semi-arid region from North Dakota to Texas will develop semi-permanent drought, with rain, when it does come, occurring in extreme events with heavy flooding. Economic losses would be incalculable. More and more of the Midwest would be a dust bowl. California’s Central Valley could no longer be irrigated. Food prices would rise to unprecedented levels.¶ If this sounds apocalyptic, it is. This is why we need to reduce emissions dramatically. President Obama has the power not only to deny tar sands oil additional access to Gulf Coast refining, which Canada desires in part for export markets, but also to encourage economic incentives to leave tar sands and other dirty fuels in the ground.¶ The global warming signal is now louder than the noise of random weather, as I predicted would happen by now in the journal Science in 1981. Extremely hot summers have increased noticeably. We can say with high confidence that the recent heat waves in Texas and Russia, and the one in Europe in 2003, which killed tens of thousands, were not natural events — they were caused by human-induced climate change.¶ We have known since the 1800s that carbon dioxide traps heat in the atmosphere. The right amount keeps the climate conducive to human life. But add too much, as we are doing now, and temperatures will inevitably rise too high. This is not the result of natural variability, as some argue. The earth is currently in the part of its long-term orbit cycle where temperatures would normally be cooling. But they are rising — and it’s because we are forcing them higher with fossil fuel emissions.¶ The concentration of carbon dioxide in the atmosphere has risen from 280 parts per million to 393 p.p.m.

 over the last 150 years. The tar sands contain enough carbon — 240 gigatons — to add 120 p.p.m. Tar shale, a close cousin of tar sands found mainly in the United States, contains at least an additional 300 gigatons of carbon. If we turn to these dirtiest of fuels, instead of finding ways to phase out our addiction to fossil fuels, there is no hope of keeping carbon concentrations below 500 p.p.m. — a level that would, as earth’s history shows, leave our children a climate system that is out of their control.

#### On the brink of the tipping point---try or die---once we hit it it’ll be irreversible

Damian Carrington 11 is the head of environment at the Guardian "Mass tree deaths prompt fears of Amazon 'climate tipping point'" Feb 3 www.guardian.co.uk/environment/2011/feb/03/tree-deaths-amazon-climate

\*Citing Simon Lewis, a Royal Society research fellow at the Earth & Biosphere Institute, University of Leeds

Billions of trees died in the record drought that struck the Amazon in 2010, raising fears that the vast forest is on the verge of a tipping point, where it will stop absorbing greenhouse gas emissions and instead increase them.

The dense forests of the Amazon soak up more than one-quarter of the world's atmospheric carbon, making it a critically important buffer against global warming. But if the Amazon switches from a carbon sink to a carbon source that prompts further droughts and mass tree deaths, such a feedback loop could cause runaway climate change, with disastrous consequences.

"Put starkly, current emissions pathways risk playing Russian roulette with the world's largest forest," said tropical forest expert Simon Lewis, at the University of Leeds, and who led the research published today in the journal Science. Lewis was careful to note that significant scientific uncertainties remain and that the 2010 and 2005 drought – thought then to be of once-a-century severity – might yet be explained by natural climate variation.

"We can't just wait and see because there is no going back," he said. "We won't know we have passed the point where the Amazon turns from a sink to a source until afterwards, when it will be too late."

Alex Bowen, from the London School of Economics and Political Science's Grantham research institute on climate change, said huge emissions of carbon from the Amazon would make it even harder to keep global greenhouse gases at a low enough level to avoid dangerous climate change. "It therefore makes it even more important for there to be strong and urgent reductions in man-made emissions."

The revelation of mass tree deaths in the Amazon is a major blow to efforts to reduce the destruction of the world's forests by loggers, one of the biggest sources of global carbon emissions. The use of satellite imagery by Brazilian law enforcement teams has drastically cut deforestation rates and replanting in Asia had slowed the net loss. Financial deals to protect forests were one of the few areas on which some progress was made at the 2010 UN climate talks in Cancún.

The 2010 Amazonian drought led to the declaration of states-of-emergencies and the lowest ever level of the major tributary, the Rio Negro. Lewis, with colleagues in Brazil, examined satellite-derived rainfall measurements and found that the 2010 drought was even worse than the very severe 2005 drought, affecting a 60% wider area and with an even harsher dry season.

On the ground, the researchers have 126 one-hectare plots spread across the Amazon, in which every single tree is tagged and monitored. After 2005, they counted how many trees had died and worked out how much carbon would be pumped into the atmosphere as the wood rotted. In addition, the reduced growth of the water-stressed trees means the forest failed to absorb the 1.5bn tonnes of carbon that it would in a normal year.

Applying the same principles to the 2010 drought, they estimated that 8 billion tonnes of CO2 will be released - more than the entire 7.7bn tonnes emitted in 2009 by China, the biggest polluting nation in the world. This estimate does not include forest fires, which release carbon and increase in dry years.

"The Amazon is such a big area that even a small shift [in conditions] there can have a global impact," said Lewis.

Lewis said that two such severe droughts in the Amazon within five years was highly unusual, but that a natural variation in climate over decade-long periods cannot yet be ruled out. The driving factor of the annual weather patterns is the warmth of the sea in the Atlantic. He said increasing droughts in the Amazon are found in some climate models, including the sophisticated model used by the Hadley centre. This means the 2005 and 2010 droughts are consistent with the idea that global warming will cause more droughts in future, emit more carbon, and potentially lead to runaway climate change. "The greenhouse gases we have already emitted may mean there are several more droughts in the pipeline," he said.

Lewis said that the 2010 drought killed "in the low billions of trees", in addition to the roughly 4 billion trees that die on average in a normal year across the Amazon. The researchers are now trying to raise £500,000 in emergency funding to revisit the plots in the Amazon and gather further data.

Brazilian scientist Paulo Brando, from the Instituto de Pesquisa Ambiental da Amazônia (Amazon Environmental Research Institute), and co-leader of the research said: "We will not know exactly how many trees were killed until we can complete forest measurements on the ground. It could be that many of the drought-susceptible trees were killed off in 2005. Or the first drought may have weakened a large number of trees so increasing the number dying in 2010."

Brando added: "Our results should be seen as an initial estimate. The emissions estimates do not include those from forest fires, which spread over extensive areas of the Amazon during hot and dry years and release large amounts of carbon."

Note: The original version of this article incorrectly reported the amount of carbon Lewis's team estimated would be released in 2010 as 8.5 billion tonnes of CO2: the actual figure is 8bn.

Climate tipping points

Scientists know from the geological record that the Earth's climate can change rapidly. They have identified a number of potential tipping points where relatively small amounts of global warming caused by human activities could cause large changes in climate. Some tipping points, like the losses to the Amazon forests, involve positive feedback loops and could lead to runaway climate change.

Arctic ice cap: The white ice cap is good at reflecting the Sun's warming light back into space. But when it melts, the dark ocean uncovered absorbs this heat. This leads to more melting, and so on.

Tundra: The high north is warming particularly fast, melting the permafrost that has locked up vast amounts of carbon in soils for thousands of years. Bacteria digesting the unfrozen soils generate methane, a potent greenhouse gas, leading to more warming.

Gas hydrates: Also involving methane, this tipping point involves huge reservoirs of methane frozen on or just below the ocean floor. The methane-water crystals are close to their melting point and highly unstable. A huge release could be triggered by a little warming.

West Antarctic ice sheet: Some scientists think this enormous ice sheet, much of which is below sea level, is vulnerable to small amounts of warming. If it all eventually melted, sea level would rise by six metres.

The ONLY way to solve warming is by decreasing emissions through slow economic growth—under no circumstance will tech solve—we’ll cross the threshold in 10 years—it’s try or die and multiple, empirical models prove this

Martenson, PhD Economist, 9 [Dr. Chris Martenson is an independent economist and author of a popular website, ChrisMartenson.com. Chris earned a PhD in neurotoxicology from Duke University, and an MBA from Cornell University. A fellow of the Post Carbon Institute, Chris's work has appeared on PBS and been cited by the Washington Post. He is a contributor to SeekingAlpha.com and FinancialSense.com, and former VP of Pfizer and SAIC “Copenhagen & Economic Growth - You Can't Have Both,” Dec 24 http://www.energybulletin.net/node/51229]

I want to point out that a massive discrepancy exists between the official pronouncements emerging from Copenhagen on carbon emissions and recent government actions to spur economic growth. Before and during Copenhagen (and after, too, we can be sure), politicians and central bankers across the globe have worked tirelessly to return the global economy to a path of growth. We need more jobs, we are told; we need economic growth, we need more people consuming more things. Growth is the ever-constant word on politicians' lips. Official actions amounting to tens of trillions of dollars speak to the fact that this is, in fact, our number-one global priority. But the consensus coming out of Copenhagen is that carbon emissions have to be reduced by a vast amount over the next few decades. These two ideas are mutually exclusive. You can't have both. Economic growth requires energy, and most of our energy comes from hydrocarbons - coal, oil, and natural gas. Burning those fuel sources releases carbon. Therefore, increasing economic activity will release more carbon. It is a very simple concept. Nobody has yet articulated how it is that we will reconcile both economic growth and reduced use of hydrocarbon energy. And so the proposed actions coming out of Copenhagen are not grounded in reality, and they are set dead against trillions of dollars of spending. There is only one thing that we know about which has curbed, and even reversed, the flow of carbon into the atmosphere, and that is the recent economic contraction. This is hard proof of the connection between the economy and energy. It should serve as proof that any desire to grow the economy is also an explicit call to increase the amount of carbon being expelled into the atmosphere. The idea of salvation via the electric plug-in car or other renewable energy is a fantasy. The reality is that any new technology takes decades to reach full market penetration, and we haven't even really begun to introduce any yet. Time, scale, and cost must be weighed when considering any new technology's potential to have a significant impact on our energy-use patterns. For example, a recent study concluded that another 20 years would be required for electric vehicles to have a significant impact on US gasoline consumption. Meaningful Numbers of Plug-In Hybrids Are Decades Away The mass-introduction of the plug-in hybrid electric car is still a few decades away, according to new analysis by the National Research Council. The study, released on Monday, also found that the next generation of plug-in hybrids could require hundreds of billions of dollars in government subsidies to take off. Even then, plug-in hybrids would not have a significant impact on the nation’s oil consumption or carbon emissions before 2030. Savings in oil imports would also be modest, according to the report, which was financed with the help of the Energy Department. Twenty to thirty years is the normal length of time for any new technology to scale up and fully penetrate a large market. But this study, as good as it was in calculating the time, scale, and cost parameters of technology innovation and penetration, still left out the issue of resource scarcity. Is there enough lithium in the world to build all these cars? Neodymium? This is a fourth issue that deserves careful consideration, given the scale of the overall issue. But even if we did manage to build hundreds of millions of plug-in vehicles, where would the electricity come from? Many people mistakenly think that we are well on our way to substantially providing our electricity needs using renewable sources such as wind and solar. We are not. Renewable timetable is a long shot Al Gore's well-intentioned challenge that we produce "100 percent of our electricity from renewable energy and truly clean carbon-free sources within 10 years" represents a widely held delusion that we can't afford to harbor. The delusion is shared by the Minnesota Legislature, which is requiring the state's largest utility, Xcel Energy, to get at least 24 percent of its energy from wind by 2020. One of the most frequently ignored energy issues is the time required to bring forth a major new fuel to the world's energy supply. Until the mid-19th century, burning wood powered the world. Then coal gradually surpassed wood into the first part of the 20th century. Oil was discovered in the 1860s, but it was a century before it surpassed coal as our largest energy fuel. Trillions of dollars are now invested in the world's infrastructure to mine, process and deliver coal, oil and natural gas. As distinguished professor Vaclav Smil of the University of Manitoba recently put it, "It is delusional to think that the United States can install in a decade wind and solar generating capacity equivalent to that of thermal power plants that took nearly 60 years to construct." Texas has three times the name plate wind capacity of any other state — 8,000-plus megawatts. The Electric Reliability Council of Texas manages the Texas electric grids. ERCOT reports that its unpredictable wind farms actually supply just a little more than 700 MW during summer power demand, and provide just 1 percent of Texas' power needs of about 72,000 MW. ERCOT's 2015 forecast still has wind at just more than 1 percent despite plans for many more turbines. For the United States, the Energy Information Administration is forecasting wind and solar together will supply less than 3 percent of our electric energy in 2020. Again it turns out that supplanting even a fraction of our current electricity production with renewables will also take us decades. And even that presumes that we have a functioning economy in which to mine, construct, transport and erect these fancy new technologies. Time, scale, and cost all factor in as challenges to significant penetration of new energy technologies as well. So where will all the new energy for economic growth come from? The answer, unsurprisingly, is from the already-installed carbon-chomping coal, oil, and natural gas infrastructure. That is the implicit assumption that lies behind the calls for renewed economic growth. It's The Money, Stupid As noted here routinely in my writings and in the Crash Course, we have an exponential monetary system. One mandatory feature of our current exponential monetary system is the need for perpetual growth. Not just any kind of growth; exponential growth. That's the price for paying interest on money loaned into existence. Without that growth, our monetary system shudders to a halt and shifts into reverse,

operating especially poorly and threatening to melt down the entire economic edifice. This is so well understood, explicitly or implicitly, throughout all the layers of society and in our various institutions, that you

will only ever hear politicians and bankers talking about the "need" for growth. In fact, they are correct; our system does need growth. All debt-based money systems require growth. That is the resulting feature of loaning one's money into existence. That's the long and the short of the entire story. The growth may seem modest, perhaps a few percent per year ('That's all, honest!'), but therein lies the rub. Any continuous percentage growth is still exponential growth. Exponential growth means not just a little bit more each year, but a constantly growing amount each year. It is a story of more. Every year needs slightly more than the prior year - that's the requirement. The Gap Nobody has yet reconciled the vast intellectual and practical gap that exists between our addiction to exponential growth and the carbon reduction rhetoric coming out of Copenhagen. I've yet to see any credible plan that illustrates how we can grow our economy without using more energy. Is it somehow possible to grow an economy without using more energy? Let's explore that concept for a bit. What does it mean to "grow an economy?" Essentially, it means more jobs for more people producing and consuming more things. That's it. An economy, as we measure it, consists of delivering the needs and wants of people in ever-larger quantities. It's those last three words - ever-larger quantities - that defines the whole problem. For example, suppose our economy consisted only of building houses. If the same number of houses were produced each year, we'd say that the economy was not growing. It wouldn't matter whether the number was four hundred thousand or four million; if the same number of new homes were produced each year, year after year, this would be considered a very bad thing, because it would mean our economy was not growing. The same is true for cars, hair brushes, big-screen TVs, grape juice, and everything else you can think of that makes up our current economy. Each year, more needs to be sold than the year before, or the magic economic-stimulus wands will come out to ward off the Evil Spirits of No Growth. If our economy were to grow at the same rate as the population, it would grow by around 1% per year. This is still exponential growth, but it is far short of the 3%-4% that policymakers consider both desirable and necessary. Why the gap? Why do we work so hard to ensure that 1% more people consume 3% more stuff each year? Out of Service It's not that 3% is the right number for the land or the people who live upon it. The target of 3% is driven by our monetary system, which needs a certain rate of exponential growth each year in order to cover the interest expense due each year on the already outstanding loans. The needs of our monetary system are driving our economic decisions, not the needs of the people, let alone the needs of the planet. We are in service to our money system, not the other way around. Today we have a burning need for an economic model that can operate tolerably well without growth. But ours can't, and so we actually find ourselves in the uncomfortable position of pitting human needs against the money system and observing that the money system is winning the battle. The Federal Reserve exists solely to assure that the monetary system has what it needs to function. That is their focus, their role, and their primary concern. I assume that they assume that by taking care of the monetary system, everything else will take care of itself. I think their assumption is archaic and wrong. Regardless, our primary institutions and governing systems are in service to a monetary system that is dysfunctional. It was my having this outlook, this lens, more than any other, that allowed me to foresee what so many economists missed. Only by examining the system from a new, and very wide, angle can the enormous flaws in the system be seen. Economy & Energy Now let's get back to our main problem of economic growth and energy use (a.k.a. carbon production). There is simply no way to build houses, produce televisions, grow and transport grape juice, and market hair brushes without consuming energy in the process. That's just a cold, hard reality. We need liquid fuel to extract, transform, and transport products to market. More people living in more houses means we need more electricity. Sure, we can be more efficient in our use of energy, but unless our efficiency gains are exceeding the rate of economic growth, more energy will be used, not less. In the long run, if we were being 3% more efficient in our use of fuel and growing our economy at 3%, this would mean burning the same amount of fuel each year. Unfortunately, fuel-efficiency gains are well known to run slower than economic growth. For example, the average fuel efficiency of the US car fleet (as measured by the CAFE standards) has increased by 18% over the past 25 years, while the economy has grown by 331%. Naturally, our fuel consumption has grown, not fallen, over that time, despite the efficiency gains. So the bottom line is this: There is no possible way to both have economic growth (as we've known it in the past) and cut carbon emissions. At least not without doing things very differently.

#### No nuclear escalation---

#### Both sides err away from escalation

Quinlan 9—distinguished frmr British defence strategist and former Permanent Under-Secretary of State. (Michael, Thinking About Nuclear Weapons, 63-9)

Even if initial nuclear use did not quickly end the fighting, the supposition of inexorable momentum in a developing exchange, with each side rushing to overreaction amid confusion and uncertainty, **is implausible**. It fails to consider what the situation of the decisionmakers would really be. Neither side could want escalation. Both would be appalled at what was going on. **Both would be desperately look**ing **for signs** that **the other was ready to** call a **halt.** Both, given the capacity for evasion or concealment which modern delivery platforms and vehicles can possess, could have in reserve significant forces invulnerable enough not to entail use-or-lose pressures. (It may be more open to question, as noted earlier, whether newer nuclear-weapon possessors can be immediately in that position; but it is within reach of any substantial state with advanced technological capabilities, and attaining it is certain to be a high priority in the development of forces.) As a result, neither side can have any predisposition to suppose, in an ambiguous situation of fearful risk, that the right course when in doubt is to go on copiously launching weapons. And none of this analysis rests on any presumption of highly subtle or pre-concerted rationality. The rationality required is plain. The argument is reinforced if we consider the possible reasoning of an aggressor at a more dispassionate level. Any substantial nuclear armoury can inflict destruction outweighing any possible prize that aggression could hope to seize. A state attacking the possessor of such an armoury must therefore be doing so (once given that it cannot count upon destroying the armoury pre-emptively) on a judgement that the possessor would be found lacking in the will to use it. If the attacked possessor used nuclear weapons, whether first or in response to the aggressor's own first use, this judgement would begin to look dangerously precarious. There must be **at least a substantial possibility** of the aggressor leaders' concluding that their initial judgement had been mistaken—that the risks were after all greater than whatever prize they had been seeking, and that for their own country's survival they must call off the aggression. Deterrence planning such as that of NATO was directed in the first place to preventing the initial misjudgement and in the second, if it were nevertheless made, to compelling such a reappraisal. The former aim had to have primacy, because it could not be taken for granted that the latter was certain to work. But there was no ground for assuming in advance, for all possible scenarios, that the chance of its working must be negligible. An aggressor state would itself be at huge risk if nuclear war developed, as its leaders would know. It may be argued that a policy which abandons hope of physically defeating the enemy and simply hopes to get him to desist is pure gamble, a matter of who blinks first; and that the political and moral nature of most likely aggressors, almost ex hypothesis, makes them the less likely to blink. One response to this is to ask what is the alternative—it can only be surrender. But a more positive and hopeful answer lies in the fact that the criticism is posed in a political vacuum. Real-life conflict would have a political context. The context which concerned NATO during the cold war, for example, was one of defending vital interests against a postulated aggressor whose own vital interests would not be engaged, or would be less engaged. Certainty is not possible, but a clear asymmetry of vital interest is a legitimate basis for expecting an asymmetry, credible to both sides, of resolve in conflict. That places upon statesmen, as page 23 has noted, the key task in deterrence of building up in advance a clear and shared grasp of where limits lie. That was plainly achieved in cold-war Europe. 11 vital interests have been defined in a way that is clear, and also clearly not overlapping or incompatible with those of the adversary, a credible basis has been laid for the likelihood of greater resolve in resistance. It was also sometimes suggested by critics that whatever might be indicated by theoretical discussion of political will and interests, the military environment of nuclear warfare—particularly difficulties of communication and control—would drive escalation with overwhelming probability to the limit. But it is obscure why matters should be regarded as inevitably so for every possible level and setting of action. Even if the history of war suggested (as it scarcely does) that military decision-makers are mostly apt to work on the principle 'When in doubt, lash out', the nuclear revolution creates an utterly new situation. The pervasive reality, always plain to both sides during the cold war, is 'If this goes on to the end, we are all ruined'. Given that inexorable escalation would mean catastrophe for both, it would be perverse to suppose them permanently incapable of framing arrangements which avoid it. As page 16 has noted, NATO gave its military commanders no widespread delegated authority, in peace or war, to launch nuclear weapons without specific political direction. Many types of weapon moreover had physical safeguards such as PALs incorporated to reinforce organizational ones. There were multiple communication and control systems for passing information, orders, and prohibitions. Such systems could not be totally guaranteed against disruption if at a fairly intense level of strategic exchange—which was only one of many possible levels of conflict— an adversary judged it to be in his interest to weaken political control. It was far from clear why he necessarily should so judge. Even then, however, it remained possible to operate on a general fail-safe presumption: no authorization, no use. That was the basis on which NATO operated. If it is feared that the arrangements which a nuclear-weapon possessor has in place do not meet such standards in some respects, the logical course is to continue to improve them rather than to assume escalation to be certain and uncontrollable, with all the enormous inferences that would have to flow from such an assumption. The likelihood of escalation can never be 100 per cent, and never zero. Where between those two extremes it may lie can never be precisely calculable in advance; and even were it so calculable, it would not be uniquely fixed—it would stand to vary hugely with circumstances. That there should be any risk at all of escalation to widespread nuclear war must be deeply disturbing, and decision-makers would always have to weigh it most anxiously. But a pair of key truths about it need to be recognized. The first is that the risk of escalation to large-scale nuclear war is inescapably present in any significant armed conflict between nuclear-capable powers, whoever may have started the conflict and whoever may first have used any particular category of weapon. The initiator of the conflict will always have physically available to him options for applying more force if he meets effective resistance. If the risk of escalation, whatever its degree of probability, is to be regarded as absolutely unacceptable, the necessary inference is that a state attacked by a substantial nuclear power must forgo military resistance. It must surrender, even if it has a nuclear armoury of its own. But the companion truth is that, as page 47 has noted, the risk of escalation is an inescapable burden also upon the aggressor. The exploitation of that burden is the crucial route, if conflict does break out, for managing it to a tolerable outcome—the only route, indeed, intermediate between surrender and holocaust, and so the necessary basis for deterrence beforehand. The working out of plans to exploit escalation risk most effectively in deterring potential aggression entails further and complex issues. It is for example plainly desirable, wherever geography, politics, and available resources so permit without triggering arms races, to make provisions and dispositions that are likely to place the onus of making the bigger and more evidently dangerous steps in escalation upon the aggressor who wishes to maintain his attack, rather than upon the defender. (The customary shorthand for this desirable posture used to be 'escalation dominance'.) These issues are not further discussed here. But addressing them needs to start from acknowledgement that there are in any event no certainties or absolutes available, no options guaranteed to be risk-free and cost-free. Deterrence is not possible without escalation risk; and its presence can point to no automatic policy conclusion save for those who espouse outright pacifism and accept its consequences. Accident and Miscalculation Ensuring the safety and security of nuclear weapons plainly needs to be taken most seriously. Detailed information is understandably not published, but such direct evidence as there is suggests that it always has been so taken in every possessor state, with the inevitable occasional failures to follow strict procedures dealt with rigorously. Critics have nevertheless from time to time argued that the possibility of accident involving nuclear weapons is so substantial that it must weigh heavily in the entire evaluation of whether war-prevention structures entailing their existence should be tolerated at all. Two sorts of scenario are usually in question. The first is that of a single grave event involving an unintended nuclear explosion—a technical disaster at a storage site, for example, or the accidental or unauthorized launch of a delivery system with a live nuclear warhead. The second is that of some event—perhaps such an explosion or launch, or some other mishap such as malfunction or misinterpretation of radar signals or computer systems—initiating a sequence of response and counter-response that culminated in a nuclear exchange which no one had truly intended. No event that is physically possible can be said to be of absolutely zero probability (just as at an opposite extreme it is absurd to claim, as has been heard from distinguished figures, that nuclear-weapon use can be guaranteed to happen within some finite future span despite not having happened for over sixty years). But human affairs cannot be managed to the standard of either zero or total probability. We have to assess levels between those theoretical limits and weigh their reality and implications against other factors, in security planning as in everyday life. There have certainly been, across the decades since 1945, many known accidents involving nuclear weapons, from transporters skidding off roads to bomber aircraft crashing with or accidentally dropping the weapons they carried (in past days when such carriage was a frequent feature of readiness arrangements—it no longer is). A few of these accidents may have released into the nearby environment highly toxic material. None however has entailed a nuclear detonation. Some commentators suggest that this reflects bizarrely good fortune amid such massive activity and deployment over so many years. A more rational deduction from the facts of this long experience would however be that the probability of any accident triggering a nuclear explosion is extremely low. It might be further noted that the mechanisms needed to set off such an explosion are technically demanding, and that in a large number of ways the past sixty years have seen **extensive improvements** in safety arrangements for both the design and the handling of weapons. It is undoubtedly possible to see respects in which, after the cold war, some of the factors bearing upon risk may be new or more adverse; but some are now plainly less so. The years which the world has come through entirely without accidental or unauthorized detonation have included early decades in which knowledge was sketchier, precautions were less developed, and weapon designs were less ultra-safe than they later became, as well as substantial periods in which weapon numbers were larger, deployments more widespread and diverse, movements more frequent, and several aspects of doctrine and readiness arrangements more tense. Similar considerations apply to the hypothesis of nuclear war being mistakenly triggered by false alarm. Critics again point to the fact, as it is understood, of numerous occasions when initial steps in alert sequences for US nuclear forces were embarked upon, or at least called for, by indicators mistaken or misconstrued. In none of these instances, it is accepted, did matters get at all near to nuclear launch—extraordinary good fortune again, critics have suggested. But **the** rival and **more logical inference from** hundreds of events stretching over sixty years of experience **presents itself once more**: that the probability of initial misinterpretation leading far towards mistaken launch is remote. Precisely because any nuclear-weapon possessor recognizes the vast gravity of any launch, release sequences have many steps, and human decision is repeatedly interposed as well as capping the sequences. To convey that because a first step was prompted the world somehow came close to accidental nuclear war is wild hyperbole, rather like asserting, when a tennis champion has lost his opening service game, that he was nearly beaten in straight sets. History anyway scarcely offers any ready example of major war started by accident even before the nuclear revolution imposed an **order-of-magnitude** increase in caution. It was occasionally conjectured that nuclear war might be triggered by the real but accidental or unauthorized launch of a strategic nuclear-weapon delivery system in the direction of a potential adversary. No such launch is known to have occurred in over sixty years. The probability of it is therefore very low. But even if it did happen, the further hypothesis of its initiating a general nuclear exchange is far-fetched. It fails to consider the real situation of decision-makers, as pages 63-4 have brought out. **The notion that cosmic holocaust might be mistakenly precipitated in this way belongs to science fiction.**

#### No credible scenario

**Quinlan 9**—distinguished frmr British defence strategist and former Permanent Under-Secretary of State. (Michael, Thinking About Nuclear Weapons, 69-70)

One special form of miscalculation appeared sporadically in the speculations of academic commentators, though it was scarcely ever to be encountered—at least so far as my own observation went—in the utterances of practical planners within government. This is the idea that nuclear war might be erroneously triggered, or erroneously widened, through a state under attack misreading either what sort of attack it was being subjected to, or where the attack came from. The postulated misreading of the nature of the attack referred in particular to the hypothesis that if a delivery system—normally a missile—that was known to be capable of carrying either a nuclear or a conventional warhead was launched in a conventional role, the target country might, on detecting the launch through its earlywarning systems, misconstrue the mission as an imminent nuclear strike and immediately unleash a nuclear counter-strike of its own. This conjecture was voiced, for example, as a criticism of the proposals for giving the US Trident SLBM, long associated with nuclear missions, a capability to deliver conventional warheads. Whatever the merit of those proposals (it is not explored here), **it is hard to regard this particular apprehension as having any real-life credibility.** The flight time of a ballistic missile would not exceed about thirty minutes, and that of a cruise missile a few hours, before arrival on target made its character—conventional or nuclear—unmistakable. No government will need, and no nonlunatic government could wish, to take within so short a span of time a step as enormous and irrevocable as the execution of a nuclear strike on the basis of early-warning information alone without knowing the true nature of the incoming attack. **The speculation tends** moreover **to be expressed without** **reference** either **to any realistic political or conflict**-related **context** thought to render the episode plausible, or to the manifest interest of the launching country, should there be any risk of doubt, in ensuring—by explicit communication if necessary—that there was no misinterpretation of its conventionally armed launch.

#### Environmental collapse outweighs economic decline

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Conscious decisions to allow the extinction of a species or the destruction of an entire ecosystem epitomize the "irreversible and irretrievable commitments of resources" that NEPA is designed to retard. 312 The original Endangered Species Act gave such decisions no quarter whatsoever; 313 since 1979, such decisions have rested in the hands of a solemnly convened "God Squad." 314 In its permanence and gravity, natural extinction provides the baseline by which all other types of extinction should be judged. The Endangered Species Act explicitly acknowledges the "esthetic, ecological, educational, historical, recreational, and scientific value" of endangered species and the biodiversity they represent. 315 Allied bodies of international law confirm this view: 316 global biological diversity is part of the commonly owned heritage of all humanity and deserves full legal protection. 317 Rather remarkably, these broad assertions understate the value of biodiversity and the urgency of its protection. A Sand County Almanac, the eloquent bible of the modern environmental movement, contains only two demonstrable biological errors. It opens with one and closes with another. We can forgive Aldo Leopold's decision to close with that elegant but erroneous epigram, "ontogeny repeats phylogeny." 318 What concerns [\*208] us is his opening gambit: "There are some who can live without wild things, and some who cannot." 319 Not quite. None of us can live without wild things. Insects are so essential to life as we know it that if they "and other land-dwelling anthropods ... were to disappear, humanity probably could not last more than a few months." 320 "Most of the amphibians, reptiles, birds, and mammals," along with "the bulk of the flowering plants and ... the physical structure of most forests and other terrestrial habitats" would disappear in turn. 321 "The land would return to" something resembling its Cambrian condition, "covered by mats of recumbent wind-pollinated vegetation, sprinkled with clumps of small trees and bushes here and there, largely devoid of animal life." 322 From this perspective, the mere thought of valuing biodiversity is absurd, much as any attempt to quantify all of earth's planetary amenities as some trillions of dollars per year is absurd. But the frustration inherent in enforcing the Convention on International Trade in Endangered Species (CITES) has shown that conservation cannot work without appeasing Homo economicus, the profit-seeking ape. Efforts to ban the international ivory trade through CITES have failed to stem the slaughter of African elephants. 323 The preservation of biodiversity must therefore begin with a cold, calculating inventory of its benefits. Fortunately, defending biodiversity preservation in humanity's self-interest is an easy task. As yet unexploited species might give a hungry world a larger larder than the storehouse of twenty plant species that provide nine-tenths of humanity's current food supply. 324 "Waiting in the wings are tens of thousands of unused plant species, many demonstrably superior to those in favor." 325 As genetic warehouses, many plants enhance the productivity of crops already in use. In the United States alone, the [\*209] genes of wild plants have accounted for much of "the explosive growth in farm production since the 1930s." 326 The contribution is worth $ 1 billion each year. 327 Nature's pharmacy demonstrates even more dramatic gains than nature's farm. 328 Aspirin and penicillin, our star analgesic and antibiotic, had humble origins in the meadowsweet plant and in cheese mold. 329 Leeches, vampire bats, and pit vipers all contribute anticoagulant drugs that reduce blood pressure, prevent heart attacks, and facilitate skin transplants. 330 Merck & Co., the multinational pharmaceutical company, is helping Costa Rica assay its rich biota. 331 A single commercially viable product derived "from, say, any one species among ... 12,000 plants and 300,000 insects ... could handsomely repay Merck's entire investment" of $ 1 million in 1991 dollars. 332 Wild animals, plants, and microorganisms also provide ecological services. 333 The Supreme Court has lauded the pesticidal talents of migratory birds. 334 Numerous organisms process the air we breathe, the water we drink, the ground we stroll. 335 Other species serve as sentries. Just as canaries warned coal miners of lethal gases, the decline or disappearance of indicator species provides advance warning against deeper [\*210] environmental threats. 336 Species conservation yields the greatest environmental amenity of all: ecosystem protection. Saving discrete species indirectly protects the ecosystems in which they live. 337 Some larger animals may not carry great utilitarian value in themselves, but the human urge to protect these charismatic "flagship species" helps protect their ecosystems. 338 Indeed, to save any species, we must protect their ecosystems. 339 Defenders of biodiversity can measure the "tangible economic value" of the pleasure derived from "visiting, photographing, painting, and just looking at wildlife." 340 In the United States alone, wildlife observation and feeding in 1991 generated $ 18.1 billion in consumer spending, $ 3 billion in tax revenues, and 766,000 jobs. 341 Ecotourism gives tropical countries, home to most of the world's species, a valuable alternative to subsistence agriculture. Costa Rican rainforests preserved for ecotourism "have become many times more profitable per hectare than land cleared for pastures and fields," while the endangered gorilla has turned ecotourism into "the third most important source of income in Rwanda." 342 In a globalized

economy where commodities can be cultivated almost anywhere, environmentally [\*211] sensitive locales can maximize their wealth by exploiting the

"boutique" uses of their natural bounty. The value of endangered species and the biodiversity they embody is "literally ... incalculable." 343 What, if anything, should the law do to preserve it? There are those that invoke the story of Noah's Ark as a moral basis for biodiversity preservation. 344 Others regard the entire Judeo-Christian tradition, especially the biblical stories of Creation and the Flood, as the root of the West's deplorable environmental record. 345 To avoid getting bogged down in an environmental exegesis of Judeo-Christian "myth and legend," we should let Charles Darwin and evolutionary biology determine the imperatives of our moment in natural "history." 346 The loss of biological diversity is quite arguably the gravest problem facing humanity. If we cast the question as the contemporary phenomenon that "our descendants [will] most regret," the "loss of genetic and species diversity by the destruction of natural habitats" is worse than even "energy depletion, economic collapse, limited nuclear war, or conquest by a totalitarian government." 347 Natural evolution may in due course renew the earth with a diversity of species approximating that of a world unspoiled by Homo sapiens -- in ten million years, perhaps a hundred million. 348

#### Growth causes biodiversity loss --- ensures extinction --- prefer our impacts --- they’re irreversible

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Globalization marks the end of an epoch. Not merely an epoch in the colloquial sense, but an epoch in the geological sense. The spread of Homo sapiens around the earth has brought about mass extinctions and related ecological changes on a scale not seen since the Cretaceous period. In its evolutionary impact, comprehensive human colonization of the planet easily outclasses an ice age, or even twenty. 1 The previous geological event of comparable magnitude ushered out the dinosaurs; the one before that, the mass extinction that closed out the Permian period, nearly ended the terrestrial tenure of what we arrogantly call "higher" life forms. 2 In the last 600 million years of geological history, only five previous extinction spasms have taken place. 3 We are living -- or perhaps more accurately, dying -- through the sixth. 4 "Half the world's species will be extinct or on the verge of extinction" by the end of the twenty-first century. 5 In environmental terms, globalization merely continues what humanity has been doing since the glaciers last retreated: subdue every niche within its reach. 6 [\*159] The spectacle of mass extinction gives rhetorical ammunition to all opponents of globalization -- not just environmentalists, but also those who resist free trade as a threat to labor standards, cultural independence, religious values, declining languages, agricultural self-sufficiency, and the like. Just as the global expansion of a single "Terminator" primate species has sparked the Holocene epoch's ecological holocaust, the emergence of a global society threatens a host of human institutions. Where a geological clock once marked the entrance and exit of species, an accelerated human stopwatch now tracks the rise and fall of regimes, religions, languages, and civilizations. Time and chance happen to them all. 7 The extinction metaphor describes not only a natural world in ecological cataclysm, but also a human society buffeted by changes of unprecedented scope and seemingly relentless acceleration. In this dual sense, globalization is nothing short of the end of the world. 8 So apocalyptic an assertion deserves nothing less than the most grandiose of intellectual frameworks. I will examine globalization through a Darwinian lens, in the hope that an application of natural evolution as "universal acid" will "eat[] through just about every traditional concept, and leave[] in its wake a revolutionized world-view, with most of the old landmarks still recognizable, but transformed in fundamental ways." 9 In economic, cultural, and environmental realms, globalization unleashes the same Darwinian dynamics of adaptation, natural selection, and extinction. But the natural world and human society do differ fundamentally. For natural species, extinction truly is forever. The ecosystems they inhabit will not recover in any time frame that humans can meaningfully contemplate. Human institutions, by contrast, are much more readily preserved and revived. To the extent that globalized society must choose, it should systematically favor the environment over jobs and even culture. One final observation bears notice. Received wisdom in American intellectual circles distrusts almost any extension of evolutionary metaphors and analogies outside the strictly biological [\*160] domain. 10 And not altogether without reason, for "social Darwinism" has a sorry history. 11 But I shall persist. If nothing else I hope that a creative infusion of Darwinian reasoning may foster more fruitful analysis of the interlocking economic, political, cultural, and environmental issues raised by globalization. Perhaps such a step "holds the seed of a new intellectual harvest, to be reaped in the next season of the human understanding." 12

Winning one environment internal-link accesses everything---growth-driven trends all affect each other and all cause extinction---fifteen hundred scientists agree---tipping point is now

Speth 8 – James Gustave Speth, dean of the Yale School of Forestry and Environmental Studies at Yale University, founder of the World Resources Institute, Professor at Vermont Law School, Former Chairman of the Council on Environmental Quality in the Executive Office of the President, Co-founder of the Natural Resources Defense Council, 2008, The Bridge at the Edge of the World, p. 39

These eight global-scale environmental problems, as well as acid deposition and ozone layer depletion, do not exist in isolation—they are constantly interacting with one another, typically worsening the situation. The loss of forests, for example, contributes to biodiversity loss, climate change, and desertification. Climate change, acid rain, ozone depletion, and water reductions can in turn adversely affect world forests. Changing climate will affect everything. Among other things, it is likely to worsen desertification, lead to both additional flooding and increased droughts, reduce freshwater supplies, adversely affect biodiversity and forests, and further degrade aquatic ecosystems. What is one to make of all this? A number of prominent scientists have taken a hand at describing what all these trends mean. In 1998, ecologist Jane Lubchenco, in her address as president of the American Association for the Advancement of Science, drew the following conclusions: “The conclusions . . . are inescapable: during the last few decades, humans have emerged as a new force of nature. We are modifying physical, chemical, and biological systems in new ways, at faster rates, and over larger spatial scales than ever recorded on earth. Humans have unwittingly embarked upon a grand experiment with our planet. The outcome of this experiment is unknown, but has profound implications for all of life on Earth.”72

In 1994, fifteen hundred of the world’s top scientists, including a majority of living Nobel Prize–winners, issued a plea for more attention to environmental problems: “The earth is finite,” they stated. “Its ability to absorb wastes and destructive effluents is finite. Its ability to provide food and energy is finite. Its ability to provide for growing numbers of people is finite. Moreover, we are fast approaching many of the earth’s limits.

Current economic practices that damage the environment, in both developed and underdeveloped nations, cannot be continued with the risk that vital global systems will be damaged beyond repair.”73

Turns geopolitical impacts and independently makes growth unsustainable

Speth 8 – James Gustave Speth, dean of the Yale School of Forestry and Environmental Studies at Yale University, founder of the World Resources Institute, Professor at Vermont Law School, Former Chairman of the Council on Environmental Quality in the Executive Office of the President, Co-founder of the Natural Resources Defense Council, 2008, The Bridge at the Edge of the World, p. 41

In 2007, the Bulletin of the Atomic Scientists moved its Doomsday Clock closer to midnight, citing environmental threats.75 The Doomsday Clock reminds us that today’s alarming environmental trends have consequences far beyond the environment. They can also contribute to conflicts over human access to water, food, land, and energy; ecological refugees and humanitarian emergencies; failed states; and armed movements spurred by declining circumstances. They are profound affronts to fundamental fairness and justice in the world and discriminate against both those too poor and powerless to hold their own against these tides and voiceless future generations. And they bring large economic costs. The Stern Review estimated that the total cost of a business-as-usual approach to climate change could be “around a 20% reduction in current per capita consumption, now and forever.” And that’s just from climate change.76

Risk of environmental collapse is real and will cascade---we haven’t crossed the tipping point yet but we’re really close---and, anthropogenic destructions destroys resilience and causes extinction

Johan Rockström et al 9 is a Environmental Professor in natural resource management at Stockholm University, and the Executive Director of the Stockholm Environment Institute and the Stockholm Resilience Centre, along with 27 other members of the SEI and SRC, A safe operating space for humanity, Nature 461, 472-475 (24 September 2009), www.nature.com/nature/journal/v461/n7263/full/461472a.html

Crossing certain biophysical thresholds could have disastrous consequences for humanity

Three of nine interlinked planetary boundaries have already been overstepped

Although Earth has undergone many periods of significant environmental change, the planet's environment has been unusually stable for the past 10,000 years 1, 2, 3. This period of stability — known to geologists as the Holocene — has seen human civilizations arise, develop and thrive. Such stability may now be under threat. Since the Industrial Revolution, a new era has arisen, the Anthropocene4, in which human actions have become the main driver of global environmental change5. This could see human activities push the Earth system outside the stable environmental state of the Holocene, with consequences that are detrimental or even catastrophic for large parts of the world.

During the Holocene, environmental change occurred naturally and Earth's regulatory capacity maintained the conditions that enabled human development. Regular temperatures, freshwater availability and biogeochemical flows all stayed within a relatively narrow range. Now, largely because of a rapidly growing reliance on fossil fuels and industrialized forms of agriculture, human activities have reached a level that could damage the systems that keep Earth in the desirable Holocene state. The result could be irreversible and, in some cases, abrupt environmental change

, leading to a state less conducive to human development6. Without pressure from humans, the Holocene is expected to continue for at least several thousands of years7.

To meet the challenge of maintaining the Holocene state, we propose a framework based on 'planetary boundaries'. These boundaries define the safe operating space for humanity with respect to the Earth system and are associated with the planet's biophysical subsystems or processes. Although Earth's complex systems sometimes respond smoothly to changing pressures, it seems that this will prove to be the exception rather than the rule**.** Many subsystems of Earth react in a nonlinear, often abrupt, way, and are particularly sensitive around threshold levels of certain key variables. If these thresholds are crossed, then important subsystems, such as a monsoon system, could shift into a new state, often with deleterious or potentially even disastrous consequences for humans8, 9.

Most of these thresholds can be defined by a critical value for one or more control variables, such as carbon dioxide concentration. Not all processes or subsystems on Earth have well-defined thresholds, although human actions that undermine the resilience of such processes or subsystems — for example, land and water degradation — can increase the risk that thresholds will also be crossed in other processes, such as the climate system.

We have tried to identify the Earth-system processes and associated thresholds which, if crossed, could generate unacceptable environmental change. We have found nine such processes for which we believe it is necessary to define planetary boundaries: climate change; rate of biodiversity loss (terrestrial and marine); interference with the nitrogen and phosphorus cycles; stratospheric ozone depletion; ocean acidification; global freshwater use; change in land use; chemical pollution; and atmospheric aerosol loading (see Fig. 1 andTable).

The inner green shading represents the proposed safe operating space for nine planetary systems. The red wedges represent an estimate of the current position for each variable. The boundaries in three systems (rate of biodiversity loss, climate change and human interference with the nitrogen cycle), have already been exceeded.

In general, planetary boundaries are values for control variables that are either at a 'safe' distance from thresholds — for processes with evidence of threshold behaviour — or at dangerous levels — for processes without evidence of thresholds. Determining a safe distance involves normative judgements of how societies choose to deal with risk and uncertainty. We have taken a conservative, risk-averse approach to quantifying our planetary boundaries, taking into account the large uncertainties that surround the true position of many thresholds. (A detailed description of the boundaries — and the analyses behind them — is given in ref. 10.)

Humanity may soon be approaching the boundaries for global freshwater use, change in land use, ocean acidification and interference with the global phosphorous cycle (see Fig. 1). Our analysis suggests that three of the Earth-system processes — climate change, rate of biodiversity loss and interference with the nitrogen cycle — have already transgressed their boundaries. For the latter two of these, the control variables are the rate of species loss and the rate at which N2 is removed from the atmosphere and converted to reactive nitrogen for human use, respectively. These are rates of change that cannot continue without significantly eroding the resilience of major components of Earth-system functioning**.** Here we describe these three processes.

Prefer our models ---only historical analysis --- k-wave means growth causes extinction

**Chase-Dunn and Podobnik 99** [Director of the Institute for Research on World-Systems, Assistant Professor in the Department of Sociology and Anthropology at Lewis and Clark College Professor in the Department of Sociology and Anthropology at Lewis and Clark College Christopher and Bruce, *The Future of Global Conflict*, ed. Bornschier and Chase-Dunn, pg 43]

While the onset of a period of hegemonic rivalry is in itself disturbing, the picture becomes even grimmer when the influence of long-term economic cycles is taken into account. As an **extensive body of research** documents (see especially Van Duijn, 1983), the 50 to 60 year business cycle known as the Kondratieff wave (K-wave) has been in synchronous operation on an international scale for at least the last two centuries. Utilizing data gathering by Levy (1983) on war severity, Goldstein (1988) demonstrates that there is a corresponding 50 to 60 year cycle in the number of battle deaths per year for the period 1495-1975. Beyond merely showing that the K-wave and the war cycle are linked in a systematic fashion, Goldstein’s research suggests that severe core wars are **much more likely to occur** late **in the upswing** phase of the K-wave. This finding is interpreted as showing that, while states always desire to go to war, they can afford to do so only when **economic growth** is providing them with sufficient resources. Modelski and Thompson (1996) present a more complex interpretation of the systemic relationship between economic and war cycles, but it closely resembles Goldstein’s hypothesis. In their analysis, a first economic upswing generates the economic resources required by an ascending core state to make a bid for hegemony; a second period of economic growth follows a period of global war and the establishment of a new period of hegemony. Here, again, specific economic upswings are associated with an increased likelihood of the outbreak of core war. It is **widely accepted** that the current K-wave, which entered a downturn around 1967-73, is probably now in the process of beginning a new upturn which will reach its apex around 2025. It is also widely accepted that by this period US hegemony, already unraveling, will have been definitively eroded. This convergence of a plateauing economic cycle with a period of political multicentricity within the core should, if history truly does repeat itself, result in the outbreak of full-scale warfare between the declining hegemon and the ascending core powers. Although both Goldstein (1991) and Modelski and Thompson (1996) assert that such a global war can (somehow) be avoided, other theorists consider that the possibility of such a core war is sufficiently high that **serious steps should be taken to ensure that** such **collective suicide does not occur** .

Growth causes water wars and scarcity

Speth 2008Served as President Jimmy Carter’s White House environmental adviser and as head of the United Nations’ largest agency for international development Prof at Vermont law school. Former dean of the Yale School of Forestry and Environmental Studies at Yale University . Former Professor of Law at Georgetown University Law Center, teaching environmental and constitutional law. .Former Chairman of the Council on Environmental Quality in the Executive Office of the President. Co-founder of the Natural Resources Defense Council. Was law clerk to U.S. Supreme Court Justice Hugo L. Black JD, Yale. (James Gustave, The Bridge at the Edge of the World: Capitalism, the Environment, and Crossing from Crisis to Sustainability, Gigapedia, 32-34)

 First, there is the crisis of natural watercourses and their attendant wetlands. No natural areas have been as degraded by human activities as freshwater systems. Natural water courses and the vibrant life associated with them have been extensively affected by dams, dikes, diversions, stream channelization, wetland filling and other modifications, and, of course, pollution. Sixty percent of the world’s major river basins have been severely or moderately fragmented by dams or other construction. Since 1950 the number of large dams has increased from 5,700 worldwide to more than 41,000. Much of this activity is done to secure access to the water, but power production, fl ood control, navigation, and land reclamation have also been important factors. As freshwater is diverted from natural sources, ecosystems dependent on that water suff er, including aquatic systems, wetlands, and forests. About half the world’s wetlands have been lost, and more than a fi fth of known freshwater species have already been driven to extinction.41 The second crisis is the crisis of freshwater supply. Human demand for water climbed sixfold in the twentieth century, and the trend continues today. Humanity now withdraws slightly over half of accessible freshwater, and water withdrawals could climb to 70 percent by 2025.42 Meeting the world’s demands for freshwater is proving problematic. About 40 percent of the world’s people already live in countries that are classified as “water stressed,” meaning that already 20 to 40 percent of the available freshwater is being used by human societies. Projections indicate that the percentage of people living in water-stressed countries could rise to 65 percent by 2025.43 A large portion of freshwater withdrawals, about 70 percent, goes to agriculture. Since 1960, acreage under irrigation has more than doubled. A special problem is occurring in India, China, and elsewhere in Asia where tens of millions of tubewells are depleting “fossil” groundwaters. The New Scientist reports that “hundreds of millions of Indians may see their land turned to desert.”44 Overall, according to a study by top water specialists from around the world, world demand for water could double by 2050.45 “At the worst,” the New York Times reported, “a deepening water crisis would fuel violent conflicts, dry up rivers and increase groundwater pollution. . . . It would also force the rural poor to clear ever-more grasslands and forests to grow food and leave many more people hungry.”46 Last, there is the crisis of pollution. Pollutants of all types are discharged into the world’s waters in enormous quantities, reducing the capacities of bodies of water to support life in the water and to support human communities. Contamination denies a large portion of the world’s population access to clean water supplies. About a billion people, a fi fth of the world’s population, lack clean drinking water; 40 percent lack sanitary services. The World Health Organization calculates that each year about 1.6 million children die from diseases caused by unsafe drinking water and lack of water for sanitation and hygiene.47 Water supply issues will become increasingly prevalent in the United States. Freshwater withdrawals per capita from surface and groundwaters in the United States are twice that of the OECD (Organisation for Economic Co-operation and Development) as a whole. The Environmental Protection Agency estimates that if current American water use remains constant at a hundred gallons per person per day, thirtysix states will face water shortages by 2013. As a result, humanity’s “fi rst need” will soon be privatized. Investors are moving into a water related market that is estimated to be worth at least $150 billion in the United States by 2010. “Water is a growth driver for as long and as far as the eye can see,” a Goldman Sachs water analyst told the New York Times in 2006.48

Extinction

Barlow 8 National chairperson of The Council of Canadians. Co-founder of the Blue Planet Project. Chairs the board of Washington-based Food & Water Watch and is also an executive member of the San Francisco–based International Forum on Globalization and a Councillor with the Hamburg-based World Future Council. She is the recipient of eight honorary doctorates. Served as Senior Advisor on Water to the 63rd President of the United Nations General Assembly (Maude, The Global Water Crisis and the Coming Battle for the Right to Water, 25 February 2008, http://www.fpif.org/articles/the\_global\_water\_crisis\_and\_the\_coming\_battle\_for\_the\_right\_to\_water)

 The three water crises – dwindling freshwater supplies, inequitable access to water and the corporate control of water – pose the greatest threat of our time to the planet and to our survival. Together with impending climate change from fossil fuel emissions, the water crises impose some life-or-death decisions on us all. Unless we collectively change our behavior, we are heading toward a world of deepening conflict and potential wars over the dwindling supplies of freshwater – between nations, between rich and poor, between the public and the private interest, between rural and urban populations, and between the competing needs of the natural world and industrialized humans. Water Is Becoming a Growing Source of Conflict Between Countries Around the world, more that 215 major rivers and 300 groundwater basins and aquifers are shared by two or more countries, creating tensions over ownership and use of the precious waters they contain. Growing shortages and unequal distribution of water are causing disagreements, sometimes violent, and becoming a security risk in many regions. Britain’s former defense secretary, John Reid, warns of coming “water wars.” In a public statement on the eve of a 2006 summit on climate change, Reid predicted that violence and political conflict would become more likely as watersheds turn to deserts, glaciers melt and water supplies are poisoned. He went so far as to say that the global water crisis was becoming a global security issue and that Britain’s armed forces should be prepared to tackle conflicts, including warfare, over dwindling water sources. “Such changes make the emergence of violent conflict more, rather than less, likely,” former British prime minister Tony Blair told The Independent. “The blunt truth is that the lack of water and agricultural land is a significant contributory factor to the tragic conflict we see unfolding in Darfur. We should see this as a warning sign.” The Independent gave several other examples of regions of potential conflict. These include Israel, Jordan and Palestine, who all rely on the Jordan River, which is controlled by Israel; Turkey and Syria, where Turkish plans to build dams on the Euphrates River brought the country to the brink of war with Syria in 1998, and where Syria now accuses Turkey of deliberately meddling with its water supply; China and India, where the Brahmaputra River has caused tension between the two countries in the past, and where China’s proposal to divert the river is re-igniting the divisions; Angola, Botswana and Namibia, where disputes over the Okavango water basin that have flared in the past are now threatening to re-ignite as Namibia is proposing to build a threehundred- kilometer pipeline that will drain the delta; Ethiopia and Egypt, where population growth is threatening conflict along the Nile; and Bangladesh and India, where flooding in the Ganges caused by melting glaciers in the Himalayas is wreaking havoc in Bangladesh, leading to a rise in illegal, and unpopular, migration to India.

### BioWar

#### No extinction

Posner 5—Senior Lecturer, U Chicago Law. Judge on the US Court of Appeals 7th Circuit. AB from Yale and LLB from Harvard. (Richard, Catastrophe, http://goliath.ecnext.com/coms2/gi\_0199-4150331/Catastrophe-the-dozen-most-significant.html)

Yet the fact that Homo sapiens has managed to survive every disease to assail it in the 200,000 years or so of its existence is a source of genuine comfort, at least if the focus is on extinction events. There have been enormously destructive plagues, such as the Black Death, smallpox, and now AIDS, but none has come close to destroying the entire human race. There is a biological reason. Natural selection favors germs of limited lethality; they are fitter in an evolutionary sense because their genes are more likely to be spread if the germs do not kill their hosts too quickly. The AIDS virus is an example of a lethal virus, wholly natural, that by lying dormant yet infectious in its host for years maximizes its spread. Yet there is no danger that AIDS will destroy the entire human race. The likelihood of a natural pandemic that would cause the extinction of the human race is probably even less today than in the past (except in prehistoric times, when people lived in small, scattered bands, which would have limited the spread of disease), despite wider human contacts that make it more difficult to localize an infectious disease.

#### The worst case scenario happened – no extinction

Dove 12 [Alan Dove, PhD in Microbiology, science journalist and former Adjunct Professor at New York University, “Who’s Afraid of the Big, Bad Bioterrorist?” Jan 24 2012, http://alandove.com/content/2012/01/whos-afraid-of-the-big-bad-bioterrorist/]

The second problem is much more serious. Eliminating the toxins, we’re left with a list of infectious bacteria and viruses. With a single exception, these organisms are probably near-useless as weapons, and history proves it.¶ There have been at least three well-documented military-style deployments of infectious agents from the list, plus one deployment of an agent that’s not on the list. I’m focusing entirely on the modern era, by the way. There are historical reports of armies catapulting plague-ridden corpses over city walls and conquistadors trying to inoculate blankets with Variola (smallpox), but it’s not clear those “attacks” were effective. Those diseases tended to spread like, well, plagues, so there’s no telling whether the targets really caught the diseases from the bodies and blankets, or simply picked them up through casual contact with their enemies.¶ Of the four modern biowarfare incidents, two have been fatal. The first was the 1979 Sverdlovsk anthrax incident, which killed an estimated 100 people. In that case, a Soviet-built biological weapons lab accidentally released a large plume of weaponized Bacillus anthracis (anthrax) over a major city. Soviet authorities tried to blame the resulting fatalities on “bad meat,” but in the 1990s Western investigators were finally able to piece together the real story. The second fatal incident also involved anthrax from a government-run lab: the 2001 “Amerithrax” attacks. That time, a rogue employee (or perhaps employees) of the government’s main bioweapons lab sent weaponized, powdered anthrax through the US postal service. Five people died.¶ That gives us a grand total of around 105 deaths, entirely from agents that were grown and weaponized in officially-sanctioned and funded bioweapons research labs. Remember that.¶ Terrorist groups have also deployed biological weapons twice, and these cases are very instructive. The first was the 1984 Rajneeshee bioterror attack, in which members of a cult in Oregon inoculated restaurant salad bars with Salmonella bacteria (an agent that’s not on the “select” list). 751 people got sick, but nobody died. Public health authorities handled it as a conventional foodborne Salmonella outbreak, identified the sources and contained them. Nobody even would have known it was a deliberate attack if a member of the cult hadn’t come forward afterward with a confession. Lesson: our existing public health infrastructure was entirely adequate to respond to a major bioterrorist attack.¶ The second genuine bioterrorist attack took place in 1993. Members of the Aum Shinrikyo cult successfully isolated and grew a large stock of anthrax bacteria, then sprayed it as an aerosol from the roof of a building in downtown Tokyo. The cult was well-financed, and had many highly educated members, so this release over the world’s largest city really represented a worst-case scenario.¶ Nobody got sick or died. From the cult’s perspective, it was a complete and utter failure. Again, the only reason we even found out about it was a post-hoc confession. Aum members later demonstrated their lab skills by producing Sarin nerve gas, with far deadlier results. Lesson: one of the top “select agents” is extremely hard to grow and deploy even for relatively skilled non-state groups. It’s a really crappy bioterrorist weapon.¶ Taken together, these events point to an uncomfortable but inevitable conclusion: our biodefense industry is a far greater threat to us than any actual bioterrorists.

#### Attack would fail

Mueller 6 - John Mueller, Professor of Political Science and International Relations at Ohio State, 06, Overblown p. 20-22

Properly developed and deployed, biological weapons could indeed, if thus far only in theory, kill hundreds of thousands, perhaps even mil­lions of people. The discussion remains theoretical because biological weapons have scarcely ever been used. **Belligerents have eschewed such weapons with good reason: they are extremely difficult to deploy and to control.** Terrorist groups or rogue states may be able to solve such problems in the future with advances in technology and knowledge, but, notes scientist Russell **Seitz**, while bioterrorism may look easy on paper, ''the learning curve is lethally steep in practice." The record so far is unlikely to be very encouraging. For example, Japan reportedly infected wells in Manchuria and bombed several Chinese cities with plague-infested fleas before and during World War II. These ventures (by a state, not a terrorist group) may have killed thousands of Chinese, but they apparently also caused considerable unintended casualties among Japanese troops and seem to have had little military impact.20

For the most destructive results, biological weapons need to be dis­persed in very low-altitude aerosol clouds. Because aerosols do not appreciably settle, pathogens like anthrax (which is not easy to spread or catch and is not contagious) would probably have to be sprayed near nose level. Moreover, 90 percent of the microorganisms are likely to die during the process of aerosolization, and their effectiveness could be reduced still further by sunlight, smog, humidity, and temperature changes. Explosive methods of dispersion may destroy the organisms, and, except for anthrax spores, long-term storage of lethal organisms in bombs or warheads is difficult: even if refrigerated, most of the organ­isms have a **limited lifetime**. The effects of such weapons can take days or weeks to have full effect, during which time they can be countered with medical and civil defense measures. And their impact is very diffi­cult to predict; in combat situations they may spread back onto the attacker. In the judgment of two careful analysts, delivering microbes and toxins over a wide area in the form most suitable for inflicting mass casualties—as an aerosol that can be inhaled—-requires a delivery system whose development "would outstrip the technical capabilities of all but the most sophisticated terrorist." Even then effective dispersal could easily be disrupted by unfavorable environmental and meteoro­logical conditions.21

After assessing, and stressing, the difficulties a nonstate entity would find in obtaining, handling, growing, storing, processing, and dispersing lethal pathogens effectively, biological weapons expert Milton Leiten-berg compares Ms conclusions with glib pronouncements in the press about how biological attacks can be pulled off by anyone with "a little training and a few glass jars," or how it would be "about as difficult as producing beer." He sardonically concludes, ''The less the commenta­tor seems to know about biological warfare the easier he seems to think the task is."

#### They don’t cause mass destruction

O’Neill 4O’Neill 8/19/2004 [Brendan, “Weapons of Minimum Destruction” http://www.spiked-online.com/Articles/0000000CA694.htm]

David C Rapoport, professor of political science at University of California, Los Angeles and editor of the Journal of Terrorism and Political Violence, has examined what he calls 'easily available evidence' relating to the historic use of chemical and biological weapons. He found something surprising - such weapons do not cause mass destruction. Indeed, whether used by states, terror groups or dispersed in industrial accidents, they tend to be far less destructive than conventional weapons. 'If we stopped speculating about things that might happen in the future and looked instead at what has happened in the past, we'd see that our fears about WMD are misplaced', he says. Yet such fears remain widespread. Post-9/11, American and British leaders have issued dire warnings about terrorists getting hold of WMD and causing mass murder and mayhem. President George W Bush has spoken of terrorists who, 'if they ever gained weapons of mass destruction', would 'kill hundreds of thousands, without hesitation and without mercy' (1). The British government has spent £28million on stockpiling millions of smallpox vaccines, even though there's no evidence that terrorists have got access to smallpox, which was eradicated as a natural disease in the 1970s and now exists only in two high-security labs in America and Russia (2). In 2002, British nurses became the first in the world to get training in how to deal with the victims of bioterrorism (3). The UK Home Office's 22-page pamphlet on how to survive a terror attack, published last month, included tips on what to do in the event of a 'chemical, biological or radiological attack' ('Move away from the immediate source of danger', it usefully advised). Spine-chilling books such as Plague Wars: A True Story of Biological Warfare, The New Face of Terrorism: Threats From Weapons of Mass Destruction and The Survival Guide: What to Do in a Biological, Chemical or Nuclear Emergency speculate over what kind of horrors WMD might wreak. TV docudramas, meanwhile, explore how Britain might cope with a smallpox assault and what would happen if London were 'dirty nuked' (4). The term 'weapons of mass destruction' refers to three types of weapons: nuclear, chemical and biological. A chemical weapon is any weapon that uses a manufactured chemical, such as sarin, mustard gas or hydrogen cyanide, to kill or injure. A biological weapon uses bacteria or viruses, such as smallpox or anthrax, to cause destruction - inducing sickness and disease as a means of undermining enemy forces or inflicting civilian casualties. We find such weapons repulsive, because of the horrible way in which the victims convulse and die - but they appear to be less 'destructive' than conventional weapons. 'We know that nukes are massively destructive, there is a lot of evidence for that', says Rapoport. But when it comes to chemical and biological weapons, 'the evidence suggests that we should call them "weapons of minimum destruction", not mass destruction', he says. Chemical weapons have most commonly been used by states, in military warfare. Rapoport explored various state uses of chemicals over the past hundred years: both sides used them in the First World War; Italy deployed chemicals against the Ethiopians in the 1930s; the Japanese used chemicals against the Chinese in the 1930s and again in the Second World War; Egypt and Libya used them in the Yemen and Chad in the postwar period; most recently, Saddam Hussein's Iraq used chemical weapons, first in the war against Iran (1980-1988) and then against its own Kurdish population at the tail-end of the Iran-Iraq war. In each instance, says Rapoport, chemical weapons were used more in desperation than from a position of strength or a desire to cause mass destruction. 'The evidence is that states rarely use them even when they have them', he has written. 'Only when a military stalemate has developed, which belligerents who have become desperate want to break, are they used.' (5) As to whether such use of chemicals was effective, Rapoport says that at best it blunted an offensive - but this very rarely, if ever, translated into a decisive strategic shift in the war, because the original stalemate continued after the chemical weapons had been deployed. He points to the example of Iraq. The Baathists used chemicals against Iran when that nasty trench-fought war had reached yet another stalemate. As Efraim Karsh argues in his paper 'The Iran-Iraq War: A Military Analysis': 'Iraq employed [chemical weapons] only in vital segments of the front and only when it saw no other way to check Iranian offensives. Chemical weapons had a negligible impact on the war, limited to tactical rather than strategic [effects].' (6) According to Rapoport, this 'negligible' impact of chemical weapons on the direction of a war is reflected in the disparity between the numbers of casualties caused by chemicals and the numbers caused by conventional weapons. It is estimated that the use of gas in the Iran-Iraq war killed 5,000 - but the Iranian side suffered around 600,000 dead in total, meaning that gas killed less than one per cent. The deadliest use of gas occurred in the First World War but, as Rapoport points out, it still only accounted for five per cent of casualties. Studying the amount of gas used by both sides from1914-1918 relative to the number of fatalities gas caused, Rapoport has written: 'It took a ton of gas in that war to achieve a single enemy fatality. Wind and sun regularly dissipated the lethality of the gases. Furthermore, those gassed were 10 to 12 times as likely to recover than those casualties produced by traditional weapons.' (7) Indeed, Rapoport discovered that some earlier documenters of the First World War had a vastly different assessment of chemical weapons than we have today - they considered the use of such weapons to be preferable to bombs and guns, because chemicals caused fewer fatalities. One wrote: 'Instead of being the most horrible form of warfare, it is the most humane, because it disables far more than it kills, ie, it has a low fatality ratio.' (8) 'Imagine that', says Rapoport, 'WMD being referred to as more humane'. He says that the contrast between such assessments and today's fears shows that actually looking at the evidence has benefits, allowing 'you to see things more rationally'. According to Rapoport, even Saddam's use of gas against the Kurds of Halabja in 1988 - the most recent use by a state of chemical weapons and the most commonly cited as evidence of the dangers of 'rogue states' getting their hands on WMD - does not show that unconventional weapons are more destructive than conventional ones. Of course the attack on Halabja was horrific, but he points out that the circumstances surrounding the assault remain unclear. 'The estimates of how many were killed vary greatly', he tells me. 'Some say 400, others say 5,000, others say more than 5,000. The fighter planes that attacked the civilians used conventional as well as unconventional weapons; I have seen no study which explores how many were killed by chemicals and how many were killed by firepower. We all find these attacks repulsive, but the death toll may actually have been greater if conventional bombs only were used. We know that conventional weapons can be more destructive.' Rapoport says that terrorist use of chemical and biological weapons is similar to state use - in that it is rare and, in terms of causing mass destruction, not very effective. He cites the work of journalist and author John Parachini, who says that over the past 25 years only four significant attempts by terrorists to use WMD have been recorded. The most effective WMD-attack by a non-state group, from a military perspective, was carried out by the Tamil Tigers of Sri Lanka in 1990. They used chlorine gas against Sri Lankan soldiers guarding a fort, injuring over 60 soldiers but killing none. The Tamil Tigers' use of chemicals angered their support base, when some of the chlorine drifted back into Tamil territory - confirming Rapoport's view that one problem with using unpredictable and unwieldy chemical and biological weapons over conventional weapons is that the cost can be as great 'to the attacker as to the attacked'. The Tigers have not used WMD since.

#### Prefer our ev – theirs inflates the threat

Reynolds 5—Senior Fellow at the Cato Institute. Formerly Director of Economic Research at the Hudson Institute. AB in economics from UCLA. (Alan, The Fear Industry, 6 May 2007, http://www.cato.org/pub\_display.php?pub\_id=8234)

Neither gentleman has been at all apologetic about his role in grossly exaggerating the likely risks of biological terrorism. Mr. Wolfowitz once claimed Iraq had enough ricin to kill a million people, enough botulism to kill tens of millions and enough anthrax "to kill hundreds of millions." Terrorists throughout the world have managed to kill only five people with anthrax, one with ricin and zero with botulism or aflatoxin (added to the list by former Secretary of State Colin Powell). This not because terrorists don't want to kill people, but because killing is much easier to accomplish with bombs, guns and crashing airplanes. Even today, however, bureaucrats and politicians still remain easily persuaded to assign a higher priority (and bigger budgets) to extremely unlikely risks than to mundane but palpable threats to health and safety. I wrote a series of columns about the formidable obstacles to effectively delivering biological weapons, often quoting Mr. Wolfowitz or the CIA as examples of extreme gullibility or deception. I revealed many holes in the WMD fable before the Iraq invasion in, "The economics of war," "Hazy WMD definitions" and "The duct tape economy." Those were followed by "Intelligence without brains" in June 2003, "The CIA and WMD" in June 2004, "WMD Doomsday distractions" in April 2005 and "The cost of war in retrospect" in March 2006. Those columns can be found by sifting through archives under my bio at cato.org. The legacy of the 2002 WMD hoax lives on today in "Operation Bioshield" and other federal programs for doling out tax dollars to the multibillion-dollar fear industry. The fear industry begins by hiring lobbyists and subsidizing academics who, in turn, persuade journalists to write scary stories about hypothetical weapons. This science fiction game is not played for fun. It is played for money. It involves what Dale Rose of the University of California at San Francisco described as, "A cottage industry of risk analysts, disaster preparedness experts, psychologists, and others [who] have produced an array of theoretical work and conceptual grids around the issue of low probability, high consequence events." In response to pressure from academic centers whose main mission was to hype bioterrorism (including the infamously erroneous "Dark Winter" scenario of mid-2001), President Bush warned of "the use of the smallpox virus as a weapon of terror" in December 2002. The administration then spent hundreds of millions of dollars on smallpox vaccine for first responders and the military, but both groups (notably, physicians) shunned the risky shots. That was the most costly fiasco of its type since the swine flu vaccination program of 1976, which killed more people than swine flu did. Continuing the tradition, the U.S. government just contracted with Sanofi Pasteur to produce $100 million worth of avian flu vaccine -- of dubious effectiveness against avian flu acquired from birds, much less from any hypothetical pandemic strain that leaps to humans. Whether or not these programs save even one life per $100 million spent is irrelevant. The point is the millions spent. After most federal loot from research grants and vaccine stockpiles has been received, the mission is accomplished and the fear industry moves on to greener pastures. The scare stories about Danger A disappear, replaced with new stories about Danger B, then C and so on. The most reliable cash cow for the fear industry has been the five deaths from inhaling anthrax in October 2001. For those in the business of providing high-cost solutions to minuscule risks, this has been an endless bonanza. A recent news item provides a typical tip for fear investors: "Emergent BioSolutions of Rockville (Md.) said the U.S. government planned to order as many as 22.75 million doses of its anthrax vaccine." The government has spent at least $877 million on anthrax vaccine so far, or $175.4 million per death from anthrax. Sensing that sum may be pressing the limits, the fear industry is busily assembling new threats to scare up some more cash. The Health and Human Services Department reportedly plans to up its spending by more than $100 million on additional anthrax and smallpox vaccines. And it plans to spend more than $100 million to deal with radiation poisoning -- not even on this luxury list until former Russian spy Alexander Litvinenko was assassinated. Compared with anthrax vaccine, $100 million per death sounds cheap, even if he wasn't an American. But they did say "more than" $100 million, didn't they? The plan also "listed as a near-term priority the development of antibiotics for threats such as the plague or tularemia." Sure, why not? There was one unconfirmed case of plague in Texas in 1956. And in the summer of 2000, an outbreak of tularemia from lawn mowing in Martha's Vineyard resulted in one fatality. Whenever you hear the word "bioterrorism" in connection with large sums of federal money, just remember "WMD." Bioterrorism is just a different word for the same old WMD story retold in purely hypothetical terms, without even pretending someone actually has such agents or knows how to kill more than five people with them. \

#### The impact is empirically denied by decades of threat exaggeration

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The evolution of nonstate/terrorist biological weapon capabilities. The production and distribution of a dry powder anthrax product in the United States in 2001 is the most signiﬁcant event. However, understanding to what degree that demonstration of competence is relevant to “traditional” terrorist groups is impossible until the perpetrator(s) of the anthrax events are identiﬁed. If it was done with assistance, materials, knowledge, access, etc., derived from the U.S. biodefense program, the implications change entirely. The Rajneesh group (1984) succeeded in culturing Salmonella. The Japanese Aum Shinrikyo group failed to obtain, produce, or disperse anthrax and botulinum toxin. The steps taken by the al-Qaida group in efforts to develop a BW program were more advanced than the United States understood prior to its occupation of Afghanistan in November-December 2001. Nevertheless, publicly available information, including the somewhat ambiguous details that appeared in the March 31, 2005, report of the Commission on Intelligence Capabilities, indicates that the group failed to obtain and work with pathogens. Should additional information become available regarding the extent to which the al-Qaida BW effort had progressed, that assessment might have to be changed. Scenarios for national BW exercises that posit various BW agents in advanced states of preparation in the hands of terrorist groups simply disregard the requirements in knowledge and practice that such groups would need in order to work with pathogens. Unfortunately, 10 years of widely broadcast public discussion has provided such groups, at least on a general level, with suggestions as to what paths to follow. If and when a nonstate terrorist group does successfully reach the stage of working with pathogens, there is every reason to believe that it will involve classical agents, without any molecular genetic modiﬁcations. Preparing a dry powder preparation is likely to prove difficult, and dispersion to produce mass casualties equally so. Making predictions on the basis of what competent professionals may find “easy to do” has been a common error and continues to be so. The utilization of molecular genetic technology by such groups is still further off in time. No serious military threat assessment imputes to opponents capabilities that they do not have. There is no justiﬁcation for imputing to real world terrorist groups capabilities in the biological sciences that they do not posess. Framing “the threat” and setting the agenda of public perceptions and policy prescriptions. For the past decade the risk and immanence of the use of biological agents by nonstate actors/terrorist organizations—“bioterrorism”—has been systematically and deliberately exaggerated. It became more so after the combination of the 9/11 events and the October- November 2001 anthrax distribution in the United States that 89 followed immediately afterwards. U.S. Government officials worked hard to spread their view to other countries. An edifice of institutes, programs, conferences, and publicists has grown up which continue the exaggeration and scare-mongering. In the last year or two, the drumbeat had picked up. It may however become moderated by the more realistic assessment of the likelihood of the onset of a natural flu pandemic, and the accompanying realization that the U.S. Government has been using the overwhelming proportion of its relevant resources to prepare for the wrong contingency.

#### Status quo preparedness solves

Science Centric 9(Study finds program has improved health agencies' preparedness for bioterror and disease outbreaks, 25 March 2009, http://www.sciencecentric.com/news/article.php?q=09032505-study-finds-program-has-improved-health-agencies-preparedness-bioterror-disease-outbreaks)

A federal program designed to help metropolitan public health agencies prepare to deliver essential medicines to the public after a large-scale bioterror attack or natural disease outbreak has succeeded in improving the level of readiness, according to a new RAND Corporation study. Researchers found that the federal Cities Readiness Initiative, a program active in 72 metropolitan areas, appears to have improved agencies' ability to rapidly and widely dispense life-saving medications and other medical supplies in the event of a large-scale bioterror attack or a naturally occurring infectious disease outbreak. The study from RAND Health concludes there is merit in extending the program so the impact can be further monitored, although the analysis did not assess the cost-effectiveness of the effort or compare it to other public health priorities. 'The Cities Readiness Initiative has helped agencies in the nation's most-populous regions become better able to dispense life-saving medication following a bioterrorism event or after an infectious disease outbreak,' said Henry Willis, the study's lead author and a policy researcher at RAND, a non-profit research organisation. Researchers concluded that a key reason the Cities Readiness Initiative has helped promote improvements has been its focus on a single scenario with a well-defined numeric goal and the technical assistance it has provided to public health officials. Researchers say the initiative has helped increase the number of local public health staff members working on medication dispensing planning, strengthened partnerships between public health officials and local first-responder agencies, and helped pay for new equipment such as mobile drug dispensing units. Other public health improvements fostered by the Cities Readiness Initiative are the development of more-detailed plans for medication dispensing, including creation of new strategies that rely less on medically trained staff and take greater advantage of nontraditional venues such as hotels, resorts, churches as well as drive-through dispensing in parking lots and fairgrounds. The Cities Readiness Initiative was created in 2004 to improve the ability of the nation's largest metropolitan regions to provide life-saving medications in the event of a large-scale bioterror attack or naturally occurring disease outbreak. The program has spent about $300 million on efforts thus far. Administered by the federal Centres for Disease Control and Prevention, the program helps jurisdictions improve their ability to provide antibiotics and other life-saving medications to 100 percent of a region's population within 48 hours of a large-scale anthrax attack or large-scale infectious disease emergency. The 72 regions that have received funding account for about 57 percent of the nation's population. RAND researchers conducted their study by reviewing plans and technical surveys completed by agencies that assessed capabilities in 12 functional areas (e.g., distribution of medication, dispensing of antibiotics), as well as conducting in-depth interviews with officials from nine regions.

#### And, vaccines and early warning check

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Defensive biological warfare includes measures to prevent, mitigate, and treat the effects of a biological weapon attack. Biological defenses include vaccines and other pharmaceuticals, early warning systems, and physical protection. Given the range of available agents, the agent-specific nature of most defenses, the time lag required to develop new vaccines, and the ease with which an attacker can achieve surprise, defending a large population against a significant number of threat agents is a daunting task that would require a huge investment. Biological weapons, however, are in some ways more vulnerable to countermeasures than high explosives, chemical weapons, or nuclear weapons. They are unique among weapon systems in that vaccines can protect soldiers and civilians before an actual attack.33 Although licensed vaccines are currently available for only two of the most dangerous biological warfare agents—B. anthracis and variola major—the U.S. Department of Defense and the National Institutes of Health are developing more than twelve new biodefense vaccines.34 Even though immunizing vulnerable populations against the full range of biological warfare threats is not feasible or desirable, the availability of sufficient stockpiles of appropriate vaccines is still valuable as a deterrent to potential attackers, as a defensive measure if warning of an attack is received, as a form of postexposure prophylaxis for anthrax and smallpox, and as a reassuring symbol of preparedness. Given the limitations of vaccines, defenses against biological weapons rely more on early detection of a biological attack and postexposure prophylaxis with antimicrobial drugs. The incubation period following infection with a pathogen, typically several days, provides a window of opportunity for the detection of a biological attack and the preparation of a response.35 Aerosol detection devices and public health surveillance systems can provide the early warning necessary to launch a medical intervention to mitigate the consequences of a biological attack. Although current systems do not yet offer rapid, accurate, and broad-spectrum detection and identification capabilities, new capabilities are under development.36 Administered promptly after infection or the onset of symptoms, antibiotics can significantly reduce the morbidity and mortality of most bacterial and rickettsial agents. In contrast, there are few effective medical treatments for viral infections. Quarantine and vaccination can reduce the impact of contagious diseases such as smallpox.37

#### No motivation for state sponsorship of bioterror, and states that would do it lack the capability to do so

Stolar 6 – Alex Stolar, research officer for the Institute of Peace and Conflict Studies, October 2006, "Bioterrorism and US Policy Responses" http://www.ipcs.org/pdf\_file/issue/1659566521IPCS-Special-Report-31.pdf

At present, the only plausible scenario for bioterrorism is if one of the eleven states listed above were to provide terrorists with bioweapon know-how, equipment, and biological agents. An important caveat is that while eleven states may have bioweapon capabilities, it is likely that only a few—the US and Russia for sure— actually possess these capabilities. Moreover, only Syria, Iran, Egypt, and North Korea would seem to have the motivation to assist a terrorist organization to conduct a bioterror attack; however, open source intelligence suggests that the bioweapon programs of these states are fledgling at best.10 One must also ask why a state, which has spent many years and resources developing a biological weapon, should provide bioweapons to a group which it cannot control.

#### They fear retaliation

John Parachini, ‘1, October, Political Analyst, Combating Terrorism: Assessing the Threat of Biological Terrorism, RAND, http://www.rand.org/pubs/testimonies/2005/CT183.pdf, JB

Despite the incentives for seeking and using biological weapons, there are a number of even more compelling disincentives. As noted earlier, terrorists may hesitate in using biological weapons specifically because breaking the taboo on their use may evoke considerable retaliation. In addition, state sponsors of terrorist groups may exert restraint on the weapons the group uses. State sponsors have a great incentive to control the activities of the groups they support, because they fear that retaliation may be directed against them if they are connected to a group that used biological weapons. Moreover, terrorists may be drawn to explosives like arsonists are drawn to fire. The immediate gratification of explosives and the thrill of the blast may meet a psychological need of terrorists that the delayed effects of biological weapons do not.

### 2NR Pakistan

#### the Pakistan scenario relies on terrorists getting loose –nukes --- no chance

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Note – Michael Desch = prof, polsci, Notre Dame

As for Pakistan, it has taken numerous precautions to ensure that its own weapons are insulated from the country’s chaos, installing complicated firing mechanisms to prevent a launch by lone radicals, for example, and instituting special training and screening for its nuclear personnel to ensure they’re not infiltrated by extremists. Even if the Pakistani state did collapse entirely—the nightmare scenario— the chance of a Taliban bomb would still be remote. Desch argues that the idea that terrorists “could use these weapons radically underestimates the difficulty of actually operating a modern nuclear arsenal. These things need constant maintenance and they’re very easy to disable. So the idea that these things could be stuffed into a gunnysack and smuggled across the Rio Grande is preposterous.”

### 2NR Dedev---transition

Economic collapse forces a cultural change away from growth, which solves---prefer our ev that cites polling

Speth 8 – James Gustave Speth, dean of the Yale School of Forestry and Environmental Studies at Yale University, founder of the World Resources Institute, Professor at Vermont Law School, Former Chairman of the Council on Environmental Quality in the Executive Office of the President, Co-founder of the Natural Resources Defense Council, 2008, The Bridge at the Edge of the World, p. 211-213

Unfortunately, the surest path to widespread cultural change is a cataclysmic event that profoundly affects shared values and delegitimizes the status quo and existing leadership. The Great Depression is a classic example. I believe that both 9/11 and Hurricane Katrina could have led to real cultural change in the United States, both for the better, but America lacked the inspired leadership needed.

The most thorough look at this issue from the perspective here is Thomas Homer-Dixon’s The Upside of Down. He argues “that our circumstances today are surprisingly like Rome’s in key ways. Our societies are also becoming steadily more complex and often more rigid. This is happening partly because we’re trying to manage—often with limited success—stresses building inside our societies, including stresses arising from our gargantuan appetite for energy. . . . Eventually, as occurred in Rome, the stresses may become too extreme, and our societies too inflexible to respond, and some kind of economic or political breakdown will occur. . . .

“People often use the words ‘breakdown’ and ‘collapse’ synonymously. But in my view, although both breakdown and collapse produce a radical simplification of a system, they differ in their long-term consequences. Breakdown may be serious, but it’s not catastrophic. Something can be salvaged after breakdown occurs and perhaps rebuilt better than before. Collapse, on the other hand, is far more harmful. . . .

“In coming years, I believe, foreshocks are likely to become larger and more frequent. Some could take the form of threshold events—like climate flips, large jumps in energy prices, boundary-crossing outbreaks of new infectious disease, or international financial crises.”23

Homer-Dixon argues that foreshocks and breakdowns can lead to positive change if the ground is prepared. “We need to prepare to turn breakdown to our advantage when it happens—because it will,” he says.24 Homer-Dixon’s point is critically important. Breakdowns, of course, do not necessarily lead to positive outcomes; authoritarian ones and Fortress World are also possibilities. Turning a breakdown to advantage will require both inspired leadership and a new story that articulates a positive vision grounded in what is best in the society’s values and history.

A congressman is said to have told a citizens’ group, “If you will lead, your leaders will follow.” But it doesn’t have to be that way. Harvard’s Howard Gardner stresses this potential of true leadership in his book Changing Minds: “Whether they are heads of a nation or senior officials of the United Nations, leaders of large, disparate populations have enormous potential to change minds . . . and in the process they can change the course of history.

“I have suggested one way to capture the attention of a disparate population: by creating a compelling story, embodying that story in one’s own life, and presenting the story in many different formats so that it can eventually topple the counterstories in one’s culture. . . . [T]he story must be simple, easy to identify with, emotionally resonant, and evocative of positive experiences.”25

There is evidence that Americans are ready for another story. As noted, large majorities of Americans, when polled, express disenchantment with today’s lifestyles and offer support for values similar to those discussed here.26 But these values are held along with other strongly felt and often conflicting values, and we are all pinned down by old habits, fears, insecurities, social pressures, and in other ways. A new story that helps people find their way out of this confusion and dissonance could help lead to real change.

Post-transition society will be prosperous and ecologically sustainable

Heinberg 10 – Richard Heinberg, Senior Fellow at The Post-Carbon Institute, Professor at the New College of California, March 4, 2010, “What if the economy doesn't recover?,” online: http://www.countercurrents.org/heinberg040310.htm

2. The basic factors that will inevitably shape whatever replaces the growth economy are knowable. To survive and thrive for long, societies have to operate within the planet's budget of sustainably extractable resources. This means that even if we don't know exactly what a desirable post-growth economy and lifestyle will look like, we know enough to begin working toward them.

3. It is possible for economies to persist for centuries or millennia with no or minimal growth. That is how most economies operated until recent times. If billions of people through countless generations lived without economic growth, we can do so as well—now and far into the future. The end of growth does not mean the end of the world.

4. Life in a non-growing economy can be fulfilling, interesting, and secure. The absence of growth does not imply a lack of change or improvement. Within a non-growing or equilibrium economy there can still be a continuous development of practical skills, artistic expression, and technology. In fact, some historians and social scientists argue that life in an equilibrium economy can be superior to life in a fast-growing economy: while growth creates opportunities for some, it also typically intensifies competition—there are big winners and big losers, and (as in most boom towns) the quality of relations within the community can suffer as a result. Within a non-growing economy it is possible to maximize benefits and reduce factors leading to decay, but doing so will require pursuing appropriate goals: instead of more, we must strive for better; rather than promoting increased economic activity for its own sake, we must emphasize whatever increases quality of life without stoking consumption. One way to do this is to reinvent and redefine growth itself.

The transition to a no-growth economy (or one in which growth is defined in a fundamentally different way) is inevitable, but it will go much better if we plan for it rather than simply watching in dismay as institutions we have come to rely upon fail, and then try to improvise a survival strategy in their absence.