# 2ac civilization

## 2ac top level

Permutation

**You should view their evidence with skepticism – most of their authors are right-wing survivalist militant bloggers that write evidence that isn’t peer reviewed or robustly supported – credible qualifications indicates consensus and should be preferred**

#### Prefer util

Cumminsky 90 – Professor of Philosophy, Bates (David, Kantian Consequentialism, Ethics 100.3, p 601-2, p 606, jstor)

We must not obscure the issue by characterizing this type of case as the sacrifice of individuals for some abstract "social entity." It is not a question of some persons having to bear the cost for some elusive "overall social good." Instead, the question is whether some persons must bear the inescapable cost for the sake of other persons. Nozick, for example, argues that "to use a person in this way does not sufficiently respect and take account of the fact that he is a separate person, that his is the only life he has."30 Why, however, is this not equally true of all those that we do not save through our failure to act? By emphasizing solely the one who must bear the cost if we act, one fails to sufficiently respect and take account of the many other separate persons, each with only one life, who will bear the cost of our inaction. In such a situation, what would a conscientious Kantian agent, an agent motivated by the unconditional value of rational beings, choose? We have a duty to promote the conditions necessary for the existence of rational beings, but both choosing to act and choosing not to act will cost the life of a rational being. Since the basis of Kant's principle is "rational nature exists as an end-in-itself' (GMM, p. 429), the reasonable solution to such a dilemma involves promoting, insofar as one can, the conditions necessary for rational beings. If I sacrifice some for the sake of other rational beings, I do not use them arbitrarily and I do not deny the unconditional value of rational beings. **Persons** may **have "dignity**, an unconditional and incomparable value" that transcends any market value (GMM, p. 436), **but**, as rational beings, persons **also** have **a fundamental equality which dictates that some must** sometimes **give way for the sake of others.** The formula of the end-in-itself thus does not support the view that we may never force another to bear some cost in order to benefit others. If one focuses on the equal value of all rational beings, then equal consideration dictates that one sacrifice some to save many. [continues] According to Kant, the objective end of moral action is the existence of rational beings. Respect for rational beings requires that, in deciding what to do, one give appropriate practical consideration to the unconditional value of rational beings and to the conditional value of happiness. Since agent-centered constraints require a non-value-based rationale, the most natural interpretation of the demand that one give equal respect to all rational beings lead to a consequentialist normative theory. We have seen that there is no sound Kantian reason for abandoning this natural consequentialist interpretation. In particular, a consequentialist interpretation does not require sacrifices which a Kantian ought to consider unreasonable, and it does not involve doing evil so that good may come of it. It simply requires an uncompromising commitment to the equal value and equal claims of all rational beings and a recognition that, in the moral consideration of conduct, one's own subjective concerns do not have overriding importance.

#### Framework – the k needs to prove the whole plan is bad– any other interp moots aff offense and decreases policy education

#### Positivism is the necessary epistemology for studying IR—the alternative creates epistemological anarchy and destroys empirical analysis

Brown, 2011 (Vernon, Cardiff U, “The Reflectivist Critique of Positivist IR Theory”, http://www.e-

ir.info/?p=7328)

There is a great deal of support for the positivist approach in IR despite the critiques presented above. As the survey by Maliniak et al. showed, seventy percent of American IR scholars still consider themselves as positivists with a number of the rest not yet reflectivist. This is significant as the United States is still considered to be the major force in IR scholarship. There are many reasons for this continued success of positivism in IR, the majority of which have to do with either the continued reliance on empirical methods or the failure of many reflectivists, especially the post-modernists, to offer any suggestions to fill the epistemological void left by their passing. David Houghton (2008, p.118) addresses both of these by writing that despite their critique, reflectivists continue to use empirical, observational methods and that is not possible to be anything but positivist because, as he writes, ‘truth claims about the world have to come from somewhere’. He also suggests that reflectivists are essentially engaging in what can only be perceived as a negative exercise since by continually deconstructing theories one will eventually be left with nothing that is considered a legitimate theory. Another issue raised in response to the reflectivist critique focuses on the pluralism which scholars have called for in the face of epistemological relativism. Lapid (1989, p.249) warns that such pluralism, ‘If adopted uncritically or taken to its logical conclusion, [can] deteriorate into a condition of epistemological anarchy under which almost any position can legitimately claim equal hearing’, and that in such a state it would become nearly impossible to distinguish theoretical proliferation from theoretical growth. Positivism defends itself by claiming that scholarship is inherently observational, therefore empirical, and that if reflectivism is followed to its logical endpoint there would be no legitimate theories left because they would have been either deconstructed or created without a means of testing their legitimacy. Conclusion: The critique of positivism by the reflectivists is fundamentally an epistemological one. Each side can and does make compelling arguments showing the strength of their position. While it is important to acknowledge the positivists’ attempts to ground the discipline in a naturalist, scientific area there is still the obvious fact that the assumptions on which their epistemology is based are too easily deconstructed when they attempt to explain phenomena and make predictions in the socially constructed world which IR purports to study. As Milja Kurki (2009, p.442) suggests, positivism fails to acknowledge the possibility that all theories are at some level ‘politically and socially contextualized’. This creates the possibility for positivist theories to create predictions that are fundamentally flawed as they have failed to take into account the context within which their facts are constructed. This in turn allows the reflectivist theorists to deconstruct the predictions due to misunderstandings that arise from the lack of context in the positivists’ predictions. The question of what positivism has to say in a socially constructed and interpreted world is still an important one, however, since the study of IR is still in many ways observational and therefore empirical. There is also the valid claim that in the face of the possible anarchical pluralism or lack of legitimate theories left by reflectivist critiques there needs to be some sense of scientific and theoretical grounding, and that positivism provides that very thing. In the end, reflectivism performs a valuable service in widening the range of legitimate research that is possible by IR scholars and allowing such research to take into account the understanding that the issues studied are birthed by social conventions. There still must be, however, some framework within this study to prevent the anarchy that could follow in the wake of reflectivism and while positivism is in no ways perfect, or even close to it, it still provides such a framework that if made to be self-reflective and continually evolving, could provide the stability needed.

#### No root cause– prefer proximate causes

**Moore, 04** [John Norton, Professor of Law at the University of Virginia He formerly served as the first Chairman of the Board of the United States Institute of Peace and as the Counselor on International Law to the Department of State, Winter, “Beyond the Democratic Peace: Solving the War Puzzle”, 44 Va. J. Int'l L. 341, Lexis Law]

If major interstate war is predominantly a product of a synergy between a potential nondemocratic aggressor and an absence of effective deterrence, what is the role of the many traditional "causes" of war? Past, and many contemporary, theories of war have focused on the role of specific disputes between nations, ethnic and religious differences, arms races, poverty and social injustice, competition for resources, incidents and accidents, greed, fear, perceptions of "honor," and many other factors. Such factors may well play a role in motivating aggression or generating fear and manipulating public opinion. The reality, however, is that while some of these factors may have more potential to contribute to war than others, there may well be an **infinite set of motivating factors**, or human wants, motivating aggression. It is not the independent existence of such motivating factors for war but rather the circumstances permitting or encouraging high-risk decisions leading to war that is the key to more effectively controlling armed conflict. And the same may also be true of democide. The early focus in the Rwanda slaughter on "ethnic conflict," as though Hutus and Tutsis had begun to slaughter each other through spontaneous combustion, distracted our attention from the reality that a nondemocratic Hutu regime had carefully planned and orchestrated a genocide against Rwandan Tutsis as well as its Hutu opponents. [n158](http://www.lexisnexis.com.proxy.lib.umich.edu/lnacui2api/frame.do?reloadEntirePage=true&rand=1329520437445&returnToKey=20_T13973620735&parent=docview&target=results_DocumentContent&tokenKey=rsh-20.647208.6119287203#n158) Certainly if we were able to press a button and end poverty, racism, religious intolerance, injustice, and endless disputes, we would want to do so. Indeed, democratic governments must remain committed to policies that will produce a better world by all measures of human progress. The broader achievement of democracy and the rule of law will itself assist in this progress. No one, however, has yet been able to demonstrate the kind of robust correlation with any of these "traditional" causes of war that is reflected in the "democratic peace." Further, given the difficulties in overcoming many of these social problems, an approach to war exclusively dependent on their solution may **doom us to war for generations** to come.

#### Violence has declined because of every global force consistent with the aff – proves no terminal impact uniqueness – prefer our ev which is based on multidisciplinary research and empirical data

**Pinker, 11** [Steven, professor of psychology at Harvard University, *The Better Angels of our Nature Why Violence Has Declined*, ISBN: 067002295

**T**his book is about what may be the most important thing that has ever happened in human history. Believe it or not—and I know that most people do not—violence has **declined** over long stretches of time, and today we may be living in the **most peaceable era** in our species’ existence. The decline, to be sure, has not been smooth; it has not brought violence down to zero; and it is not guaranteed to continue. But it is an **unmistakable development**, visible on scales from millennia to years, from the waging of wars to the spanking of children. **No aspect of life** is untouched by the retreat from violence. Daily existence is very different if you always have to worry about being abducted, raped, or killed, and it’s hard to develop sophisticated arts, learning, or commerce if the institutions that support them are looted and burned as quickly as they are built. The historical trajectory of violence affects not only **how life is lived** but how it is understood. What could be more fundamental to **our sense of meaning** and purpose than a conception of whether the strivings of the human race over long stretches of time have left us better or worse off? How, in particular, are we to make sense of *modernity*—of the erosion of family, tribe, tradition, and religion by the forces of individualism, cosmopolitanism, reason, and science? So much depends on how we understand the legacy of this transition: whether we see our world as a nightmare of crime, terrorism, genocide, and war, or as a period that, by the standards of history, is blessed by unprecedented levels of peaceful coexistence. The question of whether the arithmetic sign of trends in violence is positive or negative also bears on our conception of human nature. Though theories of human nature rooted in biology are often associated with fatalism about violence, and the theory that the mind is a blank slate is associated with progress, in my view it is the other way around. How are we to understand the natural state of life when our species first emerged and the processes of history began? The belief that violence has increased suggests that the world we made has contaminated us, perhaps irretrievably. The belief that it has xxi decreased suggests that we started off nasty and that the artifices of civilization have moved us in a noble direction, one in which we can hope to continue. This is a big book, but it has to be. First I have to convince you that violence really has gone down over the course of history, knowing that the very idea invites skepticism, incredulity, and sometimes anger. Our cognitive faculties predispose us to believe that we live in violent times, especially when they are stoked by media that follow the watchword “If it bleeds, it leads.” The human mind tends to estimate the probability of an event from the ease with which it can recall examples, and scenes of carnage are more likely to be beamed into our homes and burned into our memories than footage of people dying of old age.1 No matter how small the percentage of violent deaths may be, in absolute numbers there will always be enough of them to fill the evening news, so people’s impressions of violence will be disconnected from the actual proportions. Also distorting our sense of danger is our moral psychology. No one has ever recruited activists to a cause by announcing that things are getting better, and bearers of good news are often advised to keep their mouths shut lest they lull people into complacency. Also, a large swath of our intellectual culture is loath to admit that there could be anything good about civilization, modernity, and Western society. But perhaps the main cause of the illusion of ever-present violence springs from one of the forces that drove violence down in the first place. The decline of violent behavior has been paralleled by a decline in attitudes that tolerate or glorify violence, and often the attitudes are in the lead. By the standards of the mass atrocities of human history, the lethal injection of a murderer in Texas, or an occasional hate crime in which a member of an ethnic minority is intimidated by hooligans, is pretty mild stuff. But from a contemporary vantage point, we see them as signs of how low our behavior can sink, not of how high our standards have risen. In the teeth of these preconceptions, I will have to persuade you with numbers, which I will glean from datasets and depict in graphs. In each case I’ll explain where the numbers came from and do my best to interpret the ways they fall into place. The problem I have set out to understand is the reduction in violence at many scales—in the family, in the neighborhood, between tribes and other armed factions, and among major nations and states. If the history of violence at each level of granularity had an idiosyncratic trajectory, each would belong in a separate book. But to my repeated astonishment, the global trends in almost all of them, viewed from the vantage point of the present, point downward. That calls for documenting the various trends between a single pair of covers, and seeking commonalities in when, how, and why they have occurred. Too many kinds of violence, I hope to convince you, have moved in the same direction for it all to be a coincidence, and that calls for an explanation. It is natural to recount the history of violence as a moral saga—a heroic struggle of justice against evil—but that is not my starting point. My approach is scientific in the broad sense of seeking explanations for why things happen. We may discover that a particular advance in peacefulness was brought about by moral entrepreneurs and their movements. But we may also discover that the explanation is more prosaic, like a change in technology, governance, commerce, or knowledge. Nor can we understand the decline of violence as an unstoppable force for progress that is carrying us toward an omega point of perfect peace. It is a collection of statistical trends in the behavior of groups of humans in various epochs, and as such it calls for an explanation in terms of psychology and history: how human minds deal with changing circumstances. A large part of the book will explore the psychology of violence and nonviolence. The theory of mind that I will invoke is the synthesis of cognitive science, affective and cognitive neuroscience, social and evolutionary psychology, and other sciences of human nature that I explored in *How the Mind Works*, *The Blank Slate*, and *The Stuff of Thought*. According to this understanding, the mind is a complex system of cognitive and emotional faculties implemented in the brain which owe their basic design to the processes of evolution. Some of these faculties incline us toward various kinds of violence. Others—“the better angels of our nature,” in Abraham Lincoln’s words—incline us toward cooperation and peace. The way to explain the decline of violence is to identify the changes in our cultural and material milieu that have given our peaceable motives the upper hand. Finally, I need to show how our history has engaged our psychology. Everything in human affairs is connected to everything else, and that is especially true of violence. Across time and space, the more peaceable societies also tend to be richer, healthier, better educated, better governed, more respectful of their women, and more likely to engage in trade. It’s not easy to tell which of these happy traits got the virtuous circle started and which went along for the ride, and it’s tempting to resign oneself to unsatisfying circularities, such as that violence declined because the culture got less violent. Social scientists distinguish “endogenous” variables—those that are inside the system, where they may be affected by the very phenomenon they are trying to explain—from the “exogenous” ones—those that are set in motion by forces from the outside. Exogenous forces can originate in the practical realm, such as changes in technology, demographics, and the mechanisms of commerce and governance. But they can also originate in the intellectual realm, as new ideas are conceived and disseminated and take on a life of their own. The most satisfying explanation of a historical change is one that identifies an exogenous trigger. To the best that the data allow it, I will try to identify exogenous forces that have engaged our mental faculties in different ways at different times and that thereby can be said to have caused the declines in violence. The discussions that try to do justice to these questions add up to a big book—big enough that it won’t spoil the story if I preview its major conclusions. *The Better Angels of Our Nature* is a tale of six trends, five inner demons, four better angels, and five historical forces. ***Six Trends*** (chapters 2 through 7). To give some coherence to the many developments that make up our species’ retreat from violence, I group them into six major trends. The first, which took place on the scale of millennia, was the transition from the anarchy of the hunting, gathering, and horticultural societies in which our species spent most of its evolutionary history to the first agricultural civilizations with cities and governments, beginning around five thousand years ago. With that change came a reduction in the chronic raiding and feuding that characterized life in a state of nature and a more or less fivefold decrease in rates of violent death. I call this imposition of peace the Pacification Process. The second transition spanned more than half a millennium and is best documented in Europe. Between the late Middle Ages and the 20th century, European countries saw a tenfold-to-fiftyfold decline in their rates of homicide. In his classic book *The Civilizing Process*, the sociologist Norbert Elias attributed this surprising decline to the consolidation of a patchwork of feudal territories into large kingdoms with centralized authority and an infrastructure of commerce. With a nod to Elias, I call this trend the Civilizing Process. The third transition unfolded on the scale of centuries and took off around the time of the Age of Reason and the European Enlightenment in the 17th and 18th centuries (though it had antecedents in classical Greece and the Renaissance, and parallels elsewhere in the world). It saw the first organized movements to abolish socially sanctioned forms of violence like despotism, slavery, dueling, judicial torture, superstitious killing, sadistic punishment, and cruelty to animals, together with the first stirrings of systematic pacifism. Historians sometimes call this transition the Humanitarian Revolution. The fourth major transition took place after the end of World War II. The two-thirds of a century since then have been witness to a **historically unprecedented development**: the great powers, and developed states in general, have **stopped waging war** on one another. Historians have called this blessed state of affairs the Long Peace.2 The fifth trend is also about armed combat but is more tenuous. Though it may be hard for news readers to believe, since the end of the Cold War in 1989, organized conflicts of all kinds—civil wars, genocides, repression by autocratic governments, and terrorist attacks—have declined throughout the world. In recognition of the tentative nature of this happy development, I will call it the New Peace. Finally, the postwar era, symbolically inaugurated by the Universal Declaration of Human Rights in 1948, has seen a growing revulsion against aggression on smaller scales, including violence against ethnic minorities, women, children, homosexuals, and animals. These spin-offs from the concept of human rights—civil rights, women’s rights, children’s rights, gay rights, and animal rights—were asserted in a cascade of movements from the late 1950s to the present day which I will call the Rights Revolutions. *Five Inner Demons* (chapter 8)*.* Many people implicitly believe in the Hydraulic Theory of Violence: that humans harbor an inner drive toward aggression (a death instinct or thirst for blood), which builds up inside us and must periodically be discharged. Nothing could be further from a contemporary scientific understanding of the psychology of violence. Aggression is not a single motive, let alone a mounting urge. It is the output of several psychological systems that differ in their environmental triggers, their internal logic, their neurobiological basis, and their social distribution. Chapter 8 is devoted to explaining five of them. *Predatory* or *instrumental violence* is simply violence deployed as a practical means to an end. *Dominance* is the urge for authority, prestige, glory, and power, whether it takes the form of macho posturing among individuals or contests for supremacy among racial, ethnic, religious, or national groups. *Revenge* fuels the moralistic urge toward retribution, punishment, and justice. *Sadism* is pleasure taken in another’s suffering. And *ideology* is a shared belief system, usually involving a vision of utopia, that justifies unlimited violence in pursuit of unlimited good. *Four Better Angels* (chapter 9)*.* Humans are not innately good (just as they are not innately evil), but they come equipped with motives that can orient them away from violence and toward cooperation and altruism. *Empathy* (particularly in the sense of sympathetic concern) prompts us to feel the pain of others and to align their interests with our own. *Self-control* allows us to anticipate the consequences of acting on our impulses and to inhibit them accordingly. The *moral sense* sanctifies a set of norms and taboos that govern the interactions among people in a culture, sometimes in ways that decrease violence, though often (when the norms are tribal, authoritarian, or puritanical) in ways that increase it. And the faculty of *reason* allows us to extricate ourselves from our parochial vantage points, to reflect on the ways in which we live our lives, to deduce ways in which we could be better off, and to guide the application of the other better angels of our nature. In one section I will also examine the possibility that in recent history *Homo sapiens* has literally evolved to become less violent in the biologist’s technical sense of a change in our genome. But the focus of the book is on transformations that are strictly environmental: changes in historical circumstances that engage a fixed human nature in different ways. *Five Historical Forces* (chapter 10). In the final chapter I try to bring the psychology and history back together by identifying exogenous forces that favor our peaceable motives and that have driven the multiple declines in violence. The *Leviathan*, a state and judiciary with a monopoly on the legitimate use of force, can defuse the temptation of exploitative attack, inhibit the impulse for revenge, and circumvent the self-serving biases that make all parties believe they are on the side of the angels. *Commerce* is a positive-sum game in which everybody can win; as technological progress allows the exchange of goods and ideas over longer distances and among larger groups of trading partners, other people become more valuable alive than dead, and they are less likely to become targets of demonization and dehumanization. *Feminization* is the process in which cultures have increasingly respected the interests and values of women. Since violence is largely a male pastime, cultures that empower women tend to move away from the glorification of violence and are less likely to breed dangerous subcultures of rootless young men. The forces of *cosmopolitanism* such as literacy, mobility, and mass media can prompt people to take the perspective of people unlike themselves and to expand their circle of sympathy to embrace them. Finally, an intensifying application of knowledge and rationality to human affairs—the *escalator of reason—*can force people to recognize the futility of cycles of violence, to ramp down the privileging of their own interests over others’, and to reframe violence as a problem to be solved rather than a contest to be won. As one becomes aware of the decline of violence, the world begins to look different. The past seems less innocent; the present less sinister. One starts to appreciate the small gifts of coexistence that would have seemed utopian to our ancestors: the interracial family playing in the park, the comedian who lands a zinger on the commander in chief, the countries that quietly back away from a crisis instead of escalating to war. The shift is not toward complacency: we enjoy the peace we find today because people in past generations were appalled by the violence in their time and worked to reduce it, and so we should work to reduce the violence that remains in our time. Indeed, it is a recognition of the decline of violence that best affirms that such efforts are worthwhile. Man’s inhumanity to man has long been a subject for moralization. With the knowledge that something has driven it down, we can also treat it as a matter of cause and effect. Instead of asking, “Why is there war?” we might ask, “Why is there peace?” We can obsess not just over what we have been doing wrong but also over what we have been doing right. Because we *have* been doing something right, and it would be good to know what, exactly, it is. Many people have asked me how I became involved in the analysis of violence. It should not be a mystery: violence is a natural concern for anyone who studies human nature. I first learned of the decline of violence from Martin Daly and Margo Wilson’s classic book in evolutionary psychology, *Homicide*, in which they examined the high rates of violent death in nonstate societies and the decline in homicide from the Middle Ages to the present. In several of my previous books I cited those downward trends, together with humane developments such as the abolition of slavery, despotism, and cruel punishments in the history of the West, in support of the idea that moral progress is compatible with a biological approach to the human mind and an acknowledgment of the dark side of human nature. 3 I reiterated these observations in response to the annual question on the online forum www.edge.org, which in 2007 was “What Are You Optimistic About?” My squib provoked a flurry of correspondence from scholars in historical criminology and international studies who told me that the evidence for a historical reduction in violence is more extensive than I had realized.4 It was their data that convinced me that there was an underappreciated story waiting to be told.

## 2ac impacts

#### Thorium is key to global water desalination

Ragheb, 8/21/12 [Magdi Ragheb, Associate Professor at University of Illinois, “FRESH WATER AUGMENTATION” https://netfiles.uiuc.edu/mragheb/www/NPRE%20402%20ME%20405%20Nuclear%20Power%20Engineering/Fresh%20Water%20Augmentation.pdf]

DEVELOPMENT PROJECTS Multiple designs for modular nuclear power units can be adapted for desalinating seawater. The Asea Brown Boveri-Siemens potato reactor, so named for its spherical fuel pebble bed design, uses a thorium fuel cycle. California-based General Atomics has proposed a modular, helium-cooled unit which is sited entirely underground. A portion of the energy from either type of unit at about 135 MWs, can be handily used for desalinating seawater, and units can be added as required. With four nuclear power units per installation, only 20 such complexes could desalinate 3,500 million cubic meters of water for the disputed Jordan River water basin, the equivalent of a second Jordan River. At Al Dabaa, Egypt, an area that receives just 6 inches of rainfall in a year, a plan for building a nuclear and desalting plant producing 150 MWe of electricity and 5 mgd of fresh water has been languishing since the early 1970s for lack of resolve and an expectation for an illusive promise of foreign aid financing that never materialized. Mexico is 60 percent arid. Tunisia is desperate for fresh water supplies. Yet both countries have areas along seashores that can be developed should fresh water supplies materialize. Southern Tunisia’s saline content varies from 1.5-1.7 gm/liter, and in some places it reaches 24 grams per liter. Even though 2.5 gm/liter is usually not considered unpalatable, the USA Public Health Service suggests that drinking water should not contain more than 0.5 gm/liter. DISCUSSION An issue facing humanity in the 21st century is how to share the 1/2 percent of usable freshwater to feed its increasing population. A predicted 40 percent shortfall is predicted in the freshwater supply. By 2050, according to United Nations, UN, 9 billion people, compared with the present 7 billion would need to be fed using far less fresh water than we have available today. According to Marc Bierkens of the Utrecht University in Utrecht, the Netherlands: “If you let the population grow by extending the irrigated areas using groundwater that is not being recharged, then you will run into a wall at a certain point in time, and you will have hunger and social unrest to go with it. That is something that you can see coming for miles.” The advances in technology, innovation, and best practices/conservation are clashing with finite water resources, relentless population growth, changing diets, a lack of investment in water infrastructure and increased urban, agricultural and industrial water usage. Investment in water management as a percentage of GDP has dropped by 1/2 in most countries since the late 1990s. Current estimates indicate that we will not have enough water to feed ourselves in a 25 years’ time-span, according to the International Water Management Institute, IWMI. The central issue over the next few decades will be whether humanity can achieve and sustain the food harvest needed to feed the world population. To ensure a reliable water supply in the USA will require a significant infrastructure upgrade. Upgrading pipelines to accommodate the needed new supply is estimated to require $300 billion over a 30 years period or $10 billion/year. In his book “Future of Life on Earth,” John Cairns Jr. states: “One lesson from the great global extinctions is that species and ecosystems come and go, but the evolutionary process continues. In short, life forms have a future on Earth, but humankind’s future depends on its stewardship of ecosystems that favor Homo Sapiens.” The gap between human demand of fresh water supplies and its available supply has reached the critical threshold of an unsustainable “ecological overshoot.” Fresh water is in short supply in most parts of the world, even more than electrical energy, and the future will certainly witness a role for nuclear, solar and wind energy in alleviating the shortage. Over the next few decades, fresh water shortages, in addition to climate change will determine whether humanity can sustainably feed its masses.

#### This development path stabilizes global population and averts resource conflict – solves for their impacts

Hargraves, 12 [July, Robert, Robert Hargraves has written articles and made presentations about the liquid fluoride thorium reactor and energy cheaper than from coal – the only realistic way to dissuade nations from burning fossil fuels. His presentation “Aim High” about the technology and social benefits of the liquid fluoride thorium reactor has been presented to audiences at Dartmouth ILEAD, Thayer School of Engineering, Brown University, Columbia Earth Institute, Williams College, Royal Institution, the Thorium Energy Alliance, the International Thorium Energy Association, Google, the American Nuclear Society, and the Presidents Blue Ribbon Commission of America’s Nuclear Future. With coauthor Ralph Moir he has written articles for the American Physical Society Forum on Physics and Society: Liquid Fuel Nuclear Reactors (Jan 2011) and American Scientist: Liquid Fluoride Thorium Reactors (July 2010). Robert Hargraves is a study leader for energy policy at Dartmouth ILEAD. He was chief information officer at Boston Scientific Corporation and previously a senior consultant with Arthur D. Little. He founded a computer software firm, DTSS Incorporated while at Dartmouth College where he was assistant professor of mathematics and associate director of the computation center. He graduated from Brown University (PhD Physics 1967) and Dartmouth College (AB Mathematics and Physics 1961). THORIUM: energy cheaper than coal, ISBN: 1478161299, purchased online at Amazon.com]

Resource depletion may be more severe than climate change.

Global warming is indeed a severe threat to our environment and human civilization. But resource depletion may be an even more immediate threat. Physicist Tom Murphy writes the blog, Do the Math, encouraging people to quantify the problems and envisioned solutions. In a 2012 interview with OilPrice.com he says: “I see climate change as a serious threat to natural services and species survival, perhaps ultimately having a very negative impact on humanity. But resource depletion trumps climate change for me, because I think this has the potential to effect far more people on a far shorter timescale with far greater certainty. Our economic model is based on growth, setting us on a collision course with nature. When it becomes clear that growth cannot continue, the ramifications can be sudden and severe. So my focus is more on averting the chaos of economic/resource/agriculture/distribution collapse, which stands to wipe out much of what we have accomplished in the fossil fuel age. To the extent that climate change and resource limits are both served by a deliberate and aggressive transition away from fossil fuels, I see a natural alliance.” Population is stable in developed nations. World population is projected to grow from 7 billion to over 9 billion people. Most of this growth is in the developing nations. The US and other economically strong OECD nations have little population growth, attributable to immigration from the developing nations. Increasing population will increase the demand for resources of food and energy. Increased demand leads to increased competion and possible conflict. Impoverished countries birth the most children. This scatter plot uses data from the 2008 CIA world fact book. Each point corresponds to one nation, relating average number of children born to each woman and GDP per capita - closely related to income. It demonstrates that countries with high GDP per capita have birthrates that lead to a sustainable population. All the countries to the left of the vertical bar would have diminishing populations, except for immigration. With increased income, there is less need to have children to work in agriculture, or to care for aging parents. There is less need to give birth to extra children to compensate for childhood deaths. With work saving technologies such as water pumps, efficient cook stoves, and washing machines, women are freed from constant labor. They are able to have time for education and to earn money. With more independence and access to contraceptives, women can choose to have fewer children, as evidenced above. Prosperity stabilizes population. In this same plot is added a horizontal bar at $7,500 GDP per capita, arbitrarily chosen and labeled “Prosperity”. The poor nations, below $7,500, are those that have the highest birthrates. This strongly implies that improving the economic status of poor nations will lower birthrates, leading to a stable or shrinking world population. This plot cries out for a need to increase world prosperity to $7,500 GDP per capita, only 16% of the US number. With a stable or shrinking global population, world civilization can be sustainable. At the Wall Street Journal ECOmomics forum in March 2012 Microsoft founder and philanthropist Bill Gates remarked: "If you want to improve the situation of the poorest two billion on the planet, having the price of energy go down substantially is about the best thing you could do for them. ... Energy is the thing that allowed civilization over the last 220 years to dramatically change everything." This plot, also with CIA data, shows the relationship between GDP and energy - specifically electric energy, measured in kilowatt- hours per capita per year. For our civilization, electric energy is the most valuable and useful form of energy. Unlike heat from fire, or power from falling water, electric power can be used for many purposes essential to economic development. Applications include water sanitizing and distribution, sewage processing, lighting, heating, refrigeration, air conditioning, cooking, communications, computing, transportation, food processing, medical care, manufacturing, industry, and commerce. These are all hallmarks of emerging prosperity. Adequate electric power alone cannot guarantee a prosperous economy and civilization without education, basic health care, rule of law, property rights, financial system, and good government. But electricity is essential for economic progress. Over 1.3 billion people, 20% of the world population, have no access to electricity. Even rapidly developing nations such as India and South Africa can not provide full time electricity. over 10 million. Electricity can power sewage processing systems, necessary to assure clean water. The World Bank says 2.6 billion people have no access to sanitation, leading to illness that reduces GDP by 6%. Diarrhea is responsible for more child deaths than AIDS, TB, and malaria combined. UNESCO reports that 8% of worldwide electric power is used for water pumping, purification, and wastewater treatment. Clean water distribution is one example of how affordable, reliable power can free women from hauling water, helping to lead to a standard of living with time for education, gainful work, women’s independence, and choices about reproduction. The previous plot suggests an annual 2,000 kWh per capita supply leads to the $7,500 GDP per capita level that leads to sustainable birthrates and population. This minimum electric energy supply rate is 230 watts per person, about 16% of the US rate. In summary, an economy with minimum electric power availability of 230 W per person is needed to achieve the modest prosperity level of $7,500 per person leading to a sustainable population. In India today, average electric power consumption per capita is 85 W; 40% of the people have no access to electricity, and another 40% have access only a few hours per day. The long term goal of India’s government ministers is 570 W per capita, compared to 1400 W in the US.

\* World

1950 1960 1970 1980 1990 2000 2010 2020 2030 2040 2050

OECD

US

#### Thorium is critical to sustainability – solves energy independence, oil wars, and the environment

#### Zerbisias, ‘11

[Antonia, Feature Writer -- The Week, 3-25, “Thorium touted as The Answer to our energy needs,” http://www.thestar.com/news/insight/article/960564--thorium-touted-as-the-answer-to-our-energy-needs]

And, with climate change bearing down on the planet, everyone’s wondering what the energy future will be. Coal’s too dirty, hydro can’t meet all our needs, power from wind and solar is intermittent, and oil? Well, the world just keeps going to war over that. Which is why the idea of thorium-based reactors has exploded into the nuclear debate. This radioactive metal is increasingly being touted as The Answer. “Here’s a solution that’s in front of us that can solve multiple problems,” says retired physicist and IT specialist Robert Hargraves. “It can tackle global warming. To the extent that we can make fuel, we can reduce our dependency on the Mideast.” Brief chemistry refresher course: atomic number 90, symbol Th, just two protons fewer than uranium, and four fewer than plutonium, shiny, silvery-white — and almost as common as dirt. The metal was discovered in 1828 and named for Thor, the Norse god of thunder. Thorium’s fans — nuclear scientists and engineers, chemists and physicists, even some environmentalists — have become almost cult-like in their promotion of thorium as the solution to most of the world’s energy problems. They say that, among other things, a well-designed thorium-fuelled plant beats the uranium-based system on all fronts. For one thing, there’s enough easily mined thorium in the ground to power the world for a thousand years. According to the U.S. Geological Survey, the United States has an estimated 440,000 tonnes, Australia and India about 300,000 tonnes each, and Canada about 100,000 tonnes. They say that, among other things, a well-designed thorium-fuelled plant beats the uranium-based system on all fronts. For one thing, there’s enough easily mined thorium in the ground to power the world for a thousand years. According to the U.S. Geological Survey, the United States has an estimated 440,000 tonnes, Australia and India about 300,000 tonnes each, and Canada about 100,000 tonnes. It’s supposedly safer and produces much less waste. The waste it does produce loses its radiotoxicity in about 300 years, as opposed to tens or hundreds of thousands for conventional uranium waste. Plus, get this, it actually feeds on radioactive plutonium waste, one of the nastiest substances on earth, as part of its power-generating process. That’s important because the disposal of plutonium is probably the nuclear industry’s most vexing problem. Although there are no thorium reactors currently in operation, they have worked in the past, in both the U.S. and the former Soviet Union. Right now China and India are developing them. According to their proponents, liquid fluoride thorium reactors (LFTRs) would be much smaller in scale than the nuclear plants in Pickering and Darlington, and would be resistant to what scientists refer to as proliferation — the manufacture of nuclear weapons. Interest in thorium has intensified so much that a previously esoteric website called Energy From Thorium (http://energyfromthorium.com/) has been crashing. Its host and creator, Kirk Sorenson, an Alabama-based NASA veteran, nuclear technologist and aerospace engineer, has had to apologize to his growing number of Facebook followers for server crashes. So besieged is he with requests for interviews about thorium — whose cult-like following says one tonne of it produces as much energy as 200 tonnes of uranium or 3,500,000 tonnes of coal — that he emails his regrets to the Toronto Star that he can’t talk before this story’s deadline. But he does tell the forward-looking U.S. magazine Fast Company that, had Japan built LFTRs or molten salt reactors (MSRs) with thorium instead of the more common and conventional uranium-based light water reactors (LWRs), nobody would be looking at their Japanese-sourced foodstuffs suspiciously today. “A major problem at Fukushima was that the tsunami knocked out the emergency power system that was supposed to pump water through the plant to keep it cool,” Sorensen said. He says LFTR designs automatically shut themselves down, even if emergency power is lost. What’s more, they probably never would have reached a dangerous melting point — at least 1,400 degrees Celsius — to begin with. Explains Ottawa-based physicist David Leblanc, whose company Ottawa Valley Research Associates is developing a new generation of MSRs: “We have nothing to push the radioactive material out. We’ve got nothing that explodes. We’ve got no pressure. We’ve got no steam. We’ve got no water that could turn into hydrogen that could then explode. “There’s nothing to go boom, so to speak.” All of which helps explain why thorium has gone nuclear this month. From a few Twitter mentions a week to several thousand a day. Coverage on every major scientific website, as well as pieces in London’s Daily Telegraph and The Wall Street Journal. All of them singing the praises of this humble and largely anonymous element. Hargraves is author of the booklet “AIM High,” which attempts to demonstrate that not only can LFTRs be cleaner and greener, they probably could be built on assembly lines, one a day, like Boeing airliners, and sited in places where electricity is currently unaffordable. “My motivation is years of frustration listening to people complain about high energy prices, or wars in the Mideast, our energy dependence and now global warming — and not taking action with an effective solution,” he says on the phone from his home in Hanover, Maine.

**Hegemonic collapse causes war and extinction**

**Framing issue – we empirically control that US hegemonic power creates stability and peace that has made war obsolete – the presence of a major power has ushered in a period of unprecedented peace, has kept globalization stable, and solved violence.**

**Now the alt causes transition wars – hegemonic collapse guarantees extinction—-**

**1) Power gap-- the alternative is not multipolarity but apolarity --narrowing the distance between countries results in military confrontation--as the US falls, others rise, and causes power competition that escalates--that's Zhang – collapse trade and causes economic nationalism – creates a mentality where persons are disposable**

#### Prolif causes nuclear war and conflict escalation – their arg lacks intellectual rigor and ignores 50 years of empirical research – more weapons increase the probability of accidental conflict - deterrence ensures the delegation of launch authority which causes escalation – the lack of second strike capability causes incentives to strike first and a use them or lose them mentality along with irrational leaders ensures extinction – that’s Kroenig – prefer our evidence it is from 2012 and assumes the most recent academic data

**New sources and models all forecast extinction—none of their indicts apply**

**Mosher 2011** (2/25, Dave, Wired Science, “How one nuclear skirmish could wreck the planet”, <http://www.wired.com/wiredscience/2011/02/nuclear-war-climate-change/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed:+wiredscience+(Blog+-+Wired+Science)>, WEA)

WASHINGTON — Even a small nuclear exchange could ignite mega-firestorms and wreck the planet’s atmosphere.

New climatological simulations show 100 Hiroshima-sized nuclear bombs — relatively small warheads, compared to the arsenals military superpowers stow today — detonated by neighboring countries would destroy more than a quarter of the Earth’s ozone layer in about two years.

Regions closer to the poles would see even more precipitous drops in the protective gas, which absorbs harmful ultraviolet radiation from the sun. New York and Sydney, for example, would see declines rivaling the perpetual hole in the ozone layer above Antarctica. And it may take more than six years for the ozone layer to reach half of its former levels.

Researchers described the results during a panel Feb. 18 at the [annual meeting of the American Association for the Advancement of Science](http://www.aaas.org/meetings/2011/), calling it “a real bummer” that such a localized nuclear war could bring the modern world to its knees.

“This is tremendously dangerous,” said environmental scientist [Alan Robock of Rutgers University](http://envsci.rutgers.edu/~robock/), one of the climate scientists presenting at the meeting. “The climate change would be unprecedented in human history, and you can imagine the world … would just shut down.”

To defuse the complexity involved in a nuclear climate catastrophe, Wired.com sat down with [Michael Mills](http://acd.ucar.edu/~mmills/), an atmospheric chemist at the National Center for Atmospheric Research, who led some of the latest simulation efforts.

‘It’s pretty clear this would lead to a global nuclear famine.’

Wired.com: In your simulation, a war between India and Pakistan breaks out. Each country launches 50 nukes at their opponent’s cities. What happens after the first bomb goes off?

Michael Mills: The initial explosions ignite fires in the cities, and those fires would build up for hours. What you eventually get is a firestorm, something on the level we saw in World War II in cities like Dresden, in Tokyo, Hiroshima and so on.

Today we have larger cities than we did then — mega cities. And using 100 weapons on these different mega cities, like those in India and Pakistan, would cause these firestorms to build on themselves. They would create their own weather and start sucking air through bottom. People and objects would be sucked into buildings from the winds, basically burning everything in the city. It’ll burn concrete, the temperatures get so hot. It converts mega cities into black carbon smoke.

Wired.com: I see — the firestorms push up the air, and ash, into the atmosphere?

Mills: Yeah. You sometimes see these firestorms in large forest fires in Canada, in Siberia. In those cases, you see a lot of this black carbon getting into the stratosphere, but not on the level we’re talking about in a nuclear exchange.

The primary cause of ozone loss is the heating of the stratosphere by that smoke. Temperatures initially increase by more than 100 degrees Celsius, and remain more than 30 degrees higher than normal for more than 3 years. The higher temperatures increase the rates of two reaction cycles that deplete ozone.

Wired.com: And the ozone layer is in the stratosphere, correct?

Mills: OK, so we live in the troposphere, which is about 8 kilometers [5 miles] thick at the poles, and 16 km [10 miles] at the equator.

At the top of the troposphere, you start to encounter the stratosphere. It’s defined by the presence of the ozone layer, with the densest ozone at the lowest part, then it tails off at the stratopause, where the stratosphere ends about 50 km [30 miles] up.

We have a lot of weather in the troposphere. That’s because energy is being absorbed at the Earth’s surface, so it’s warmest at the surface. As you go up in the atmosphere it gets colder. Well, that all turns around as you get to the ozone layer. It starts getting hotter because ozone is absorbing ultraviolet radiation, until you run out of ozone and it starts getting colder again. Then you’re at the mesosphere.

How Nukes Gobble Up Ozone

When we talk about ozone, we’re talking about the odd oxygen family, which includes both ozone (O3) and atomic oxygen (O). Those two gases can interchange rapidly within hours.

Ozone is produced naturally by the breakdown of molecules of oxygen, O2, which makes up 20 percent of the atmosphere. O2 breaks down from ultraviolet solar radiation and splits it into two molecules of O. Then the O, very quickly, runs into another O2 and forms O3. And the way O3 forms O again is by absorbing more UV light, so it’s actually more protective than O2.

Ozone is always being created and destroyed by many reactions. Some of those are catalytic cycles that destroy ozone, and in those you have something like NO2 plus O to produce NO plus O2. In that case, you’ve gotten rid of a member of the odd oxygen family and converted it to O2. Well, then you’ve got an NO which can react with ozone and produce the NO2 back again and another O2. So the NO and NO2 can go back and forth and in the process one molecule can deplete thousands of molecules of ozone.

It’s a similar process to chlorofluorocarbons, Those are the larger molecules that we’ve manufactured that don’t exist naturally. They break down into chlorine in the stratosphere, which has a powerful ozone-depleting ability. —Michael Mills

Wired.com: Where do the nukes come in? I mean, in eroding the ozone layer?

Mills: It’s not the explosions that do it, but the firestorms. Those push up gases that lead to oxides of nitrogen, which act like[chlorofluorocarbons](http://www.wired.com/wiredscience/2010/12/siberian-traps/). But let’s back up a little.

There are two important elements that destroy ozone, or O3, which is made of three atoms of oxygen. One element involves oxides of nitrogen, including nitrogen dioxide, or NO2, which can be made from nitrous oxide, or N2O — laughing gas.

The other element is a self-destructive process that happens when ozone reacts with atomic oxygen, called O. When they react together, they form O2, which is the most common form of oxygen on the planet. This self-reaction is natural, but takes off the fastest in the first year after the nuclear war.

In years two, three and four, the NO2 builds up. It peaks in year two because the N2O, the stuff that’s abundant in the troposphere, rose so rapidly with the smoke that it’s pushed up into the stratosphere. There, it breaks down into the oxides like NO2, which deplete ozone.

Wired.com: So firestorms suck up the N2O, push it up into the stratosphere, and degrade the ozone layer. But where does this stuff come from?

Mills: N2O is among a wide class of what we call tracers that are emitted at the ground. It’s produced by bacterias in soil, and it’s been increasing due to human activities like nitrogen fertilizers used in farming. N2O is actually now the most significant human [impact on the ozone](http://www.wired.com/wiredscience/2008/05/reactive-nitrog/), now that we’ve mostly taken care of CFCs.

Wired.com: You did [similar computer simulations](http://www.wired.com/wiredscience/2008/04/regional-nuclea/) in the past few years and saw this [ozone-depleting effect](http://www.pnas.org/content/105/14/5307.abstract). What do the new simulations tell us?

Mills: Before, we couldn’t look at the ozone depletion’s effects on surface temperatures; we lacked a full ocean model that would respond realistically. The latest runs are ones I’ve done in the Community Earth System Model. It has an atmospheric model, a full-ocean model, full-land and sea-ice models, and even a glacier model.

We see significantly greater cooling than other studies, perhaps because of ozone loss . Instead of a globally averaged 1.3-degree–Celsius drop, which [Robock’s atmospheric mode](http://onlinelibrary.wiley.com/doi/10.1002/wcc.45/abstract" \t "_blank)l produced, it’s more like 2 degrees. But we both see a 7 percent decrease in global average precipitation in both models. And in our model we see a much greater global average loss of ozone for many years, with even larger losses everywhere outside of the tropics.

I also gave this to my colleague [Julia Lee-Taylor](http://acd.ucar.edu/~julial/) at NCAR. She calculated the UV indexes across the planet, and a lot of major cities and farming areas would be exposed to a UV index similar to the Himalayas, or the hole over the Antarctic. We’re starting to look at the response of sea ice and land ice in the model, and it seems to be heavily increasing in just a few years after the hypothetical war.

Wired.com: What would all of this do to the planet, to civilization?

Mills: UV has big impacts on whole ecosystems. Plant height reduction, decreased shoot mass, reduction in foliage area. It can affect genetic stability of plants, increase susceptibility to attacks by insects and pathogens, and so on. It changes the whole competitive balance of plants and nutrients, and it can affect processes from which plants get their nitrogen.

Then there’s marine life, which depends heavily on [phytoplankton](http://www.wired.com/wiredscience/2010/08/phytoplankton-blooms-gallery/). Phytoplankton are essential; they live in top layer of the ocean and they’re the plants of the ocean. They can go a little lower in the ocean if there’s UV, but then they can’t get as much sunlight and produce as much energy. As soon as you cut off plants in the ocean, the animals would die pretty quickly. You also get damage to larval development and reproduction in fish, shrimp, crabs and other animals. Amphibians are also very susceptible to UV.

**Growth prevents war through interdependence – all of the empirical research is on our side**Hillebrand 2010 Evan E. Hillebrand (Professor of Diplomacy at University of Kentucky and a Senior Economist for the Central Intelligence Agency) 2010 “Deglobalization Scenarios: Who Wins? Who Loses?” Global Economy Journal, Volume 10, Issue 2 20A long line of writers from Cruce (1623) to Kant (1797) to Angell (1907) to Gartzke (2003) have theorized that economic interdependence can lower the likelihood of war. Cruce thought that free trade enriched a society in general and so made people more peaceable; Kant thought that trade shifted political power away from the more warlike aristocracy, and Angell thought that economic interdependence shifted cost/benefit calculations in a peace-promoting direction. Gartzke contends that trade relations enhance transparency among nations and thus help avoid bargaining miscalculations. There has also been a tremendous amount of empirical research that mostly supports the idea of an inverse relationship between trade and war. Jack Levy said that, “While there are extensive debates over the proper research designs for investigating this question, and while some empirical studies find that trade is associated with international conflict, most studies conclude that trade is associated with peace, both at the dyadic and systemic levels” (Levy, 2003, p. 127). There is another important line of theoretical and empirical work called Power Transition Theory that focuses on the relative power of states and warns that when rising powers approach the power level of their regional or global leader the chances of war increase (Tammen, Lemke, et al, 2000). Jacek Kugler (2006) warns that the rising power of China relative to the United States greatly increases the chances of great power war some time in the next few decades. The IFs model combines the theoretical and empirical work of the peacethrough trade tradition with the work of the power transition scholars in an attempt to forecast the probability of interstate war. Hughes (2004) explains how he, after consulting with scholars in both camps, particularly Edward Mansfield and Douglas Lemke, estimated the starting probabilities for each dyad based on the historical record, and then forecast future probabilities for dyadic militarized interstate disputes (MIDs) and wars based on the calibrated relationships he derived from the empirical literature. The probability of a MID, much less a war, between any random dyad in any given year is very low, if not zero. Paraguay and Tanzania, for example, have never fought and are very unlikely to do so. But there have been thousands of MIDs in the past and hundreds of wars and many of the 16,653 dyads have nonzero probabilities. In 2005 the mean probability of a country being involved in at least one war was estimated to be 0.8%, with 104 countries having a probability of at least 1 war approaching zero. A dozen countries12, however, have initial probabilities over 3%. model predicts four great power wars in the deglobalization scenario vs. 2 in the globalization scenario.16 The globalization scenario projects that the probability for war will gradually decrease through 2035 for every country—but not every dyad--that had a significant (greater than 0.5% chance of war) in 2005 (Table 6). The decline in prospects for war stems from the scenario’s projections of rising levels of democracy, rising incomes, and rising trade interdependence—all of these factors figure in the algorithm that calculates the probabilities. Not all dyadic war probabilities decrease, however, because of the power transition mechanism that is also included in the IFs model. The probability for war between China and the US, for example rises as China’s power13 rises gradually toward the US level but in these calculations the probability of a China/US war never gets very high.14 Deglobalization raises the risks of war substantially. In a world with much lower average incomes, less democracy, and less trade interdependence, the average probability of a country having at least one war in 2035 rises from 0.6% in the globalization scenario to 3.7% in the deglobalization scenario. Among the top-20 war-prone countries, the average probability rises from 3.9% in the globalization scenario to 7.1% in the deglobalization scenario. The model estimates that in the deglobalization scenario there will be about 10 wars in 2035, vs. only 2 in the globalization scenario15. Over the whole period, 2005-2035, the IV. Winners and Losers Deglobalization in the form of reduced trade interdependence, reduced capital flows, and reduced migration has few positive effects, based on this analysis with the International Futures Model. Economic growth is cut in all but a handful of countries, and is cut more in the non-OECD countries than in the OECD countries. Deglobalization has a mixed impact on equality. In many non-OECD countries, the cut in imports from the rest of the world increases the share of manufacturing and in 61 countries raises the share of income going to the poor. But since average productivity goes down in almost all countries, this gain in equality comes at the expense of reduced incomes and increased poverty in almost all countries. The only winners are a small number of countries that were small and poor and not well integrated in the global economy to begin with—and the gains from deglobalization even for them are very small. Politically, deglobalization makes for less stable domestic politics and a greater likelihood of war. The likelihood of state failure through internal war, projected to diminish through 2035 with increasing globalization, rises in the deglobalization scenario particularly among the non-OECD democracies. Similarly, deglobalization makes for more fractious relations among states and the probability for interstate war rises.

**Environmental collapse impossible**

**Boucher 96** (Doug, "Not with a Bang but a Whimper," Science and Society, Fall, http://www.driftline.org/cgi-bin/archive/archive\_msg.cgi?file=spoon-archives/marxism-international.archive/marxism-international\_1998/marxism-international.9802&msgnum=379&start=32091&end=32412)

The political danger of catastrophism is matched by the weakness of its scientific foundation. Given the prevalence of the idea that the entire biosphere will soon collapse, it is remarkable how few good examples ecology can provide of this happening m even on the scale of an ecosystem, let alone a continent or the whole planet. Hundreds of ecological transformations, due to introductions of alien species, pollution, overexploitation, climate change and even collisions with asteroids, have been documented. They often change the functioning of ecosystems, and the abundance and diversity of their animals and plants, in dramatic ways. The effects on human society can be far-reaching, and often extremely negative for the majority of the population. But one feature has been a constant, nearly everywhere on earth: life goes on. Humans have been able to drive thousands of species to extinction, severely impoverish the soil, alter weather patterns, dramatically lower the biodiversity of natural communities, and incidentally cause great suffering for their posterity. They have not generally been able to prevent nature from growing back. As ecosystems are transformed, species are eliminated -- but opportunities are created for new ones. The natural world is changed, but never totally destroyed. Levins and Lewontin put it well: "The warning not to destroy the environment is empty: environment, like matter, cannot be created or destroyed. What we can do is replace environments we value by those we do not like" (Levins and Lewontin, 1994). Indeed, from a human point of view the most impressive feature of recorded history is that human societies have continued to grow and develop, despite all the terrible things they have done to the earth. Examples of the collapse of civilizations due to their over- exploitation of nature are few and far between. Most tend to be well in the past and poorly documented, and further investigation often shows that the reasons for collapse were fundamentally political.

## 2ac sustainability

#### No collapse ----

**Growth is sustainable  
Baumol, Litan and Schramm, 2007** - William J, professor of economics at NYU, Robert E., Senior Fellow of Economic Studies at the Brookings Institute, and Carl J., President and chief executive officer of the Kauffman Foundation (Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity, book

One line of skepticism about growth arises from individuals and groups who worry that as the world’s population increases and economic growth continues, societies will use up scarce resources and, at the same time, degrade the environment. In the early 1970s, a group called the “Club of Rome” expressed such worries, fearing that eventually (and rather soon) the world would run out of energy and some commodities, so that growth couldn’t continue at anything like the existing pace. Today, there are those who believe, for similar reasons, that growth shouldn’t continue. The doomsayers who projected that economic growth would come to a standstill were wrong. Since 1975, total world economic output has increased more than sevenfold.2 On a per capita basis, world output is more than five times higher than it was thirty years ago. Growth in output, and therefore income, per person throughout the world advanced at a far more rapid pace (nearly ninefold) in the twentieth century than in any other century during the previous one thousand years (to the extent these things can be measured).3 Per capita output continues to increase because firms around the world continue to make more use of machines and information technology that enable workers to be more productive and because technology itself continues to advance, making it possible for consumers to use new products and services. There is good reason to hope that this process can and will continue, though there are some lurking dangers, including foolish actions by governments. But should growth continue? What about the supplies of energy that will be depleted in the process or the pollution that will be generated as ever more things are produced and used? Curiously, economists who tend to be quite rational in their lives urge the worriers to have faith—faith that continued technological progress powered by market incentives will ease these concerns. As it turns out, however, economists’ faith has roots in historical fact. In the early 1800s, Thomas R. Malthus famously predicted that the world’s population would eventually starve or, at the least, live at a minimal level of subsistence because food production could not keep pace with the growth of population. Technological advances since that time have proved him wrong. Through better farming techniques, the invention of new farming equipment, and continuing advances in agricultural science (especially the recent “green revolution” led by genetic engineering), food production has increased much more rapidly than population, so much so that in “real terms” (after adjusting for inflation), the price of food is much lower today than it was two hundred years ago, or for that matter, even fifty years ago. Farmers, who once accounted for more than 50 percent of the population at the dawn of the twentieth century in the United States, now comprise less than 2 percent of population— and are able to grow far more food at the same time.

**Growth isn’t the problem, it’s irresponsible resource allocation. The only way to enable better allocation is by sustaining growth. Decline causes competing interests that worsen the problem**

**Reich 2010** (Robert Bernard, August 17th served as the 22nd [United States Secretary of Labor](http://en.wikipedia.org/wiki/United_States_Secretary_of_Labor) under [President](http://en.wikipedia.org/wiki/President_of_the_United_States) [Bill Clinton](http://en.wikipedia.org/wiki/Bill_Clinton), from 1993 to 1997. Reich is currently Chancellor's Professor of Public Policy at the [Goldman School of Public Policy](http://en.wikipedia.org/wiki/Goldman_School_of_Public_Policy) at the [University of California, Berkeley](http://en.wikipedia.org/wiki/University_of_California,_Berkeley), a former [Harvard University](http://en.wikipedia.org/wiki/Harvard_University) professor and the former Maurice B. Hexter Professor of Social and Economic Policy at the [Heller School for Social Policy and Management](http://en.wikipedia.org/wiki/Heller_School_for_Social_Policy_and_Management) at [Brandeis University](http://en.wikipedia.org/wiki/Brandeis_University).)

Economic growth is slowing in the United States. It’s also slowing in Japan, France, Britain, Italy, Spain and Canada. It’s even slowing in China. And it’s likely to be slowing soon in Germany. If governments keep hacking away at their budgets while consumers almost everywhere are becoming more cautious about spending, global demand will shrink to the point where a worldwide dip is inevitable. You might ask yourself: So what? Why do we need more economic growth anyway? Aren’t we ruining the planet with all this growth -- destroying forests, polluting oceans and rivers, and spewing carbon into the atmosphere at a rate that’s already causing climate chaos? Let’s just stop filling our homes with so much stuff. The answer is economic growth isn’t just about more stuff. Growth is different from consumerism. Growth is really about the capacity of a nation to produce everything that’s wanted and needed by its inhabitants. That includes better stewardship of the environment as well as improved public health and better schools. (The Gross Domestic Product is a crude way of gauging this but it’s a guide. Nations with high and growing GDPs have more overall capacity; those with low or slowing GDPs have less.) Poorer countries tend to be more polluted than richer ones because they don’t have the capacity both to keep their people fed and clothed and also to keep their land, air and water clean. Infant mortality is higher and life spans shorter because they don’t have enough to immunize against diseases, prevent them from spreading, and cure the sick. In their quest for resources rich nations (and corporations) have too often devastated poor ones – destroying their forests, eroding their land, and fouling their water. This is intolerable, but it isn’t an indictment of growth itself. Growth doesn’t depend on plunder. Rich nations have the capacity to extract resources responsibly. That they don’t is a measure of their irresponsibility and the weakness of international law. How a nation chooses to use its productive capacity -- how it defines its needs and wants -- is a different matter. As China becomes a richer nation it can devote more of its capacity to its environment and to its own consumers, for example. The United States has the largest capacity in the world. But relative to other rich nations it chooses to devote a larger proportion of that capacity to consumer goods, healthcare and the military. And it uses comparatively less to support people who are unemployed or destitute, pay for non-carbon fuels, keep people healthy and provide aid to the rest of the world. Slower growth will mean even more competition among these goals. Faster growth greases the way toward more equal opportunity and a wider distribution of gains. The wealthy more easily accept a smaller share of the gains because they can still come out ahead of where they were before. Simultaneously, the middle class more willingly pays taxes to support public improvements like a cleaner environment and stronger safety nets. It’s a virtuous cycle. We had one during the Great Prosperity that lasted from 1947 to the early 1970s. Slower growth has the reverse effect. Because economic gains are small, the wealthy fight harder to maintain their share. The middle class, already burdened by high unemployment and flat or dropping wages, fights ever more furiously against any additional burdens, including tax increases to support public improvements. The poor are left worse off than before. It’s a vicious cycle. We’ve been in one most of the last 30 years. No one should celebrate slow growth. If we’re entering into a period of even slower growth, the consequences could be worse.

#### Exponential growth and technology check their impacts

#### Kurzweil ‘8

(Ray, Scientist, Inventor and Entrepreneur inducted in the National Inventors Hall of Fame and winner of the 1999 National Medal of Technology, Washington Post, “Making the World A Billion Times Better”, 4-13, http://www.washingtonpost.com/wp-dyn/content/article/2008/04/11/AR2008041103326.html)

M IT was so advanced in 1965 (the year I entered as a freshman) that it actually had a computer. Housed in its own building, it cost $11 million (in today's dollars) and was shared by all students and faculty. Four decades later, the computer in your cellphone is a million times smaller, a million times less expensive and a thousand times more powerful. That's a billion-fold increase in the amount of computation you can buy per dollar. Yet as powerful as information technology is today, we will make another billion-fold increase in capability (for the same cost) over the next 25 years. That's because information technology builds on itself -- we are continually using the latest tools to create the next so they grow in capability at an exponential rate. This doesn't just mean snazzier cellphones. It means that change will rock every aspect of our world. The exponential growth in computing speed will unlock a solution to global warming, unmask the secret to longer life and solve myriad other worldly conundrums. This exponential progress in the power of information technology goes back more than a century to the data-processing equipment used in the 1890 census, the first U.S. census to be automated. It has been a smooth -- and highly predictable -- phenomenon despite all the vagaries of history through that period, including two world wars, the Cold War and the Great Depression. I say highly predictable because, thanks to its exponential power, only technology possesses the scale to address the major challenges -- such as energy and the environment, disease and poverty -- confronting society. That, at least, is the major conclusion of a panel, organized by the National Science Foundation and the National Academy of Engineering, on which I recently participated. Take energy. Today, 70 percent of it comes from fossil fuels, a 19th-century technology. But if we could capture just one ten-thousandth of the sunlight that falls on Earth, we could meet 100 percent of the world's energy needs using this renewable and environmentally friendly source. We can't do that now because solar panels rely on old technology, making them expensive, inefficient, heavy and hard to install. But a new generation of panels based on nanotechnology (which manipulates matter at the level of molecules) is starting to overcome these obstacles. The tipping point at which energy from solar panels will actually be less expensive than fossil fuels is only a few years away. The power we are generating from solar is doubling every two years; at that rate, it will be able to meet all our energy needs within 20 years. Nanotechnology itself is an information technology and therefore subject to what I call the "law of accelerating returns," a continual doubling of capability about every year. Venture capital groups and high-tech companies are investing billions of dollars in these new renewable energy technologies. I'm confident that the day is close at hand when we will be able to obtain energy from sunlight using nano-engineered solar panels and store it for use on cloudy days in nano-engineered fuel cells for less than it costs to use environmentally damaging fossil fuels. It's important to understand that exponentials seem slow at first. In the mid-1990s, halfway through the Human Genome Project to identify all the genes in human DNA, researchers had succeeded in collecting only 1 percent of the human genome. But the amount of genetic data was doubling every year, and that is actually right on schedule for an exponential progression. The project was slated to take 15 years, and if you double 1 percent seven more times you surpass 100 percent. In fact, the project was finished two years early. This helps explain why people underestimate what is technologically feasible over long periods of time -- they think linearly while the actual course of progress is exponential. We see the same progression with other biological technologies as well. Until just recently, medicine -- like energy -- was not an information technology. This is now changing as scientists begin to understand how biology works as a set of information processes. The approximately 23,000 genes in our cells are basically software programs, and we are making exponential gains in modeling and simulating the information processes that cracking the genome code has unlocked. We also have new tools, likewise just a few years old, that allow us to actually reprogram our biology in the same way that we reprogram our computers. For example, when the fat insulin receptor gene was turned off in mice, they were able to eat ravenously yet remain slim and obtain the health benefits of being slim. They didn't get heart disease or diabetes and lived 20 percent longer. There are now more than a thousand drugs in the pipeline to turn off the genes that promote obesity, heart disease, cancer and other diseases. We can also turn enzymes off and on, and add genes to the body. I'm an adviser to a company that removes lung cells, adds a new gene, reproduces the gene-enhanced cell a million-fold and then injects it back into the body where it returns to the lungs. This has cured a fatal disease, pulmonary hypertension, in animals and is now undergoing human trials. The important point is this: Now that we can model, simulate and reprogram biology just like we can a computer, it will be subject to the law of accelerating returns, a doubling of capability in less than a year. These technologies will be more than a thousand times more capable in a decade, more than a million times more capable in two decades. We are now adding three months every year to human life expectancy, but given the exponential growth of our ability to reprogram biology, this will soon go into high gear. According to my models, 15 years from now we'll be adding more than a year each year to our remaining life expectancy. This is not a guarantee of living forever, but it does mean that the sands of time will start pouring in rather than only pouring out. What's more, this exponential progression of information technology will affect our prosperity as well. The World Bank has reported, for example, that poverty in Asia has been cut in half over the past decade due to information technologies and that at current rates it will be cut by another 90 percent over the next decade. That phenomenon will spread around the globe. Clearly, the transformation of our 21st-century world is under way, and information technology, in all its forms, is helping the future look brighter . . . exponentially.

#### Resources won’t run out

#### Kasper in ‘5

(Wolfgang, Prof. Econ Emeritus and Senior Fellow @ Centre for Independent Studies, “HUMAN PROGRESS – AND COLLAPSE? A Review of Jared Diamond’s Collapse: How Societies Choose to Fail or Succeed”, August, http://www.nzbr.org.nz/documents/publications/publications-2005/kasper\_human\_progress.pdf)

When discussing innovation in the 1970s, the economics profession rediscovered the contributions of Austrian-American economist Joseph A Schumpeter (1883–1950), who had focused attention on the risk-taking entrepreneur (Schumpeter 1961). Entrepreneurs are the catalyst necessary to get the economic chemistry going. Schumpeter had stressed that scientific discoveries were, by themselves, not very important for the economy, nor were mere inventions (developments of laboratory models). What mattered was innovation, the application of technical and commercial knowledge to test new products and processes in the market, a risky business. For every profit bonanza, there are numerous disappointments. Seemingly promising concepts often incur losses in the market. Successful innovators earn ‘pioneer profits’ until imitators erode them, dispersing the innovation and making it more affordable. Prices determine profits and losses, which communicate what is wanted and what not. For prices to work as an efficient signalling system, markets have to be free. Interventions and regulations introduce a kind of static in the radio traffic between millions of producers and buyers. If the interference proliferates, markets become dysfunctional. Political agents and groups of producers nevertheless use political interventions to shift advantage to well-organised groups, who support the politicians. This is called ‘rent seeking’, which is typically at the expense of the unorganised public and – to reiterate the point – hampers discovery and economic growth. From the 1970s, other researchers focused on the mobilisation and absolute availability of natural resources – land, water, minerals, energy sources and the like – and on the dumped output that burdens the environment. They saw ‘limits to growth’ and predicted the collapse of underdeveloped economies, if not the entire Western industrial civilisation. The (politically orchestrated) first oil crisis initially gave considerable credence to this view, although most economists rejected it. They argued that the price of resources, such as oil, would rise when they become scarcer. This signal would curb demand and mobilise new supplies. Indeed, this is what happened after the oil crises of the 1970s: almost immediately, people drove fewer miles, made better industrial use of energy and replaced oil with coal. Overall, oil demand plummeted. At the same time, supplies were expanded by non-OPEC producers, who opened new wells, pumped harder and refined petroleum more efficiently. In the longer run, people substituted more fuel-efficient cars for their gas-guzzlers, and industry and transport installed more energy-efficient equipment. Suppliers not only explored new sources of oil and gas, but also researched how to extract useful hydrocarbons from coal, tar sands, oil shale and deep-sea deposits. These entrepreneurial efforts solved the scarcity problem and brought prices down again. Now, industrial entrepreneurs are applying their mental energy to developing alternatives to hydrocarbons, such as fuel cells and nuclear fusion, which will overcome supply bottlenecks and emission problems. Innovation and enterprise are once more lifting the production function (this time with regard to inputs of petroleum). Yet again, the curse of declining marginal productivity is being overcome. Economists also pointed out that measured economic growth is not a quantity of material output. Of course, goods and services use materials, but the growth contribution is mainly due to people valuing the materials much more highly. Whilst there is entropy in the physical world, economic growth can be open-ended. Just think of the huge contribution to growth that a grain of silicon makes when used in your computer chip. The real additions to world production are the technical ideas and the skills to implement them. Moreover, some scarce materials are increasingly being recycled – and, as economist Pierre Desrochers demonstrates, business enterprises have always engaged in such recycling practices (Desrochers 2000 and 2002). The emblematic attempt to refute the economists’ optimism in the 1970s was a neo-Malthusian report by the ‘Club of Rome’ (published as Meadows et al 1972). It led to a much-publicised bet between mathematician-turned-environmentalist Paul Ehrlich and Julian Simon, who predicted that prices of a wide range of natural resources would drop in real terms. Simon also argued that human skills and knowledge were the only real limits to economic growth. He won the bet easily because the relative prices of all listed minerals dropped. Ehrlich refused to renew the bet. (This story is told in Lomborg 2001.) Later, Simon documented that the state of humanity was better than it had ever been (Simon 1995).

**Growth is key to Macro-Industrial Era**

**Zey 1997** (Michael, Professor of Management at Montclair State University, The Futurist, “The Macroindustrial Era: A New Age of Abundance and Prosperity”, March/April, http://www.zey.com/Featured\_2.htm)

Thus, the answer to pollution, the supposed outgrowth of progress, ought to be more economic growth. Such economic growth can be accelerated by any number of actions: the transfer of technology, the sharing of scientific know-how, and economic investment. The World Bank estimates that every dollar invested in developing countries will grow to $100 in 50 years. As their wealth increases, these countries can take all the necessary steps to invest in pollution-free cars, catalytic converters, and other pollution-free technologies, such as the cleanest of all current large-scale energy sources, nuclear power. They can also afford to invest in bioremediation - the utilization of viruses to literally eat such impurities as oil spills and toxic waste. Russia is actively growing and exporting microorganisms that eat radioactive and metallic wastes from such sources as uranium, plutonium, magnesium, and silver.

In this exciting new epoch of human development, the Macroindustrial Era, the primary emphasis will be on the production of material goods and tangible products. And this will only occur by the development and application of advanced technologies and the dissemination of scientific knowledge.

Of course, to achieve these goals a nation must have an "expansionary" culture that fosters progress and technological improvement and facilitates the development and nurturance of the workers and scientists who must be the creators of the new technology of the Macroindustrial Era. Such a society will have a strong sense of purpose and a vision of the future to serve as its goal and as a guidepost for advancement.

**This solve all your scarcity arguments**

**Zey 1997** (Michael, Professor of Management at Montclair State University, The Futurist, “The Macroindustrial Era: A New Age of Abundance and Prosperity”, March/April, http://www.zey.com/Featured\_2.htm)

**In the Macroindustrial Era, we will overcome limits in the area of *quantity***. A variety of sophisticated and advanced technologies will create food, resources, and products in such quantities that we will move into a new age of abundance. In the next era, the only "quantity" problem facing business will be that of overproduction, not scarcity.

A number of mind-boggling innovations will make what I label *macromanufacturing* possible. One of these, the cybernetic factory, combines computers and robotics to turn out high quantities of goods, from radios to surgical equipment. Another innovation, magnetic machinery, involves devices whose parts never touch as they float in electromagnetic fields. This lack of friction allows them to operate at ultrahigh speeds with almost no wear and tear.

The production of a higher quantity of goods depends on the availability of a powerful and reliable energy source. The macromanufacturing machines will use fusion energy systems, which will dwarf the output of oil and coal generating plants.

Food will also be produced in abundance. Through biotechnology and genetic engineering, we will be able to produce massive amounts of food, very often in climates and soil that would have been considered totally inhospitable to the growing of any crop. These technolgies will enable us to mass produce almost any food, vegetable, or livestock, anywhere we desire.

We cannot overstate the humanitarian effect of this increase in the quantity of goods. For the first time in human history, the world's population will be **well fed, well clothed, and comfortably housed**. And a very large population could be served - perhaps 40 to 50 billion people or more.

#### Technological growth is vital to increasing the carrying capacity ---- abandoning civilization would create worse forms of overshoot

#### Goklany and Trewavas in ‘3

(Indur, US Dept. Interior, and Anthony, Prof. @ Institute of Cell and Molecular Biology @ U. Edinburgh, Nature, “How technology can reduce our impact on the Earth Prudent use of innovations could avoid sacrificing the present for the future, or vice versa”, 423, http://members.cox.net/igoklany/Goklany%20&%20Trewavas%202003.pdf)

William E. Rees, in his Concepts essay “A blot on the land” (Nature 421, 898; 2003), uses the ecological-footprint concept to argue that the ‘carrying capacity’ of the Earth has been exceeded because of technological and economic growth, and to counter some some economists’ claims that the carrying capacity can increase indefinitely. The critical point, unrecognized by either side, is not whether the carrying capacity can increase indefinitely but whether it can increase rapidly enough to accommodate the environmental and economic expectations of a world that grows wealthier as its population growth rate slows dramatically. Paradoxically, both technology and economic development provide the means to solve the very problems they create. Without technological development in the first instance, the human population would be smaller, because higher birth rates would have been offset by higher mortality rates. Dispensing with present technology now would undoubtedly be catastrophic in human terms — people would be hungrier, unhealthier and shorter-lived , without the world necessarily becoming ecologically more stable. Similarly, foregoing economic development, which helps to generate wealth, would also be calamitous (see I. M. Goklany, Case Western Law Review; in the press). Only wealthy countries can afford the scientific infrastructure to research, develop and put into use clean technologies that increase the Earth’s carrying capacity. For all of these reasons, the richest countries, not surprisingly, are also the most technologically advanced. They have the highest crop yields per hectare, which is inversely related to the demand for land, a primary element in the ecological footprint. Inefficient agriculture creates pressures for new agricultural land at the expense of virgin forest or marginal lands in countries with growing populations. If agricultural-technology development had been frozen in 1961, we estimate, using data from the Food and Agriculture Organisation (see FAOSTAT 2003: apps.fao.org), that cropland would have had to increase from its present 11% to some 25% of the planetary surface to produce the same amount of food now. Accepting Rees’s estimate that we currently exceed the Earth’s carrying capacity by one-fifth, without technological development we would now exceed it by one-third. Virtually no natural forest would now remain and the rest of nature would be even more embattled. Yes, we recognize that current agricultural technology, with its reliance on pesticides and fertilizers, created many new problems even as it solved old ones, but that is exactly why we favour technological change. New technologies need not be perfect, but they should improve on current versions. That is why we support prudent use of agricultural biotechnology — another imperfect technology, but vastly superior to conventional technologies. The trick is not to sacrifice the present for the future, or vice versa. Without technological change and economic development, there can be no solution to the predicament of meeting human needs while containing human impact on the planet. Although neither technological change nor economic development is a panacea, they make a solution more likely.

**THE POPULATION IS NOT INCREASING, ACCORDING TO THE UN**

James M. Taylor, Senior Fellow at the Heartland Institute, Environment News, “U.N. Study Ends Overpopulation Fears”, May 1, 2002, http://www.heartland.org/Article.cfm?artId=9243

On second thought, the world is not going to suffer from ever-growing, catastrophic overpopulation in the foreseeable future, according to a new report issued by the United Nations Population Division.

Catastrophic overpopulation has been a controversial yet consistent prediction by many environmental activist groups since the middle of the last century. Although advances in human technology, particularly in regard to food cultivation and medicine, led to phenomenal increases in human life expectancy during the twentieth century, alarmists have warned that the day will soon come when technology cannot keep up with exponential human growth. Whether or not technology would actually be able to do so will apparently become a moot question, according to the U.N.

Below-replacement fertility now expected

In its March 11 report, “The Future of Fertility in Intermediate-Fertility Countries,” the U.N. Population Division has dramatically reduced its world fertility projections. Instead of an ever-growing world population, the U.N. now concludes that, “The state of current knowledge, buttressed by the actual experience of a growing number of countries, suggests that lengthy periods of below-replacement fertility are likely to be common in the future.”

Given the advances in medicine and other factors, fertility rates of 2.1 children per woman are necessary to sustain current human population levels. In previous projections, the U.N. noted many portions of the world, including most of East Asia, much of the Caribbean, and most of Europe, were already demonstrating below-replacement fertility rates. In those projections, however, the U.N. predicted fertility levels in such low-fertility countries would eventually rise to 2.1 children per woman. The tendency to gravitate to the fertility replacement number, the U.N. believed, was somehow “hardwired” into the human psyche.

## 2ac civ good

**Empirical analysis shows more people means more productivity and technology**

Simon in ‘96

Julian Simon, Former Professor of Business Administration at the University of Maryland and Former Senior Fellow at the CATO Institute, “The Ultimate Resource 2”, 1996, p. 380-382

But is it certain that the recent acceleration of productivity would not have occurred if population had been smaller? The connections between numbers of scientists, inventors and ideas, and the adoption and use of new discoveries are difficult to delineate clearly. But the links needed to confirm this effect seem very obvious and strong. For example, the data show clearly that the bigger the population of a country, the greater the number of scientists and the larger the amount of scientific knowledge produced; more specifically, as seen in figure 26-4, scientific output is proportional to population size, in countries at the same level of income.36 The United States is much larger than Sweden or the Netherlands, and it produces much more scientific knowledge. Sweden and Holland benefit from the larger U.S. population because they "import" much more knowledge from the United States than the United States imports from Sweden and Holland; this can be seen in the references used in Swedish, Dutch, and U.S. scientific writings, and in the number of patented processes licensed from each other.

Additional evidence that more people cause a faster rate of technological advance comes from comparisons of productivity gains in various industries. This evidence is quite compelling, in my judgment. We observe that a given industry grows faster in some countries than in other countries, or than other industries in the same country. Comparisons of faster-growing and slower-growing industries show that, in the faster-growing industries, the rate of in-crease of productivity and technological practice is highest. This indicates that faster population growth—which causes faster-growing industries—leads to faster growth of productivity. We shall examine this in more detail in the next section. But once more the caution: Our subject is the effect of population upon productivity increase in the developed world as a whole. The discussion of particular countries is only a device to increase the size of the sample.

**The call for lower population s based on an anti-life ethic – we have no right to gamble with others lives especially when no compelling evidence indicates a need for reduced population**

Simon in ‘96

Julian Simon, Former Professor of Business Administration at the University of Maryland and Former Senior Fellow at the CATO Institute, “The Ultimate Resource 2”, 1996, p. xxxii-xxxiii

I can suggest to Davis and Ehrlich more than one reason for having more children and taking in more immigrants. Least important is that the larger population will probably mean a higher standard of living for our grandchildren and great-grandchildren. (My technical 1977 and 1992 books and a good many chapters in this book substantiate that assertion.) A more interesting reason is that we need another person for exactly the same reason we need Davis and Ehrlich. That is, just as the Davises and Ehrlichs of this world are of value to the rest of us, so will the average additional person be of value.

The most interesting reason for having additional people, however, is this: If the Davises and Ehrlichs say that their lives are of value to themselves, and if the rest of us honor that claim and say that our lives are of value to us, then in the same manner the lives of additional people will be of value to those people themselves. Why should we not honor their claims, too?

If Davis or Ehrlich were to ask those twenty-three million Americans born between 1960 and 1970 whether it was a good thing that they were born, many of them would be able to think of a good reason or two. Some of them might also be so unkind as to add, "Yes, it's true that you gentlemen do not personally need any of us for your own welfare. But then, do you think that we have greater need of you?"

What is most astonishing is that these simple ideas, which would immediately spring to the minds of many who cannot read or write, have never come into the heads of famous scientists such as Davis and Ehrlich—by their own admission. And by repeating the assertion in 1991, Ehrlich makes it clear that he does not consider the above ideas, which I suggested to him earlier, to be "sensible."

The absence of this basic value for human life also is at the bottom of Ehrlich's well-known restatement of Pascal's wager. "If I'm right, we will save the world [by curbing population growth]. If I'm wrong, people will still be better fed, better housed, and happier, thanks to our efforts. [All the evidence suggests that he is wrong.] Will anything be lost if it turns out later that we can support a much larger population than seems possible today?"5

Please note how different is Pascal's wager: Live as if there is God, because even if there is no God you have lost nothing. Pascal's wager applies entirely to one person. No one else loses if she or he is wrong. But Ehrlich bets what he thinks will be the economic gains that we and our descendants might enjoy against the unborn's very lives. Would he make the same sort of wager if his own life rather than others' lives were the stake? (Chapter 39 has more to say about the morality of betting other people's lives.)

I do not say that society should never trade off human life for animals or even for nonliving things. Indeed, society explicitly makes exactly this trade-off when a firefighter's life is lost protecting a building or a forest or a zoo, and neither I nor hardly anyone else says it should not be so. And I have no objection in principle to the community taxing its members for the cost of parks or wilderness or wildlife protection (although a private arrangement may be better) any more than I object to taxes for the support of the poor. But according to my values, we should (1) have a clear quantitative idea of the trade-offs we seek to make, rather than make them on some unquantified principle such as "the loss of a single human being [or of a single nonhuman species or animal] is obscene," implying that the costs of saving that entity should not be reckoned; (2) recognize that economic science does not show that a greater number of human beings implies slower economic development or a lower standard of living in the long run; and (3) understand that foregoing the births of additional human beings is costly according to the value systems of some other human beings.

#### Their authors are delusional hippies who don't understand the suffering that results from ending industrial civilization

#### Lança in ‘00

(Patricia, “Enemy of Despair”, Episteme, 5-6, Autumn-Winter, http://portolanibooks.vol1.googlepages.com/presentingraymondtallis)

In Part I of Enemies of Hope Tallis examines what he calls ‘mythohistory’ or the metamythology of writers such as Dudley Young who, borrowing from Darwinian evolutionary theory, look to mankind’s simian ancestry to explain irrational behaviour in contemporary humans. Young presents an idealized view of primitive man who, he alleges, succeeded in overcoming animal brutality and developing social order through ritual and a generalized sacralization of all aspects of life. This author recommends as a cure for today’s ‘disenchantment’ some sort of return to pagan irrationalism to compensate for the ‘spiritual aridity’ fostered by science. Tallis dissects the arguments presented in Young’s widely-read book and shows their inherent contradictions. After all, the author in his attacks on science and rationality has recourse to both: evolutionary theory, anthropological findings (often dubious) and much (though often vague) ‘recent research’. Tallis presents a detailed examination of ‘mythohistory’ because he sees it as paradigmatic of the kulturkritik which manifests itself in many other fields. As a medical doctor, in his daily practice in touch with the miseries of many of the aged, and with experience of medical practice in Africa, Tallis has very little patience with those comfortably installed academics who mourn for the alleged virtues of a bygone age and look on science and technology as responsible for current woes. It is singularly inappropriate, he thinks, for people who would not for a moment tolerate in their own flesh the discomforts and ills so common until very recently, to sentimentalize over the imagined delights of pre-industrial life. Tallis does not believe that ‘the spiritual price of rational societies outweighs the material and other gains associated with them’. …few critics of modernity would prefer untreatable cystitis to anomie, chronic malnutrition to alienation, and few would find being under the thrall of the priest, the local squire, an unaccountable government or an unchallengeable workplace bully in an organic community better than living in an atomic society. And though it is true that the horrors of the pre-industrial world have been replaced by the horrendous consequences for the planet of unregulated technology (nuclear weapons, pollution, threats to the ozone layer, extinction of species, etc.) it is no less true that it is in science and technology that the tools to remedy these ills can be found if political will exists to do so. Tallis’s provocative views include disagreement with the third-worldist misconception that improved affluence in the West has been bought at the cost of a deterioration in conditions in other parts of the world. Such affluence, which owes itself to ‘western’ science and technology, will only be available to all mankind when there is universal access to what some humanist intellectuals so busily denigrate and this is a political question which cannot be used to criticize Science and its achievements

#### Yes value to life – humans ARE technological beings – it is fundamental to expression

#### Götz in ‘1

(Ignacio, Lawrence Stessin Distinguished Prof. Phil. @ Hofstra U., “Technology and the Spirit”, p. 24-26)

We have a tendency to see in human evolution only the development of the physical characteristics of our ancestors: cranial capacity, bipedality, posture, and the like. But there is another development that is just as important in fact, even more profoundly so. This is the development of the human capacity for symbolic communication and understanding. As Loren Eiseley put it, at the same time that they were evolving physically, humans were "becoming something the world had never seen before — a dream animal — living at least partially within a secret universe of [their] own creation and sharing that secret universe in [their] heads with other, similar heads.' A recent discovery in Ethiopia has placed the use of tools by an as yet uncatalogued species of our genus Homo around 2.6 million years ago.' The significance of this find for the question of technology is not so much that tools were used at such an early age in the development of our species as that such tools were manufactured. As tools became more diversified and complex, brain size doubled and the canine teeth became smaller, for their use was being supplanted by the tools." This would seem to indicate that the kind of knowing that was aborning was at least partially instrumental — we could say technological — because the basic problems of tool making were intellectual rather than motor:2' they involved knowledge of what the tool was good for based on experience. The dream processes behind our expanding foreheads were, in some ways, dreams of know-how.22 Early technology was not exclusively concerned with mastery of the environment and survival, but also with quasi-decorative modifications of the human body for sexual emphasis (circumcision and subincision), self-expression (ear and nose rings, necklaces, tattoos) or group identification (body paint and dress). Evidence comes from as early as the Mousterian culture some 125,000 years ago.' Then, 45,000 years ago we have artistic carvings, the paintings in the caves of Lascaux, Altamira, Nerja and Chauvet, and the extraordinary so-called Venus figurines — all of which involved technology.' Therefore the modern claim of some nature lovers, that technology has supplanted the old milieu of nature' is both false and misleading, for technology was always there. The same falsehood attends the claim that traditional values existed before the rise of technology and that technology has undermined, or is undermining, such values. Traditional values neither arose without technology nor functioned independently of it, but were intricately woven with it though not necessarily in an explicit fashion. Technology served life, not just work. For example, values such as life-long marital fidelity which arose as the result of the first human settlements in the Zagros Mountains east of Mesopotamia and in Syria implicated technologies of construction and agriculture, much as the values associated with earlier nomadic living (such as serial monogamy) implicated the technologies of hunting, gathering, saddling, clothing, and fire making.' There is no human past in which technology t4 was not in some way involved in the formation and practice of moralities. Moreover, though we often forget it, civilizations have often had to confront the moral problem of human subordination to the reigning instrumentalities. This is not just a modern problem: the same happened, for example, during the building of the pyramids in Egypt and the Great Wall of China, and in the production lines of American car factories during the 1920s and 1930s. THE SPACE OF TECHNOLOGY What is it in our evolutionary development that made technology possible? According to Ortega y Gasset, human self-awareness means we are never adequately subsumed by our circumstances: we can always decide how to respond to them, how to occupy them. The mental distance that exists between ourselves and our circumstances allows us the luxury of mentation, and it is in this mental respite from the material and its needs, in this "space" between mind and nature, that technology is born. Because we do not have to respond immediately to the exigencies of the environment, we can create tools to ameliorate our fate in it, to expedite our use of it, to tame and dominate it, even to luxuriate in it in action or in thought. But technology is not merely, or even primarily, a utilitarian human answer to need and circumstance: for as long as the carving of tools has existed, so has the carving of necklace beads. In Ortega's words, "it seems that, from the very beginning, the concept of 'human necessity' comprises indiscriminately what is objectively necessary and what is objectively superfluous."' This is easy to see because essentially there is no difference between thinking to understand and thinking to do, until praxis begins. Historically, the same minds that produced spears painted the walls of the caves at Lascaux. Moreover, there is a sense in which the "space of technology" is filled primarily by the unnecessary, the superfluous, or what is necessary not just for living but for better living. For obviously, if technology achieved only what animals achieve without technology — mere existence — it would simply duplicate existence. This is not the case. Humans want more life, better life, happiness and fulfillment, whether through the skinning of a goat or by painting lions on the walls of a cave. "Humans," Ortega says, "are animals for whom only the superfluous is necessary."28 The Greek flaw (as we shall see later) consisted in the failure to realize that, a parte subjecti, all creation is superfluous and unnecessary, for it takes place in the space between necessity and human life. To quote Ortega once more, "technology is the production of the superfluous, today as in the paleolithic age."" The distinction between the heterotelic and the autotelic is in the imaginative intention and the action it prompts. Because animals and things have no distance from their physical essence, they are what they are, nothing else; but because humans are not identical with their essence, they appear as a kind of "project" to be actualized through technology. "Our life is pure task," writes Ortega," one of whose concomitants is contemplation. Now, without technology there could be no task, and without task human life could not exist. This is why, as Ortega puts it, "human life begins where techtiblogy begins."' If there was a contemporary problem with technology, therefore, it would be the inability "to wish our own selves because we have no clear vision of a self to be realized, we only have pseudo-wishes, ghosts of desires without sincerity and vigor . . . we lack imagination for inventing the plots of our lives.32

## 2ac alt

#### Alt fails ----

#### Leads to massive die off and environmental destruction

#### Lewis ‘94

(**Lewis, 94.** Martin Lecturer in history and director of the International Relations program at Stanford. Green Delusions, p. 8, Google Books.

Finally, the radical green movement threatens nature by advocating a return to the land, seeking to immerse the human community even more fully within the intricate webs of the natural world. Given the present human population, this is hardly possible, and even if it were to occur it would result only in accelerated destruction. Ecological philosophers may argue that we could follow the paths of the primal peoples who live in intrinsic harmony with nature, but they are mistaken. Tribal groups usually do live lightly on the earth, but often only because their population densities are low. To return to preindustrial “harmony” would necessarily entail much more than merely decimating the human population. Yet unless our numbers could be reduced to a small fraction of present levels, any return to nature would be an environmental catastrophe. The more the human presence is placed directly on the land and the more immediately it is provisioned from nature, the fewer resources will be available for non-human species. If all Americans were to flee from metropolitan areas, rural populations would soar and wildlife habitat would necessarily diminish. An instructive example of the deadly implications of returning to nature may be found when one considers the issue of fuel. Although more common in the 1970s than the 1990s, “split wood not atoms” is still one of the green radicals’ favored credos. To hold such a view one must remain oblivious to the clearly devastating consequences of wood burning, including suffocating winter air pollution in the enclosed basins of the American West, widespread indoor carbon monoxide poisoning, and the ongoing destruction of the oak woodlands and savannahs of California. If we were all to split wood, the United States would be a deforested, soot-choked wasteland within a few decades. To be sure, the pollution threat of wood stoves can be mitigated by the use of catalytic converters, but note that these are technologically sophisticated devices developed by capitalist firms. If the most extreme version of the radical green agenda were to be fully enacted without a truly massive human die-off first, forests would be stripped clean of wood and all large animals would be hunted to extinction by hordes of neo-primitives desperate for food and warmth. If, on the other hand, eco-extremeists were to succeed only in paralyzing the economy’s capacity for further research, development, and expansion, our future could turn out to be reminiscent of the environmental nightmare of Poland in the 1980s, with a stagnant economy continuing to rely on outmoded, pollution-belching industries. A throttled steady-state economy would simply lack the resources necessary to create an environmentally benign technological base for a populace that shows every sign of continuing to demand electricity, hot water, and other conveniences. Eastern Europe shows well the environmental devastation that occurs when economic growth stalls out in an already industrialized society.

**A return to primitivism would cause mass die-offs and extinction**

**Flood 2k5** (Andrew, “Is primitivism realistic? An anarchist reply to John Zerzan and others” http://www.anarkismo.net/newswire.php?story\_id=1890)

Elsewhere Zerzan has written of the development of agriculture that;

"The debasing of life in all spheres, now proceeding at a quickening pace, stems from the dynamics of civilization itself. Domestication of animals and plants, a process only 10,000 years old, has penetrated every square inch of the planet. The result is the elimination of individual and community autonomy and health, as well as the rampant, accelerating destruction of the natural world” (10)

This is relevant because a number of people who replied objected to me choosing the development of agriculture as the point at which civilisation can be said to have developed (11). But as the original essay explained, "Of course civilization is a rather general term .. For the purposes of this article I'm taking as a starting point that the form of future society that primitivists argue for would be broadly similar in technological terms to that which existed around 12,000 years ago on earth, at the dawn of the agricultural revolution". I could have picked an older date - the first cave paintings for instance but this would not only have been more arbitrary but would have presented an even greater population problem for the primitivists.

I could have picked a more recent date but this would hardly have helped the primitivists   as they then would have had to include many of the features of civilisation - including the state - in their primitive utopia. And, as our ability to support a large population has escalated sharply in recent years, even a 'primitive' society that only aimed to return to  say, 1800 would still have to get rid of the majority of the earth's population. Evasion aside, it is quite clear that from the primitivist point of view it was the agricultural revolution and the changes that happened alongside this where things went bad.

For understandable reasons (not wanting to deal with the population question) primitivists and their fellow travellers tend to avoid any date even as general as the agricultural revolution. But it's the one I choose to work with and this appears to be fair enough with those primitivists more willingly to openly argue their position. Agriculture also seems a very logical starting point because agriculture is what makes a mass society possible. Hunter-gathers can't gather in large groups for a long period because they exhaust local food sources. Nor do small groups of hunter-gathers generally have the surplus food required to develop a high degree of specialisation of labour, and any specialisation is a bad thing according to most primitivists.

I also think its hard to construct a coherent primitivism that does not exclude agriculture since the dawn of agriculture and class society seem to occur together. This fact has been understood on the left at least as far back as Engels ‘The Origin of the Family, Private Property and the State’ and I’ll discuss its implications next.  But in terms of the overall argument about food production this is a side argument - the earths current population requires the agricultural technology of the last 100 odd years - going back to primitive agriculture is not much more of an option then going back to Hunter-gathering. It would still leave **billions of facing death by starvation.**

#### No one will ever support it

#### Aligica ‘3

(Paul, Fellow @ Mercatus Center at George Mason U. and Adjunct Fellow @ Hudson Institute, “The Great Transition and the Social Limits to Growth: Herman Kahn on Social Change and Global Economic Development”, April 21, http://www.hudson.org/index.cfm?fuseaction=publication\_details&id=2827)

Stopping things would mean if not to engage in an experiment to change the human nature, at least in an equally difficult experiment in altering powerful cultural forces: "We firmly believe that despite the arguments put forward by people who would like to 'stop the earth and get off,' it is simply impractical to do so. Propensity to change may not be inherent in human nature, but it is firmly embedded in most contemporary cultures. People have almost everywhere become curious, future oriented, and dissatisfied with their conditions. They want more material goods and covet higher status and greater control of nature. Despite much propaganda to the contrary, they believe in progress and future" (Kahn, 1976, 164). As regarding the critics of growth that stressed the issue of the gap between rich and poor countries and the issue of redistribution, Kahn noted that what most people everywhere want was visible, rapid improvement in their economic status and living standards, and not a closing of the gap (Kahn, 1976, 165). The people from poor countries have as a basic goal the transition from poor to middle class. The other implications of social change are secondary for them. Thus a crucial factor to be taken into account is that while the zero-growth advocates and their followers may be satisfied to stop at the present point, most others are not. Any serious attempt to frustrate these expectations or desires of that majority is likely to fail and/or create disastrous counter reactions. Kahn was convinced that "any concerted attempt to stop or even slow 'progress' appreciably (that is, to be satisfied with the moment) is catastrophe-prone". At the minimum, "it would probably require the creation of extraordinarily repressive governments or movements-and probably a repressive international system" (Kahn, 1976, 165; 1979, 140-153). The pressures of overpopulation, national security challenges and poverty as well as the revolution of rising expectations could be solved only in a continuing growth environment. Kahn rejected the idea that continuous growth would generate political repression and absolute poverty. On the contrary, it is the limits-to-growth position "which creates low morale, destroys assurance, undermines the legitimacy of governments everywhere, erodes personal and group commitment to constructive activities and encourages obstructiveness to reasonable policies and hopes". Hence this position "increases enormously the costs of creating the resources needed for expansion, makes more likely misleading debate and misformulation of the issues, and make less likely constructive and creative lives". Ultimately "it is precisely this position the one that increases the potential for the kinds of disasters which most at its advocates are trying to avoid" (Kahn, 1976, 210; 1984).

**Collapse consolidates elite power and doesn’t change mindsets**

**Mead 9 –** Senior Fellow in U.S. Foreign Policy at the Council on Foreign Relations (Walter Russell, The New Republic, “Only Makes You Stronger”, 2/4, <http://www.tnr.com/politics/story.html?id=571cbbb9-2887-4d81-8542-92e83915f5f8&p=2>)

But, in many other countries where capitalism rubs people the wrong way, this is not the case. On either side of the Atlantic, for example, the Latin world is often drawn to anti-capitalist movements and rulers on both the right and the left. Russia, too, has never really taken to capitalism and liberal society--whether during the time of the czars, the commissars, or the post-cold war leaders who so signally failed to build a stable, open system of liberal democratic capitalism even as many former Warsaw Pact nations were making rapid transitions. Partly as a result of these internal cultural pressures, and partly because, in much of the world, capitalism has appeared as an unwelcome interloper, imposed by foreign forces and shaped to fit foreign rather than domestic interests and preferences, many countries are only half-heartedly capitalist. When crisis strikes, they are quick to decide that capitalism is a failure and look for alternatives.

So far, such half-hearted experiments not only have failed to work; they have left the societies that have tried them in a progressively worse position, farther behind the front-runners as time goes by. Argentina has lost ground to Chile; Russian development has fallen farther behind that of the Baltic states and Central Europe. Frequently, the crisis has weakened the power of the merchants, industrialists, financiers, and professionals who want to develop a liberal capitalist society integrated into the world. Crisis can also strengthen the hand of religious extremists, populist radicals, or authoritarian traditionalists who are determined to resist liberal capitalist society for a variety of reasons. Meanwhile, the companies and banks based in these societies are often less established and more vulnerable to the consequences of a financial crisis than more established firms in wealthier societies.

As a result, developing countries and countries where capitalism has relatively recent and shallow roots tend to suffer greater economic and political damage when crisis strikes--as, inevitably, it does. And, consequently, financial crises often reinforce rather than challenge the global distribution of power and wealth. This may be happening yet again.

None of which means that we can just sit back and enjoy the recession. History may suggest that financial crises actually help capitalist great powers maintain their leads--but it has other, less reassuring messages as well. If financial crises have been a normal part of life during the 300-year rise of the liberal capitalist system under the Anglophone powers, so has war. The wars of the League of Augsburg and the Spanish Succession; the Seven Years War; the American Revolution; the Napoleonic Wars; the two World Wars; the cold war: The list of wars is almost as long as the list of financial crises.

**the transition isn’t durable due to resource scarcity**

Arthur M. **Katz** and Sima R. **Osdoby** THE SOCIAL AND ECONOMIC EFFECTS OF NUCLEAR WAR April 21, 19**82** <http://www.cato.org/pubs/pas/pa009.html>

Significant interpersonal, intergroup, and inter-regional conflicts would probably arise. Ethnic, racial, regional. and economic conflicts present in the pre-attack society, while minimized in the period immediately after an attack, would be heightened after only a limited time by the extent of the deprivation and the resulting tensions. New antagonisms would develop between hosts and evacuees or refugees over the possession and use of surviving resources. These phenomena were observed both in Britain and in Japan during World War II. The Allnutt study predicted these conflicts would be so serious that they “would necessitate the imposition of martial law or other authoritarian system in many localities, and the widespread use of troops to main­tain order.” r231

#### Realism inevitably defines energy security—energy resources are too important to a state to not pursue its best interest – alt can’t solve

**Stephan et al. 11**

[Hannes R. Stephan, John Vogler, and Fariborz Zelli, “Energy Security and Climate Security: Synergy or Conflict?”, Paper presented at the Third Global International Studies Conference (17-20 August 2011, Porto, Portugal), August 17-20, 2011]

Historically, realist theoretical assumptions have dominated thinking on energy security. Widespread recognition of the role of energy resources during the build-up and conduct of the 5 Second World War ensured the status of energy as an issue belonging to the 'high' politics of national security. The role of energy as a "strategic good" par excellence is not only related to its essential function in 'fuelling' military activities. Its price level and availability also play a fundamental role in a country's economic performance and socio-political stability (Lesage et al. 2010: 183). For instance, there is considerable evidence that a large number of post-war recessions in the US have – at least partly – been caused by spikes in oil prices (Bordoff et al. 2009: 215). A realist interpretation of energy security was further reinforced by events in the 1970s when a trend towards the nationalisation of energy supplies and the sporadic use of oil embargoes, orchestrated by the Organization of Petroleum-Exporting Countries (OPEC), highlighted the dangers of energy dependence. Even today the privileged position of major energy-exporting countries still represents a constraint on the foreign policy agenda of major importers (Müller-Kraenner 2008: 27). Market expansion and low energy prices from the 1980s until the mid-2000s encouraged the development of liberal approaches to energy security. Greater diversification of sources, a gradual shift to coal and natural gas, and a consolidating world oil market all but eliminated the threat of an effective use of the 'oil weapon'. Well-functioning global markets for oil – and potentially for liquefied natural gas – have been increasingly promoted as effective mechanisms to provide cheaper energy inputs in an increasingly competitive, global economy and guard against both structural undersupply and short-term supply disruptions (Goldthau and Witte 2009). The US economy, for example, is now substantially less vulnerable to fluctuations in oil markets than in previous decades. However, realist notions of energy security have not been superseded. On the contrary, Brazil, Russia, India, and China – the so-called BRIC states – are not just consuming increasing amounts of fossil fuels. They also employ the traditional, statist tools of energy security policy such as bilateral contracts and the promotion of national energy champions (Lesage et al. 2010: 27). China and India have struck numerous energy deals with oil- and gas-exporting countries from the around the world, even if this has meant giving economic and military aid to 'pariah' states in Africa and Latin America (Müller-Kraenner 2008: 72). While this has served to raise rather than lower the availability of fossil fuels on global markets, it demonstrates that – given an uncertain future – no major power will rely exclusively on the market allocation of energy supplies. When it comes to natural gas, a commodity still largely reliant on pipeline infrastructure and long-term supply contracts, overtly political considerations have remained dominant. The European Union, although founded upon an agreement on coal and steel, has yet to produce a coherent energy policy or to perfect a ‘real internal energy market’ (Commission 2007:6). There are very significant differences in the energy mix and strategies of member states whose perspectives remain stubbornly national. Thus, the Commission’s principal approach has been to seek energy security through the perfection of a properly functioning, interconnected and transparent internal energy market. There has also been a largely 6 unsuccessful attempt to extend EU liberalising regulatory practices to the EU’s gas suppliers in its eastern ‘neigbourhood’. Failure was demonstrated in the twin Ukrainian gas crises of 2006 and 2009. In January 2009, ostensibly for commercial reasons (a dispute with Naftogaz of Ukraine) , Gazprom interrupted gas supplies with the serious knock-on effect of reducing EU gas availability by 20%, which affected 12 member states (Commission 2009: 7). The crisis again revealed the EU's vulnerability and the lack of internal planning and emergency coordination. It was only resolved through an EU-mediated political agreement between Russia and Ukraine (ibid: 4). Russia, having rejected the EU’s invitation to subscribe to the Energy Charter Treaty, increasingly relies on its economic power derived from natural resources and energy services. It uses the mechanism of 'pipeline politics' to compensate for its loss of superpower status and to preserve its zone of influence, particularly in the Caspian region and Central and Eastern Europe (Baran 2007; Müller-Kraenner 2008: 47-56). The EU counterpart is the suggestion that security of supply can be achieved through diversification involving new pipelines circumventing Russian territory, Nabucco providing the best known example. Youngs (2009) has suggested that in fact the EU is in fact caught on the horns of a dilemma, between attempts to install market based governance of energy supplies and an essentially realist approach to the geopolitics of pipelines. Certainly one of the significant outcomes of the gas crises has been the call for energy policy to play a major role in the Union’s external relations in building up a network of bilateral energy supply deals with its neighbours in the Caspian region, in North Africa and beyond (Commission 2007: 23). In the US, by contrast, new shale gas discoveries over the last few years have – for now – made the country virtually independent from imports. The situation is, of course, completely different for oil supplies even though the US – if it was minded to incur the costs – could achieve a degree of autarchy in this sector too.

#### 2. War was MORE likely in primitive societies

#### LeBlanc in ‘7

(Steven, Dir. Collections @ Peabody Museum of Archaeology and Ethnology @ Harvard U., Daedalus, “Why warfare? Lessons from the past”, 136:1, Winter)

Quite a bit is known about warfare in the deep past, and about warfare in nonstate societies that have not been affected by nation-states. One obvious conclusion is that warfare was frequent long before complex societies developed. This generalization is clearly established by Lawrence Keeley in War Before Civilization, and was also discussed recently by Richard Wrangham and Raymond C. Kelly.1 Such warfare was chronic, virtually annual. Few societies experienced even one generation without significant warfare. Regardless of its frequency, almost all societies lived in fear of attack. Great efforts, often at considerable costs, were made to live in protected places - such as on the tops of windswept hills and on the faces of cliffs far from water supplies - and to build fortifications. Some groups lived in settlements that were larger or more compact than optimum, simply for defense. The deadliness of war made these measures inevitable. Estimates of around 25 percent of males dying from warfare are derived for virtually all continents, for foragers and egalitarian farmers alike. The probability of dying as a result of warfare was, in fact, much higher in the past than it is today.

#### 3. alt is worse for the environment

#### Penn in ‘3

(Dustin, Dir. And Senior Scientist @ Konrad Lorenz Institute of Comparative Ethology and former Visiting Prof. Zoology @ U. Vienna, Quarterly Review of Biology, “The Evolutionary Roots of our Environmental Problems: Toward a Darwinian Ecology”, 78:3, September, EBSCO)

We have never quite outgrown the idea that, somewhere, there are people living in perfect harmony with nature and one another, and that we might do the same were it not for the corrupting influences of Western culture (Konner 1990). When attempting to explain why humans are ecologically destructive, environmental scholars have long attributed the problem to “Western” culture, especially the anthropocentric and scientific worldviews (White 1967). Subsequently, many argue that addressing our ecological problems requires a rejection of the materialism of science, and an embrace of the animistic and spiritual beliefs of non-Western religions and traditional cultures. Aboriginal peoples, such as Native American Indians, have been represented as the major role model for the modern environmental movement because they are widely thought to have lived in harmony with nature before Western contact. Environmentalists often quote a famous speech by Chief Seattle of the Susquamish tribe who reportedly stated that “Every part of this earth is sacred to my people . . . the earth does not belong to man, man belongs to the earth” (Gore 1992:259). Just as Jean-Jacques Rousseau thought that people in traditional cultures live as “noble savages,” environmentalists often assume that humans lived in harmony with nature as “ecological noble savages” until they became corrupted by Western culture (Redford 1991). The idea that our modern environmental problems are due to Western science and culture is central to modern environmental movements and philosophies such as Deep Ecology (Devall and Sessions 1985; Sessions 1995) and ecofeminism (Merchant 1980). Evolutionary researchers have been uncovering a very different picture of the conservation behavior in traditional and other non- Western cultures (Smith and Wishnie 2000). Increasing evidence indicates that pre- Columbian American Indians and other traditional societies are not the conservationists often assumed (Edgerton 1992; Ridley 1996; Krech 1999). The low ecological impact of people in traditional cultures does not appear to be due to conservation practices per se, but simply their low population densities and inefficient technologies (Hames 1987; Alvard 1993, 1995; Kay 1994; Stearman 1994; Vickers 1994; Low 1996a; Alvard 1998; Miller et al. 1999; Ruttan and Borgerhoff Mulder 1999). Among the Piro Indians in Ecuador, hunters do not pay the opportunity costs of passing up prey for conservation; instead their hunting behavior follows optimal foraging principles (Alvard 1993, 1995, 1999). Nor is there is any association between societies that hold beliefs about the sacredness of nature and having a low ecological impact (Low 1996a). It turns out that the widely quoted speech by Chief Seattle is just a myth, a story created for television, that has been perpetuated by uncritical and wishfulthinking environmentalists (Ridley 1996). Furthermore, increasing evidence indicates that our species has a long history of causing ecological destruction (Diamond 1988, 1992, 1995; Redman 1999). As humans have moved around the planet, they have caused massive extinctions in various ecosystems. For example, the megafaunal extinction in the Americas during the Pleistocene (in which 57 species of large mammals went extinct, including mammoths and mastodons, in a sudden ecological collapse) is usually attributed to climate change. Alfred Russell Wallace suggested otherwise: “I am convinced that the rapidity of . . . the extinction of so many large Mammalia is actually due to man’s agency” (cited in Leakey and Lewin 1995:172). Much evidence now indicates that the Pleistocene extinctions in North America correspond to the time of arrival of human migrations from Asia (Martin 1978; Martin and Klein 1984). This major extinction event does not appear to have been due to climate change; other places experienced climate change at this time, but did not have similar extinctions. Instead, it appears that it was due to the vulnerability of North American fauna to a newly introduced and highly effective predator, Homo sapiens (Alroy 2001). This “Pleistocene overkill” hypothesis is somewhat controversial; it is still debated whether the Pleistocene extinctions in North American were due to human hunting alone, climate change, or some combination of these factors. Yet, the major extinctions that occurred on many South Pacific islands (Steadman and Olson 1985; Steadman et al. 2002), such as the disappearance of elephant birds in New Zealand, cannot be attributed to climate change and they coincide precisely with the arrival of humans who hunted them extensively (Anderson 1989; Diamond 2000; Holdaway and Jacomb 2000; Roberts et al. 2001). Once humans began to settle down and organize into larger and more complex societies, entire civilizations appear to have collapsed due to the overexploitation of their resource base (Diamond 1988; Ponting 1992). After arriving to Easter Island, the Polynesians turned a lush forested island into a treeless landscape, exhausted their resources, and their population and society collapsed (Diamond 1995). The sudden disappearance of the Anasazi Indians in North America, the Maya in Central America, and other non-Western civilizations may have been due to an ecological collapse (Culbert 1973; Deevey et al. 1979; Diamond 1992; Redman 1999; Stuart 2000). The precise causes for the demise of the Maya and Anasazi and other ancient civilizations are still unclear and controversial. Their downfall is still usually attributed to internal social turmoil or hostile invading groups (except Easter Island), though such events may have just provided the final coup de grace after resource depletion already undermined economic and political stability, as we are seeing today in many societies (Homer-Dixon 1999). Thus, humans did not live in harmony with nature until the spread of “Western” culture, and these findings about our species’ actual conservation behavior offer several extremely important implications. First, they indicate that environmentalists are not merely overreacting “alarmists”; we have very good reasons to be concerned about our species’ potential for causing ecological destruction. Second, they indicate that achieving ecological sustainability may be more difficult than is often assumed and that we cannot simply abandon “Western” secularism and science for mysticism. Third, they show that we must be wary of romantic myths and wishful thinking about human nature. Becoming more critical, though, does not imply that we should not be open to new possibilities or try to learn from other cultures. Many societies have successfully managed their resources (Smith and Wishnie 2000), so there is room for optimism. What is needed is more research into how people in various societies have successfully managed their natural resources, and to determine how to apply this knowledge toward designing adaptive strategies for dealing with ecological problems (e.g., Ostrom et al. 1999).