### 2AC Scholarship Arg

#### Most scholarship relies on inconsistent sources – your procedural asks the wrong questions

Zimmerman 2007 Jeanne Reames-Zimmerman Hellenist and Ancient Near East specialist at UNO9/01/2007 For Students (and interested others)

http://myweb.unomaha.edu/~mreames/Hephaistion/students.html

Ask for advice when faced with conflicting evaluations. It's not at all uncommon for scholars to disagree with each other -- particularly when it comes to a controversial figure such as Alexander the Great. Students may read wildly varying accounts of the man and his court. We have everything from N.G.L. Hammond's fairly positive portrayal in works like The Genius of Alexander the Great, to more negative evaluations in Peter Green's Alexander of Macedon or A.B. Bosworth's Alexander in the East. Students of Macedonia itself may find themselves confused when faced by nationalist writings from the Greek or Slavic Macedonian sides, each claiming the other is wrong. WHY are their so many different views and opinions? That's a good question. In fact, it's such a good question, it's even got a fancy name. It's called "historiography," or "the history of history." How do historians reach their opinions? It's rarely simple, and 30-second soundbites won't cut it. The 30-second soundbite usually IS an opinion ... not the reason for that opinion. You want to know the REASON. Asking "Who's right?" is not a good question. That's an opinion, too. (g) I certainly HAVE opinions on these topics, and I'll back them up with reasons -- but it's still opinion. As much as we professional historians like to be regarded as Oracles of Truth and have our brilliant deductions admired (g), if you pin us down, we'll admit (or should admit) that the word "history" itself means "critical inquiry" (into the past) ... and that's what all 'historians' -- professional, student, or hobbyist -- should bring to the table. So -- read/listen to the arguements, dig a little yourself, READ the conflicting opinions ... then make up your own mind.

#### Our minimax strategy is best – precluding impacts on face due to conjunction makes disjunctive versions of the same impact more likely

http://debate.uvm.edu/Library/DebateTheoryLibrary/Roskoski-Infinite%20Risk On Infinite Risk Matthew **Roskoski** & Joe Peabody Debut Florida State University 1994

Gawlak and Byrd disagree, noting that frequently chains with thirty-three or more causal steps can be perfectly legitimate (Gawlak & Byrd 41). Additionally, Bjorkman laments that: People seem unable to get involved in and evaluate future events other than those that are very close in time and space to themselves. This holds true for catastrophes like a nuclear war as well as for beneficial events like the invention of effective methods to obtain food from the sea... This leads to the reflection that risk factors, negative effects with a low probability of occurrence are underestimated... Limitations of cognitive time and underestimation of risk probabilities may have the effect that decision makers overlook long- term risk effects which are small per unit of time. (Bjorkman 19-20). Bjorkman's observation leads us to two conclusions. First, the subjective perception that the risk of a given disadvantage is low might well be erroneous. Bjorkman claims that people are sometimes cognitively incapable of realizing the full magnitude of such risks. Second, translating that incapacity into an exclusionary rule in debate rounds leads to overlooking important risks. The field of games theory also sheds some light on the legitimacy of minimax analysis. In games theory, the minimax strategy is the strategy of playing so as to minimize the chance of incurring the maximum harm (Guiasu & Malitza 13-14, Singleton & Tyndall 84). Davis explains the utility of such reasoning: The virtue of the minimax strategy is security. Without it, you must resort to the double- and triple-cross world of Poe's precocious student. With it, you can obtain your full value, and you have the assurance that you couldn't do better - at least, not against good play (Davis 39). Fryer describes the minimax value of any given game as "the most favourable value" (Fryar 37) and Luce & Raiffa note that the minimax theorem is true under general conditions (Luce & Raiffa 2). Finally, Colman has demonstrated that people intuitively reason in minimax fashion (Colman 61). Given these varied and persuasive justifications for minimax reasoning, it is not unreasonable to suggest that debate judges ought to be willing to play the debate game using a minimax strategy. Additionally, Crouch and Wilson distinguish between historical risks and new risks. Historical risks are those which have already occurred and may occur again, such as diseases, motor vehicle accidents etc. New risks are those which haven't already been observed, such as meteor impacts, nuclear conflicts etc. (Crouch & Wilson 51-52). Obviously new risks will appear less probable than historical risks, because we haven't observed the dynamic which leads to their actualization. Hence, we shouldn't arbitrarily subordinate new risks to historical risks. We ought always to remember, AIDS was once considered a new risk, as was a global depression.

### 2AC Eco Justice

#### We should evaluate actions by their managerial consequences - rolling back the steady evolution toward multilateral world peace should be avoided

Dyer 2004 Gwynne Dyer December 30, 2004 is a Canadian journalist based in London whose articles are published in 45 papers worldwide. This is an abridged version of the last chapter in his updated book, War, first published in 1985. His latest book is Future: Tense. The Coming Global Order, published by McClelland and Stewart. by the Toronto Star The End of War Our Task Over the Next Few Years is to Transform the World of Independent States into a Genuine Global Village by Gwynne Dyer http://www.commondreams.org/views04/1230-05.htm

War is deeply embedded in our history and our culture, probably since before we were even fully human, but weaning ourselves away from it should not be a bigger mountain to climb than some of the other changes we have already made in the way we live, given the right incentives. And we have certainly been given the right incentives: The holiday from history that we have enjoyed since the early '90s may be drawing to an end, and another great-power war, fought next time with nuclear weapons, may be lurking in our future. The "firebreak" against nuclear weapons use that we began building after Hiroshima and Nagasaki has held for well over half a century now. But the proliferation of nuclear weapons to new powers is a major challenge to the stability of the system. So are the coming crises, mostly environmental in origin, which will hit some countries much harder than others, and may drive some to desperation. Add in the huge impending shifts in the great-power system as China and India grow to rival the United States in GDP over the next 30 or 40 years and it will be hard to keep things from spinning out of control. With good luck and good management, we may be able to ride out the next half-century without the first-magnitude catastrophe of a global nuclear war, but the potential certainly exists for a major die-back of human population. We cannot command the good luck, but good management is something we can choose to provide. It depends, above all, on preserving and extending the multilateral system that we have been building since the end of World War II. The rising powers must be absorbed into a system that emphasizes co-operation and makes room for them, rather than one that deals in confrontation and raw military power. If they are obliged to play the traditional great-power game of winners and losers, then history will repeat itself and everybody loses. Our hopes for mitigating the severity of the coming environmental crises also depend on early and concerted global action of a sort that can only happen in a basically co-operative international system. When the great powers are locked into a military confrontation, there is simply not enough spare attention, let alone enough trust, to make deals on those issues, so the highest priority at the moment is to keep the multilateral approach alive and avoid a drift back into alliance systems and arms races. And there is no point in dreaming that we can leap straight into some never-land of universal brotherhood; we will have to confront these challenges and solve the problem of war within the context of the existing state system. The solution to the state of international anarchy that compels every state to arm itself for war was so obvious that it arose almost spontaneously in 1918. The wars by which independent states had always settled their quarrels in the past had grown so monstrously destructive that some alternative system had to be devised, and that could only be a pooling of sovereignty, at least in matters concerning war and peace, by all the states of the world. So the victors of World War I promptly created the League of Nations. But the solution was as difficult in practice as it was simple in concept. Every member of the League of Nations understood that if the organization somehow acquired the ability to act in a concerted and effective fashion, it could end up being used against them, so no major government was willing to give the League of Nations any real power. Instead, they got World War II, and that war was so bad — by the end the first nuclear weapons had been used on cities — that the victors made a second attempt in 1945 to create an international organization that really could prevent war. They literally changed international law and made war illegal, but they were well aware that all of that history and all those reflexes were not going to vanish overnight. It would be depressing to catalogue the many failures of the United Nations, but it would also be misleading. The implication would be that this was an enterprise that should have succeeded from the start, and has failed irrevocably. On the contrary; it was bound to be a relative failure at the outset. It was always going to be very hard to persuade sovereign governments to surrender power to an untried world authority which might then make decisions that went against their particular interests. In the words of the traditional Irish directions to a lost traveler: "If that's where you want to get to, sir, I wouldn't start from here." But here is where we must start from, for it is states that run the world. The present international system, based on heavily armed and jealously independent states, often exaggerates the conflicts between the multitude of human communities in the world, but it does reflect an underlying reality: We cannot all get all we want, and some method must exist to decide who gets what. That is why neighboring states have lived in a perpetual state of potential war, just as neighboring hunter-gatherer bands did 20,000 years ago. If we now must abandon war as a method of settling our disputes and devise an alternative, it only can be done with the full co-operation of the world's governments. That means it certainly will be a monumentally difficult and lengthy task: Mistrust reigns everywhere and no nation will allow even the least of its interests to be decided upon by a collection of foreigners. Even the majority of states that are more or less satisfied with their borders and their status in the world would face huge internal opposition from nationalist elements to any transfer of sovereignty to the United Nations. The good news for humans is that it looks like peaceful conditions, once established, can be maintained. And if baboons can do it, why not us? The U.N. as presently constituted is certainly no place for idealists, but they would feel even more uncomfortable in a United Nations that actually worked as was originally intended. It is an association of poachers turned game-keepers, not an assembly of saints, and it would not make its decisions according to some impartial standard of justice. There is no impartial concept of justice to which all of mankind would subscribe and, in any case, it is not "mankind" that makes decisions at the United Nations, but governments with their own national interests to protect. To envision how a functioning world authority might reach its decisions, at least in its first century or so, begin with the arrogant promotion of self-interest by the great powers that would continue to dominate U.N. decision-making and add in the crass expediency masquerading as principle that characterizes the shifting coalitions among the lesser powers in the present General Assembly: It would be an intensely political process. The decisions it produced would be kept within reasonable bounds only by the need never to act in a way so damaging to the interest of any major member or group of members that it forced them into total defiance, and so destroyed the fundamental consensus that keeps war at bay. There is nothing shocking about this. National politics in every country operates with the same combination: a little bit of principle, a lot of power, and a final constraint on the ruthless exercise of that power based mainly on the need to preserve the essential consensus on which the nation is founded and to avoid civil war. In an international organization whose members represent such radically different traditions, interests, and levels of development, the proportion of principle to power is bound to be even lower. It's a pity that there is no practical alternative to the United Nations, but there isn't. If the abolition of great-power war and the establishment of international law is truly a hundred-year project, then we are running a bit behind schedule but we have made substantial progress. We have not had World War III, and that is thanks at least in part to the United Nations, which gave the great powers an excuse to back off from several of their most dangerous confrontations without losing face. No great power has fought another since 1945, and the wars that have broken out between middle-sized powers from time to time — Arab-Israeli wars and Indo-Pakistani wars, mostly — seldom lasted more than a month, because the U.N.'s offers of ceasefires and peacekeeping troops offered a quick way out for the losing side. If you assessed the progress that has been made since 1945 from the perspective of that terrifying time, the glass would look at least half-full. The enormous growth of international organizations since 1945, and especially the survival of the United Nations as a permanent forum where the states of the world are committed to avoiding war (and often succeed), has already created a context new to history. The present political fragmentation of the world into more than 150 stubbornly independent territorial units will doubtless persist for a good while to come. But it is already becoming an anachronism, for, in every other context, from commerce, technology, and the mass media to fashions in ideology, music, and marriage, the outlines of a single global culture (with wide local variations) are visibly taking shape. It is very likely that we began our career as a rising young species by exterminating our nearest relatives, the Neanderthals, and it is entirely possible we will end it by exterminating ourselves, but the fact that we have always had war as part of our culture does not mean that we are doomed always to fight wars. Other aspects of our behavioral repertoire are a good deal more encouraging. There is, for example, a slow but quite perceptible revolution in human consciousness taking place: the last of the great redefinitions of humanity. At all times in our history, we have run our affairs on the assumption that there is a special category of people (our lot) whom we regard as full human beings, having rights and duties approximately equal to our own, and whom we ought not to kill even when we quarrel. Over the past 15,000 or 20,000 years we have successively widened this category from the original hunting-and-gathering band to encompass larger and larger groups. First it was the tribe of some thousands of people bound together by kinship and ritual ties; then the state, where we recognize our shared interests with millions of people whom we don't know and will never meet; and now, finally, the entire human race. There was nothing in the least idealistic or sentimental in any of the previous redefinitions. They occurred because they were useful in advancing people's material interests and ensuring their survival. The same is true for this final act of redefinition: We have reached a point where our moral imagination must expand again to embrace the whole of mankind. It's no coincidence that the period in which the concept of the national state is finally coming under challenge by a wider definition of humanity is also the period that has seen history's most catastrophic wars, for they provide the practical incentive for change. But the transition to a different system is a risky business: The danger of another world war which would cut the whole process short is tiny in any given year, but cumulatively, given how long the process of change will take, it is extreme. That is no reason not to keep trying. Our task over the next few generations is to transform the world of independent states in which we live into some sort of genuine international community. If we succeed in creating that community, however quarrelsome, discontented, and full of injustice it will probably be, then we shall effectively have abolished the ancient institution of warfare. Good riddance.

#### Nuclear power is the remedy to decades of environmental racism perpetuated by oil, coal, and other non-renewables.

Margaret Ryan and Dr. Patrick Moore 2012 May, 2 (Moore is a founding member of Greenpeace, Ph.D. in Ecology, and founder of CASEnergy) in “Nuclear Power Jobs Positioned As An Economic Justice Issue” <http://energy.aol.com/2012/05/02/nuclear-power-jobs-positioned-as-an-economic-justice-issue/>

Who has the power in the power industry? Minority communities for years have seen large industrial facilities as environmental justice issues, says CASEnergy's Patrick Moore, with high-impact plants built in their midst because they're powerless to stop it, but he insists nuclear is different. Moore told AOL Energy that he is reaching out to African-American and Hispanic business and labor groups, telling them that nuclear plants, in contrast to projects like coal plants, are long-term community assets. Patrick Moore, an early Greenpeace activist and co-founder of CASEnergy who now supports nuclear as the largest non-polluting electricity source available, says nuclear not only needs thousands of skilled workers when plants are built new but generations of skilled workers to keep the units running for 60 or more years. The US Nuclear Regulatory Commission is just beginning to consider what safety standards are needed to extend US plants licenses from 60 to 80 years. African-American and Hispanic advocacy groups have historically been focused on civil rights, but they're "morphing into economic development," Moore said, and looking at energy policy for the first time. Unlike many other big industrial facilities, he noted, polls show nuclear power plants have increasing popular support the closer people live to them. Nuclear plants are "wealth creating machines," Moore said, with no pollution, better roads and schools financed by the plants' property taxes, and large payrolls. Moore said he has had positive reception from minority business leaders, and said he is urging minority business groups to "stream their members into training" for nuclear industry jobs. "Even if no new plants are built, the nuclear work force is aging," he said, echoing an issue discussed by both the NRC and the industry in recent years. "Over half the workforce is retiring in the next few years." Moore said that, despite the Fukushima disaster, he sees less controversy worldwide about nuclear power now than there was five years ago, in part as other countries see the increasing pollution and fossil fuel costs borne by Japan and Germany in the wake of politically forced nuclear shutdowns. AOL Energy covered the anniversary of the Fukushima disaster in detail with analysis of impacts for regulators, investors, the industry and suppliers. See that coverage here. Japan in April reported a $55 billion trade deficit for the fiscal year since Fukushima, due to lower exports from quake-affected industries and higher fuel imports. It was Japan's first deficit in three decades. On safety, Moore said, a key factor leading to the Fukushima events was the lack of an independent regulator in Japan, and that's not an issue for the US. "The regulatory authority was controlled by industry," he said. "In the US, the NRC is at arms' length, there is true independent oversight every day." CASEnergy is a coalition of business and advocacy groups, and Moore acknowledged that, with natural gas prices so low and supply so ample, it's hard to justify the expense of nuclear building unless a business can take a long view. Gas prices are historically volatile, he noted, but with so many utilities and merchant generators turning to cheap gas, "it will flip to a seller's market" in a few years, he argued, and "nuclear will start looking good again." Moore doesn't see why small modular reactors – the latest focus of industry and NRC attention – shouldn't be deployed to islands like Hawaii and Puerto Rico and isolated towns in Alaska to provide heat and power now supplied only by petroleum. "We already have 100 of them working in the Nuclear Navy," he said, noting Naval reactors predate the land-based ones. "For years we've had sailors living right next door to them."

#### Not the root cause of conflict – other factors overwhelm

Volf 2002 Miroslav Volf (Henry B. Wright Professor of Theology at Yale Divinity School since 1998) Journal of Ecumenical Studies 1-1-02

Though “otherness”–cultural, ethnic, religious, racial difference–is an important factor in our relations with others, we should not overestimate it as a cause of conflict. During the war in the former Yugoslavia in the early 1990′s, I was often asked, “What is this war about? Is it about religious and cultural differences? Is it about economic advantage? Is it about political power? Is it about land?” The correct response was, of course, that the war was about all of these things. Monocausal explanations of major eruptions of violence are rarely right. Moreover, various causes are intimately intertwined, and each contributes to others. That holds true also for otherness, which I am highlighting here. However, neither should we underestimate otherness as a factor. The contest for political power, for economic advantage, and for a share of the land took place between people who belonged to discrete cultural and ethnic groups. Part of the goal of the war in the former Yugoslavia was the creation of ethnically clean territories with economic and political autonomy. The importance of “otherness” is only slightly diminished if we grant that the sense of ethnic and religious belonging was manipulated by unscrupulous, corrupt, and greedy politicians for their own political and economic gain. The fact that conjured fears for one’s identity could serve to legitimize a war whose major driving force lay elsewhere is itself a testimony to how much “otherness” matters.

#### Alt fails- Human nature

Barnhizer 2006 (David Barnhizer, Professor of Law at Ohio State University, Articles Editor of the Ohio State Law Journal and then served as a Reginald Heber Smith Community Lawyer Fellow in Colorado Springs Legal Services Office, a Ford Urban Law Fellow, and a Clinical Teaching Fellow at the Harvard Law School, Senior Advisor to the International Program of the Natural Resources Defense Council, a Senior Fellow for Earth Summit Watch, and General Counsel for the Shrimp Tribunal. He has served as Executive Director of The Year 2000 Committee, 2006 “waking from sustainability’s “impossible dream”” Georgetown environmental law review)

Devotees of sustainability pin their hopes on an awakening by an enlightened populace that will rise up and insist that business and government behave in ways that reflect the idea that "[a] sustainable society is one that can persist over generations, one that is far-seeing enough, flexible enough, and wise enough not to undermine either its physical or its social systems of support."81 This awakening is not going to happen. There will never be a populist revolution in the way humans value the environment, social justice, and other matters of moral consequence. We frequently "talk the talk," but rarely "walk the walk."82 This discrepancy is partly an individual failure, but it is even more a result of the powerful forces that operate within our culture. Residents of Western cultures are shaped by the system in which they live. They will never possess either the clarity of agenda or the political will essential to a coherent and coordinated shift in behavior due to a combination of ignorance, greed, sloth, and inundation by political and consumerist propaganda. This combination means there will be no values shift welling up from the people and demanding the transformation of our systems of production and resource use.

#### Human life is inherently valuable

Penner 2005 Melinda Penner (Director of Operations – STR, Stand To Reason) 2005 “End of Life Ethics: A Primer”, Stand to Reason, http://www.str.org/site/News2?page=NewsArticle&id=5223

Intrinsic value is very different. Things with intrinsic value are valued for their own sake. They don’t have to achieve any other goal to be valuable. They are goods in themselves. Beauty, pleasure, and virtue are likely examples. Family and friendship are examples. Something that’s intrinsically valuable might also be instrumentally valuable, but even if it loses its instrumental value, its intrinsic value remains. Intrinsic value is what people mean when they use the phrase "the sanctity of life." Now when someone argues that someone doesn’t have "quality of life" they are arguing that life is only valuable as long as it obtains something else with quality, and when it can’t accomplish this, it’s not worth anything anymore. It's only instrumentally valuable. The problem with this view is that it is entirely subjective and changeable with regards to what might give value to life. Value becomes a completely personal matter, and, as we all know, our personal interests change over time. There is no grounding for objective human value and human rights if it’s not intrinsic value. Our legal system is built on the notion that humans have intrinsic value. The Declaration of Independence: "We hold these truths to be self-evident, that all men are created equal, that each person is endowed by his Creator with certain unalienable rights...." If human beings only have instrumental value, then slavery can be justified because there is nothing objectively valuable that requires our respect. There is nothing other than intrinsic value that can ground the unalienable equal rights we recognize because there is nothing about all human beings that is universal and equal. Intrinsic human value is what binds our social contract of rights. So if human life is intrinsically valuable, then it remains valuable even when our capacities are limited. Human life is valuable even with tremendous limitations. Human life remains valuable because its value is not derived from being able to talk, or walk, or feed yourself, or even reason at a certain level. Human beings don’t have value only in virtue of states of being (e.g., happiness) they can experience. The "quality of life" view is a poison pill because once we swallow it, we’re led down a logical slippery slope. The exact same principle can be used to take the life of human beings in all kinds of limited conditions because I wouldn't want to live that way. Would you want to live the life of a baby with Down’s Syndrome? No? Then kill her. Would you want to live the life of an infant with cerebral palsy? No? Then kill him. Would you want to live the life of a baby born with a cleft lip? No? Then kill her. (In fact, they did.) Once we accept this principle, it justifies killing every infant born with a condition that we deem a life we don’t want to live. There’s no reason not to kill every handicapped person who can’t speak for himself — because I wouldn’t want to live that way. This, in fact, is what has happened in Holland with the Groningen Protocol. Dutch doctors euthanize severely ill newborns and their society has accepted it.

#### Mangagement is the only viable alternative to extinction – its too late to let nature ‘be’

Michael **Soule** (U.S. biologist, Ph.D. in Population Biology at Stanford University) **1995** “Reinventing Nature: Responses to Postmodern Deconstruction” p. 159

Should we actively manage wildlands and wild waters? The decision ahs already been made in most places. Some of the ecological myths discussed here contain, wither explicitly or implicitly, the idea that nature is self-regulating and capableof caring for itself. This notion leads to the theory of management know as benign neglect – nature will do fine, thank you, if human beings just leave it alone. Indeed**,** a century ago, a hands-off policy was the best policy. Now it is not. Given nature’s current fragmented and stressed condition, neglect will result in an accelerating spiral of deterioration**. Once people create large gaps in forests, isolate and disturb habitats, pollute, overexploit, and introduce species from other continents, the viability of many ecosystems and native species is compromised, resilience dissipates,** and diversity can collapse. When artificial disturbance reaches a certain threshold, **even small changes can produce large effects**, and these will be compounded by climate change. For example, a storm that would be considered normal and beneficial may, following widespread clearcutting, cause disastrous blowdowns, landslides, and erosion. If global warming occurs, tropical storms are predicted to have greater force than now. Homeostasis, balance, and Gaia are dangerous models when applied at the wrong spatial and temporal scales. **Even fifty years ago, neglect might have been the best medicine, but that was a world with a lot more big, unhumanized, connected spaces, a world with one-thrid the number of people**, and a world largelyunaffected by chainsaws, bulldozers, pesticides, and exotic, weedy species. The alternative to neglect is active caring – in today’s parlance, an affirmative approach to wildlands: to maintain and restore them**, to become stewards, accepting all the domineering baggage that word carries. Until humans are able to control their numbers and their technologies,** management is the only viable alternative to massive attrition of living nature. But management activities are variable in intensity**, or** something that antimanagement purists ignore. In general, the greater the disturbance and the smaller the habitat remnant, the more intense the management must be. So if we must manage, where do we look for eithical guidance?

#### Neoliberal commodification solves the environment

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

This brings me to one of my major points about the necessity of growth. A recurring criticism of growth - be it industrial, economic, or technological - centers around its negative consequences. A good example of this is the tendency of economic and industrial growth to generate pollution. However, I contend that growth invariably provides solutions to any problems it introduces. The following examples will illustrate my point. Although economic growth can initially lead to such problems as pollution and waste, studies show that, after a country achieves a certain level of prosperity, the pendulum begins to swing back toward cleaner air and water. In fact, once a nation's per capita income rises to about $4,000 (in 1993 dollars), it produces less of some pollutants per capita. The reason for this is quite simple: Such a nation can now afford technologies such as catalytic converters and sewage systems that treat and eliminate a variety of wastes. According to Norio Yamamoto, research director of the Mitsubishi Research Institute, "We consider any kind of environmental damage to result from mismanagement of the economy." He claims that the pollution problems of poorer regions such as eastern Europe can be traced largely to their economic woes. Hence he concludes that, in order to ensure environmental safety, "we need a sound economy on a global basis." 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.

#### Tech solves

Huggins 2012 (Laura E. Huggins, research fellow at the Hoover Institution and director of development at PERC—the Property and Environment Research Center—a think tank in Bozeman, Montana, that focuses on market solutions to environmental problems, 2012 “A Doom Deferred” http://www.hoover.org/publications/hoover-digest/article/105756)

The authors of the Times op-ed also wrote that “the effects of overpopulation play a part in practically every daily report of mass human calamity.” Floods, for example, “inundate more homes as populations expand into floodplains. Such extreme events are stoked by climate change, fueled by increasing carbon emissions from an expanding global population.” These modern-day predictions are in stark contrast to claims in the same vein from the 1970s. In a popular 1970 speech at Swarthmore College, for example, well-known ecologist Kenneth Watt said, “If present trends continue, the world will be about four degrees colder for the global mean temperature in 1990, but 11 degrees colder in the year 2000. This is about twice what it would take to put us into an ice age.” Time has not been gentle with such prophecies. Four decades later, the world hasn’t come to an end. Most measures of human welfare show the Earth’s population is better off today than at any other time in human history. Life expectancy is increasing, per-capita income is rising, and the air we breathe and the water we drink are cleaner. And concerns about climate change have shifted from cooling to warming since the 1970s. Given past trends, we are right to deny doom-and-gloom claims such as this one in Harte and Ehrlich’s article: “Perpetual growth is the creed of a cancer cell, not a sustainable human society.” New ideas and technologies proliferate at a much faster rate than population. New ideas and technologies proliferate at a much faster rate than population. They depend on individuals who are free to pursue their own interests and innovate with few constraints. As Stanford economist Paul Romer put it, “Every generation has perceived the limits to growth that finite resources and undesirable side effects would pose if no new recipes or ideas were discovered. And every generation has underestimated the potential for finding new recipes and ideas. We consistently fail to grasp how many ideas remain to be discovered. Possibilities do not add up; they multiply.”

#### Solves conflict- Best studies

Hegre et al 2009 (H’vard Hegre, Professor of Political Science @University of Oslo, , John R. Oneal, Professor of Political Science @ The University of Alabama, Bruce Russett, Professor of Political Science @ Yale University) August 25, 2009 “Trade Does Promote Peace: New Simultaneous Estimates of the Reciprocal Effects of Trade and Conflict” http://www.yale-university.com/leitner/resources/docs/HORJune09.pdf

Liberals expect economically important trade to reduce conflict because interstate violence adversely affects commerce, prospectively or contemporaneously. Keshk, Reuveny, & Pollins (2004) and Kim & Rousseau (2005) report on the basis of simultaneous analyses of these reciprocal relations that conflict impedes trade but trade does not deter conflict. Using refined measures of geographic proximity and size—the key elements in the gravity model of international interactions—reestablishes support for the liberal peace, however. Without careful specification, trade becomes a proxy for these fundamental exogenous factors, which are also important influences on dyadic conflict. KPR‘s and KR‘s results are spurious. Large, proximate states fight more and trade more. Our re-analyses show that, as liberals would expect, commerce reduces the risk of interstate conflict when proximity and size are properly modeled in both the conflict and trade equations. We provided new simultaneous estimates of liberal theory using Oneal & Russett‘s (2005) data and conflict equation and a trade model derived from Long (2008). These tests confirm the pacific benefit of trade. Trade reduces the likelihood of a fatal militarized dispute, 1950–2000 in our most comprehensive analysis, as it does in the years 1984-97 when additional measures of traders‘ expectations of domestic and interstate conflict are incorporated (Long, 2008) and in the period 1885-2000. This strong support for liberal theory is consistent with Kim‘s (1998) early simultaneous estimates, Oneal, Russett & Berbaum‘s (2003) Granger-style causality tests, and recent research by Robst, Polachek & Chang (2007). Reuveny & Kang (1998) and Reuveny (2001) report mixed results. It is particularly encouraging that, when simultaneously estimated, the coefficient of trade in the conflict equation is larger in absolute value than the corresponding value in a simple probit analysis. Thus, the dozens of published articles that have addressed the endogeneity of trade by controlling for the years of peace—as virtually all have done since 1999—have not overstated the benefit of interdependence. Admittedly, our instrumental variables are not optimal. In some cases, for example, in violation of the identification rule, the creation or end of a PTA may be a casus belli. More importantly, neither of our instruments explains a large amount of variance. Thus, future research should be directed to identifying better instruments. Our confidence in the commercial peace does not depend entirely on the empirical evidence, however; it also rests on the logic of liberal theory. Our new simultaneous estimates—as well as our re-analyses of KPR and KR—indicate that fatal disputes reduce trade. Even with extensive controls for on-going domestic conflict, militarized disputes with third parties, and expert estimates of the risks of such violence, interstate conflict has an adverse contemporaneous effect on bilateral trade. This is hardly surprising (Anderton & Carter, 2001; Reuveny, 2001; Li & Sacko, 2002; Oneal, Russett & Berbaum, 2003; Glick & Taylor, 2005; Kastner, 2007; Long, 2008; Findlay & O‘Rourke, 2007; cf. Barbieri & Levy, 1999; Blomberg & Hess, 2006; and Ward & Hoff, 2007). If conflict did not impede trade, economic agents would be indifferent to risk and the maximization of profit. Because conflict is costly, trade should reduce interstate violence. Otherwise, national leaders would be insensitive to economic loss and the preferences of powerful domestic actors. Whether paid prospectively or contemporaneously, the economic cost of conflict should reduce the likelihood of military conflict, ceteris paribus, if national leaders are rational.

#### Alt doesn’t solve - focusing on the local in politically debilitating – your evidenced it methodologically flawed

Clare **Hinrichs et al** (Associate Professor of Rural Sociology at the University of Park) **1998** “MOVING BEYOND "GLOBAL" AND "LOCAL”” http://www.ces.ncsu.edu/depts/sociology/ne185/global.html

If this is so, why have we been so fixated on "local," "localness," and "locality?" There are several reasons. First, lots of people and big thinkers are doing the same thing. A wide variety of well known and very influential analysts (e.g., Barnet and Cavanagh 1994; Berry 1996; Brecher and Costello 1994; Korten 1995; Shuman 1998) are proffering various versions of "going local" as a premier means of confronting social and ecological problems. Too often, however, these paeans to the "local" are founded on axioms and assumptions rather than on good evidence. Second, this emphasis on the local as a solution is the flip side of a similar fixation on the "global." Globalization is THE issue of the day. Having defined the "global" as the problem, it is easy to look to the "local" for relief (Mander and GoldsmithÆs book The Case Against the Global Economy and for a Turn to the Local is a paradigmatic manifestation of this tendency). As suggested above, the "global/local" pivot is a false dichotomy, but dualistic thinking remains a difficult pitfall to avoid-- even when you know it is there. In fact, the local can be confining and oppressive and the global can be expansive and liberating û as well as vice versa (see Henwood 1996; Young 1996). Third, there is now a tremendous amount of interesting and inspiring activity going on at the local level, especially in the area of food systems. From the community kitchens of Lima to the CSAs of WisconsinÆs "driftless region," people in particular places are organizing what are often small scale initiatives that challenge and provide alternatives to conventional food systems. Those of us interested in working to realize a sustainable food system would be seriously remiss if we did not honor and engage these projects. But while it is important to understand why this opposition is appearing in particular (local) places, it is perhaps equally important to investigate the broader context in which such opposition is emerging, and and to explore possible connections between different local manifestations of "resistance." Fourth, locality is closely associated with traditional notions of community and the positive elements of intimate face to face human interaction. We suspect that those of us with an interest in farming and food are particularly susceptible to the strain of Jeffersonian idealism that has long been an integral feature of agricultural thought in the United States and that this gives "localization" a special appeal. A tendency to romanticize the local is not necessarily a bad thing - we do, after all, need to give meaning to what we do. Knowing what we want allows us to bring an energy to our work. But we need to be clear-eyed about our normative inclinations if we are to work effectively. Following romantic tendencies too far can ultimately have debilitating effects: a slide into reaction or utopianism, commitments to pasts that never were or futures that never can be.

#### Move toward the local is impossible- our adaptive nature ensures that we can resolve global problems but only if we think about them

Barnhizer, 6 David, Prof of Law, Cleveland State U, ‘Waking from Sustainability's "Impossible Dream”,’ Geo Int’l Envtl L Rev, pg. l/n

Grand utopian visions, and even smaller utopias based on an ideal of pastoral communities harmoniously husbanding local resources, simply are not reflective of the reality faced by the vast majority of people. E.F. Schumacher's argument that "small is beautiful" may appear to be an elegant solution for how we can all live comfortable and rewarding lives within enriching community bonds, but it is not going to happen. 56 "Small is beautiful" has become an impossible dream for all but a few communities. The process of impossibility is driven by population growth, the breakdown of local communities through migration, the infusion of multicultural diversity, and a materialistic ethos that has altered our sense of what constitutes [\*619] quality of life. The most obvious driving forces include increasing urban densities and coastal development requiring massive infrastructures and supportive supply systems, overall population levels, and the distortions of population distribution and age demographics. To these can be added quality of life demands caused by people in economically impoverished countries who can see how material life is led in richer countries and the spread of interdependent economic systems that allow global production and distribution systems to penetrate what had been largely closed economic and cultural systems. These conditions are not reversible. My concern here is related to the speed at which societies are approaching various kinds of large-scale dislocations, injustices, strife, and even disaster. I do not want to resort to doomsday prophecies or set a clear date on which critical resources will be irreversibly depleted, such as was done in the Club of Rome's Limits to Growth report in 1972. 57 In addition to being destructive and careless, humans are also adaptive and resilient. Placing hard and fast deadlines on when chaos occurs and the worst effects are generated is unwise and chancy at best. 58 But if it is unwise or at least extremely difficult to make accurate and detailed predictions involving "doom and gloom" scenarios, it is equally unwise and foolhardy to ignore that the equivalent of ecological and social tectonic plates with massive disruptive potential are shifting underneath the surface of our national and global systems. Failing to prepare for the most likely consequences reaches the level of gross irresponsibility. We face a combination of ecological, social, and economic crises. These crises involve the ability to fund potentially conflicting obligations for the provision of social benefits, health care, education, pensions, and poverty alleviation. They also include the need for massive expenditures to "fix" what we have already broken. 59 Part of the challenge is that in the United States and Europe we have made fiscal promises that we cannot keep. We also have vast economic needs for [\*620] continuing wealth generation as a precondition for achieving social equity on national and global levels. Figuring out how to reduce some of those obligations, eliminate others, and rebuild the core and vitality of our system must become a part of any honest social discourse. Even Pollyanna would be overwhelmed by the choices we face. There will be significant pain and sacrifice in any action we take. But failing to take prompt and effective action will produce even more catastrophic consequences.

### 2AC Risk K

#### The perm is better – the alternative as unpacked by the author allows for the affirmative to manage short term concerns and agencies with a linear focus – accepting both the thought experiment and the aff as “the best we can do” with current data is the pragmatic balance preferred by:

Ramalingam et al 2008

[Ben, Senior Research Associate at the Overseas Development Institute, and Harry jones at ODI, "Exploring the science of complexity: Ideas and Implications for development and humanitarian efforts" http://www.odi.org.uk/resources/docs/833.pdf ] RJ 10

It is important to clarify that certain levels of uncertainty are unavoidable when looking into the future.

Complexity science suggests that it is important to identify and analyse these levels of unpredictability

as part of the nature of the systems with which we work, and not treat uncertainty as in some way

‘unscientific’ or embarrassing. Rather than rejecting planning outright, there is a need to rethink the

purpose and principles of planning. This has two key strands.

XXXX THEIR CARD ENDS HERE XXXX

First, it is necessary to incorporate an acceptance of the inherent levels of uncertainty into planning. The requirement for a certain level of detail in understanding future events should be balanced with the understanding that both simple and intricate processes carry uncertainty of prediction. While improving one’s models of change and analyses of facets of a situation may be worthwhile, it is just as important and often more practical to work with a realistic understanding of this uncertainty and build a level of flexibility and adaptability into projects, allowing for greater resilience. It has been argued that development projects have ‘fallen under the enchantment of [delivering] clear, specific, measurable outcomes’ (Westley et al., 2006). In many cases, this could be unrealistic, ineffective or even counterproductive; it is uncertain whether valuable social outcomes could be planned in terms of a specific series of outputs, and it is unclear why it is more productive to be able to hold agencies strictly accountable to promises at the expense of their promises delivering real results. This resonates with critiques of the log frame approach cited earlier, which argue that the adoption of the log frame as a central tool in effect and impact evaluations assumes higher powers of foresight than in fact is the case (Gasper, 2000). What is needed is higher levels of flexibility in the funding of international aid work, involving less stringent ‘targets’ and requirements from donors. The role of M&E would be shifted to value learning from unexpected outcomes. This is at the heart of the participatory approach to M&E developed by IDRC called outcome mapping. 31 Second, the way organisations look into the future should be adjusted by taking a more systematic and realistic view of what the future can hold: ‘A single vision to serve as an intended organisational future … is a thoroughly bad idea … not that the long term is dismissed as an effective irrelevance, [instead we need a] refocusing: rather than establish a future target and work back to what we do now to achieve it, the sequence is reversed. We should concentrate on the significant issues which need to be handled in the short term, and ensure that the debate about their long-term consequences is lively and engaged’ (Rosenhead, 2001). What is needed is a ‘pragmatic balance between present concerns and future potentialities’ (ibid); this means that ongoing systematic thinking about the future is an important task for any organisation working in development or humanitarian aid. Foresight is ‘the ability to create and maintain viable forward views and to use these in organisationally useful ways’ (Slaughter, 2003), and futures techniques, such as driver analysis or scenario planning, are suitable for this task. Scenario planning constructs a number of possible futures, in order to produce decisions and policies that are robust under a variety of feasible circumstances. This encourages a move away from looking for ‘optimal’ policies or strategies: ‘any strategy can only be optimum under certain conditions’ and ‘when those conditions change, the strategy may no longer be optimal’ (Mittleton-Kelly, 2003), so it may be preferable to produce strategies that are robust and insensitive to future variability rather than optimal for one possible future scenario. Path dependence and ’lock ins’ are also important to consider in the context of the practices of international aid agencies. The widespread use of the logical framework approach, despite the often serious critiques, is a clear example of path dependence at play. In fact, it could be argued that linearity has a ’lock in’ when it comes to the thought processes and approaches of international agencies. How ‘lock ins’ may be addressed in specific agency contexts is touched upon in Concept 7 on

attractors and chaos.

#### Prior to using the K to reject the aff, you have to run the K against itself to determine what points of policy interface would be productive – their use of the K to cherry pick one of a million policy decisions justifies a perm to do the plan and then the alt – instead, vote affirmative to imagine the complex uncertainties of system-policy interaction paved over by the use of the K for wholesale rejection of policy making as currently practiced

**Mangalagiu 2011**

[Diana Mangalagiu, Prof of Strategy at Smith School of Enterprise and Environment-University of Oxford “Risk and resilience in times of globalization” An emerging research program for Global Systems Science: Assessing the state of the art, 10/4/11, <http://www.gsdp.eu/>] Mangalagiu 1

III. 3. System Dynamics for Operational and Policy Decisions in Research

In working with policy makers, it is important for scientists and modellers to recognise the requirements of the policy-maker and also their limitations. Recognising that policy-makers act within boundaries, and that the optimal decision may not be achievable, or even desirable to the decision-maker, is crucial to effective implementation of system dynamics models. The viability of complex systems should play a key role: it is not the optimal state of the system that matters, but one with which extreme undesirable behaviour does not occur and which can be managed. These states occur within the ‘viability space’ of the system (Deffaunt & Gilbert, 2011). The question is then whether there exists a viability space, taking into account the decision-makers range of possible actions, as well as the system they are attempting to influence. Methods and techniques from system dynamics can play a role in identification of such a space.

#### Waiting for structural data means committing to future wars – our intervention at the level of the catalyst is more productive than the K

Thompson 3

William, Professor of Political Science and Director of the Center for the Study of International Relations at Indiana University, “A Streetcar Named Sarajevo: Catalysts, Multiple Causation Chains, and Rivalry Structures,” International Studies Quarterly, 47(3), AD: 7-10-9

Richard Ned Lebow (2000–2001) has recently invoked what might be called a streetcar interpretation of systemic war and change. According to him, all our structural theories in world politics both overdetermine and underdetermine the explanation of the most important events such as World War I, World War II, or the end of the Cold War. Not only do structural theories tend to fixate on one cause or stream of causation, they are inherently incomplete because the influence of structural causes cannot be known without also identifying the necessary role of catalysts. As long as we ignore the precipitants that actually encourage actors to act, we cannot make accurate generalizations about the relationships between more remote causation and the outcomes that we are trying to explain. Nor can we test the accuracy of such generalizations without accompanying data on the presence or absence of catalysts. In the absence of an appropriate catalyst (or a ‘‘streetcar’’ that failed to arrive), wars might never have happened. Concrete information on their presence (‘‘streetcars’’ that did arrive) might alter our understanding of the explanatory significance of other variables. But since catalysts and contingencies are so difficult to handle theoretically and empirically, perhaps we should focus instead on probing the theoretical role of contingencies via the development of ‘‘what if ’’ scenarios.

#### Overemphasis on method destroys their scholarship

Wendt 2002 Wendt, Handbook of IR, 2002 p. 68

It should be stressed that in advocating a pragmatic view we are not endorsing method-driven social science. Too much research in international relations chooses problems or things to be explained with a view to whether the analysis will provide support for one or another methodological ‘ism’. But the point of IR scholarship should be to answer questions about international politics that are of great normative concern, not to validate methods. Methods are means, not ends in themselves. As a matter of personal scholarly choice it may be reasonable to stick with one method and see how far it takes us. But since we do not know how far that is, if the goal of the discipline is insight into world politics then it makes little sense to rule out one or the other approach on a priori grounds. In that case a method indeed becomes a tacit ontology, which may lead to neglect of whatever problems it is poorly suited to address. Being conscious about these choices is why it is important to distinguish between the ontological, empirical and pragmatic levels of the rationalist-constructivist debate. We favor the pragmatic approach on heuristic grounds, but we certainly believe a conversation should continue on all three levels.

#### Even if objective truth is impossible we can recognize contingent utility of risk assessment.

Terje Aven, 2003, University of Stavanger, Foundations of Risk Analysis A Knowledge and Decision-Oriented Perspective, <http://training.nigc.ir/files/files/ben%20saeed%20book%20hse/safety%20books/s10.pdf>

Many social scientists have criticized traditional engineering risk assessments. We mention Beck (1992), Douglas and Wildavsky (1982), Perrow (1984) and Shrader-Frechette (1991). The critical point seems to be that the idea of an objective risk cannot be justiﬁed. According to Slovic (1998), risk does not exist out there, independent of our minds and cultures. We must take the ‘naive positivist’ view, to use the terminology of Shrader-Frechette (1991), that risk exists objectively and can be measured, and replace it by a more balanced view. The answer is not the other extreme – the relativist view saying that A’s risk description is as good as B’s, regardless their bases – but a middle position, expressing that formal risk assessments provide useful information to support decision-making, by combining facts and judgements using scientiﬁc principles and methods. Most people, we think, are in favour of such a middle position, see (Shrader-Frechette 1991), but the challenge is to establish a proper platform for it. The aim of this book is partly to provide one.

#### Their arguments depend on risk analysis – they assume no risk because they think probability is low.

Scott Campbell & Greg Currie, June 2006, University of Nottingham, “Against Beck: In Defence of Risk Analysis,” Philosophy of the Social Science

He can either claim that these events also have an extremely high risk score—which is completely implausible— or he can accept that despite their equally high harm level, they don’t present anywhere near the magnitude of risk that a possible nuclear explosion presents. But the only way he could argue the latter is on the grounds that the nuclear explosion is a lot more likely than these other events. However, this is to concede that probability is not always overwhelmed by a high harm level, and that it does matter. We should be worried about some events that have a high harm level, but not others that are equally bad, because of the different probabilities involved. This is a different matter than the original complaint that Beck made against risk analysis, though, which was that risk analysis ignores harm. If Beck disagrees with risk analysts about the risk we face from nuclear explosions that have a high level of harm, this can only be because he thinks that the probability assigned to them by risk analysts is too low. 28 Whether or not this it true, it is not an objection to the theory of risk analysis; on the contrary, it assumes the theory of risk analysis in order to make a complaint against the practise of risk analysis.

#### Risks must be evaluated – risk analysis has always existed and should not be confined to modern society.

Scott Campbell & Greg Currie, June 2006, University of Nottingham, “Against Beck: In Defence of Risk Analysis,” Philosophy of the Social Science

Since the early 1990s, the German sociologist Ulrich Beck has dominated discussion of risk issues in the social sciences. His work, which first came to attention in his 1992 book Risk Society, and then later in such books as Ecological Politics in an Age of Risk, The Reinvention of Politics, and most recently World Risk Society, makes a number of claims about risk and its place in contemporary society. It is particularly notable for its novel approach to the concept of risk, and for its attack on the concepts and prac- tices of risk analysis. It is these aspects of his work we focus on here. We argue that Beck’s work exhibits serious confusion about the concept of risk and that his criticisms of risk analysis are groundless. Beck holds that we live in a “risk society,” where we face new risks of unprecedented magnitude, especially from nuclear power and toxic chemi- cals. As a result, security from risks is replacing scarcity as the most important issue of our times. Risk analysis, Beck thinks, is of no help; in fact, it can be considered to be a major cause of the problems. In this paper we will say little about Beck’s wider views, as these are hard to discern and will most likely distract attention from the points we want to make. We will concentrate on some specific points that Beck makes about risk analysis. We focus on those points that have been expressed with sufficient clarity to merit analysis; those that are particularly strong; those that Beck has expressed in numerous places; and those that have not been challenged before in any rigorous, analytic manner. We begin with a brief statement of what risk is. Consider an event X which hasn’t happened, but might, and which if it did would be (in some way) bad, either in itself or in its consequences. The badness of such an event is called, variously, a loss, harm, or disutility. If you act in a way, A, that makes X possible, you risk X in doing A. The degree of risk from X is a function of two things: its probability and its harm, that is, the degree of badness. Risk analysts typically calculate the degree of risk by multiplying the harm of the bad event with its probability (which is expressed either as a percentage or, more typically, as a decimal fraction, i.e., a number between 0 and 1). Thus two equiprobable outcomes have different risks if the occurrence of the one would be more unpleasant than the occurrence of the other, and two equally unpleasant outcomes constitute different levels of risk if one is more probable than the other. Beck’s own understanding of risk is, it turns out, quite different from this. Early on in Risk Society, he defines risk thus: “Risk may be defined as a systematic way of dealing with hazards and insecurities introduced by modernization itself” (1992, 21). It is hard to think of a less adequate defi- nition: risk is not a way of dealing with things. First of all, risk has to be thought of as something that we deal with, or attempt to deal with; we cannot say that risk itself is a way of dealing with something. Beck’s defi- nition would make it impossible to ask, “How are we responding to this risk?” since the response and the risk would be the same thing. Secondly, risk should not be so defined that it applies only to risks associated with ‘modernization,’ for there were of course risks before industrial society. Notably, Beck is not consistent in adopting this approach to the concept of risk. Immediately after giving the definition just cited, he says, “Risks, as opposed to older dangers, are consequences which relate to the threatening force of modernization and to its globalization of doubt” (1992, 21). Here risk is understood to be the harmful event itself, and not any way of responding to it. Note also that Beck here contrasts risks with ‘older dangers.’But, as indicated above, ‘older dangers’ were risks too—it makes perfect sense to say, for example, that one’s risk of dying from toxins is greater now than it was 300 years ago.

#### Neg’s indictment of risk is wrong – risk being wrong or determined doesn’t discount the practice - means we should assess evidence behind it.

Scott Campbell & Greg Currie, June 2006, University of Nottingham, “Against Beck: In Defence of Risk Analysis,” Philosophy of the Social Science

It has been objected to us here that while it is true that risk analysis absolutely depends upon probabilistic correlations rather than strict proof... what this misses is the very dimension that Beck brings: an appreciation of the contextual realities of risk assessment within contemporary life. To take one obvious example, the failures of the British handling of BSE were linked to the institutional denial of uncertainty and the repeated claim that there was no known causal link between contaminated beef and human health problems. This, however, is to water down Beck’s claims. Of course it may happen in some situations that the context forces scientists, risk analysts, or policy makers to talk in ways that imply that they are certain that there is no causal link between X and Y, even if all that can be justifiably claimed is that it is more likely than not that there is no causal link. To point out that this may happen in particular cases is an unexceptional claim, and if this is what Beck is saying, then he has not said anything that warrants the claims to importance made on his behalf; moreover, he has not said anything that has not been said many times by others, who have said so more clearly and with greater detail. In fact, it seems to us that this is an instance of what Nicholas Shackel has labelled a ‘motte and bailey’ doctrine. Shackel points out that some postmodernist and social constructionist authors make ambiguous or vague claims that can be given a strong reading—where the claim seems bold and interesting, but is most likely false—and a weaker reading, in which the claim made is true but trivial. Such claims he calls “troll’s truisms.” The author’s reputation rests on the bold and exciting claims. But when these claims are attacked, rather than defend what cannot be defended, the authors—or their defenders—retreat to the weaker but less interesting interpretation, which can be defended. When the critics are out of view, the author or his followers go back to talking in ways that suggest the strong interpretation. (Such trading on ambiguity is the ‘motte and bailey’ move.) In the case at issue here, the strong and interesting claim is that the use of a rigorous scientific method necessarily involves demanding a strict proof of causality, and this inevitably leads to pollution and an increase in risks. This is a bold and dramatic claim, but when it is attacked as flawed, a different and weaker claim—about how contextual effects can sometimes lead to a denial of uncertainty—is produced. The weaker claim is most likely true, but we no longer have anything very startling or original. (Nor, it should be said, does Beck himself engage in any close empirical scrutiny of actual cases like the British BSE case.) Beck has another line of objection to the use of probability in risk analy- sis. It is that statements of probability rule out nothing. He says, Science’s rationality claim to be able to investigate objectively the hazardous- ness of a risk permanently refutes itself . . . [because it] moves exclusively within a framework of probability statements, whose prognoses of safety can- not even be refuted, strictly speaking, by actual accidents. (1992, 29) It is not true that a probabilistic safety assessment cannot be refuted by an actual accident. For example, suppose a gas plant leaks through breaks in a number of pipes of a certain sort. It might be discovered that it was known that this sort of pipe was prone to this type of leak, but this infor- mation had been incorrectly factored into the analysis. It might be responded that if the analysis was done correctly, then an actual accident cannot refute it. It is true that if the inference from the evi- dence to a conclusion about the probability of X was done correctly, then no other evidence can show that this particular inference was unjustified. But this does not mean that the probability assignment given to X cannot itself be changed. If an accident occurs, then most likely there will be new evidence to take account of. This new evidence, in conjunction with the old evidence (minus any old evidence that is now likely to be incorrect), could give rise to a new probabilistic inference that assigns a new probability value to X. For example, suppose that the tendency of this sort of pipe to leak was not known before, but the investigation of the accident reveals it. This new information can now be added to produce a new analysis, and this will produce a different risk score for X than the previous analysis gave to X. The case of the Columbia space shuttle accident is a case in point: investigation revealed that heat tiles could seriously damage the wing if they fell off during takeoff (Langewiesche 2003). NASA risk analysts can factor this information into subsequent risk analyses, thus producing different risk estimates for shuttle accidents in future. The logic of the situation can be illustrated with the example of coin tossing. Someone gives us a coin to toss. What’s the probability of getting a head? Clearly, it’s 0.5 (1 in 2). The evidence for this conclusion is the large amount of data from other coin tosses which have produced heads in a frequency of one-half. But suppose that we toss the coin 40 times and get 38 heads. With this new evidence, we have reason to reject the probability assignment of 0.5. The coin is most likely unbalanced in favour of heads—the odds of getting this sort of result by chance with an equally balanced coin are astronomical. That does not mean that our original inference has been refuted. That inference itself was fine—given the evidence we had, the conclusion we drew was the one warranted by that evidence. But what has been shown to be no longer right is the probability assignment of 0.5 itself. Although this was the right assignment to give with the evidence we had before the throw, after the throw the new evidence we have shows that this probability assignment is no longer warranted. The odds of getting another head on the next toss is much greater than 0.5. Similarly, a nuclear accident may not refute the original inference to a probability value for an accident, but the accident can show that that probability value itself should no longer be accepted.

#### Catastrophic risks require assessment of probability and magnitude to make sense.

Richard A. Posner, 2004, Judge on US Court of Appeals for the 7th circuit, Catastrophe: Risk and Response, p. 139-40

To deal in a systematic way with the catastrophic risks identified in chapter 1 requires first assessing them and then devising and implementing sensible responses. Assessment involves first of all collecting the technical data necessary to gauge, so far as that may be possible, the probability of particular risks, the purely physical consequences if the risks materialize (questions of value are for later), and the feasibility of various measure for reducing either the risks or the magnitude of the consequences by various amounts. The next step in the assessment stage is to embed the data in a cost-benefit analysis of the alternative responses to the risk. I am not proposing that cost-benefit analysis, at least as it is understood by economists, should be the decision procedure for resopnsing to the catastrophic risks. But it is an indispensable step in rational decision making in this as in other areas of government regulation. Effective responses to most catastrophic risks are likely to be extremely costly, and it would be mad to adopt such responses without an effor to estimate the costs and benefits. No government is going to deploy a system of surveillance and attack for preventing asteroid collisions without a sense of what the system is likely to cost and what the ex­pected benefits (roughly, the costs of asteroid collisions that the sys­tem would prevent multiplied by the probabilities of such collisions) are likely to be relative to the costs and benefits both of alternative sys­tems and of doing nothing.l The "precautionary principle" ("better safe than sorry") popular in Europe and among Greens generally2 is not a satisfactory alternative to cost-benefit analysis,3 if only because of its sponginess-if it is an alternative at all. In its more tempered versions, the principle is indistinguishable from cost-benefit analysis with risk aversion assumed.4 Risk aversion, as we know, entails that extra weight be given the downside of uncertain prospects. In effect it magnifies certain costs, but it does not thereby overthrow cost-benefit analysis, as some advocates of the precautionary principle may believe.

#### Our evidence meets commonly accepted standard of data.

Lee Epstein & Gary King, Winter 2002, Distinguished University Professor of Political Science and Professor of Law, Washington University in St. Louis and Professor of Government, Harvard University and Senior Science Advisor, “EXCHANGE: EMPIRICAL RESEARCH AND THE GOALS OF LEGAL SCHOLARSHIP: The Rules of Inference,” University of Chicago Law Review, Lexis Nexis

Data can be precise or vague, relatively certain or very uncertain, directly observed or indirect proxies, and they can be anthropological, interpretive, sociological, economic, legal, political, biological, physical, or natural. As long as the facts have something to do with the world, they are data, and as long as research involves data that is observed or desired, it is empirical. Under this definition of "empirical," assertions that "the amount of theoretical and doctrinal scholarship . . . overwhelms the amount of empirical scholarship," n4 ring hollow. As even the most casual reader of the nation's law reviews must acknowledge, a large fraction of legal scholarship makes at least some claims about the world based on observation or experience. n5

#### Overemphasis on method destroys their scholarship

Wendt 2002 Wendt, Handbook of IR, 2002 p. 68

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