### Case

**There is a difference between alarmism and solution-oriented discussions – tying alarm to specific solutions is the only way to solve warming.**

Ezra **Klein** is an analyst in economic and domestic policy at the Washington Post, “Can you solve global warming without talking about global warming?” 6/16/**2010**, http://voices.washingtonpost.com/ezra-klein/2010/06/can\_you\_solve\_global\_warming\_w.html

To expand a bit on a point I made on Rachel Maddow's show, **I'm just not sure how you do a response to climate change if you can't really say the words "climate change."** And that's where we are right now: The actual problem we're trying to solve is politically, if not scientifically, controversial. And so politicians, rather than continuing to try to convince the American people that we need to do something about it, have started talking about more popular policies that are related to solving climate change. You see this in Lindsey Graham's effort to argue for carbon-pricing from a place of purported climate-change skepticism. You see it in pollster Joel Benenson's memo that tries to persuade legislators to vote for a climate bill **without ever using those words**. And you saw it in Barack Obama's speech last night, which was all about clean energy and grand challenges. In response to this, Rachel said that no one wants to hear about climate change. **The operative emotion here has to be inspiration, not fear.** And she's right about that. The polling certainly backs her up. But that strikes me as depressing evidence of how **unlikely** we are to succeed. I simply don't believe you could've passed health care if you couldn't have talked about covering the uninsured, and I don't think stimulus would've worked without the spur of the unemployed. It's not that people wanted to hear about either subject all day, but they got both problems on a **visceral enough level** that the action being taken at least made a sort of sense.

**Their arg is backwards – warming reps are key to mobilization and avoids militarization**

**Rodrigues, 11** (Rafaela Rodrigues de Brito, PhD Student, Department of Politics & International Relations, “A Climate for Conflict or Cooperation? Addressing the Securitisation of Climate Change” 17-20 August 2011, University of Porto, Portugal, <http://www.wiscnetwork.org/porto2011/papers/WISC_2011-724.pdf>)

Climate change has unequivocally entered the international security agenda. However, there is extensive debate on the advantages and disadvantages of establishing a link between climate change and security. On the one hand, the **securitisation of climate change is acknowledged a positive role, mainly because it is seen to attribute a sense of urgency to the issue and consequently attract political support**. However, on the other hand, there is a strong concern in the literature that linking climate change and security could represent a militarisation of the issue and lead to a state-centred approach to deal with it, hindering necessary cooperation to tackle the issue. 12 Mostly focusing on the case of the EU, this paper has analysed the assumption of militarisation that is usually connected to securitisation. The paper has sought to demonstrate how **security is no longer** seen **exclusively in military terms, as the** securitisation of non-military issues, and notably **climate change, is transforming security practices**. In the EU, although climate change is increasingly being framed as a security issue, both causes and effects are being dealt within the realm of normal environmental politics, namely through adaptation and mitigation measures. What securitisation created was an increase **sense of urgency** that is speeding the response to both causes and consequences of climate change.

### 2AC – Anthro

**Preventing human extinction is necessary to their criticism**

Baum 9 – PhD @ Penn State University

Sean Baum, PhD @ Penn State University, 2009, “Costebenefit analysis of space exploration: Some ethical considerations,” Space Policy, Vol. 25, Science Direct

It is of note that the priority of reducing the risk of human extinction persists in forms of CBA which value nature in an ecocentric fashion, i.e. independently of any consideration of human interests. The basic reason is that without humanity leading long-term survival efforts (which would most likely include space colonization), the rest of Earth life would perish as a result of the astronomical processes described above. This point is elaborated by futurist Bruce Tonn, who argues on ecocentric grounds for reorienting society to focus on avoiding human extinction through both immediate avoidance of catastrophe and long-term space colonization [40]. Tonn dubs this process of surviving beyond Earth’s eventual demise ‘‘transcending oblivion’’ [41]. There is thus some convergence in the recommendations of the common anthropocentric, money-based CBA and the ecocentric CBA described here. This convergence results from the fact that (in all likelihood) only humans are capable of colonizing space, and thus human survival is necessary for Earth life to transcend oblivion.

**Anthropocentrism key to survival—understanding the importance of ecosystems to future generations solves environmental destruction but radical biocentrism causes extinction.**

**Hwang 03**

[Kyung-sig Hwang, 2003. Professor in the Department of Philosophy at Seoul National University. “Apology for Environmental Anthropocentrism,” Asian Bioethics in the 21st Century, http://eubios.info/ABC4/abc4304.htm]

While our ability to affect the future is immense, our ability to foresee the results of our environmental interventions is not. I think that our moral responsibility grows with foresight. And yet, paradoxically in some cases grave moral responsibility is entailed by the fact of one's ignorance. If the planetary life-support system appears to be complex and mysterious, humble ignorance should indicate respect and restraint. However, as many life scientists have complained, these virtues have not been apparent in these generations. Instead they point out, we have boldly marched ahead, shredding delicate ecosystems and obliterating countless species, and with them the unique genetic codes that evolved through millions of years; we have altered the climate and even the chemistry of the atmosphere, and as a result of all this-what?[18] A few results are immediately to our benefit; more energy, more mineral resources, more cropland, convenient waste disposal. Indeed, these short-term payoffs motivated us to alter our natural environment. But by far the larger and more significant results, the permanent results, are unknown and perhaps unknowable. Nature, says poet, Nancy Newhall, "holds answers to more questions than we know how to ask." And we have scarcely bothered to ask.[19] Year and year, the natural habitants diminish and the species disappear, and thus our planetary ecosystem (our household) is forever impoverished. It is awareness of ecological crisis that has led to the now common claim that we need transvaluation of value, new values, a new ethic, and an ethic that is essentially and not simply contingently new and ecological. Closer inspection usually reveals that the writer who states this does not really mean to advance such a radical thesis, that all he is arguing for is the application of old, recognized, ethical values of the kind noted under the characterization of respect for persons, justice, honesty, promotion of good, where pleasure and happiness are seen as goods. Thus, although W. T. Blackstone writes; "we do not need the kind of transvaluation that Nietzsche wanted, but we do need that for which ecologists are calling, that is, basic changes in man's attitude toward nature and man's place in nature, toward population growth, toward the use of technology, and toward the production and distribution of goods and services." We need to develop what I call the ecological attitude. The transvaluation of values, which is needed, will require fundamental changes in the social, legal, political and economic institutions that embody our values. He concludes his article by explicitly noting that he does not really demand a new ethic, or a transvaluation of values. A human being is a hierarchical system and a component of super-individual, hierarchical system of sets. What is needed is **not the denial of anthropocentrism**, the placing of the highest value on humans and their ends and the conceiving of the rest of the nature as an instrument for those ends. Rather what is needed is the explicit recognition of these hierarchical systems and an ecological approach to science and the accumulation of scientific knowledge in which the myriad casual relationships between different hierarchical systems are recognized and put to the use of humanity. The freedom to use the environment must be restricted to rational and human use. If there is irrational use - pollution, overpopulation, crowding, a growth in poverty, and so on - people may wipe out hierarchies of life related to their own survival and to the quality of their own lives. This sort of **anthropocentrism is essential even to human survival and a radical biotic egalitarianism would undermine conditions for that survival**.[20] Rational anthropocentrism, one that recognizes the value of human life "transcends our individual life" and one in which we form a collective bond of identity with the future generations is essential is the process of human evolution.

#### Alt doesn’t solve—and if it does its worse for non-humans

**Machan, Auburn philosophy professor, 2004**

(Tibor, Putting Humans First: Why We Are Nature’s Favorite, pg 11-13, ldg)

Now one can dispute Hospers, but only by averting one's gaze from the facts. If animals in fact did have rights as you and l understand the concept of rights-rights that entail and man- date a hands-off policy toward other rights possessors-most of the creatures now lurking in lawns and jungles, at the very least all the camivores, would have to be brought up on murder charges. This is what all the animal rights champions fail to heed, including Ingrid Newkirk, radical leader of People for the Ethical Treatment of Animals (PETA), who holds that it is unacceptable for us to use animals in any way at all." This is why they allow themselves such vile thoughts as that "the world would be an infinitely better place without humans in it at all.” If the scenario is absurd, it`s so not because the concept of animal rights has been unfairly reduced to absurdity but be- cause there is nowhere else to go. The idea of animal rights is impracticable to begin with; any attempt to visualize the denizens of the animal world benefiting from and respecting rights must collapse into fantasy willy-nilly. The concept of rights emerged with the rise of human civilization precisely because it is needed by and applicable to human beings given the specifically moral nature of human beings and their ambition to live with each other in mutual harmony and to mutual benefit. Rights have nothing to do with the lives of wolves and turtles because of what animal rights champions themselves admit, namely, the amoral nature of at least the bulk of the animal world." Advocates of animal rights in at least one way do admit the vast gulf between animals and humans and that humans alone are equipped to deal with moral issues. When they address us alone about these matters-when they accept all the camage that is perpetrated by other living thing, including what would be infanticide and worse if human beings were to engage in it-they clearly imply that human beings are indeed special. They imply, first and foremost, that people are indeed the only living beings capable of understanding a moral appeal. Only human beings can be implored to do right rather than wrong. Other animals just don`t have the capacity for this. And so the environmentalists don`t confront them with any moral arguments no matter how politically incorrect the animals may be toward one another.

1. **Perm do both- “reflexive” anthropocentrism solves your impact and is more viable than pure rejection.**

**Barry 99** (John politics lecturer Keele University,RETHINKING GREEN POLITICS, 1999, p. 7-8)

1. Ecological stewardship, unlike ecocentrism, seeks to emphasize that **a self-reflexive, long-term anthropocentrism**, as opposed to an 'arrogant' or 'strong' anthropocentrism **can secure many of the policy objectives of ecocentrism**, in terms of environmental preservation and conservation. As argued in Chapter 3, a reformed, **reflexive anthropocentrism is premised on critically evaluating human uses of the non-human world**, and distinguishing 'permissible' from 'impermissible' uses. That is, an 'ethics of use', though anthropocentric and rooted in human interests, seeks to regulate human interaction with the environment by distinguishing legitimate 'use' from unjustified 'abuse'. **The premise for this defence of anthropocentric moral reasoning is that an immanent critique of 'arrogant humanism' is a much more defensible and effective way to express mere moral concerns than rejecting anthropocentrism and developing a 'new ecocentric ethic'.** As discussed in Chapters 2 and **3,** ecocentric demands are premised on an over-hasty dismissal of anthropocentrism which precludes recognition of the positive resources within anthropocentrism for developing an appropriate and practicable moral idiom to cover social-environmental interaction.
2. There is no alternative system of values divorced from anthropocentrism. We should develop an unselfish anthropocentric viewpoint instead of blindly rejecting human nature.
3. Grey 93
4. [William Grey, Professor of Philosophy at the University of Queensland, 1993 (“Anthropocentrism and Deep Ecology,” *Australiasian Journal of Philosophy*, Volume 71, Number 4, Available Online at http://www.uq.edu.au/~pdwgrey/pubs/anthropocentrism.html, Accessed 07-27-2011)]
5. The attempt to provide a genuinely non-anthropocentric set of values, or preferences seems to be a hopeless quest. Once we eschew all human values, interests and preferences we are confronted with just too many alternatives, as we can see when we consider biological history over a billion year time scale. The problem with the various non-anthropocentric bases for value which have been proposed is that they permit too many different possibilities, not all of which are at all congenial to us. And that matters. We should be concerned to promote a rich, diverse and vibrant biosphere. Human flourishing may certainly be included as a legitimate part of such a flourishing. The preoccupations of deep ecology arise as a result of human activities which impoverish and degrade the quality of the planet's living systems. But these judgements are possible only if we assume a set of values (that is, preference rankings), based on human preferences. We need to reject not anthropocentrism, but a particularly short term and narrow conception of human interests and concerns. What's wrong with shallow views is not their concern about the well-being of humans, but that they do not really consider enough in what that well-being consists. We need to develop an enriched, fortified anthropocentric notion of human interest to replace the dominant short-term, sectional and self-regarding conception. Our sort of world, with our sort of fellow occupants is an interesting and engaging place. There is every reason for us to try to keep it, and ourselves, going for a few more cosmic seconds [10].
6. **Dubbing people “anthropocentric” because they didn’t talk about animals makes the creation of an effective environmental movement impossible, and isn’t accurate**
7. Lewis 92 – Professor of Environment
8. Martin Lewis professor in the School of the Environment and the Center for International Studies at Duke University. Green Delusions, 1992 p17-18
9. Nature for Nature’s Sake—And Humanity for Humanity’s It is widely accepted that environmental thinkers can be divided into two camps: those who favor the preservation of nature for nature’s sake, and those who wish only to maintain the environment as the necessary habitat of humankind (see Pepper 1989; O’Riordan 1989; W Fox 1990). In the first group stand the green radicals, while the second supposedly consists of environmental reformers, also labeled “shallow ecologists.” Radicals often pull no punches in assailing the members of the latter camp for their anthropocentrism, managerialism, and gutless accommo­dationism—to some, “shallow ecology” is “just a more efficient form of exploitation and oppression” (quoted in Nash 1989:202). While this dichotomy may accurately depict some of the major approaches of the past, it is remarkably unhelpful for devising the kind of framework required for a truly effective environmental movement. It incorrectly assumes that those who adopt an anti-anthropocentric view (that is, one that accords intrinsic worth to nonhuman beings) will also embrace the larger political programs of radical environmentalism. Sim­ilarly, it portrays those who favor reforms within the political and economic structures of representative democracies as thereby excluding all nonhumans from the realm of moral consideration. Yet no convincing reasons are ever provided to show why these beliefs should necessarily be aligned in such a manner. (For an instructive discussion of the pitfalls of the anthropocentric versus nonanthropocentric dichotomy, see Nor­ton 1987, chapter ir.)
10. **Problem-solution impact is backwards---acting with a flawed epistemology allows us to change that epistemology.**
11. **Harris 7** (Graham, Adjunct Prf. @ Centre for Environment University of Tasmania, Seeking Sustainability in an age of complexity p. 9-10)
12. 1 am not going to address the global 'litany' at length here. The arguments have been well made by others, especially and most elegantly by E. O. Wilson. What 1 wish to address here is the question: 'Can we grasp the complexity of it all and, if so, what do we do about it?' Given the fundamental nature of the problem the destruction of the biosphere and its ecosystem ser- vices together with the huge changes going on in human societies and cultures driven by globalisation and technological change the precautionary principle would suggest that even if the epistemology is flawed, the data are partial and the evidence is shaky, we should pay attention to the little we know and do whatever is possible to mitigate the situation even if we fundamentally disagree about the means and the ends. The only ethical course of action is, as John Ral- ston Saul writes," based on 'a sense of the other and of inclusive responsibility'. We know enough to act. Ethics is about uncertainty, doubt, system thinking and balancing difficult choices. It is about confronting the evidence**.** Over the past two or three decades, as there has been an increasing appre- ciation of the importance of good environmental management, and as western societies have become more open and the ICT revolution has made informa- tion much more widely available there has been a growing debate between the worlds of science, industry, government and the community around environ- mental ethics and environmental issues and their management. During this period new knowledge has been gained, ideas have changed (sometimes quite fundamentally) and there have been huge changes in government and social institutions and policies. We are all on a recursive journey together: we are lit- erally 'making it up as we go along'. This is not easy and there are no optimal solutions. This is an adaptive process requiring feedback from all parts of the system. Yes, there will be surprises. This is why it is so important that when we act we constantly reflect on what we know and what we are doing about it and where it is all going. As we reach the physical limits of the global biosphere the values we place on things are changing and must change further. A new environmental ethic is required, one that is less instrumental and more embracing. Traditionally there has tended to be a schism between those who take an anthropocentric view (that the world is there for us to use) and those who take the non-anthropocentric view (those who value nature in its own right). Orthodox anthropocentrisni dictates that non-human value is instrumental to human needs and interests. In contrast, non-anthropocentrics take an objectivist view and value nature intrinsically; some may consider the source of value in non-human nature to be independent of human consciousness.45 **What is required is a** more complex and systems **view of ethics which finds a** middle ground between the instrumentalist and objectivist views. Norton '46 for example, proposes an alternative and more complex theory of value - a universal Earth ethic - which values processes and dynamics as well as entities and takes an adaptive management view of changing system properties. For sustainable development to occur, choices about values will remain within the human sphere but we should no longer regard human preferences as the only criterion of moral significance. 'Humans and the planet have entwined destinies"' and this will be increasingly true in many and complex ways as we move forward. There are calls for an Earth ethic beyond the land ethic of Aldo Leopold.45 The science of ecology is being drawn into the web .49 Ecologists are becoming more socially and culturally aware and engaged" and the 'very doing' of ecology is becoming more ethical.tm' Some scientists are beginning to see themselves more as agents in relationships with society and less as observers.
13. **Turn – monocausal focus on root cause justifies violence and tyranny**
14. **Achterhuis**, Professor of Philosophy @ Twente University, **'02** (Hans, Peace Review, vol. 14, p. 158
15. At base, each person who has-or claims to have-a single account for violence is proceeding in an extremely violent manner. Those who claim to know the origin of violence, to know the root of all evil, give themselves at the same stroke the moral right to reach back and root it out-thus providing, via a chain of reasoning with which we are all familiar, the justification for using violence in order to drive violence from the world. If we know where its origin lies, what could be wrong with using violence for the (sole) purpose of obtaining eternal peace and prosperity? This is a violent chain of reasoning. Implicitly or explicitly, it entails the call for a relentless struggle against the discovered origin of evil, whether that be said to lie in a particular class, nation, or ethnic group; a particular social structure such as capitalism or socialism; or a particular condition such as poverty. Whenever or wherever such an origin is posed, violence is alread 'resent for it inevitably sets up the argument that violence is permitted in order to achieve peace. It is a means-ends logic**:** the noble ends sanctify the violent means. From Valkenberg I learned that we cannot think about violence as a means-ends logic, but only in the form of a dialogue between human beings. If readers sense a strong reaction on my part against monocausal theories, I readily admit that the reaction is first of all directed against myself. For it is a lesson I learned only through trial and error. Once upon a time I too thought that I had located the origin of violence and could thus revolutionize the world. But this, in my opinion, is the greatest temptation for the political thinker. Many political philosophers have proposed **totalitarian therapies** based on philosophical analyses that attribute the origin of social evil to a single root. But single philosophical answers to the question of violence can never be more than partial. Such answers are but pieces of a dialogue.

### Life Good

#### All life has value – life should be preserved for agency

Schwartz 2 (L, “A Value to Life: Who Decides and How?” Medical ethics: a case-based approach, [www.fleshandbones.com/readingroom/pdf/399.pdf](http://www.fleshandbones.com/readingroom/pdf/399.pdf), AD: 11/16/09) jl

Those who choose to reason on this basis hope that if the quality of a life can be measured then the answer to whether that life has value to the individual can be determined easily. This raises special problems, however, because the idea of quality involves a value judgement, and value judgements are, by their essence, subject to indeterminate relative factors such as preferences and dislikes. Hence, quality of life is difficult to measure and will vary according to individual tastes, preferences and aspirations. As a result, no general rules or principles can be asserted that would simplify decisions about the value of a life based on its quality. Nevertheless, quality is still an essential criterion in making such decisions because it gives legitimacy to the possibility that rational, autonomous persons can decide for themselves that their own lives either are worth, or are no longer worth, living. To disregard this possibility would be to imply that no individuals can legitimately make such value judgements about their own lives and, if nothing else, that would be counterintuitive. 2 In our case, Katherine Lewis had spent 10 months considering her decision before concluding that her life was no longer of a tolerable quality. She put a great deal of effort into the decision and she was competent when she made it. Who would be better placed to make this judgement for her than Katherine herself? And yet, a doctor faced with her request would most likely be uncertain about whether Katherine’s choice is truly in her best interest, and feel trepidation about assisting her. We need to know which considerations can be used to protect the patient’s interests.

#### We should act to maximize life in its current state regardless of what happens after death

**Paterson, 03** - Department of Philosophy, Providence College, Rhode Island (Craig, “A Life Not Worth Living?”, Studies in Christian Ethics, <http://sce.sagepub.com>)

What we can know about death, based on natural human reason alone, is that it results in the destruction of the self. There will no longer be a human being in existence. There will be no carrier of value or disvalue. There will be no subject in existence that is capable of bearing any of the kinds of predication typical of living human beings. Death is an event that results in the non-being of the human person that was. 72 Unlike Devine, I would argue that an intention to bring about this non-state, given the relevant (if incomplete) knowledge we have about it, points to the incoherence behind the idea that death can really be said to be a benefit for the person who is dead, as argued for by contemporary deprivation authors. 73 When we assert that a person is harmed or benefited by a state, this requires that there is actually a subject in existence who is capable of being the bearer of the value or disvalue. If a person must actually exist in order to be the subject bearer of harms and benefits that happen, then how can there be said to be a subject who is capable of being benefited posthumously by his or her death? This line of argumentation against deprivation accounts (that death can be a benefit) is convincingly argued for by John Donnelly and J. L. A. Garcia. If a person succeeds in killing himself or herself, there can be no betterment ascribed to the person. For Donnelly, it is muddled to argue that a person can be said to be posthumously benefited or harmed if the person must first be destroyed as a prerequisite for the benefit. 74 The irrationality of thinking that death can be a benefit for a person is further addressed by Garcia. 75 If it is good to be without pain, as indeed it is under most circumstances, this presupposes the existence of the subject in order to instantiate that good (any good). If a person can be ‘better off dead’, then the continued existence of the person must continue after death. Yet no one on the basis of reason alone can justifiably claim that death can allow for the continuation of the person qua person. To realise goods and to minimise evils requires the presence of that single constant, **a live human being**, **who can possibly make sense of such value statements**. For Garcia, therefore, it is quite illicit to jump from the evaluation of means to minimise, or be free from, the evils of suffering and pain, to the conclusion that the destruction of the subject itself can make a person in any meaningful sense better off. Consequently, all that can reasonably be done is to seek to benefit persons **in their present lives**, that is to improve as best we can the extent of their flourishing within the framework of humanitarian means available at our disposal.

### AT – Biocentrism

#### Death is real – brain function is the only measure of life and it dies when we do – no compelling evidence to the contrary

Paul Harrison, freelance writer, consultant on population, environment and development, M.A. in European literature languages from Cambridge University, M.A. in sociology from the London School of Economics, and Ph.D. in environmental science from Cambridge University, 1997 (“The Afterlife: false promises, real problems,” *Scientific Pantheism*, March 13, Available Online at <http://members.aol.com/pantheism0/afterlif.htm>,)

Other than scripture, there is no reliable evidence for survival after death. There is a growing popular literature about near-death experiences, but these are about near-death - not actual death. People whose physical functions have stopped for a short time are not truly, irrevocably dead. Their experiences are based on processes inside their own oxygen-starved brain, and the accounts they give are untestable against hard evidence. No-one has ever truly returned from the dead to tell us what it's like. No-one has been dead for a week or a month or a year and come back to tell the tale. We are told that many accounts agree with each other and with texts like the Tibetan Book of the Dead. But we are not told of the accounts that do not agree. Nor are we reminded that in Judaism and early Christianity there is no heaven after death, no journey of the soul through a tunnel into light - only a sleep until the resurrection of the body. Death is real death. All our direct experience tells us that souls die with bodies. As Job says: A man dies, and is laid low; man breathes his last, and where is he? As waters fail from a lake, and a river wastes away and dries up, so man lies down and rises not again. [Job, 14:7-12] Neurology suggests that our minds are manifestations of our bodies. When parts of the brain are damaged or removed in operations, various functions disappear and our mental capacities change. The simplest explanation is that the soul is not separate: it is a function of the body. When all our brain functions cease, the available evidence suggests that all our individual consciousness and mind activities cease. Of course no-one could completely exclude the possibility that part of our minds may outlive our bodies: absence of evidence is not evidence of absence. But the onus is on those who claim survival after death to prove it conclusively. No-one has.

### Complexity

#### Predictions are good, even if imperfect

Garrett 12

Banning, In Search of Sand Piles and Butterflies, director of the Asia Program and Strategic Foresight Initiative at the Atlantic Council.

http://www.acus.org/disruptive\_change/search-sand-piles-and-butterflies

 “Disruptive change” that produces “strategic shocks” has become an increasing concern for policymakers, shaken by momentous events of the last couple of decades that were not on their radar screens – from the fall of the Berlin Wall and the 9/11 terrorist attacks to the 2008 financial crisis and the “Arab Spring.” These were all shocks to the international system, predictable perhaps in retrospect but predicted by very few experts or officials on the eve of their occurrence. This “failure” to predict specific strategic shocks does not mean we should abandon efforts to foresee disruptive change or look at all possible shocks as equally plausible. Most strategic shocks do not “come out of the blue.” We can understand and project long-term global trends and foresee at least some of their potential effects, including potential shocks and disruptive change. We can construct alternative futures scenarios to envision potential change, including strategic shocks. Based on trends and scenarios, we can take actions to avert possible undesirable outcomes or limit the damage should they occur. We can also identify potential opportunities or at least more desirable futures that we seek to seize through policy course corrections. We should distinguish “strategic shocks” that are developments that could happen at any time and yet may never occur. This would include such plausible possibilities as use of a nuclear device by terrorists or the emergence of an airborne human-to-human virus that could kill millions. Such possible but not inevitable developments would not necessarily be the result of worsening long-term trends. Like possible terrorist attacks, governments need to try to prepare for such possible catastrophes though they may never happen. But there are other potential disruptive changes, including those that create strategic shocks to the international system, that can result from identifiable trends that make them more likely in the future—for example, growing demand for food, water, energy and other resources with supplies failing to keep pace. We need to look for the “sand piles” that the trends are building and are subject to collapse at some point with an additional but indeterminable additional “grain of sand” and identify the potential for the sudden appearance of “butterflies” that might flap their wings and set off hurricanes. Mohamed Bouazizi, who immolated himself December 17, 2010 in Sidi Bouzid, Tunisia, was the butterfly who flapped his wings and (with the “force multiplier” of social media) set off a hurricane that is still blowing throughout the Middle East. Perhaps the metaphors are mixed, but the butterfly’s delicate flapping destabilized the sand piles (of rising food prices, unemployed students, corrupt government, etc.) that had been building in Tunisia, Egypt, and much of the region. The result was a sudden collapse and disruptive change that has created a strategic shock that is still producing tremors throughout the region. But the collapse was due to cumulative effects of identifiable and converging trends. When and what form change will take may be difficult if not impossible to foresee, but the likelihood of a tipping point being reached—that linear continuation of the present into the future is increasingly unlikely—can be foreseen. Foreseeing the direction of change and the likelihood of discontinuities, both sudden and protracted, is thus not beyond our capabilities. While efforts to understand and project long-term global trends cannot provide accurate predictions, for example, of the GDPs of China, India, and the United States in 2030, looking at economic and GDP growth trends, can provide insights into a wide range of possible outcomes. For example, it is a useful to assess the implications if the GDPs of these three countries each grew at currently projected average rates – even if one understands that there are many factors that can and likely will alter their trajectories. The projected growth trends of the three countries suggest that at some point in the next few decades, perhaps between 2015 and 2030, China’s GDP will surpass that of the United States. And by adding consideration of the economic impact of demographic trends (China’s aging and India’s youth bulge), there is a possibility that India will surpass both China and the US, perhaps by 2040 or 2050, to become the world’s largest economy. These potential shifts of economic power from the United States to China then to India would likely prove strategically disruptive on a global scale. Although slowly developing, such disruptive change would likely have an even greater strategic impact than the Arab Spring. The “rise” of China has already proved strategically disruptive, creating a potential China-United States regional rivalry in Asia two decades after Americans fretted about an emerging US conflict with a then-rising Japan challenging American economic supremacy. Despite uncertainty surrounding projections, foreseeing the possibility (some would say high likelihood) that China and then India will replace the United States as the largest global economy has near-term policy implications for the US and Europe. The potential long-term shift in economic clout and concomitant shift in political power and strategic position away from the US and the West and toward the East has implications for near-term policy choices. Policymakers could conclude, for example, that the West should make greater efforts to bring the emerging (or re-emerging) great powers into close consultation on the “rules of the game” and global governance as the West’s influence in shaping institutions and behavior is likely to significantly diminish over the next few decades. The alternative to finding such a near-term accommodation could be increasing mutual suspicions and hostility rather than trust and growing cooperation between rising and established powers—especially between China and the United States—leading to a fragmented, zero-sum world in which major global challenges like climate change and resource scarcities are not addressed and conflict over dwindling resources and markets intensifies and even bleeds into the military realm among the major actors. Neither of these scenarios may play out, of course. Other global trends suggest that sometime in the next several decades, the world could encounter a “hard ceiling” on resources availability and that climate change could throw the global economy into a tailspin, harming China and India even more than the United States. In this case, perhaps India and China would falter economically leading to internal instability and crises of governance, significantly reducing their rates of economic growth and their ability to project power and play a significant international role than might otherwise have been expected. But this scenario has other implications for policymakers, including dangers posed to Western interests from “failure” of China and/or India, which could produce huge strategic shocks to the global system, including a prolonged economic downturn in the West as well as the East. Thus, looking at relatively slowly developing trends can provide foresight for necessary course corrections now to avert catastrophic disruptive change or prepare to be more resilient if foreseeable but unavoidable shocks occur. Policymakers and the public will press for predictions and criticize government officials and intelligence agencies when momentous events “catch us by surprise.” But unfortunately, as both Yogi Berra and Neils Bohr are credited with saying, “prediction is very hard, especially about the future.” One can predict with great accuracy many natural events such as sunrise and the boiling point of water at sea level. We can rely on the infallible predictability of the laws of physics to build airplanes and automobiles and iPhones. And we can calculate with great precision the destruction footprint of a given nuclear weapon. Yet even physical systems like the weather as they become more complex, become increasingly difficult and even inherently impossible to predict with precision. With human behavior, specific predictions are not just hard, but impossible as uncertainty is inherent in the human universe. As futurist Paul Saffo wrote in the Harvard Business Review in 2007, “prediction is possible only in a world in which events are preordained and no amount of actions in the present can influence the future outcome.” One cannot know for certain what actions he or she will take in the future much less the actions of another person, a group of people or a nation state. This obvious point is made to dismiss any idea of trying to “predict” what will occur in the future with accuracy, especially the outcomes of the interplay of many complex factors, including the interaction of human and natural systems. More broadly, the human future is not predetermined but rather depends on human choices at every turning point, cumulatively leading to different alternative outcomes. This uncertainty about the future also means the future is amenable to human choice and leadership. Trends analyses—including foreseeing trends leading to disruptive change—are thus essential to provide individuals, organizations and political leaders with the strategic foresight to take steps mitigate the dangers ahead and seize the opportunities for shaping the human destiny. Peter Schwartz nearly a decade ago characterized the convergence of trends and disruptive change as “inevitable surprises.” He wrote in Inevitable Surprises that “in the coming decades we face many more inevitable surprises: major discontinuities in the economic, political and social spheres of our world, each one changing the ‘rules of the game’ as its played today. If anything, there will be more, no fewer, surprises in the future, and they will all be interconnected. Together, they will lead us into a world, ten to fifteen years hence, that is fundamentally different from the one we know today. Understanding these inevitable surprises in our future is critical for the decisions we have to make today …. We may not be able to prevent catastrophe (although sometimes we can), but we can certainly increase our ability to respond, and our ability to see opportunities that we would otherwise miss.

#### Alt destroys empiricism and makes objectivity impossible

#### Dekker ’11 (Sidney, Centre for Ethics, Law, Justice and Governance, Griffith University Professor, 2/21/11, “The complexity of failure: Implications of complexity theory for safety investigations”, Safety Science Volume 49, Issue 6, July 2011, Pages 939–945)

The conditions of a complex system are irreversible. The precise set of conditions that gave rise to the emergence of a particular outcome (e.g. an accident) is something that can never be exhaustively reconstructed. Complex systems continually experience change as relationships and connections evolve internally and adapt to their changing environment. Given the open, adaptive nature of complex systems, the system after the accident is not the same as the system before the accident—many things will have changed, not only as a result of the outcome, but as a result of the passage of time. This also means that the any predictive power of retrospective analysis of failure is limited (Leveson, 2002). Decisions in organizations, for example, to the extent that they can be described separately from context at all, are not the single beads strung along some linear cause-effect sequence that they may seem afterward. Complexity argues that they are spawned and suspended in the messy interior of organizational life that influences and buffets and shapes them in a multitude of ways. Many of these ways are hard to trace retrospectively as they do not follow documented organizational protocol but rather depend on unwritten routines, implicit expectations, professional judgments and subtle oral influences on what people deem rational or doable in any given situation (Vaughan, 1999). Reconstructing events in a complex system, then, is impossible, primarily as a result of the characteristics of complexity. The system that is subjected to scrutiny after the fact is never the same system that produced the outcome. It will already have changed, partly because of the outcome, and partly because of passing time and the nature of complexity. But psychological characteristics of retrospective investigation make it so too. As soon as an outcome has happened, whatever past events can be said to have led up to it, undergo a whole range of transformations ( Fischhoff and Beyth, 1975 and Hugh and Dekker, 2009). Take the idea that it is a sequence of events that precedes an accident. Who makes the selection of the “events” and on the basis of what? The very act of separating important or contributory events from unimportant ones is an act of construction, of the creation of a story, not the reconstruction of a story that was already there, ready to be uncovered. Any sequence of events or list of contributory or causal factors already smuggles a whole array of selection mechanisms and criteria into the supposed “re”-construction. There is no objective way of doing this—all these choices are affected, more or less tacitly, by the analyst’s background, preferences, experiences, biases, beliefs and purposes. “Events” are themselves defined and delimited by the stories with which the analyst configures them, and are impossible to imagine outside this selective, exclusionary, narrative fore-structure (Cronon, 1992).

#### Permutation solves- combine complexity bottom up approach with federal oversight solves

**Levy and Lichtenstein, 2011** – Levy is a Professor in Management and Marketing at UMass while Lichtenstein is an associate professor in management at UMass (David and Benyamin, “Approaching Business and the Environment with Complexity Theory”, Oxford Press, http://www.faculty.umb.edu/david\_levy/LevyLicht2011\_complexity\_chap32.pdf) //BZ

Opportunities exist here for research into the appropriate form and combination of top-down governance and bottom-up experimentation. While complexity theory has produced some general insights into the conditions needed for self-organization, these are difficult to apply and operationalize in particular circumstances, such as supply chains and local climate governance experiments. Moreover, the sustainable supply chain and industrial ecology literatures are overly reliant on material and energy flows, while neglecting the social, political, and economic structures in which these systems are embedded. This integrative perspective on bottom-up initiatives and top-down control represents a new and important understanding of complex systems. The notion that selforganization is feasible only in the absence of top-down hierarchical control reflects an inaccurate but popular understanding of complexity science that has generated a faddish wave of organizational consultants invoking complexity in a metaphorical, even mystical manner. Implicit in this approach is a free-market ideology that celebrates individual initiatives and frowns on governmental guidance. Further research can explore the degree, pace, and effectiveness of local environmental initiatives, in the context of complementary dynamics of wider, more structured coordination. If these local initiatives need protection within strategic niches, research is needed into the means of doing so without stifling the active diffusion of successful innovations into the larger system.

#### Risk analysis is critical to energy policy – this is topic specific

HUNT ’12 - President, Scalable Growth Strategy Advisors, an independent energy technology and information services adviser. He served as VP-Global Analytics & Data at IHS/CERA; global Division President at Ventyx, now an ABB company; and Assistant City Manager-Austin Texas responsible for Austin Energy and Austin Water (Gary, “Energy & Risk: Why We Are Experiencing an Energy Boom”. May 29. http://oilprice.com/Energy/Energy-General/Energy-Risk-Why-We-Are-Experiencing-an-Energy-Boom.html)

Scenario analysis has long been used to help market participants proactively manage energy risk and volatility. Strategic decisions require testing ideas and options across alternative business environments. Scenario analysis provides the consistent framework for this critical thinking. The hands-on involvement of key decision makers forces issues and uncertainty to the surface in search of the “sweet spots” of strategy that make all the difference to success.

Predictive energy analytics is bringing the power of disruptive technology in the form of visual data analysis, temporal and semantic analytics tools, knowledge capture and the mobile access to data in remote locations to make insight actionable from fundamental analysis and scenario planning. Collaboration technology and the amazing power of dynamic entity extraction to unleash the power of our interactions with customers and colleagues is turning risk management on its head.

The shift induced lesson learned from listening to the wisdom of the crowd is that the process of building scenarios and creating interactive communities is a powerful way of extracting deep strategic insight that uses energy market fundamental analysis and scenarios of alternative energy futures to accelerate the search for the sweet spots where disruptive information technology and operations technology leverage the wisdom of the crowd for maximum value creation from optimizing existing resources.

Scenarios create a common language to assess opportunities and risk under uncertainty and strip away the conventional wisdom that prevent us from seeing the future with fresh eyes. New management practices and methods focused on text analysis, semantic web search, and talent management offer just in time dynamic training, knowledge management, and context to ‘see insight’ in the pattern analysis of data and trends.

These forces of convergence are accelerating the transformation of business and institutional relationships to focus on scalable growth by intensifying community building within a business and multiplying it by partnering with other businesses to form a loose ecosystem that speeds the time to market for new products, turns those good products into more complete end to end solutions through collaboration, and ruthlessly ‘kicks competitor butt’ with constantly changing disruptive technology applications and methods that yield insanely good results.

The difference between business as usual and this new focus on harnessing constant disruptive change as a competitive advantage is passion, intensity and focus—and belief that the risk is worth the potential reward for that genius idea that excites the crowd every time you let them use it.

The shale energy boom is evidence of the amazing power of disruption. The dramatic growth in unconventional oil and gas domestic energy production in the US and the oil sands in Alberta are a direct result of the constantly disruptive forces of opportunity and risk at work:

• Fracking Dis-intermediates EPA Regulators and Creates Growth and Jobs. US EPA-driven emission reduction rules are an administrative response to failure to pass cap and trade legislation. The goal is to force coal plant retirements and prevent new construction but disruptive change from horizontal drilling and fracking proved a more ruthless force for change by undermining the economics of coal with low priced natural gas but revitalizing domestic oil and gas dramatically increasing domestic production, jobs, tax revenue and growth.

• Shale Gas Boom creates a Global Challenge to OPEC. The US has gone from a looming importer of LNG to replace its depleting natural gas reserves to a new exporter of LNG to project shale gas into higher priced global markets. Shale plays are by their nature faster depleting resources, but there are many more play opportunities widely distributed across North America, and other parts of the world creating a serious future challenge to OPEC.

• Ruthless Global Energy Competition could give way to Collaboration. Today we see ruthless global competition for access to conventional energy resources from emerging economies like China, India and Brazil eager to fuel exports to sustain their economic growth. The myth of peak oil has been shattered by the growth of unconventional oil and gas and the wide global potential for its future. Instead of competing for limited perceived resources and shipping them round the world, the shale disruptive revolution is a big shift transition to collaboration to improve technology, share and develop knowledge and expertise to use it. Far from being a competitor for energy resources, the United States and its advanced technology prowess in horizontal drilling and hydraulic fracturing democratizes energy access and reduces the corrosive dependence on OPEC, Russia and other oil and gas cartel wannabes. Scenario analysis is a powerful tool to anticipate and rehearse these big shift events before they happen.

The transformation in predictive energy analytics is that crowd sourced scenario analysis with advanced data visualization combined with expert knowledge of regional energy market fundamentals is the business economics equivalent of war games enabling managers to stress test strategy opportunities and risk exposures across alternative business futures. War games require good ‘intel’ inside to prepare for the combat of constant disruption in competitive global markets.

**Securitizing energy mobilizes political attention and cooperative action.**

Trombetta 09

[Maria Julia Trombetta, Delft University of Technology, “Environmental security and climate change: analyzing the discourse”, Cambridge Review of International Affairs, 1-26-2009, http://www.tandfonline.com/doi/pdf/10.1080/09557570802452920]

The second implication is related to the link between climate security and energy security. This link contains an inherent tension since energy security is traditionally associated with national security and its logic, whereas climate security is supposed to promote a cooperative approach to global issues. Agreements on energy supply are generally the result of bilateral agreements between states. The energy sector contributes a substantial portion of states’ income and policy—states gain revenues from concessions, transit fees and taxes or are directly involved with national companies. Hence the current situation of tight energy markets characterized by rising demand, high prices and concerns for terrorist attacks against critical infrastructures is particularly challenging for states, which are divided between promoting privatization and being more involved in energy policy. Besides, there are limited multilateral institutions that deal with energy security, resulting in the higher risks of fostering a zero-sum mentality and an antagonistic attitude which can be problematic in dealing with climate issues. How can these developments be read through the lens of the framework previously elaborated? Can this be considered as a securitization which is transforming security practices? The renewal of the debate on climate change and security appears as an attempt to transform it into an existential threat, requiring urgent measures. It has mobilized political action, emergency measures and even attempts to institutionalize the debate at an international level. So far the securitization of climate has succeeded in persuading even the reluctant Bush administration to undertake discussion on emissions reduction. It has also contributed to the formulation of the Bali Roadmap to set a strategy for the postKyoto period. The UN Security Council, at the initiative of the UK, discussed the potential impact of climate change on peace and security for the ﬁrst time ever (UK Mission to the UN 2007). The most impressive results have been within the EU, since it has contributed to the EU developing a common energy policy—an issue that has previously been delayed for decades. Traditionally energy issues have been considered a prerogative of member states and security of supply has been considered a national security issue. The EU Commission is promoting a nonantagonistic approach that relies on liberalization and cooperation to promote a common energy policy and to secure energy supply and climate stability. The impact of this strategy is evident in the reaction to the Ukrainian gas crisis in 2006. When Russia cut the gas supply to Ukraine, due to their dispute over gas prices, the amount of gas transiting through Ukraine and destined for European countries fell dramatically (Jon Stern 2006). Despite the rapid solution of the crisis it was considered a wakeup call which prompted a signiﬁcant debate on energy security. Within NATO the point was discussed in terms of new roles for the alliance, including the possibility of military involvement to patrol the supply routes, suggesting an antagonistic approach (Shea 2006), but within the EU the crisis provided an opportunity to expedite the development of a common energy policy. The common energy policy set ambitious targets, mobilizing consensus through the double lever of climate security and energy security. In January 2007 the Commission presented the ‘Energy and Climate package’ (Commission of the European Communities 2007). It included a Strategic Energy Review which focused on both internal and external aspects of EU energy policy. In March 2007, EU leaders approved the plan, agreeing on a binding target of 20 per cent reduction of greenhouse gas emissions by the EU by 2020, compared to 1990 levels. Central to the agreement was the recognition that energy and environment should go hand in hand. The plan committed member states to raising the European share of renewable energy to 20 per cent, increasing energy efﬁciency, completing the internal market for electricity and gas, and the development of a common external energy policy. Although the focus is on the EU interest and security, the means to achieve them are market mechanisms, promotion of liberal order and multilateralism. Thus far appeals to climate security have mobilized actions even if the emergency measures have not exceeded the ordinary policy debate. Hence these appeals can be considered as proper securitization rather than failed securitizing moves. 9 The securitization of climate change has avoided the identiﬁcation of enemies and has involved actors other than states, both in the securitizing moves and in the security provisions.

#### Empirical reasoning by itself is sufficient – the alternative is negligence

#### Dekker ’11 (Sidney, Centre for Ethics, Law, Justice and Governance, Griffith University Professor, 2/21/11, “The complexity of failure: Implications of complexity theory for safety investigations”, Safety Science Volume 49, Issue 6, July 2011, Pages 939–945)

The philosophy of Newtonian science is one of simplicity: the complexity of the world is only apparent and to deal with it we need to analyze phenomena into their basic components. This is applied in the search for psychological sources of failure, for example. Methods that subdivide “human error” into further component categories, such as perceptual failure, attention failure, memory failure or inaction are in use in for example air traffic control (Hollnagel and Amalberti, 2001). It is also applied in legal reasoning in the wake of accidents, by separating out one or a few actions (or inactions) on the part of individual people (Douglas, 1992, Thomas, 2007 and Catino, 2008).

2.2. Causes for effects can be found

In the Newtonian vision of the world, everything that happens has a definitive, identifiable cause and a definitive effect. There is symmetry between cause and effect (they are equal but opposite). The determination of the “cause” or “causes” is of course seen as the most important function of accident investigation, but assumes that physical effects can be traced back to physical causes (or a chain of causes-effects) (Leveson, 2002). The assumption that effects cannot occur without specific causes influences legal reasoning in the wake of accidents too. For example, to raise a question of negligence in an accident, harm must be caused by the negligent action (GAIN, 2004). Assumptions about cause-effect symmetry can be seen in what is known as the outcome bias (Fischhoff, 1975). The worse the consequences, the more any preceding acts are seen as blameworthy (Hugh and Dekker, 2009). Newtonian ontology is materialistic: all phenomena, whether physical, psychological or social, can be reduced to (or understood in terms of) matter, that is, the movement of physical components inside three-dimensional Euclidean space. The only property that distinguishes particles is where they are in that space. Change, evolution, and indeed accidents, can be reduced to the geometrical arrangement (or misalignment) of fundamentally equivalent pieces of matter, whose interactive movements are governed exhaustively by linear laws of motion, of cause and effect. The Newtonian model may have become so pervasive and coincident with “scientific” thinking that, if analytic reduction to determinate cause-effect relationships cannot be achieved, then the accident analysis method or agency isn’t entirely worthy. The Chairman of the NTSB at the time, Jim Hall, raised the specter of his agency not being able to find the Eureka part in TWA 200, which would challenge its entire reputation (p. 119): “What you’re dealing with here is much more than an aviation accident… What you have at stake here is the credibility of this agency and the credibility of the government to run an investigation” (Dekker, 2011).

2.3. The foreseeability of harm

According to Newton’s image of the universe, the future of any part of it can be predicted with absolute certainty if its state at any time was known in all details. With enough knowledge of the initial conditions of the particles and the laws that govern their motion, all subsequent events can be foreseen. In other words, if somebody can be shown to have known (or should have known) the initial positions and momentum of the components constituting a system, as well as the forces acting on those components (which are not only external forces but also those determined by the positions of these and other particles), then this person could, in principle, have predicted the further evolution of the system with complete certainty and accuracy. If such knowledge is in principle attainable, then harmful outcomes are foreseeable too. Where people have a duty of care to apply such knowledge in the prediction of the effects of their interventions, it is consistent with the Newtonian model to ask how they failed to foresee the effects.