# Neg v OU

## 1nc

### T – 1NC

#### (A) affirming is about proving the resolution --- the 1AC has actively opposed positing their speech in relation to affirming the topic – you should decide whether the USFG should or should not increase energy production

#### Everything after the colon matters.

Webster’s Guide to Grammar and Writing – 2000 <http://ccc.commnet.edu/grammar/marks/colon.htm>

Use of a colon before a list or an explanation that is preceded by a clause that can stand by itself. Think of the colon as a gate, inviting one to go on… If the introductory phrase preceding the colon is very brief and the clause following the colon represents the real business of the sentence, begin the clause after the colon with a capital letter.

#### “Resolved” expresses intent to implement the plan

American Heritage Dictionary 2000 [www.dictionary.com/cgi-bin/dict.pl?term=resolved](http://www.dictionary.com/cgi-bin/dict.pl?term=resolved)

To find a solution to; solve …To bring to a usually successful conclusion

#### “Should” denotes an expectation of that

American Heritage Dictionary – 2000 [www.dictionary.com]

3 Used to express probability or expectation

#### “The USFG” is the government in Washington D.C.

Microsoft Encarta Online Encyclopedia 2000 [http://encarta.msn.com]

“The federal government of the United States is centered in Washington DC.”

#### and, our definition excludes action by smaller political groups or individuals.

Black’s Law Dictionary Seventh Edition Ed. Bryan A. Garner (chief) 1999

Federal government 1. A national government that exercises some degree of control over smaller political units that have surrendered some degree of power in exchange for the right to participate in national political matters.

#### (B) Vote neg to reject the 1AC’s use of the resolution

#### Stasis ---- Debate space requires a stasis point as a prior question --- that’s the resolution

Adolf G. Gundersen, Associate Professor of Political Science, Texas A&M, 2000

POLITICAL THEORY AND PARTISAN POLITICS, 2000, p. 104-5. (DRGNS/E625)

Indirect political engagement is perhaps the single most important element of the strategy I am recommending here. It is also the most emblematic, as it results from a fusion of confrontation and separation. But what kind of political engagement might conceivably qualify as being both confrontational and separated from actual political decision-making? There is only one type, so far as I can see, and that is deliberation. Political deliberation is by definition a form of engagement with the collectivity of which one is a member. This is all the more true when two or more citizens deliberate together. Yet deliberation is also a form of political action that precedes the actual taking and implementation of decisions. It is thus simultaneously connected and disconnected, confrontational and separate. It is, in other words, a form of indirect political engagement. This conclusion, namely, that we ought to call upon deliberation to counter partisanship and thus clear the way for deliberation, looks rather circular at first glance. And, semantically at least, it certainly is. Yet this ought not to concern us very much. Politics, after all, is not a matter of avoiding semantic inconveniences, but of doing the right thing and getting desirable results. In political theory, therefore, the real concern is always whether a circular argument translates into a self-defeating prescription. And here that is plainly not the case, for what I am suggesting is that deliberation can diminish partisanship, which will in turn contribute to conditions amenable to continued or extended deliberation. That "deliberation promotes deliberation" is surely a circular claim, but it is just as surely an accurate description of the real world of lived politics, as observers as far back as Thucydides have documented. It may well be that deliberation rests on certain preconditions. I am not arguing that there is no such thing as a deliberative "first cause." Indeed, it seems obvious to me both that deliberators require something to deliberate about and that deliberation presumes certain institutional structures and shared values. Clearly something must get the deliberative ball rolling and, to keep it rolling, the cultural terrain must be free of deep chasms and sinkholes. Nevertheless, however extensive and demanding deliberation's preconditions might be, we ought not to lose sight of the fact that, once begun, deliberation tends to be self-sustaining. Just as partisanship begets partisanship, deliberation begets deliberation. If that is so, the question of limiting partisanship and stimulating deliberation are to an important extent the same question.

#### That’s a pre-requisite to evaluating the merits of the 1AC – Shifting the goal post distorts the space for deliberation to a monological form of discourse that undermines any benefit to the affirmation

**Hanghoj 8** Thorkild Hanghøj, Copenhagen, 2008 Since this PhD project began in 2004, the present author has been affiliated with DREAM (Danish Research Centre on Education and Advanced Media Materials), which is located at the Institute of Literature, Media and Cultural Studies at the University of Southern Denmark. Research visits have taken place at the Centre for Learning, Knowledge, and Interactive Technologies (L-KIT), the Institute of Education at the University of Bristol and the institute formerly known as Learning Lab Denmark at the School of Education, University of Aarhus, where I currently work as an assistant professor. <http://static.sdu.dk/mediafiles/Files/Information_til/Studerende_ved_SDU/Din_uddannelse/phd_hum/afhandlinger/2009/ThorkilHanghoej.pdf>

Debate games are often based on pre-designed scenarios that include descriptions of issues to be debated, educational goals, game goals, roles, rules, time frames etc. In this way, debate games **differ from textbooks** and everyday classroom instruction as **debate scenarios** allow teachers and students to actively imagine, interact and communicate within a **domain-specific game space**. However, instead of mystifying debate games as a “magic circle” (Huizinga, 1950), I will try to overcome the epistemological dichotomy between “gaming” and “teaching” that tends to dominate discussions of educational games. In short, educational gaming is a form of teaching. As mentioned, education and games represent two different semiotic domains that both embody the three faces of knowledge: assertions, modes of representation and social forms of organisation (Gee, 2003; Barth, 2002; cf. chapter 2). In order to understand the interplay between these different domains and their interrelated knowledge forms, I will draw attention to a central assumption in Bakhtin’s dialogical philosophy. According to Bakhtin, **all forms** of communication and culture **are subject to centripetal and centrifugal forces** (Bakhtin, 1981). A centripetal force is the **drive to impose** **one** version of the truth, while a centrifugal force involves a **range of possible truths and interpretations**. This means that any form of expression involves a duality of centripetal and centrifugal forces: “Every concrete utterance of a speaking subject serves as a point where centrifugal as well as centripetal forces are brought to bear” (Bakhtin, 1981: 272). If we take teaching as an example, it is always affected by centripetal and centrifugal forces in the on-going negotiation of “truths” between teachers and students. In the words of Bakhtin: “Truth is not born nor is it to be found inside the head of an individual person, it is born between people collectively searching for truth, in the process of their dialogic interaction” (Bakhtin, 1984a: 110). Similarly, the dialogical space of debate games also embodies centrifugal and centripetal forces. Thus, the election scenario of The Power Game involves centripetal elements that are mainly determined by the **rules** and outcomes **of the game**, i.e. the election is based on a limited time frame and a fixed voting procedure. Similarly, the **open-ended** goals, roles and resources represent **centrifugal** elements and create **virtually endless possibilities** for researching, preparing, presenting, debating and evaluating a variety of key political issues. Consequently, the actual process of enacting a game scenario involves a complex negotiation between these centrifugal/centripetal forces that are inextricably linked with the teachers and students’ game activities. In this way, the enactment of The Power Game is a form of teaching that combines different pedagogical practices (i.e. group work, web quests, student presentations) and learning resources (i.e. websites, handouts, spoken language) within the interpretive frame of the election scenario. Obviously, tensions may arise if there is too much divergence between educational goals and game goals. This means that **game facilitation** requires a **balance** between focusing too **narrow**ly on the rules or “facts” of a game (centripetal orientation) **and** a focusing **too broad**ly on the contingent **possibilities and interpretations of the game scenario (centrifugal orientation**). For Bakhtin, the duality of centripetal/centrifugal forces often manifests itself as a dynamic between “monological” and “dialogical” forms of discourse. Bakhtin illustrates this point **with the monological discourse of the Socrates/Plato dialogues** in which **the teacher never learns anything new from the students**, despite Socrates’ ideological claims to the contrary (Bakhtin, 1984a). Thus, **discourse becomes monologised when “someone who** knows and **possesses the truth instructs someone who is ignorant** of it **and in error”, where “a thought is either affirmed or repudiated” by the authority of the teacher** (Bakhtin, 1984a: 81). In contrast to this, dialogical pedagogy fosters inclusive learning environments that are able to expand upon students’ existing knowledge and collaborative construction of “truths” (Dysthe, 1996). At this point, I should clarify that Bakhtin’s term “dialogic” is both a descriptive term (all utterances are per definition dialogic as they address other utterances as parts of a chain of communication) **and a normative term as dialogue is an ideal to be worked for against the forces of “monologism”** (Lillis, 2003: 197-8). In this project, I am mainly interested in describing the dialogical space of debate games. At the same time, I agree with Wegerif that **“one of the goals of education, perhaps the most important goal, should be dialogue as an end in itself**” (Wegerif, 2006: 61).

#### Decision-making ---- tying your ballot to simulating the resolution is a critical process that encourages organization of

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Joas’ re-interpretation of Dewey’s pragmatism as a “theory of situated creativity” raises a critique of humans as purely rational agents that navigate instrumentally through meansends-schemes (Joas, 1996: 133f). This critique is particularly important when trying to understand how games are enacted and validated within the realm of educational institutions that by definition are inscribed in the great modernistic narrative of “progress” where nation states, teachers and parents expect students to acquire specific skills and competencies (Popkewitz, 1998; cf. chapter 3). However, as Dewey argues, the actual doings of **educational gaming** cannot be reduced to rational means-ends schemes. Instead, the situated interaction between teachers, students, and learning resources are **played out as** contingent **re-distributions of means**, ends **and ends in view**, which often make classroom contexts seem “messy” from an outsider’s perspective (Barab & Squire, 2004). 4.2.3. Dramatic rehearsal The two preceding sections discussed how Dewey views play as an imaginative activity of educational value, and how his assumptions on creativity and playful actions represent a critique of rational means-end schemes. For now, I will turn to Dewey’s concept of dramatic rehearsal, which assumes that social actors deliberate by **projecting and choosing** between various scenarios for future action. Dewey uses the concept dramatic rehearsal several times in his work but presents the most extensive elaboration in Human Nature and Conduct: Deliberation is a dramatic rehearsal (in imagination) of various competing possible lines of action… [It] is an experiment in finding out what the various **lines of possible action** are really like (...) Thought runs ahead and foresees outcomes, and thereby avoids having to await the instruction of actual failure and disaster. An act overtly tried out is irrevocable, its consequences cannot be blotted out. An act tried out in imagination is not final or fatal. It is retrievable (Dewey, 1922: 132-3). This excerpt illustrates how Dewey views the process of decision making (deliberation) through the lens of an imaginative drama metaphor. Thus, decisions are made through the imaginative projection of outcomes, where the “possible competing lines of action” are resolved through a thought experiment. Moreover, Dewey’s compelling use of the drama metaphor also implies that decisions cannot be reduced to utilitarian, rational or mechanical exercises, but that they have emotional, creative and personal qualities as well. Interestingly, there are relatively few discussions within the vast research literature on Dewey of his concept of dramatic rehearsal. A notable exception is the phenomenologist Alfred Schütz, who praises Dewey’s concept as a “fortunate image” for understanding everyday rationality (Schütz, 1943: 140). Other attempts are primarily related to overall discussions on moral or ethical deliberation (Caspary, 1991, 2000, 2006; Fesmire, 1995, 2003; Rönssön, 2003; McVea, 2006). As Fesmire points out, dramatic rehearsal is intended to describe an important phase of deliberation that **does not** **characterise the whole process** **of making moral decisions**, which includes “duties and contractual obligations, short and long-term consequences, traits of character to be affected, and rights” (Fesmire, 2003: 70). Instead, dramatic rehearsal should be seen as the process of “crystallizing possibilities and transforming them into directive hypotheses” (Fesmire, 2003: 70). Thus, deliberation can in no way guarantee that the response of a “thought experiment” will be successful. But what it can do is make the ***process* of choosing** more intelligent than would be the case with “blind” [random] trial-and-error (Biesta, 2006: 8). The notion of dramatic rehearsal provides a valuable perspective for understanding educational gaming as a simultaneously real and imagined inquiry into domain-specific scenarios. Dewey defines dramatic rehearsal as the capacity to stage and evaluate “acts”, which implies an “irrevocable” difference between acts that are “tried out in imagination” and acts that are “overtly tried out” with real-life consequences (Dewey, 1922: 132-3). This description shares **obvious similarities with games** as they ***require* participants to** **inquire** into **and resolve scenario-specific problems** (cf. chapter 2). On the other hand, there is also a striking difference between moral deliberation and educational game activities in terms of the actual consequences that follow particular actions. Thus, when it comes to educational games, acts are both imagined and tried out, but without all the real-life consequences of the practices, knowledge forms and outcomes that are being simulated in the game world. Simply put, there is a difference in realism between the dramatic rehearsals of everyday life and in games, which only “play at” or simulate the stakes and risks that characterise the “serious” nature of moral deliberation, i.e. a real-life politician trying to win a parliamentary election experiences more personal and emotional risk than students trying to win the election scenario of The Power Game. At the same time, the lack of real-life consequences in educational games makes it possible to design a relatively **safe learning environment**, where teachers can stage particular game scenarios to be enacted and validated for educational purposes. In this sense, educational games are able to provide a safe but meaningful way of letting teachers and students make mistakes (e.g. by giving a poor political presentation) and dramatically rehearse particular “competing possible lines of action” that are relevant to particular educational goals (Dewey, 1922: 132). Seen from this pragmatist perspective, the educational value of games is not so much a question of learning facts or giving the “right” answers, but more a question of exploring the contingent outcomes and domain-specific processes of problem-based scenarios.

#### That prepares us for future problems

Lundberg 10

(Lundberg, Christian O., professor of communications at the University of North Carolina, Chapel Hill, “ The Allred Initiative and Debate Across the Curriculum: Reinventing the Tradition of Debate at North Carolina”, Navigating Opportunity: Policy Debate in the 21st Century)

The second major problem with the critique that identifies a naivety in articulating debate and democracy is that it presumes that the primary pedagogical outcome of debate is speech capacities. But the democratic capacities built by debate are not limited to speech—as indicated earlier, debate builds capacity for critical thinking, analysis of public claims, informed decision making, and better public judgment. If the picture of modern political life that underwrites this critique of debate is a pessimistic view of increasingly labyrinthine and bureaucratic administrative politics, rapid scientific and technological change outpacing the capacities of the citizenry to comprehend them, and ever-expanding insular special-interest- and money-driven politics, it is a puzzling solution, at best, to argue that these conditions warrant giving up on debate. If democracy is open to rearticulation, it is open to rearticulation precisely because as the challenges of modern political life proliferate, the citizenry’s capacities can change, which is one of the primary reasons that theorists of democracy such as Dewey in The Public and Its Problems place such a high premium on education (Dewey 1988, 63, 154). Debate provides an indispensible form of education in the modern articulation of democracy because it builds precisely the skills that allow the citizenry to research and be informed about policy decisions that impact them, to sort through and evaluate the evidence for and relative merits of arguments for and against a policy in an increasingly information-rich environment, and to prioritize their time and political energies toward policies that matter the most to them. The merits of debate as a tool for building democratic capacity-building take on a special significance in the context of information literacy. John Larkin (2005, 140) argues that one of the primary failings of modern colleges and universities is that they have not changed curriculum to match with the challenges of a new information environment. This is a problem for the course of academic study in our current context, but perhaps more important, argues Larkin, for the future of a citizenry that will need to make evaluative choices against an increasingly complex and multimediated information environment (ibid.). Larkin’s study tested the benefits of debate participation on information-literacy skills and concluded that in-class debate participants reported significantly higher self-efficacy ratings of their ability to navigate academic search databases and to effectively search and use other Web resources: To analyze the self-report ratings of the instructional and control group students, we first conducted a multivariate analysis of variance on all of the ratings, looking jointly at the effect of instruction/no instruction and debate topic . . . that it did not matter which topic students had been assigned . . . students in the Instructional [debate] group were significantly more confident in their ability to access information and less likely to feel that they needed help to do so. . . . These findings clearly indicate greater self-efficacy for online searching among students who participated in [debate]. . . . These results constitute strong support for the effectiveness of the project on students’ self-efficacy for online searching in the academic databases. There was an unintended effect, however: After doing . . . the project, instructional group students also felt more confident than the other students in their ability to get good information from Yahoo and Google. It may be that the library research experience increased self-efficacy for any searching, not just in academic databases. (Larkin 2005, 144) Larkin’s study substantiates Thomas Worthen and Gaylen Pack’s (1992, 3) claim that debate in the college classroom plays a critical role in fostering the kind of problem-solving skills demanded by the increasingly rich media and information environment of modernity. Though their essay was written in 1992 on the cusp of the eventual explosion of the Internet as a medium, Worthen and Pack’s framing of the issue was prescient: the primary question facing today’s student has changed from how to best research a topic to the crucial question of learning how to best evaluate which arguments to cite and rely upon from an easily accessible and veritable cornucopia of materials. There are, without a doubt, a number of important criticisms of employing debate as a model for democratic deliberation. But cumulatively, the evidence presented here warrants strong support for expanding debate practice in the classroom as a technology for enhancing democratic deliberative capacities. The unique combination of critical-thinking skills, research and information-processing skills, oral-communication skills, and capacities for listening and thoughtful, open engagement with hotly contested issues argues for debate as a crucial component of a rich and vital democratic life. In-class debate practice both aids students in achieving the best goals of college and university education and serves as an unmatched practice for creating thoughtful, engaged, open-minded, and self-critical students who are open to the possibilities of meaningful political engagement and new articulations of democratic life. Expanding this practice is crucial, if only because the more we produce citizens who can actively and effectively engage the political process, the more likely we are to produce revisions of democratic life that are necessary if democracy is not only to survive, but to thrive and to deal with systemic threats that risk our collective extinction. Democratic societies face a myriad of challenges, including: domestic and international issues of class, gender, and racial justice; wholesale environmental destruction and the potential for rapid climate change; emerging threats to international stability in the form of terrorism, intervention, and new possibilities for great power conflict; and increasing challenges of rapid globalization, including an increasingly volatile global economic structure. More than any specific policy or proposal, an informed and active citizenry that deliberates with greater skill and sensitivity provides one of the best hopes for responsive and effective democratic governance, and by extension, one of the last best hopes for dealing with the existential challenges to democracy in an increasingly complex world. Given the challenge of perfecting our collective political skill, and in drawing on the best of our collective creative intelligence, it is incumbent on us to both make the case for and, more important, to do the concrete work to realize an expanded commitment to debate at colleges and universities.

#### Outweighs and turns case -- Keeping debate as a deliberative-activity is biggest internal link to all other benefits of debate

Tonn ‘05

(Mari Boor, Professor of Communication – University of Maryland, “Taking Conversation, Dialogue, and Therapy Public”, *Rhetoric & Public Affairs*, Vol. 8, Issue 3, Fall)

Perhaps the most conspicuous effort at replacing public debate with therapeutic dialogue was President Clinton's Conversation on Race, launched in mid-1997. Controversial from its inception for its ideological bent, the initiative met further widespread criticism for its encounter-group approaches to racial stratification and strife, critiques echoing previously articulated concerns- my own among them6-that certain dangers lurk in employing private or social communication modes for public problem-solving.7 Since then, others have joined in contesting the treating of public problems with narrative and psychological approaches, which-in the name of promoting civility, cooperation, personal empowerment, and socially constructed or idiosyncratic truths-actually work to contain dissent, locate systemic social problems solely within individual neurosis, and otherwise fortify hegemony.8 Particularly noteworthy is Michael Schudson's challenge to the utopian equating of "conversation" with the "soul of democracy." Schudson points to pivotal differences in the goals and architecture of conversational and democratic deliberative processes. To him, political (or democratic) conversation is a contradiction in terms. Political deliberation entails a clear instrumental purpose, ideally remaining ever mindful of its implications beyond an individual case. Marked by disagreement-even pain-democratic deliberation contains transparent prescribed procedures governing participation and decision making so as to protect the timid or otherwise weak. In such processes, written records chronicle the interactional journey toward resolution, and in the case of writing law especially, provide accessible justification for decisions rendered. In sharp contrast, conversation is often "small talk" exchanged among family, friends, or candidates for intimacy, unbridled by set agendas, and prone to egocentric rather than altruistic goals. Subject only to unstated "rules" such as turn-taking and politeness, conversation tends to advantage the gregarious or articulate over the shy or slight of tongue.9 The events of 9/11, the onset of war with Afghanistan and Iraq, and the subsequent failure to locate Iraqi weapons of mass destruction have resuscitated some faith in debate, argument, warrant, and facts as crucial to the public sphere. Still, the romance with public conversation persists. As examples among communication scholars, Karlyn Kohrs Campbell's 2001 Carroll C. Arnold Distinguished Lecture treated what she termed "the rhetoric of conversation" as a means to "manage controversy" and empower non-dominant voices10; multiple essays in a 2002 special issue of Rhetoric & Public Affairs on deliberative democracy couch a deliberative democratic ideal in dialogic terms11; and the 2005 Southern States Communication Convention featured family therapist Sallyann Roth, founding member and trainer of the Public Conversations Project, as keynote speaker.12 Representative of the dialogic turn in deliberative democracy scholarship is Gerard A. Hauser and Chantal Benoit-Barne's critique of the traditional procedural, reasoning model of public problem solving: "A deliberative model of democracy . . . constru[es] democracy in terms of participation in the ongoing conversation about how we shall act and interact-our political relations" and "Civil society redirects our attention to the language of social dialogue on which our understanding of political interests and possibility rests."13 And on the political front, British Prime Minister Tony Blair-facing declining poll numbers and mounting criticism of his indifference to public opinion on issues ranging from the Iraq war to steep tuition hike proposals-launched The Big Conversation on November 28, 2003. Trumpeted as "as way of enriching the Labour Party's policy making process by listening to the British public about their priorities," the initiative includes an interactive government website and community meetings ostensibly designed to solicit citizens' voices on public issues.14 In their own way, each treatment of public conversation positions it as a democratic good, a mode that heals divisions and carves out spaces wherein ordinary voices can be heard. In certain ways, Schudson's initial reluctance to dismiss public conversation echoes my own early reservations, given the ideals of egalitarianism, empowerment, and mutual respect conversational advocates champion. Still, in the spirit of the dialectic ostensibly underlying dialogic premises, this essay argues that various negative consequences can result from transporting conversational and therapeutic paradigms into public problem solving. In what follows, I extend Schudson's critique of a conversational model for democracy in two ways: First, whereas Schudson primarily offers a theoretical analysis, I interrogate public conversation as a praxis in a variety of venues, illustrating how public "conversation" and "dialogue" have been coopted to silence rather than empower marginalized or dissenting voices. In practice, public conversation easily can emulate what feminist political scientist Jo Freeman termed "the tyranny of structurelessness" in her classic 1970 critique of consciousness- raising groups in the women's liberation movement,15 as well as the key traits Irving L. Janis ascribes to "groupthink."16 Thus, contrary to its promotion as a means to neutralize hierarchy and exclusion in the public sphere, public conversation can and has accomplished the reverse. When such moves are rendered transparent, public conversation and dialogue, I contend, risk increasing rather than diminishing political cynicism and alienation. **[Continues…]** This widespread recognition that access to public deliberative processes and the ballot is a baseline of any genuine democracy points to the most curious irony of the conversation movement: portions of its constituency. Numbering among the most fervid dialogic loyalists have been some feminists and multiculturalists who represent groups historically denied both the right to speak in public and the ballot. Oddly, some feminists who championed the slogan "The Personal Is Political" to emphasize ways relational power can oppress tend to ignore similar dangers lurking in the appropriation of conversation and dialogue in public deliberation. Yet the conversational model's emphasis on empowerment through intimacy can duplicate the power networks that traditionally excluded females and nonwhites and gave rise to numerous, sometimes necessarily uncivil, demands for democratic inclusion. Formalized participation structures in deliberative processes obviously cannot ensure the elimination of relational power blocs, but, as Freeman pointed out, the absence of formal rules leaves relational power unchecked and potentially capricious. Moreover, the privileging of the self, personal experiences, and individual perspectives of reality intrinsic in the conversational paradigm mirrors justifications once used by dominant groups who used their own lives, beliefs, and interests as templates for hegemonic social premises to oppress women, the lower class, and people of color. Paradigms infused with the therapeutic language of emotional healing and coping likewise flirt with the type of psychological diagnoses once ascribed to disaffected women. But as Betty Friedan's landmark 1963 The Feminist Mystique argued, the cure for female alienation was neither tranquilizers nor attitude adjustments fostered through psychotherapy but, rather, unrestricted opportunities.102

#### Our starting point for deliberation becomes better at moral understanding

**Gutmann and Thompson 96** (Amy – President of Penn and Former prof @ Princeton, Dennis – Alfred North Whitehead Professor of Political Philosophy at Harvard, *Democracy and Disagreement*, p 1)

Of the challenges that American democracy faces today, none is more formidable than the problem of moral disagreement. Neither the theory nor the practice of democratic politics has so far found an adequate way to cope with conflicts about fundamental values. We address the challenge of moral disagreement here by developing a conception of democracy that secures a central place for moral discussion in political life. Along with a growing number of other political theorists, we call this conception deliberative democracy. The core idea is simple: when citizens or their representatives disagree morally, they should continue to reason together to reach mutually acceptable decisions. But the meaning and implications of the idea are complex. Although the idea has a long history, it is still in search of a theory. We do not claim that this book provides a comprehensive theory of deliberative democracy, but we do hope that it contributes toward its future development by showing the kind of deliberation that is possible and desirable in the face of moral disagreement in democracies. Some scholars have criticized liberal political theory for neglecting moral deliberation. Others have analyzed the philosophical foundations of deliberative democracy, and still others have begun to explore institutional reforms that would promote deliberation. Yet nearly all of themstop at the point where deliberation itself begins. None has systematically examined the substance of deliberation-the theoretical principles that should guide moral argument and their implications for actual moral disagreements about public policy. That is our subject, and it takes us into the everyday forums of democratic politics, where moral argument regularly appears but where theoretical analysis too rarely goes. Deliberative democracy involves reasoning about politics, and nothing has been more controversial in political philosophy than the nature of reason in politics. We do not believe that these controversies have to be settled before deliberative principles can guide the practice of democracy. Since on occasion citizens and their representatives already engage in the kind of reasoning that those principles recommend, deliberative democracy simply asks that they do so more consistently and comprehensively. The best way to prove the value of this kind of reasoning is to show its role in arguments about specific principles and policies, and its contribution to actual political debates. That is also ultimately the best justification for our conception of deliberative democracy itself. But to forestall possible misunderstandings of our conception of deliberative democracy, we offer some preliminary remarks about the scope and method of this book. The aim of the moral reasoning that our deliberative democracy prescribes falls between impartiality, which requires something like altruism, and prudence, which demands no more than enlightened self-interest. Its first principle is reciprocity, the subject of Chapter 2, but no less essential are the other principles developed in later chapters. When citizens reason **reciprocally**, they seek **fair** **terms** of social cooperation for their own sake; they try to find **mutually acceptable** ways of **resolving** **moral disagreements**. The precise content of reciprocity is difficult to determine in theory, but its general countenance is familiar enough in practice. It can be seen in the difference between acting in one's self-interest (say, taking advantage of a legal loophole or a lucky break) and acting fairly (following rules in the spirit that one expects others to adopt). In many of the controversies discussed later in the book, the possibility of any morally acceptable resolution depends on citizens' reasoning **beyond their narrow self-interest** and considering **what can be justified to people who** reasonably **disagree** with them. Even though the quality of deliberation and the conditions under which it is conducted are far from ideal in the controversies we consider, the fact that in each case some citizens and some officials make arguments consistent with reciprocity suggests that a deliberative perspective is not utopian. To clarify what reciprocity might demand under non-ideal conditions, we develop a distinction between deliberative and nondeliberative disagreement. Citizens who reason reciprocally can **recognize** that a **position is worthy of** moral **respect** even when they think it morally wrong. They can believe that a moderate pro-life position on abortion, for example, is morally respectable even though they think it morally mistaken. (The abortion example-to which we often return in the book-is meant to be illustrative. For readers who deny that there is any room for deliberative disagreement on abortion, other political controversies can make the same point.) The presence of deliberative disagreement has **important implications for how citizens** treat one another and for what policies they should adopt. When a disagreement is not deliberative (for example, about apolicy to legalize discrimination against blacks and women), citizens **do not have** any obligations **of** mutual respect **toward** their **opponents**. In deliberative disagreement (for example, about legalizing abortion), citizens should try to accommodate the moral convictions of their opponents to the greatest extent possible, without compromising their own moral convictions. We call this kind of accommodation an economy of moral disagreement, and believe that, though neglected in theory and practice, it is essential to a morally robust democratic life. Although both of us have devoted some of our professional life to urging these ideas on public officials and our fellow citizens in forums of practical politics, this book is primarily the product of scholarly rather than political deliberation. Insofar as it reaches beyond the academic community, it is addressed to citizens and officials in their more reflective frame of mind. Given its academic origins, some readers may be inclined to complain that only professors could be so unrealistic as to believe that moral reasoning can help solve political problems. But such a complaint would misrepresent our aims. To begin with, we***do not******think***that **academic discussion** (whether in scholarly journals or college classrooms) **is a model for** moral **deliberation** in politics. Academic **discussion need not aim at *justifying* a practical decision**, as deliberation must. Partly for this reason, academic discussion is likely to be insensitive to the contexts of ordinary politics: the pressures of power, the problems of inequality, the demands of diversity, the exigencies of persuasion. Some critics of deliberative democracy show a similar **insensitivity** when they judge actual political deliberations by **the standards of ideal philosophical reflection**. Actual deliberation is inevitably defective, but so is philosophical reflection practiced in politics. The appropriate comparison is between the ideals of democratic deliberation and philosophical reflection, or between the application of each in the nonideal circumstances of politics. We do not assume that politics should be a realm where the logical syllogism rules. Nor do we expect even the more appropriate standard of mutual respect always to prevail in politics. A deliberative perspective sometimes justifies bargaining, negotiation, force, and even violence. It is partly because moral argument has so much unrealized potential in democratic politics that we believe it deserves more attention. Because its place in politics is so precarious, the need to find it a more secure home and to nourish its development is all the more pressing. Yet because it is also already' pert of our common experience, we have reason to hope that it can survive and even prosper if philosophers along with citizens and public officials better appreciate its value in politics. Some readers may still wonder why deliberation should have such a prominent place in democracy. Surely, they may say, citizens should care more about the justice of public policies than the process by which they are adopted, at least so long as the process is basically fair and at least minimally democratic. One of our main aims in this book is to cast doubt on the dichotomy between policies and process that this concern assumes. Having good reason as individuals to believe that a policy is just does not mean that collectively as citizens we have sufficient justification to legislate on the basis of those reasons. The moral authority of collective judgments about policy depends in part on the moral quality of the process by which citizens collectively reach those judgments. Deliberation is the most appropriate way for citizens collectively to resolve their moral disagreements not only about policies but also about the process by which policies should be adopted. Deliberation is not only a *means to an end*, but also a means for deciding what means are **morally required to pursue our common ends.**

#### We should use policy to deliberate about wind aesthetics

Phadke 10 Department of Environmental Studies, Macalester College, Environmental Politics Vol. 19, No. 1, February 2010, 1–20 Steel forests or smoke stacks: the politics of visualisation in the Cape Wind controversy

Visual controversies over the siting of new wind, geothermal and solar power facilities are affecting the nation’s ability to produce more renewable energy. Wind energy is perhaps the most disputed domain, evidenced by current project opposition in states as diverse as Wisconsin, Nevada, New York, Vermont and Oregon. In the absence of a national policy dialogue about the landscape impacts of our new energy choices, public deliberation about wind power will continue to be reduced to dueling images of smoke stacks and steel forests. While industry public relations campaigns promote wind power as ‘homegrown’ and ‘green’, the Cape Wind case signals that enculturating renewable energy will be as much about new civic processes as it is about new projects. Alternative energy sources have often been defined by the absence of heavy pollution. Yet, these sources have temporality and materiality. They leave footprints. As one public commentator on the draft EIS noted, ‘Nantucket Sound is not renewable’.14 Viewed in this light, the Cape Wind project enters an interesting space in environmental politics and prompts us to ask how our regulatory agencies can reasonably value and measure the affective realms of renewable energy. Melding insights from visual studies and deliberative democracy, this article has argued that there has been a striking lack of attention to the visual realm as a site of political claims making. By documenting both the production of viewshed simulations and their reception and subversion by members of the public in the Cape Wind debate, it has demonstrated that visual impact assessment is an immature policy craft that requires greater public scrutiny. When we open up these processes to critical investigation, we find that visual simulations encode social and cultural values. Yet, when these simulations ‘go public’, the politics inherent in their production get erased. As these images circulate in public discourse, they exert power over viewing publics who chose to support or subvert the images based on individual and collective cultural rationalities. Most surprisingly, the deliberations that ensue about visual impact have little place or space in administrative decision making beyond conventional and confrontational EIS protocols. The new energy economy requires policy frameworks, and deliberative spaces, that open up environmental impact processes to expressions of cultural rationality. Bocking (2004) argues that shifts in deliberative processes can help produce social acceptance. He suggests that we need a vision of science and technology that closely integrates research and deliberation as complementary approaches for understanding the world. Such a vision, he argues, is ‘closer to how knowledge is viewed by people outside the scientific community: tied to its social, political, economic and cultural contexts’ (p. 225). Given the current wind energy development frenzy, we are at an important juncture for policy makers and citizen groups to ask a range of descriptive and normative questions about how visual impact analyses are performed, whose views should count and what mechanisms are most appropriate for public engagement in the process.

### K

#### Their vision of politics liberates the mind --- advances in orientation recycle the same utopian ideals of progressivism

Ophuls ’11 - former member of the U.S. Foreign Service and has taught political science at Northwestern University (Ophuls, William. “Plato's Revenge: Politics in the Age of Ecology.” 19 August 2011. P. 1-9)

 From this perspective, the rise of civilization constitutes a Faustian bargain or even a tragic fall from primal grace. When human beings abandoned the ecological niche in which they had evolved, they left a state of natural plenitude, however rough, for a life of toil in ﬁeld and mine. They became more numerous and prosperous but less healthy. 4 The technological means that they used to enrich themselves also harmed nature and turned war from a blood sport into a vehicle for conquest or extermination. Liberty was replaced by authority, equality by hierarchy, and fraternity by disunity. The many, who had once lived in small bands as kinsmen and equals, became subject to the few — to the emperors, kings, and tyrants who expropriated the wealth they produced. Natural religion gave way to organized religion, whose priests, rites, and doctrines served mostly the oppressors ’ interests, even as they gave some solace to the estranged denizens of the ancient cities. In short, the indisputable advantages of civilization were purchased at a high price. 5 Much of this was apparent to the philosophers and states- men who created the modern world, but their diagnosis of the disease — and therefore their proposed treatment — was ﬂawed. They sought to cure two of the ﬁve great ills (economic inequality and political oppression) by intensifying two others — ecological exploitation and military aggression. As a result, the modern age is marked by the ethos of the conquis- tador. Scientists master nature in their laboratories so that engineers can build arsenals and factories, manufacturers can make arms and goods, and soldiers and merchants can domi- nate the lands and markets of the world. These thinkers were driven by a quest for power — for dominion over nature, which would foster dominion over the world. But as Lord Acton famously said, power corrupts, and the more absolute the power, the worse the corruption. Indeed, power seems to drive men and women mad, with hubris being the worst symptom of the disease. The response of the Enlightenment philosophes to the ﬁfth great ill was equally problematic. They set about liberating men and women from clerical religion because they detested the venality, inquisitorial zeal, and reactionary politics of the established church, and they succeeded all too well in crushing Voltaire ’ s inf â me . When the babe of morality was thrown out with the bathwater of superstition, the consequence was a process of demoralization that began slowly but has now become a rout. This demoralization has three aspects — the corruption of morals and mores, the undermining of morale, and the spread- ing of confusion — and has resulted in the loss of almost all sense of honor, duty, and responsibility. Solidarity, too, has eroded, as individuals and groups engage in a **winner-take-all struggle** for power and wealth. However glutted with goods people in rich countries may be, they feel that they are subject to a vast, impersonal, out-of-control system that gives them the vote, that mostly abides by juridical rules, but that denies them real liberty and equality. Fraternity is not even an issue. Last but not least, because God is dead and only instrumental reason counts, all authority and orientation have been over- thrown — so men and women have lost not only their intellectual and spiritual bearings but even the means by which to take them. The ﬁ ve great ills of civilization therefore have become evils that threaten the continued existence of human society. Eco- logical exploitation has degenerated into the systematic and ruthless abuse of nature, causing an accelerated degra dation and depletion of our natural milieu. We ourselves have begun to suffer certain inconveniences, and our grandchildren stand to inherit a poisoned and impoverished planet. Indeed, as the age of petroleum draws to a close, the material basis for an advanced technological culture capable of supporting billions of people in sprawling megacities is by no means assured. Similarly, military aggression has escalated **into potential [omnicide**] holocaust, as Weapons of Mass Destruction are ever more widely disseminated. And wars are no longer fought by brave warriors and wily generals who meet face to face on a battle- ﬁeld but by military bureaucrats and technicians who risk nothing as they rain electronic death on remotely seen enemies — or unarmed innocents. In the same way, our economic system has vastly ampliﬁ ed the scope and scale of economic inequality. Despite a general rise in material well-being, wealth is radically maldistributed, and billions of people continue to live in destitution and misery. In addition, the rich command resources unimaginable to ancient kings, so the rod by which deprivation is measured has grown enormously. Nor has political oppression vanished. Even in states where the principle of liberty is well established, the burden of bureaucratic regulation becomes ever more minute, all encom- passing, and suffocating. Traditional liberties are being eroded in the name of expediency in efforts to defend national security and ﬁ ght terrorism, crime, drugs, and tax evasion. A sphere of privacy hardly exists anymore. Meanwhile, democracy is mostly a sham: either money rules, or remote policy elites in cahoots with powerful economic interests make all the important decisions. Lastly, spiritual malaise is pandemic. As a result, demo- ralized individuals must struggle to keep their psychic footing. Many resort to diseased methods of coping, not only physical addiction to drugs, alcohol, and tobacco but also psychological addiction to eating, entertainment, gambling, pornography, sex, shopping, and sports. Many simply cannot cope. The armies of social workers and psychotherapists may help a handful of individuals, but they can do little to save society, which becomes fertile ground for every form of mania. This demoralization was never intended by the thinkers who created the modern world. Believing as they did (and not without reason) that organized religion was an almost unmiti- gated evil, they sought to liberate us from religious politics — from the interference of an established church in the public affairs of the state and the private affairs of the individual. Thanks to their efforts, we in the West are no longer subject to clerical oppression or to a despotic form of spirituality, for which we must be eternally grateful. But we have paid a steep price for this liberation. Indeed, far from creating a rational utopia, banishing superstition and exalting reason have created a spiritual void that has been ﬁ lled by absurd and dangerous political, social, and economic ideologies that have often proven to be as patho- logical in their historical consequences as the dogmatic religions of old. In retrospect, it may seem surprising that the philosophes had so few qualms about crushing the established church, one of the pillars of the existing social order. But they believed that traditional religion was dispensable precisely because they were certain that human reason, once liberated from theology, would soon discover the moral order implicit within the cosmos — an order to which men and women, being reasonable beings, would naturally and willingly accede. That did not happen. The secularization promoted by the Enlightenment took on a logic and momentum of its own. Rationalism displaced reason, so the only permissible natural laws were mechanical, not moral. Human beings also turned out to be far less reasonable and **much more irrational** than these thinkers assumed. The triumph of secularism has had consequences that are devastating in the political sphere. A purely rational and material politics — a politics without a moral code or a vision of the good life or a sense of the sacred — is a contradiction in terms. As Aristotle pointed out, no polity can long exist as “ a mere alliance ” of self-interested individuals. 6 What makes a political community cohere is what Aristotle called “ a rule of life ” — that is, a shared ethos. 7 But the rule of life of modern politics is that we shall have no positive rules, only negative ones that keep us from harming others but that otherwise leave us at liberty. The citizens themselves must sustain community through social institutions — churches, schools, voluntary associations, infor- mal networks — that inculcate a shared ethos and foster a sense of common destiny. In other words, the indispensable linchpin of the modern state is civil society, for it alone supplies the cohesion that a liberal polity lacks. Unfortunately, the process of demoralization described above has effectively destroyed the morals, mores, and morale of civil society. As a result, polity today is more and more a mere alliance of self-interested individuals who pursue their own private ends and who accept only minimal restraints on their actions. Liberty has become license, and the social basis of the modern, liberal state has eroded away. In effect, the project of modern politics has failed. When Hobbes took the radical step of severing politics from virtue and founding the polity on the self-interested individual, he started a movement that **liberated men and women** from subservience to king and bishop, but he ***also* set in motion** a **vicious circle of moral decay** that has all but overwhelmed civil society. The legal and bureaucratic machinery of government has grown larger and more oppressive in a mostly vain attempt to make up for social decline. We are being driven toward an administrative despotism that extinguishes both liberty and privacy because it is the most expedient way to deal with the moral breakdown caused by our basic political principles. It is bad enough that a secular and rational politics has destroyed its own foundation and now seems bent on creating a Leviathan. What is even more dangerous is that casting men and women loose from their traditional cultural and religious moorings leaves them adrift in a meaningless cosmos, lacking clear metaphysical or practical answers to the basic problems of life. The resulting spiritual vertigo is responsible for much of the social and personal dysfunction mentioned above and also for the calamitous history of the twentieth century. Only a few artists, philosophers, and free spirits thrive on the radical openness of cultural nihilism. The average person hates it, and if people do not get satisfactory answers to the questions of life from their inherited culture, then they will seek them else- where. This explains the popular appeal of the fanatical ide- ologies that drenched the last century in blood (and of the religious fundamentalism that now threatens to do the same in this one). In reality, the Enlightenment did not so much abolish reli- gion as redirect the spiritual drive of the Judeo-Christian tradi- tion toward worldly ends. We moderns are just as religious as our premodern ancestors, but we have chosen to worship two savage gods — Moloch and Mammon. Those who worship Moloch turn politics into a perverted religion. They try to ﬁll the void caused by cultural nihilism with eschatological secular creeds **dedicated to achieving a utopian ideal** of social perfec- tion. Those who worship Mammon turn politics into a religion of the self. They try to fill the void by glutting themselves with pleasure, exalting their **own self-gratification into a moral principle** and exploiting the state for selﬁ sh ends. These are both false gods. Neither ideology nor self-indulgence can satisfy the spiritual needs of human beings or make them truly happy, and both tend toward destruction. Our secular, rational, amoral way of life is failing. Our cultural myth to the contrary notwithstanding, this way of life represents **not a ﬁnal progressive advance** of civilization to “ the end of history ” but an **intensiﬁcation** of civilization’s ***inherent* ﬂaws** that can **end only in tragedy**. We must reinvent civilization so that it once again rests on a moral foundation by discovering a new “ rule of life ” that moderates, rather than magniﬁ es, the ﬁve great ills. And we now have the means to do so. The epistemological and ontological revolution of the twentieth century that produced systems ecology, particle physics, and depth psychology reveals a moral order that is immanent within the scientiﬁc description of the universe. From this order — “ written on the tablets of eternity ” — we can derive principles that could form the basis for humane and prudent governance. In other words, we have rediscovered the kind of natural law that the philosophes envisioned. We now understand, better than our Enlightenment ancestors, the means by which we can actualize these principles without resurrecting the evils of organized religion. In this book, I begin by examining the role played by law in human society before showing that ecology, physics, and psychology all agree in pointing us toward a politics of consciousness dedicated to expanding human awareness rather than extending human dominion. Unless the means of civilization are soon directed to an end that is higher than the endless accumulation of wealth and power, then the very enterprise of civilization itself, not just our particular form of it, may not long survive.

#### Makes extinction inevitable --- plan can’t solve human defects

Ophuls ’11 - former member of the U.S. Foreign Service and has taught political science at Northwestern University (Ophuls, William. “Plato's Revenge: Politics in the Age of Ecology.” 19 August 2011. P. 70-74)

 The portrait of the psyche that emerges is cautionary. As much as contemporary humans would like to believe that we have transcended our evolutionary origins, our animal nature lives on within us — **in our genes and** in our **minds**. Witness the architecture of the human brain, in which the cerebral cortex enfolds a mammalian limbic system wrapped around a reptilian core. Hence, said Jung, Every civilized human being, however high his conscious develop- ment, is still an archaic man at the deeper levels of his psyche. Just as the human body connects us with the mammals and displays numerous vestiges of earlier evolutionary stages going back even to the reptilian age, so the human psyche is a product of evolution which, when followed back to its origins, shows countless archaic traits. 2 In effect, Jung concludes, a “ 2,000,000-year-old man ” dwells in all of us. Even the distinctively human part of our nature associated with the cortex is irredeemably Paleolithic. 3 As a consequence, men and women are constantly agitated by primordial drives and conﬂicting emotions that they only partly understand and struggle to control — and that they are usually not even aware of. Much is healthy and good in human beings, but we have propensities for sickness and evilthat must not be ignored. Anthropology supports this bleak assessment of the human psyche. With few exceptions, there are no harmless people, and the savage mind, whatever its virtues, is often prey to unconscious forces and raw emotions (and is therefore the author of savage behavior). A review of the anthropological literature reveals three seemingly universal tendencies of the human mind: we are **prone to superstition** and magical thinking, we are **predisposed to paranoia**, **and we project our own hostility onto others**. 4 In essence, says Melvin Konner, chronic fear pervades the psyche and drives human behavior. 5 Although the last word has yet to be spoken, there seems to be an emerging scientiﬁ c consensus: we humans are a volatile mix of animal, primal, and civil — a tangle of emotions and drives that all but guarantees inner and outer conﬂ icts. That human nature is partly animal nature is not entirely a bad thing. Instinct is necessary for a healthy psyche and a moral society. But for human beings to live peacefully in crowded civilizations, the more bestial and savage aspects of man ’ s nature have to be actively discouraged by society. Konner puts it more forcefully. Because of our fear-driven antisocial propensities, we humans are “ evil ” by nature and therefore **need a “ Torah, ” or** an equivalent **ethical code, to forestall the** war of all against all. 6 In practice, this means that mores are essential because they tip the balance between good and evil in human nature. Good ones turn fal- lible, passionate men and women into reasonably upright members of society, while bad ones turn them into feral menaces to society. This conclusion does not follow from theory alone; it has been empirically demonstrated. The social psychologist Stanley Milgram showed how simple it is to create little Adolf Eich- manns who obediently inﬂ ict severe pain on hapless experi- mental subjects. 7 In an even more frightening experiment, his colleague Philip Zimbardo contrived to convert ordinary, presumably decent students into punitive monsters. In the infamous Stanford prison experiment, student volunteers were randomly assigned to be either guards or prisoners. In a matter of days, the former turned harsh and sadistic, the latter cringing or rebellious, and the experiment had to be aborted to avert physical harm to the prisoners. 8 In effect, psychology has rediscovered what were once called “ the passions ” — the welter of conﬂicting and potentially **dan- gerous impulses and emotions** that lurk in every human breast and that threaten to erupt under the slightest provocation unless they are kept in check by personal character or social control. Recall the words of Burke: “ Society cannot exist unless a controlling power on will and appetite be placed some- where. ” The choice is between self-imposed “ moral chains ” or externally imposed “ fetters. ” In his Politics , Aristotle identiﬁ ed the essential political challenge: For as man is the best of the animals when perfected, so he is the worst of all when sundered from law and justice . . . [because he] is born possessing weapons for the use of wisdom and virtue, which it is possible to employ entirely for the opposite ends. Hence, when devoid of virtue man is the most unholy and savage of animals. 9 When individuals gather in crowds, the challenge increases by orders of magnitude because fear, greed, and anger are contagious. As Gustave Le Bon pointed out long ago, crowds amplify every human defect and manifest many new ones of their own. “ The masses, ” said Jung, “ always incline to herd psychology, hence they are easily stampeded; and to mob psychology, hence their witless brutality and hysterical emo- tionalism. ” 10 Nietzsche was even more scathing: “ Insanity in individuals is something rare — but in groups, parties, nations, and epochs it is the rule. ” 11 The greatest Weapon of Mass Destruction on the planet is therefore the collective human ego. History teaches that the human capacity for evil is virtually unlimited. Unless wisdom and virtue are deployed to counteract ego ’ s potential for destruction, actual destruction is inevitable as men and women forget their better nature and become unholy and savage animals. This new yet old understanding of human nature is enough by itself to demolish modern hubris. Inﬁ nite social progress is as much of a chimera as inﬁ nite material progress. The “ 2,000,000-year-old man ” is what he is and will not be improved, only tamed. Indeed, at this point in human history, the essential task is forestalling racial suicide, not pursuing social perfection. To this cautionary portrait of human nature, we must now add the limits of human cognition. As has been shown, the human perceptual apparatus is a trickster. We are in touch not with reality but with a kind of shadow play **projected onto the screen of the psyche** **by** invisible deep structures. We have also seen that even the ﬁnest intellects struggle to comprehend complex, self-organizing systems, for nature does not make it easy for us to know reality. But the fault does not lie in nature. The human mind was simply not created to unravel the mys- teries of quantum mechanics or to comprehend the intricate dynamics of the global climate regime. It was instead cobbled together and then honed to perfection by evolution for one speciﬁ c purpose — survival as hunter-gatherers on the African savannah. We are Jung ’ s “ 2,000,000-year-old man ” not just emotionally but also cognitively. We are hardwired to perceive in certain ways and not in others. Above all, human cognition is “ designed ” for concrete perception, so primal peoples are masters of what anthropolo- gist Claude L é vi-Strauss called “ the sciences of the concrete. ” 12 This is by no means an inferior mode of thought. The savage is not, as we tend to think, a mere captive of strange fancies and outlandish beliefs. He is actually more of an empiricist than the physicist because he perceives his world directly and immediately whereas the latter ﬁ lters nature through an elabo- rate intellectual apparatus made up of mathematical, theoreti- cal, and technological lenses. So the abstraction associated with literacy, civilization, and, above all, scientiﬁ c investiga- tion is not natural but acquired — and only with great difﬁ culty after years of schooling. Even schooling cannot entirely eradicate the innate pro- pensity for concreteness in the human mind. For instance, we daily commit the epistemological sin of reiﬁcation — regarding abstractions or ideas, such as energy or the market, as if they were somehow as real as rocks and trees rather than constructs that help us understand complex phenomena. Likewise, our opinions have a tendency to become “ set in concrete, ” resist- ing all evidence to the contrary. 13 But perhaps the most egregious instance of what Whitehead called “ the fallacy of misplaced concreteness ” is that so many otherwise sane human beings believe in the absolute, literal truth of the manifestly mythological accounts contained in various scriptures — refusing to accept archeological and historical evidence to the contrary or even to entertain the possibility that these accounts could be ﬁngers pointing at the ineffable rather than expressions of concrete truth. 14 Sadly, many, if not most, human beings are not capable of rising very far above Piaget ’ s concrete operational stage of cognition. 15 Hence they cannot be said truly to comprehend the social and physical reality of life in complex civilizations — a life far removed from the comparatively simple and concrete existence of the hunter-gatherer, which centered on day-to-day survival amid an intimate circle of kinsmen and friends. As a corollary, the untutored human mind focuses on the present and the dramatic. The imperative of survival on the savannah made us sensitive to immediate or striking dangers — but comparatively oblivious to long-term trends, risks, and consequences, especially ones that are inconspicuous. Our attention is not grabbed by the creeping destruction of habitat, the imperceptible extinction of species, the continual accumu- lation of pollutants, the gradual loss of topsoil, the steady depletion of aquifers, and the like. Rather, we tend to ﬁ xate on dramatic symptoms (such as the occasional major oil spill) while ignoring the far greater long-term threat to ecosystems posed by quotidian events (such as the daily dribble of petro- chemicals from a multiplicity of sources, which is far greater and much more damaging over the long term). Unfortunately, dribbles are not the stuff of melodrama and so tend not to register strongly, even when brought to our attention by the media. So it takes a crisis to thrust stealthy perils into full awareness. Unfortunately, says biologist Richard Dawkins, the human brain was simply not built to understand slow, cumulative processes like evolutionary or ecological change, which demand an acute sensitivity to the long-term consequences of small changes. 16 Since long-term observation and planning were not critical for our early survival, these mental attributes were not reinforced by evolutionary selection. Ecology and its implications are therefore poorly understood, even by the informed public. More generally, the human mind ’ s inability to escape the clutches of the present leads to the habitual, shortsighted pursuit of current advantage to the detriment of future well-being. In addition, the survival imperative endowed us with a host of cognitive shortcuts — unconscious mental algorithms that may have been essential on the savannah but that must be consciously set aside if we humans are to live sanely in civiliza- tion. For example, the human mind tends to be quick to decide. Like any animal, we are emotionally wired for ﬁ ght or ﬂ ight, which means that our savage minds are also cognitively wired to jump to conclusions. When early humans spotted a tan shape lurking in the elephant grass, the minds that decided “ lion ” soonest had the best chance to pass their genes down to posterity. The human mind is also dualistic, so it is constrained, if not compelled, to choose one pole or the other — ﬁ ght or ﬂ ight, black or white, right or wrong — not the middle ground. This has been experimentally demonstrated at the perceptual level: when humans look at a classical optical illusion, they see either the lady or the vase, never both at once. In other words, the human mind naturally dichotomizes, creating the common oppositions of “ good ” and “ bad, ” “ us ” versus “ them, ” the “ two sides ” of any issue, “ left ” against “ right ” in politics, and so on. Unfortunately, as F. Scott Fitzgerald noted, it takes a ﬁ rst-rate intelligence to hold two opposing ideas in mind at the same time and still continue to function, so untutored minds readily afﬁx themselves to one of the poles and oppose the other. **This explains** the **perennial conﬂict** between believers and inﬁdels that has occasioned untold historical misery.

#### The alternative is paideia – it is an acceptance of Platonic authoritarianism necessary to effectively regulate the environment

Ophuls ’11 - former member of the U.S. Foreign Service and has taught political science at Northwestern University (Ophuls, William. “Plato's Revenge: Politics in the Age of Ecology.” 19 August 2011. P. 129-133)

Politeia is the means for realizing the ends of therapeia and paideia . Wisdom and virtue do not arise spontaneously in human beings, especially those who reside in complex civiliza- tions, so morality must be institutionalized and inculcated by a polity dedicated to fostering and upholding society ’ s norms and mores. The polity’s role is to govern — to direct affairs in a way that citizens are encouraged to **follow a moral code** or are swiftly checked when they fail to do so. (All the rest of what we call politics is politicking, policing, and administra- tion.) Provided that the code reﬂ ects an elevated ideal, such as excellence or wisdom, the result will be a rule of life that is relatively sane and humane. We live at a historical juncture that will challenge govern- ments as never before. Liberal society owes its existence to the bubble of ecological afﬂuence fueled by the “ discovery ” of the New World and the exploitation of the stored solar energy in fossil fuels. 2 Those who have grown up in afﬂ uent societies have therefore enjoyed unprecedented opportunities and freedoms, as well as levels of comfort and plenty all but unimaginable to our ancestors. But the **impending** return of **ecological scarcity** means that the expectations and aspirations of billions of indi- viduals cannot be met and that individual wants will increas- ingly be subordinated to collective needs. Governments now confront the **Herculean task** **of effecting an epochal** economic, social, and political transition from the industrial age to the age of ecology. The question is whether this can be achieved without lapsing into totalitarian tyranny or religious despotism. To escape such a fate will require us to break decisively with our habitual response to societal problems: passing laws that give governments ever more administrative power. The extraor- dinary nature of the challenge exposes us to the eternal and inescapable dilemma of politics in a particularly acute form. As Lord Acton observed, because power inevitably corrupts, no can be entrusted with it: “ The danger is not that a particular class is unﬁ t to govern. Every class is unﬁ t to govern. ” 3 The maxim “ That government is best which governs least ” follows as a matter of course. As John Stuart Mill says in concluding On Liberty , A government cannot have too much of the kind of activity which does not impede, but aids and stimulates, individual exertion and development. The mischief begins when, instead of calling forth the activities and powers of individuals and bodies, it substitutes its own activity for theirs. 4 So the proper function of government **is to facilitate, not dominate**; to **make the rules, not play the game**. By its nature, big government — whoever exercises power and whatever their intentions — is bound to be less responsive or efﬁ cient than small. In addition, any problems that emerge quickly become the rationale for further extensions of administrative power. But the more the government intrudes into the life of the citi- zenry, the more burdensome and expensive it becomes. More important, because power corrupts, it will inevitably tend to become overbearing as well. Because men and women have a surfeit of passion and a deﬁ cit of reason, a substantial degree of governance is indis- pensable for civilized life. It alone can constrain the one and supply the other. So government is a necessary evil — and the more it departs from what is truly indispensable, the greater the evil. Our aim must therefore be to construct a political regime that is sufﬁ cient to the desired end without exceeding what is strictly necessary. Instituting a necessary evil is not for the squeamish, but we shirk the task at our peril. Pascal likened political philosophy to “ lay[ing] down rules for an insane asylum. ” 5 The metaphor is apt. At best, even in comparatively well-ordered polities, political life is a kind of Bedlam characterized by shared delusion, cold-blooded self-seeking, and an aggressive will to power. At worst, it becomes a barely sublimated civil war one step removed from a Hobbesian state of nature. And Pope to the contrary notwithstanding, good rules are indeed necessary for a good politics lest we turn into a well-administered con- centration camp. Depending on the rules and the ways in which the rules are administered, the asylum will be more or less peaceful, more or less benign, and more or less conducive to individual sanity and welfare. Politics is not everywhere and always an unmitigated evil. As Aristotle and others point out, participation in politics can enhance the self-development of individuals. What is too often forgotten, however, is that only small, simple, face-to- face societies permit genuine participation. In the wrong set- ting — a society that is large, complex, or divided — **participatory politics** is likely to become what Plato said it was: an ignorant and impassioned mob **ﬁghting over the tiller of the ship** of state, with potentially disastrous consequences. The essen- tial task is therefore to foster a social and economic setting conducive to a politics that is sane, humane, participatory, and ecological. Nothing I say here should be construed as approving a dictatorial remaking of our civilization. We do not need a Lenin or even an Ataturk. We require a new moral, legal, and political order that cannot be imposed from the top down but that must instead percolate up as the consequence of an intel- lectual and moral reformation. The aim of this reformation should be to create the kind of society desired by Burke and Taine — a **self-regulating society** in which individuals bind themselves with moral chains and thereby become their own constables. To return to the theme of the noble lie, the ideal animating the machinery of government, not the machinery itself, con- stitutes a polity. Institutions do not create an ethos: witness the bootless attempts in the postcolonial era to graft the trap- pings of representative democracy onto traditional societies for whom democracy and liberty are alien ideals. The reverse is actually true: those who possess an ethos will naturally establish institutions that reﬂect it. Politics is not about elections, ofﬁces, or laws. It is about the deﬁnition of reality: what epistemology, ontology, and ethic shall constitute our rule of life? It is about the master metaphor that frames the manner of thought and the character of institutions at lower levels. At the heart of any political battle — from the general direction of society to particular policy issues — is a ﬁ ght to make a particular idea prevail: the invisible hand or the class struggle, a right to life or freedom of choice? 6 In consequence, said David Hume, it is always opinion that governs: nothing appears more surprising to those who consider human affairs with a philosophical eye, than the easiness with which the many are governed by the few. . . . When we inquire by what means this wonder is effected, we shall ﬁ nd, that, as FORCE is always on the side of the governed, the governors have nothing to support them but opinion. It is, therefore, on opinion only that government is founded; and this maxim extends to the most despotic and most military governments, as well as to the most free and most popular. 7 The French jurist J. M. A. Servan made the same point more cynically: A stupid despot may constrain his slaves with iron chains; but a true politician binds them even more strongly by the chain of their own ideas. . . . [T]his link is all the stronger in that we do not know what it is made of. 8 This ancient problem was adumbrated by Plato in The Republic and has been much studied in modern times by soci- ologists of knowledge: the human mind produces opinions that may have only a passing resemblance to reality. In the political arena, the problem manifests as Karl Marx ’ s “ false consciousness. ” On one side, a majority is unskilled in think- ing but hungry for meaning, and on the other, a smaller minor- ity is skilled at mental manipulation and hungry for power. The latter normally succeeds in imposing its ideas on the former — “ What luck for rulers that men do not think, ” said Adolf Hitler 9 — and these ideas, backed up as necessary by the gendarmerie and secret police, constitute the mainstay of any regime. The political dramas that occupy our newspapers and television screens **are** therefore largely **irrelevant**. As long as the basic metaphor remains the same, it is business as usual, no matter who wins elections or what policies are adopted. However, let one metaphor displace another, and “ reality ” shifts accordingly. According to Archibald MacLeish, “ A world ends when its metaphor has died. ” 10 When the consent of the governed supplanted the divine right of kings as master metaphor, the consequence was a radically new and different political order. The usual understanding of false consciousness, especially among Marxists, is that the falsity is due to cynical political manipulation combined with deliberate intellectual obfusca- tion, which leads the masses to be cunningly imprisoned in a set of beliefs that serve the interests of the ruling class. The usual solution proposed by modern thinkers is therefore sci- entiﬁ c. Science — whether the laws of dialectical materialism that govern the unfolding of human history, the best means of fostering economic growth, or the right way to feed babies — will provide objectively truthful answers to all questions and thereby liberate us from false consciousness once and for all. But there is no such thing as objectively true consciousness. Science may indeed provide us with true opinion concerning certain aspects of human nature and the natural world so that we can choose a rule of life that does not ﬂ out reality. But it cannot tell us what reality ultimately is, and it cannot choose the rule for us. **Everything** depends on the master metaphor we use to construct reality. The image of the machine leads to one kind of society — individualistic, acquisitive, exploitative — whereas the image of Gaia points in a very different direction. Again, we come face to face with the enormous power and reach of metaphor. It can liberate us, or it can enclose us in a mental prison — either one of our own making or one imposed on us by powerful others. The essential political struggle of our time is **not to pass laws that reduce pollution and conserve energy** so that the machine can keep running until it self-destructs, taking human- ity along with it. Instead, it is to ﬁght to make ecology the master science and Gaia the ruling metaphor — to abandon an ignoble lie and embrace a nobler new ﬁction that offers the means of long-term survival and the prospect of a further advance in civilization. This conclusion that a new ﬁ ction is the key to political change is supported by systems analysis. As Donella H. Meadows points out, the most effective leverage point for changing a system ’ s behavior is its fundamental mind set or paradigm, for this determines its goals, structure, and rules. 11 Unfortunately, this is also where resistance to change is ﬁ ercest. The required strategy of change, says Meadows, is to expose the anomalies, contradictions, and failures of the old paradigm while at the same time offering a new and better one. 12 The essence of the politeia that follows from this new ﬁ ction has already been stated. It is a politics of consciousness grounded in ecology and dedicated to inner cultivation instead of outer conquest. But what does this imply? The sages, prophets, poets, and philosophers who have gone against the grain of civilization by urging men and women to pursue wisdom and virtue instead of wealth and power have generally agreed on the means necessary to this end. They all envisioned a way of living that is materially and institutionally simple but culturally and spiritually rich — and therefore more generally free, egalitarian, and fraternal than life in complex societies devoted to continuous accumula- tion and expansion. The case for material and institutional simplicity takes several forms. The negative argument is that as societies grow larger and more complex, self-regulation breaks down, so they develop chronic and intractable problems. Politicians respond with laws and regulations that purport to be solutions. But when society has reached a certain level of complexity, solu- tions are either far from obvious or too painful to implement or even contemplate. Leaders resort to simplistic, merely expedient “ reforms ” that fail to solve the old problems and generate new ones that then require stronger measures. As a consequence, government grows ﬁ rst powerful, then intrusive, and ﬁ nally overbearing or even tyrannical, and the people themselves are corrupted and made dependent. Under such conditions, liberty decays, equality declines, and fraternity fades, often dramatically. The solution is for men and women to live in relatively small and simple societies that encourage them to be upright and independent, that preserve them from oppression, that keep them on a relatively equal footing with their fellow citizens, and that allow them to participate mean- ingfully in civic life. The positive argument is that men and women should live close to the earth and to each other in relatively simple and stable small communities because this is what the archetypal needs of the “ 2,000,000-year-old man ” require. A simpler and more natural existence will tend to maximize an individual ’ s chances of enjoying the good life — deﬁ ned as a way of living that is ﬁ lled with nature, beauty, family, friendship, leisure, education, and, for those inclined to it, philosophy in the Platonic sense of personal and spiritual self-development. These things, not material goods, bring true felicity. It follows that the aim of economic life must be sufﬁ ciency, which supports such felicity — not great wealth, which is its enemy. Sufﬁ ciency is also important for political reasons. Besides forestalling the growth of tyranny, a simple economy is relatively transparent, so individuals can see their own inter- ests as well as the common interest and act on them. Sufﬁ - ciency combined with ample opportunity for self-development also reconciles the tension between equality and excellence. If each human being attains his or her unique excellence and is recognized by others for having done so, then the best can in principle rule without creating either dependency or resent- ment among the ruled. This brief overview touches on important issues that are further addressed below, but we must ﬁ rst respond to the objection that a small-is-beautiful prescription for political salvation is utterly utopian and therefore not worthy of being taken seriously. In fact, what has always been philosophically commendable is about to become practically obligatory. The manifold pressures of ecological scarcity will soon compel us to live in smaller, simpler communities that are closer to the land than the megacities of industrial civilization. In the next few decades, well before we have completely exhausted the capital stocks of fossil fuels and mineral ores on which the current industrial order depends, matter and energy will become increasingly scarce and expensive. If deployed skill- fully and in a timely manner, technology can shape and moder- ate this inexorable trend, but it **cannot forestall it**. Our future way of life will of necessity be more simple, frugal, local, agricultural, diversiﬁ ed, and decentralized than at present. Our task must be to make a virtue of this necessity. When we recognize its necessity, we shall see that a simpler way of life might indeed be more virtuous and happy than the one we now believe represents the acme of human progress. In the ﬁrst place, industrial civilization has become too complex and interlinked for its own good. As Joseph Tainter points out, an excess of complexity, usually aggravated by other factors, has spelled the downfall of previous civilizations. 13 The costs of increasing complexity grow disproportionately until they eventually reach a point of diminishing or even declining returns. The civilization therefore has to run harder and harder to make further progress or even to stay in the same place. In addition, a civilization already stressed by the high costs of complexity may **no longer be resilient** enough to respond to further challenges. It risks a cascade of failure should a critical link fail for whatever reason. The interconnected insti- tutions of a highly complex society are like mountain climbers tied to one rope with no belay: the fall of one can trigger the death of all. For example, the world ﬁ nancial system experi- ences periodic crises when the failure of one bank brings down a host of counterparties. Similarly, a sudden or signiﬁ cant increase in the price of a critical commodity, such as petro- leum, can choke an industrial superstructure predicated on cheap and abundant energy. The further danger is that such a crisis can trigger psychological panic and social pandemo- nium. In short, the higher we build the ediﬁ ce of civilization, the more vulnerable we become to catastrophe. A simpler, more resilient way of life would therefore be advisable on prudential grounds alone. But our primary concern here is politeia , and the political argument for cultural simplicity is that great size and complex- ity produce a debased politics. When a polity grows beyond certain bounds, oligarchy in the bad sense is inescapable, the burden of bureaucracy grows ever more stiﬂ ing, and genuine consent of the governed is practically unattainable. A vicious circle fostering ever greater centralized planning, administra- tive intervention, and political control takes over. If democracy survives at all, it will be a token democracy shadowed by the lurking menace of mob rule. In the United States today, for instance, a tiny circulating policy elite makes all the important decisions in ways that align the interests of government, ﬁ nance, and business. Since the system is “ democratic, ” the elite has to take into account the passions of the mob, which can erupt if its ox is palpably gored. So as long as the American ruling class provides the bread of afﬂ uence and an entertaining media circus, it can do pretty much as it likes. Having long since outgrown the relatively simple conditions required to support its constitu- tional design, the United States has therefore become an impe- rial polity bearing no resemblance whatsoever to the original American republic. Such is the political price of great size and complexity. To cast the problem in more philosophical terms, let us turn to Jean-Jacques Rousseau ’ s On the Social Contract , which argues that the central task of politics is to uphold the “ general will. ” This is what any reasonable person, putting aside his or her prejudice and self-interest, would agree is in the public interest because it beneﬁ ts the community as a whole. Rousseau contrasts the general will with the “ will of all, ” which is the mere summation of all the private wills of the individuals composing the polity. The difference between the general will and the will of all is best seen through examples. If people are carrying a contagious disease, the general will may demand that they be quarantined in some fashion. We do not allow a Typhoid Mary to work in restaurants because preventing the spread of illness to the general population trumps her loss of liberty. Similarly, we do not permit individuals to urinate and defecate just anywhere. We oblige them to practice good hygiene by using sanitary facilities, both to prevent a public nuisance and to preserve public health. We also make immunization mandatory for schoolchildren because we know that the gain to society from herd immunity outweighs not only parental preference but even the slight risk of harm to any particular child. In this critical area of public health, we compel individuals to follow the general will rather than their private will because to do otherwise would produce a diseased will of all. In these cases, the difference between the general will and the will of all is clear, and the argument for the former is, to most people, compelling. However, this same dynamic applies at every level within the polity — albeit usually in a more atten- uated form that can make it hard to achieve or even discern the general will, especially in advance. As Rousseau points out, “ One always wants what is good for oneself, but one does not always see it. ” 14 Even where there is no evil intention but simply **the natural urge to fulﬁll individual desire**, people following their private will almost always create a will of all contrary to the general will. For example, the individual preference for private automo- biles leads to a host of public ills — trafﬁ c-choked and polluted cities that are friendlier to cars than people, thousands of dead and injured people every year, the threat of climate disruption, the loss of good farmland to suburban sprawl, foreign policy dilemmas or even wars, and so forth. Similarly, private demand for exotic woods causes the destruction of tropical rainforests, an ecological tragedy whose costs we all bear. Likewise, indi- viduals seeking longer life through state-of-the-art medical care threaten to bankrupt the public purse, to mention only the ﬁ scal cost of extended life spans. In other words, perfectly reasonable and legitimate private desires and actions aggregate into global outcomes that no reasonable person would want. Unless the general will is identiﬁ ed and upheld by the polity, ill-advised microdecisions motivated by private interest will add up to an unwanted or even ruinous macrodecision. The “ tragedy of the commons, ” the “ public-goods problem, ” the phenomenon of “ market failure, ” and a number of other dilemmas much studied by contemporary social sci- entists are instances of the general problem identiﬁ ed by Rous- seau. The same essential conﬂ ict occurs within each individual human being. We all know we would be healthier if we ate less and exercised more (the general will), but instead we indulge appetite (the private will) and cause an epidemic of obesity (the will of all). As a matter of both principle and practice, modern political economies are based explicitly on the will of all — that is, they are designed to satisfy private desire, not to achieve the public good. To put it the other way around, the public good has been redeﬁ ned as the outcome of the invisible hand of the economic and political marketplace. In fact, any attempt to uphold the commonweal is likely to be dismissed out of hand as special pleading or denounced as hostile to liberty. The practical outcome of modern political economy is almost bound to be what economist John Kenneth Galbraith called “ private afﬂ u- ence and public squalor ” — that is, a state in which individuals gratify their petty desires without regard to the unwanted or even destructive consequences of their private acts. 15 Worse yet, the reality of any marketplace is that partici- pants constantly strive to tip the invisible hand in their dir- ection, so the legislative process is likely to be subverted. As Rousseau put it, “ the basest interest brazenly adopts the sacred name of the public good . . . and iniquitous decrees whose only goal is the private interest are falsely passed under the name of laws. ” 16 The resulting will of all is therefore not pure but crooked. It has been bent to favor some interests over others. For Rousseau, the will of all is not primarily a practical problem to be solved but a moral failure to be overcome. When we follow our private will oblivious to or even in deﬁ ance of the general will, we injure society and degrade ourselves. His conclusion is expressed in stark terms by the epigraph to this chapter: since “ the impulse of appetite alone is slavery, ” we must be “ forced to be free ” by being made obedient to laws that align our private wills with the general will. Rousseau attempts to reconcile the obvious conﬂ ict between individual liberty and the higher freedom we gain in following the general will by saying that we are obeying laws that we, as reasonable beings, have prescribed for ourselves. But he acknowledges that the problem is like squaring the circle — ultimately unsolvable. As Rousseau says, it is simply a given of the human condition that “ the private will acts incessantly against the general will, ” so it is inconceivable that the two will ever be perfectly aligned. 17 But there is an approximate solution for squaring the politi- cal circle: by simplifying the setting of politics, we can make the private will and the general will coincide to a much greater degree than they do in large and complex societies. Rousseau ’ s political ideal is a gathering of peasants deciding their simple affairs under an oak tree. The smaller and simpler the polity, the more likely it is that those deciding will understand the issues, see what would best serve their mutual interest, and choose to implement this collective decision even if it does not fully satisfy their private preferences. There is an almost mathematical relationship: the further away a society is from Rousseau ’ s ideal, the less apparent or compelling the general will is to any given individual, and the greater the likelihood of the polity ’ s lapsing into an undesirable will of all. In short, if you want to achieve a rough approximation of the general will, make your polity small and simple. It follows that the setting of politics is crucial. Rousseau does not want a totalitarian reign of virtue, as some critics allege. He uses the doctrine of the general will not to justify authoritarianism but to show why it is necessary to establish social conditions that give rise to a natural reign of virtue. Unless the polity is relatively small and simple, the doctrine of the general will can be perverted to legitimate the tyranny of a majority or the dictatorship of a central committee — precisely what happened during and after the French Revolution. Rousseau ’ s “ law one has prescribed for oneself ” is not a statute law to be enforced by the authorities but a moral law that embodies the general will. This makes mores the sine qua non of a good politics. Unless the moral law is given concrete form, individuals will tend to go their own way without regard to the general will. Mores, says Rousseau, are the “ unshakeable keystone ” of politics. 18 Unfortunately, in large, complex, impersonal societies beyond any person ’ s ken or control, the temptation to ignore or ﬂ out the mores of the community becomes overwhelming. Only a relatively small, face-to-face community can exert suf- ﬁ cient moral pressure to make individuals consistently obedi- ent to the mores that force them to be “ free. ” If you want citizens to be upright and law-abiding, make your polity small and simple. Last but far from least, freedom for Rousseau is not the ability to gratify appetite but the absence of dependence. As he says in É mile , There are two sorts of dependence: dependence on things, which is from nature; dependence on men, which is from society. Dependence on things, since it has no morality, is in no way detrimental to freedom and engenders no vices. Dependence on men, since it is without order [i.e., it is morally degrading], engenders all the vices, and by it, master and slave are mutually corrupted. 19 In other words, a large, wealthy, complex, hierarchical social order reduces the vast majority to a state of dependence and therefore destroys freedom. So if you want citizens instead of slaves, make your polity small and simple. Rousseau ’ s doctrines may sound shockingly “ illiberal ” to the contemporary ear, but consider John Locke ’ s discussion of freedom: The Freedom then of Man and Liberty of acting according to his own Will, is grounded on his having Reason , which is able to instruct him in that Law he is to govern himself by, and make him know how far he is left to the freedom of his own will. To turn him loose to an unrestrain ’ d Liberty, before he has Reason to guide him, is not the allowing him the privilege of his Nature, to be free; but to thrust him out amongst Brutes, and abandon him to a state as wretched, and as much beneath that of a Man, as theirs. 20 So even the author of the liberal tradition says that freedom is not “ an unrestrain ’ d Liberty. ” Despite their considerable differences, Locke and Rousseau therefore agree on this fun- damental point: man ’ s private will must be made subject to “ that Law he is to govern himself by, ” a law discovered by “ Reason. ” To frame the issue in terms of Burke ’ s syllogism, if we do not bind ourselves with moral chains, then others will do the job for us (and not necessarily to our advantage). There must be a structure of benign control to teach self-control — in other words, community mores. Locke, who made a strong civil society the linchpin of his political theory, therefore differs only in degree with Plato, Rousseau, and others (such as the psychologist B. F. Skinner) who contend that since social con- ditioning is already pervasive and controls human behavior unconsciously, we must strive to do it more consciously, com- passionately, and responsibly. It also should be said that neither Locke nor Adam Smith would approve of the ends to which their liberal doctrines have been perverted. Both are actually closer in spirit to Rousseau than to contemporary liberals because they envisaged small-hold, independent pro- prietors enjoying strong but limited property rights, not gar- gantuan, globe-straddling corporations exploiting the same rights to dominate both economy and polity.

### Case

#### Human life first

Steinbock, 1978 (Bonnie, Professor of Philosophy at the University of Albany and fellow of the Hastings Center, “Speciesism and the idea of equality,” Philosophy, Vol. 53, No. 204, April, http://www.webster.edu/~corbetre/philosophy/animals/steinbock-text.html)

I think we do have to justify counting our interests more heavily than those of animals. But how? Singer is right, I think, to point out that it will not do to refer vaguely to the greater value of human life, to human worth and dignity: Faced with a situation in which they see a need for some basis for the moral gulf that is commonly thought to separate humans and animals, but can find no concrete difference that will do this without undermining the equality of humans, philosophers tend to waffle. They resort to high-sounding phrases like 'the intrinsic dignity of the human individual.' They talk of 'the intrinsic worth of all men' as if men had some worth that other beings do not have or they say that human beings, and only human beings, are 'ends in themselves,' while 'everything other than a person can only have value for a person.' . . . Why should we not attribute 'intrinsic dignity' or 'intrinsic worth' to ourselves? Why should we not say that we are the only things in the universe that have intrinsic value? Our fellow human beings are unlikely to reject the accolades we so generously bestow upon them, and those to whom we deny the honor are unable to object.9 Singer is right to be skeptical of terms like "intrinsic dignity" and "intrinsic worth." These phrases are no substitute for a moral argument. But they may point to one. In trying to understand what is meant by these phrases, we may find a difference or differences between human beings and nonhuman animals that will justify different treatment while not undermining claims for human equality. While we are not compelled to discriminate among people because of different capacities, if we can find a significant difference in capacities between human and nonhuman animals, this could serve to justify regarding human interests as primary. It is not arbitrary or smug, I think, to maintain that human beings have a different moral status from members of other species because of certain capacities which are characteristic of being human. We may not all be equal in these capacities but all human beings possess them to some measure and nonhuman animals do not. For example, human beings are normally held to be responsible for what they do. In recognizing that someone is responsible for his or her actions, you accord that person a respect which is reserved for those possessed of moral autonomy, or capable of achieving such autonomy. Secondly, human beings can be expected to reciprocate in a way that nonhuman animals cannot. Nonhuman animals cannot be motivated by altruistic or moral reasons; they cannot treat you fairly or unfairly. This does not rule out the possibility of an animal being motivated by sympathy or pity. It does rule out altruistic motivation in the sense of motivation due to the recognition that the needs and interests of others provide one with certain reasons for acting.10 Human beings are capable of altruistic motivation in this sense. We are sometimes motivated simply by the recognition that someone else is in pain, and that pain is a bad thing, no matter who suffers it. It is this sort of reason that I claim cannot motivate an animal or any entity not possessed of fairly abstract concepts. (If some nonhuman animals do possess the requisite concepts—perhaps chimpanzees who have learned a language—they might well be capable of altruistic motivation.) This means that our moral dealings with animals are necessarily much more limited than our dealings with other human beings. If rats invade our houses, carrying disease and biting our children, we cannot reason with them, hoping to persuade them of the injustice they do us. We can only attempt to get rid of them. And it is this that makes it reasonable for us to accord them a separate and not equal moral status, even though their capacity to suffer provides us with some reason to kill them painlessly, if this can be done without too much sacrifice of human interests. Thirdly, as Williams points out, there is the "desire for self-respect": "a certain human desire to be identified with what one is doing, to be able to realize purposes of one's own, and not to be the instrument of another's will unless one has willingly accepted such a role."11 Some animals may have some form of this desire, and to the extent that they do, we ought to consider their interest in freedom and self-determination. (Such considerations might affect our attitudes toward zoos and circuses.) But the desire for self-respect per se requires the intellectual capacities of human beings, and this desire provides us with special reasons not to treat human beings in certain ways. It is an affront to the dignity of a human being to be a slave (even if a well-treated one); this cannot be true for a horse or a cow. To point this out is of course only to say that the justification for the treatment of an entity will depend on the sort of entity in question. In our treatment of other entities, we must consider the desire for autonomy, dignity and respect, but only where such a desire exists. Recognition of different desires and interests will often require different treatment, a point Singer himself makes. But is the issue simply one of different desires and interests justifying and requiring different treatment? I would like to make a stronger claim, namely, that certain capacities, which seem to be unique to human beings, entitle their possessors to a privileged position in the moral community. Both rats and human beings dislike pain, and so we have a prima facie reason not to inflict pain on either. But if we can free human beings from crippling diseases, pain and death through experimentation which involves making animals suffer, and if this is the only way to achieve such results, then I think that such experimentation is justified because human lives are more valuable than animals' lives. And this is because of certain capacities and abilities that normal human beings have which animals apparently do not, and which human beings cannot exercise if they are devastated by pain or disease. My point is not that the lack of the sorts of capacities I have been discussing gives us a justification for treating animals just as we like, but rather that it is these differences between human beings and nonhuman animals which provide a rational basis for different moral treatment and consideration. Singer focuses on sentience alone as the basis of equality, but we can justify the belief that human beings have a moral worth that nonhuman animals do not, in virtue of specific capacities, and without resorting to "high-sounding phrases."

#### Always value for human life

**Torchia 2**, Professor of Philosophy, Providence College, Phd in Philosophy, Fordham College (Joseph, “Postmodernism and the Persistent Vegetative State,” The National Catholic Bioethics Quarterly Summer 2002, Vol. 2, No. 2, <http://www.lifeissues.net/writers/torc/torc_01postmodernismandpvs1.html>)

Ultimately, Aquinas' theory of personhood requires a metaphysical explanation that is rooted in an understanding of the primacy of the existence or esse of the human person. For humans beings, the upshot of this position is clear: while human personhood is intimately connected with a broad range of actions (including consciousness of oneself and others), the definition of personhood is not based upon any specific activity or capacity for action, but upon the primacy of esse. Indeed, human actions would have neither a cause nor any referent in the absence of a stable, abiding self that is rooted in the person's very being. A commitment to the primacy of esse, then, allows for an adequate recognition of the importance of actions in human life, while providing a principle for the unification and stabilizing of these behavioral features. In this respect, the human person is defined as a dynamic being which actualizes the potentiality for certain behavior or operations unique to his or her own existence. Esse thereby embraces all that the person is and is capable of doing. In the final analysis, **any attempt to define the person in terms of a single attribute, activity, or capability** (e.g., consciousness) flies in the face of the depth and multi-dimensionality which is part and parcel of personhood itself. To do so **would abdicate the ontological core of the person and the very center which renders human activities intelligible**. And Aquinas' anthropology, I submit, provides an effective philosophical lens through which the depth and profundity of the human reality comes into sharp focus. In this respect, Kenneth Schmitz draws an illuminating distinction between "person" (a term which conveys such hidden depth and profundity) and "personality" (a term which pertains to surface impressions and one's public image).40 The preoccupation with the latter term, he shows, is very much an outgrowth of the eighteenth century emphasis upon a human individuality that is understood in terms of autonomy and privacy. This notion of the isolated, atomistic individual was closely linked with a subjective focus whereby the "self" became the ultimate referent for judging reality. By extension, such a presupposition led to the conviction that only self-consciousness provides a means of validating any claims to personhood and membership in a community of free moral agents capable of responsibilities and worthy of rights. In contrast to such an isolated and enclosed conception (i.e., whereby one is a person by virtue of being "set apart" from others as a privatized entity), Schmitz focuses upon an intimacy which presupposes a certain relation between persons. From this standpoint, intimacy is only possible through genuine self-disclosure, and the sharing of self-disclosure that allows for an intimate knowledge of the other.41 For Schmitz, such a revelation of one's inner self transcends any specific attributes or any overt capacity the individual might possess.42 Ultimately, Schmitz argues, intimacy is rooted in the unique act of presencing, whereby the person reveals his or her personal existence. But such a mystery only admits of a metphysical explanation, rather than an epistemological theory of meaning which confines itself to what is observable on the basis of perception or sense experience. Intimacy, then, discloses a level of being that transcends any distinctive properties. Because intimacy has a unique capacity to disclose being, it places us in touch with the very core of personhood. Metaphysically speaking, intimacy is not grounded in the recognition of this or that characteristic a person has, but rather in the simple unqualified presence the person is.43

Sentience key

Dunayer, 2005 (Joan, “Reply to a self-proclaimed speciesist,” Vegan Voice, Sept/Nov, http://www.animalliberationfront.com/Philosophy/Morality/Speciesism/ProudSpeciesist.htm)

"I am a speciesist myself and make no apologies for that," Peter Milne writes in "Disagreeing with Speciesism Theory" (June–August 2005 Vegan Voice). No doubt, he never would announce with equal pride, "I’m a racist." Feminists and gay-rights advocates don’t declare themselves sexists and homophobes. In sad contrast, people who consider themselves advocates for nonhuman animals tolerate, even espouse, the very bigotry that they should be combating: speciesism. What is speciesism? A failure, on the basis of species, to accord anyone equal consideration. It’s speciesist to deny anyone equal consideration either because they aren’t human or because they aren’t human-like. Nonspeciesists advocate equally strong basic rights—for example, to life and liberty—for all sentient beings. According to Milne, vegans are speciesist because they "discriminate" between plants and animals. By definition, to discriminate against members of any group means to discount their interests. Being insentient, plants have no interests; therefore we can’t discriminate against them. "We pass judgment that plant lives are less significant than animal lives in the realm of feeling and emotions," Milne states. Plants’ feelings and emotions aren’t "less significant"; they’re nonexistent. "Some tests indicate that plants have a basic consciousness," Milne says. No tests that scientists regard as valid. Milne’s claim that it’s speciesist to eat plants but not animals is sheer nonsense. In Milne’s view I exclude plants (and other organisms without a nervous system) from equal consideration because I don’t recognize "differences in the consciousness of different species." As someone whose graduate research in psychology focused on nonhuman cognition, I’m well aware that the consciousness of every sentient being differs from that of every other. Along with his belief that plants are conscious, Milne’s preposterous claim that insects live "constantly in fear of being devoured or killed in some other way" shows his dearth of scientific knowledge. Milne’s worldview is religious rather than based on evidence and logic. He believes in a hierarchical "Kingdom of God". (That phrase evokes a male, anthropomorphic deity.) Milne ranks humans above other animals, nonhuman mammals above birds, birds above reptiles, and reptiles above insects and arachnids. (Even his use of personal names assigns higher and lower status: except when he gives full names, he refers to Peter Singer as "Singer", in keeping with professional courtesy, but refers to me as "Joan".) Milne draws this false analogy: plants differ from animals as insects differ from mammals. Plants and animals differ in a way crucial to the issue of basic rights: animals are sentient; plants aren’t. Insects and mammals differ in ways irrelevant to basic rights: both are sentient. Like mammals and unlike plants, insects should have rights to life and liberty because they can experience life and liberty.

#### Existence is a prerequisite to the alternative – the only way to respect nature as radical alterity is through its physical preservation – plan revitalizes an ontological relationship with nature ---- means their frame isn’t mutually exclusive

Wapner, 2003 (Paul, associate professor and director of the Global Environmental Policy Program at American University, “Leftist Criticism of ‘Nature’,” Winter, Dissent)

I would like to present a third response to contemporary eco-criticism, accepting the intellectual insights of postmodern critics and, at the same time, providing some guidelines for protecting the nonhuman world. My argument will focus less on the fundamental character of reality—an endless debate—and more on the ethics of environmentalism. The two responses that I’ve just described ask whether a postmodern sensibility has the right epistemological or ontological “take” on reality— with the first denying and the second defending the rightness. I will ask instead how we want to live in the world and what kind of people we want to be. But I will try to build my answers on (or out of) the ontological debris created by postmodern criticism. Eco-critics are not intellectual hacks. Neither are most cultural critics nihilistic or amoral. Many of them offer useful insights about human experience. In fact, much postmodern thought acknowledges purposeful elements in human life and attempts to make judgments about the different purposes. Many critics see themselves involved in a moral enterprise. The position I want to defend joins the intellectual and moral dimensions of postmodern cultural criticism by working through what is often called an “ethic of otherness.” One of the hallmarks of postmodernism is the understanding that whenever we reflect upon, talk about, or act in the world, we represent it to ourselves and others. And when we do that, we are not rendering an objective view of reality so much as constructing a certain understanding of the world. We are subscribing to a particular discourse or set of discourses about the “way things are,” and this “way” shapes our experience. This is not to say, of course, that physical objects are figments of our imagination or that there is no substratum to reality, but simply that we endow the objects of our experience with particular meanings that determine how we think and act in the world. The ethical dimension of this insight comes into view when we recognize the danger of forgetting the constructed quality of human experience. We construct our experience, fail to hold onto the idea that we’ve done just that, and then assume that our constructions are somehow “real.” This becomes an ethical failing insofar as it silences the views of others. The claim to know how the world really is expresses a hegemonic ambition; it asserts authority in a way that delegitimizes others’ perspectives on human experience and the world in general. This is an ambition—a kind of “violence”— that many postmodernists find unacceptable. The ethical alternative is respect for the “other.” This involves turning down the volume of our own pronouncements about the world and listening to others—or providing them with the opportunity to express themselves so that we can listen. Hence the many efforts by postmodernists to “give voice to the other”: from academic campaigns to expand the literary canon to popular efforts to embrace and celebrate multiculturalism. The aim is to promote the expression of the marginalized and disadvantaged. While postmodern cultural critics are comfortable giving voice to other people, they stop short at the nonhuman world—the paradigmatic “other.” When it comes to nature, postmodernists are happy to do all the talking. They seem to see no need to heed the voice of the nonhuman, no reason even to assume that, in the vast world of rivers, chimpanzees, rainstorms, and whales, anything is being said. Postmodern cultural critics look at the nonhuman world and think that they are looking in the mirror. There is nothing out there with its own authentic voice because, as soon as we imagine it expressing itself, we recognize that we are speaking, and therefore making up, its words. As Christopher Manes puts it, “It is as if we had compressed the entire buzzing, howling, gurgling biosphere into the narrow vocabulary of epistemology, to the point that someone like Georg Lukacs could say, ‘nature is a societal category’—and actually be understood.” The third response to eco-criticism would require critics to acknowledge the ways in which they themselves silence nature and then to respect the sheer otherness of the nonhuman world. Postmodernism prides itself on criticizing the urge toward mastery that characterizes modernity. But isn’t mastery exactly what postmodernism is exerting as it captures the nonhuman world within its own conceptual domain? Doesn’t postmodern cultural criticism deepen the modernist urge toward mastery by eliminating the ontological weight of the nonhuman world? What else could it mean to assert that there is no such thing as nature? I have already suggested the postmodernist response: yes, recognizing the social construction of “nature” *does* deny the self-expression of the nonhuman world, but how would we know what such self-expression means? Indeed, nature doesn’t speak; rather, some person always speaks on nature’s behalf, and whatever that person says is, as we all know, a social construction. All attempts to listen to nature are social constructions—except one. Even the most radical postmodernist must acknowledge the distinction between physical existence and nonexistence. As I have said, postmodernists accept that there is a physical substratum to the phenomenal world even if they argue about the different meanings we ascribe to it. This acknowledgment of physical existence is crucial. We can’t ascribe meaning to that which doesn’t appear. **What doesn’t exist can manifest no character**. Put differently, yes, the postmodernist should rightly worry about interpreting nature’s expressions. And all of us should be wary of those who claim to speak on nature’s behalf (including environmentalists who do that). But we need not doubt the simple idea that a prerequisite of expression is existence. This in turn suggests that preserving the nonhuman world—in all its diverse embodiments—must be seen by eco-critics as a fundamental good. Eco-critics must be supporters, in some fashion, of environmental preservation.

#### Prior focus on ontology causes is de-historicizing and prevents action

Kratochwil, professor of international relations – European University Institute, ‘8

(Friedrich, “The Puzzles of Politics,” pg. 200-213)

The lesson seems clear. Even at the danger of “fuzzy boundaries”, when we deal with “practice” ( just as with the “pragmatic turn”), we would be well advised to rely on the use of the term rather than on its reference (pointing to some property of the object under study), in order to draw the bounds of sense and understand the meaning of the concept. My argument for the fruitful character of a pragmatic approach in IR, therefore, does not depend on a comprehensive mapping of the varieties of research in this area, nor on an arbitrary appropriation or exegesis of any specific and self-absorbed theoretical orientation. For this reason, in what follows, I will not provide a rigidly specified definition, nor will I refer exclusively to some prepackaged theoretical approach. Instead, I will sketch out the reasons for which a prag- matic orientation in social analysis seems to hold particular promise. These reasons pertain both to the more general area of knowledge appropriate for praxis and to the more specific types of investigation in the field. The follow- ing ten points are – without a claim to completeness – intended to engender some critical reflection on both areas. Firstly, a pragmatic approach does not begin with objects or “things” (ontology), or with reason and method (epistemology), but with “acting” (prattein), thereby preventing some false starts. Since, as historical beings placed in a specific situations, we do not have the luxury of deferring decisions until we have found the “truth”, we have to act and must do so always under time pressures and in the face of incomplete information. Pre- cisely because the social world is characterised by strategic interactions, what a situation “is”, is hardly ever clear ex ante, because it is being “produced” by the actors and their interactions, and the multiple possibilities are rife with incentives for (dis)information. This puts a premium on quick diagnostic and cognitive shortcuts informing actors about the relevant features of the situ- ation, and on leaving an alternative open (“plan B”) in case of unexpected difficulties. Instead of relying on certainty and universal validity gained through abstraction and controlled experiments, we know that completeness and attentiveness to detail, rather than to generality, matter. To that extent, likening practical choices to simple “discoveries” of an already independently existing “reality” which discloses itself to an “observer” – or relying on optimal strategies – is somewhat heroic. These points have been made vividly by “realists” such as Clausewitz in his controversy with von Bülow, in which he criticised the latter’s obsession with a strategic “science” (Paret et al. 1986). While Clausewitz has become an icon for realists, only a few of them (usually dubbed “old” realists) have taken seriously his warnings against the misplaced belief in the reliability and use- fulness of a “scientific” study of strategy. Instead, most of them, especially “neorealists” of various stripes, have embraced the “theory”-building based on the epistemological project as the via regia to the creation of knowledge. A pragmatist orientation would most certainly not endorse such a position. Secondly, since acting in the social world often involves acting “for” some- one, special responsibilities arise that aggravate both the incompleteness of knowledge as well as its generality problem. Since we owe special care to those entrusted to us, for example, as teachers, doctors or lawyers, we cannot just rely on what is generally true, but have to pay special attention to the particular case. Aside from avoiding the foreclosure of options, we cannot refuse to act on the basis of incomplete information or insufficient know- ledge, and the necessary diagnostic will involve typification and comparison, reasoning by analogy rather than generalization or deduction. Leaving out the particularities of a case, be it a legal or medical one, in a mistaken effort to become “scientific” would be a fatal flaw. Moreover, there still remains the crucial element of “timing” – of knowing when to act. Students of crises have always pointed out the importance of this factor but, in attempts at building a general “theory” of international politics analogously to the natural sci- ences, such elements are neglected on the basis of the “continuity of nature” and the “large number” assumptions. Besides, “timing” seems to be quite recalcitrant to analytical treatment.

#### Their approach to the environment is fundamentally romantic – they yearn for an appreciation of all land as equally valuable. With global warming on the brink, this approach is more dangerous than ever. Instead of affirming the desert, it is incumbent upon us to affirm ration, enlightenment era metaphysics

Hari 9 (johann, “move over Thoreau” slate jan 12 http://www.slate.com/id/2207168/)

The rational environmentalists stand at the midpoint between the utopian delusions of the global-warming deniers—something will come along to save us!—and the utopian fantasies of the romantics. They believe our crisis is not spiritual at all, but physical. Human beings didn't unleash warming gases into the atmosphere out of malice or stupidity or spiritual defect: They did it because they wanted their children to be less cold and less hungry and less prone to disease. The moral failing comes only very late in the story—when we chose to ignore the scientific evidence of where wanton fossil-fuel burning would take us. This failing must be put right by changing our fuel sources, not altering our souls. Diagnose the problem differently, and you end up with fundamentally different solutions. You can see this most clearly if you look at the environmentalist clash over cities, over how we should live: Is the way forward to build more cities or to try to get people to flee to the countryside? In *American Earth*, farmer and plant geneticist Wes Jackson ventures into the ring for the romantics by presenting a utopian vision of the United States in 2030. The major cities have experienced "drastic declines" because people finally became aware of "the spiritual dangers which arise when people no longer know or feel their rootedness in the land." They figured out "the only people who really liked the big city life were merchants and [boo! hiss!] intellectuals." The people have returned to the land and been healed. A few pages later, sociologist Jane Jacobs struts into the ring and jabs back: "It may be romantic to search for the salves of society's ill in slow-moving rustic surroundings, but it is a waste of time." Human beings are part of nature, not some alien species—so "the cities of human beings are as natural … as are the colonies of prairie dogs or the beds of oysters." Far from being free and somehow mystically complete, "in real life, peasants are the least free of men—bound by tradition, ridden by caste, fettered by superstitions, riddled by suspicion and foreboding of whatever is strange." So for Jacobs, cities are ineradicable and set you free—and, crucially, they are the greenest way to live. The area with the lowest carbon emissions per person in the United States is not rural Alabama or icy Alaska. It is New York City, with its mass transit system and easy walking. If we are to deal with global warming, there need to be more densely populated cities and far fewer tree-lined suburbs. Here are two sincere environmentalists with completely different answers for how we should live. Why? Because they are asking different questions. Jackson is asking about a supposed spiritual crisis; Jacobs is talking about an imminent physical one. I'm with the rationalists. And yet this division—which seems so plain and irreconcilable to me—keeps being muddied by the contributors to this collection. Wes Jackson offers the most romantic fantasy of the book—but he is a distinguished scientist. Al Gore offers the most lucid popular summary of hard climate science we have—and then attributes the disaster, in an unexplained leap of logic, to a "spiritual crisis." Almost all the rational accounts here let romantic tropes seep into their writing as rousing quasi-religious end lines. Why? It feels as though the rationalists don't have enough confidence in their own intellectual tradition to inspire and rouse people. It's an old Enlightenment fear: Are we too irrational and poorly evolved a species to respond to neat reason? I don't think so. Rationalist environmentalists are close to finding a language that can rouse people to the great global game of Russian roulette we are playing without descending into cause-discrediting voodoo. You can glimpse this voice in the writings of the best environmentalists: people like George Monbiot and Mark Lynas and Jared Diamond. It locates its rock-solid facts in a compelling narrative about our species: where we can from and what we can still be if our best instincts prevail. Yet rationalist environmentalism doesn't have a lot of time to prevail. As *American Earth* progresses, from the 1830s to the noughties, the scope of environmentalism grows wider and wider, as though it were a snowball tumbling downhill. If saving our species—with all its poetry and pathos and pathologies—isn't an urgent cause that inspires the kind of hardheaded passion that can sustain a determined political movement, then what is? As Denis Hayes—co-founder of Earth Day—says in this collection, "If environment is a fad, it's going to be our last fad."

#### Their re-imagination of nature causes environmental destruction – if we can’t differentiate between good and bad forms of nature then conservatives can “affirm the desert” by paving a rainforest

Wapner 3

Paul Wapner, associate professor and director of the Global Environmental Policy Program at American University. “Leftist Criticism of "Nature" Environmental Protection in a Postmodern Age,” Dissent Winter 2003 http://www.dissentmagazine.org/menutest/archives/2003/wi03/wapner.htm

Leftist critiques of environmentalism start from this same premise. They point out that our notions of nature-the nonhuman world that environmentalists care so much about-are themselves social constructions and thus subject to various interpretations, none of which can provide absolute guidance for environmental policy. We never experience nature directly but always through the lenses of our own values and assumptions. "Nature" is thus not simply a physical entity that is "out there" or given; it is an idea that takes on different meanings in different cultural contexts, a social construction that directs us to see mountains, rivers, trees, and deserts in particular ways. Raymond Williams expressed this understanding when he wrote, "The idea of nature contains, though often unnoticed, an extraordinary amount of human history." To postmodernists, "nature" is not something the mind discovers but something that it makes. This understanding of "nature" is helpful in guarding against insensitive environmentalist projects. We often assume that everyone concerned with a particular environmental issue shares the same understanding of the problem. But this is far from being the case. When it comes to preserving wilderness areas or protecting biological diversity, one person's wilderness is another person's neighborhood. What one person values as an endangered species is potential income, a threat, or dinner to someone else. Leftist criticism has been important in reminding us that "nature" is not a single realm with a universalized meaning, but a canvas on which we project our sensibilities, our culture, and our ideas about what is socially necessary. The postmodern argument also poses challenges for anyone concerned with environmental protection. Environmentalism is fundamentally about conserving and preserving nature. Whether one worries about climate change, loss of biological diversity, dwindling resources, or overall degradation of the earth's air, water, soil, and species, the nonhuman world is the backdrop of concern. What happens when critics call this backdrop into question? What happens when they claim that one understanding of "nature" is at odds with another and that there is no definitive way to judge which one is better? How can a movement dedicated to protecting nature operate if the very identity of its concern is in doubt? THESE MAY SEEM like academic questions, but they go to the heart of environmentalism and have begun to worry even the most committed environmentalists. After scholars such as William Cronon, Timothy Luke, and J. Baird Callicott introduced "eco-criticism" to the scholarly and popular publics, various environmental activists and thinkers have struggled to articulate a response. Their inability to do so in a decisive and persuasive manner has further damaged the environmentalist position. Even more troubling, now that the critique is out of the bag, it is being co-opted by people on the right. Anti-environmentalists such as Charles Rubin and Alston Chase, for example, now claim that, if there is no such thing as "real" nature, we need not treat the nonhuman world with unqualified respect. If we think it is in our interest, we can freely choose to pave the rainforest, wipe out the last panda bear, or pump high levels of carbon dioxide into the atmosphere. What is critical to notice in both cases is that criticisms of "nature," whether they come from the left or are co-opted by the right, are playing an increasing role in structuring the confrontation between anti- and pro-environmentalists. And they are re-setting the fault lines within the environmental movement itself.

#### Skeletal deposits eventually cause carbon deficiency, technology and management are key to prevent extinction of all life everywhere

Ward, 2009 (Peter, Professor of biology and Earth and space sciences at the University of Washington and an astrobiologist with NASA, *The Medea Hypothesis,* 52-54)

Calcium is an important ingredient in this process, and it is found in two main sources on a planet's surface: igneous rocks and, most importantly, the sedimentary rocks called limestone. Calcium reacts with carbon dioxide to form limestone. Calcium thus draws CO2 out of the atmosphere. When CO2 begins to increase in the atmosphere, more limestone formation will occur. This can only happen, however, if there is a steady source of new calcium available. The calcium con­tent is steadily made available by plate tectonics, for the formation of new mountains brings new sources of calcium back into the system in its magmas and by exhuming ancient limestone, eroding it, and thus releasing its calcium to react with more CO2. At convergent plate margins, where the huge slabs of the Earth's surface dive back down into the planet, some of the sediments resting on the descend­ing part are carried down into the Earth. High temperature and pressure convert some of these rocks into metamorphic rocks. One of the reactions is the carbonate metamorphic reaction, where lime­stone combining with silica converts to a calcium silicate—and car­bon dioxide. The CO2 can then be liberated back into the atmosphere in volcanic eruptions. The planetary thermostat requires a balance between the amount of CO2 being pumped into the atmosphere through volcanic action and the amount being taken out through the formation of limestone. The entire system is driven by heat emanating from the Earth's in­terior, which causes plate tectonics. But as we have seen there is more to this cycle than simply heating from the interior. Weather­ing on the surface of the Earth is crucial as well, and the rate of weathering is highly sensitive to temperature, for reaction rates in­volved in weathering tend to increase as temperature increases. This will cause silicate rocks to break down faster and thus create more calcium, the building block of limestone. With more calcium avail­able, more limestone can form. But the rate of limestone formation affects the CO2 content of the atmosphere, and when more lime‑ stone forms there is less and less CO2 in the atmosphere, causing the climate to cool. Here is a key aspect of the overall Earth system that helps refute either Gaia or Medea. If the Medea hypothesis is correct, we should be able to observe or measure a reduction of habitability potential (as measured by the carrying capacity, or total amount of life that can live on our planet at any give time) through time, or as measured by an observable shortening of the Earth's ability to be habitable for life in the future. For our own Earth, habitability will ultimately end for two reasons. The first of these is not Medean; it is a one-way effect. The ever-increasing energy output of our Sun, a phenomenon of all stars on what is called the main sequence, will ultimately cause the loss of the Earth's oceans (sometime in the next 2 to 3 billion years, accord­ing to new calculations). When the oceans are lost to space, planetary temperatures will rise to uninhabitable levels. But long before that, life will have died out on the Earth's surface through a mechanism that is Medean: because of life, the Earth will lose one resource with­out which the main trophic level of life itself—photosynthetic or­ganisms, from microbes to higher plants—can no longer survive. This dwindling resource, ironically, (in this time when human society worries about too much of it), is atmospheric carbon dioxide. The Medean reduction of carbon dioxide will then cause a further reduc­tion of planetary habitability because the CO2 drop will trigger a drop in atmospheric oxygen to a level too low to support animal life. This is an example of a "Medean" property: it is because of life that the amount of CO2 in the Earth's atmosphere has been steadily dropping over the last 200 million years. It is life that makes most calcium car­bonate deposits, such as coral skeletons, and thus life that ultimately caused the drop in CO2, since it takes CO2 out of the atmosphere to build this kind of skeleton. Life will continue to do this until a lethal lower limit is attained. This finding is important: in chapter 8 I will show a graph that supports this statement. As pointed out by David Schwartzman, while limestone can be formed with or without life, life is far more efficient at producing calcium carbonate structures—a process that draws CO2 out of the atmosphere—than nonlife. There is only one way out of the lethal box imposed by Darwinian life: the rise of intelligence capable of devising planetary-scale engi­neering. Technical, or tool-producing, intelligence is the unique so­lution to the planetary dilemma caused by Medean properties of life. New astrobiological work indicates that Venus, Mars, Europa, and Titan are potentially habitable worlds at the present time, at least for microbes, just as the Earth was early in its history. Did they undergo a reduction in habitability because of prior Medean forces? And cer­tainly the cosmos is filled with Earth-like planets, based on both new modeling of still-forming solar systems and observations by the Butler and Marcy planet-finding missions. While the "planet find­ers" cannot yet directly observe any planet that is Earth-sized (a planet of this size is still too small for us to see with our current technologies), the orbits exhibited by some of the Jupiter- and Saturn-sized planets that can be observed suggest that smaller, Earth-like planets might exist there. Would Medean forces occur in alien life, as well as Earth life? If such life were Darwinian, the answer would be "certainly."

#### Prefer our evidence – most recent studies prove that abandoning technology and civilization cause extinction, only massive management campaign can solve

Ward, 2009 (Peter, Professor of biology and Earth and space sciences at the University of Washington and an astrobiologist with NASA, *The Medea Hypothesis,* XX – XXII)

To argue my case, I will use new discoveries from geology, biology, and most of the fossil record. To me, these new understandings are like a memory exhumed from some deep sleep, in reality from the deep past, that shows the absolute need to construct a new paradigm about both past and future, one that will require a rather painful shift from the kinds of conservation and environmentalism that are prac­ticed now. The philosophical underpinnings of modern environmen­talism are that the planet must be returned to environmental condi­tions that existed prior to the evolution of humankind's technological civilization, with the resulting planetwide changes to almost every facet of the environment. Instead, we humans must resort to whole­sale planetary engineering if we are to overcome the tendencies of life around us—and those of our own species—to make the Earth a less salubrious (and eventually lethal) abode for life. The sum of this record, which is meant to be the theme of this work, is the interpre­tation that the evolution of life triggered a series of disasters that are in­imical to life and will continue to do so into the future. If true, one implication is that the environmental challenges con­fronting our species and its civilizations are far more than simple overpopulation and all that entails. The fact is that we live on a rap­idly aging planet, and we will soon have but two choices if our spe­cies is to survive: engineer on a planetary scale or get off. Instead of restoring our planet to how it was before humans, we have to do ex­actly what the Gaia hypothesis suggests that life has done all along: optimize conditions for further life. We have to confront the nature of life itself and deal especially with groups of life that we animals have battled throughout our history: armies of microbes that cause their own kind of pollution, inimical to our kind of life. I will try to show in the pages to come that the cause of this in­herent tendency of life on Earth is due to one of Earth life's most deeply inherent characteristics, so deeply rooted that it would not be life without this aspect. It is that all Earth life is a slave to a process called evolution, Darwinian evolution in fact, for Charles Darwin got the process spectacularly correct even without understanding how any characteristic could be heritable. Along with replication and metabolism, evolution is one of the three tripods that defines life on Earth; take any of these legs away and it falls into the nonlife cate­gory. Life can no more help evolving than we can stop breathing and stay alive. You evolve or your species goes extinct, for the Earth keeps changing, and the formation of our own form of life was made pos­sible because of this characteristic. When life first appeared, some 3.7 billion years ago at the latest, our planet was a far more energetic and dangerous place to live on or in, and only through the ability to change generation by generation could the earliest forms of life sur­vive. It was not only survival of the fittest, but also survival of the best and fastest evolvers. Natural selection not only worked on better ways to get energy and withstand environmental difficulties but evolved better ways to evolve. Before all else, life worked on perfect­ing energy acquisition, replicating quickly and with fidelity, and evolving ever more quickly. But the price to pay is that each and every species innately "tries" to become the dominant species on the planet, with no regard to other species. Be it bacteria or bees, all try to produce as many individuals as possible and in so doing can and do poison the environment in various ways for all other species, in­cluding the species in question. How much longer will the Earth sustain life in the face of this relentless overpopulation by a variety of species, which tends to use up resources—unless we humans step in and save things, of course? Alone among all the creatures large and small, our species can ex­tend the length of the biosphere on Earth, which, like all of us, has a finite lifespan. Yet that lifespan, currently dictated by life itself, can be lengthened. Vastly lengthened.

#### Science should be left to scientists – their criticism of exceptionalism within science destroys the discipline and guarantees that people stop learning it

Gross and Levitt, 1994 (Paul R. University Professor of Life Sciences and director of the Center for Advanced Studies at the University of Virginia, and Norman, Professor of mathematics at Rutgers, “The natural sciences: Trouble Ahead? Yes,” Academic Questions, Vol. 7, Issue 2, Spring)

A literary theorist we know, who, despite his thin knowledge of actual science has devoted much recent work to the science question, once exclaimed, "Science is too important to be left to the scientists!" In a strong sense, he is right. The products and ideas of science pervade the world, and an ideal of contemporary citizenship must include the capacity to intervene in the world so as to deal with what science imposes on us, either willfully or, as sometimes happens, inadvertently. At the same time, our friend is dangerously naive. The counterclaim--science is too important to be left to anyone but the scientists--is also commonsensically true. Experience sadly shows that when people, however well-meaning, who lack a serious grasp of science attempt to handle problems-from the environment to AIDS-in which scientific questions ineluctably arise, they tend to make a mess of things, to chase after phantoms, delusions, and irrelevant obsessions. In an ideal world (Karl Marx, ironically, was one of the thinkers inspired by this ideal) everyone would be a scientist part of the time and would have the capacity, if not to do creative research, then at least to absorb the results of such research with some insight. In the world we live in, this is wildly unrealistic. The best we can hope for is that a sizable fraction of the adult population will have at least a glancing familiarity with some samples of authentic science and, more importantly, the capacity--and the will-to distinguish genuine science from fantasy and superstition. In short, people ought to know what science is and what it isn't. Competent thinking about a host of vital issues turns upon this ability. The most obnoxious aspect of recent science criticism, then, is that it helps to frustrate this possibility for young adults, even those with a supposedly elite liberal arts education. The young are fascinated by idols and by the breaking of idols. Anxious for identity, eager to establish themselves, certain that manifest evil has simple causes and remedies, they scorn age and experience and the very idea of resignation. They attribute deliberateness in their seniors not to wisdom, but to selfishness or senility. Who would have it otherwise? But there are costs. From time to time, in not-so-remote history, these have been dreadful costs. In the case that concerns us, the stakes may not be astronomically high, but they are real. The denigration of science by the academic Left--perhaps, we might better say, the scholastic Left--is captious and philosophically shallow, but, with some exceptions, it is heartfelt and reflects, however inappropriately, a genuine thirst for justice. The young--some major fraction of them at least--understandably respond to that sincerity. They can hardly be blamed for thinking that one professor is as reliable-or unreliable--as another, and for lacking the intellectual sophistication to see through some of their would-be mentors. After all, the science critics we have named, and many others besides, are, at some level, rather clever, able to sell their students a bill Of goods precisely because they have sold it to themselves. What they are selling is intellectual laziness disguised as intellectual courage. Why bother investing time and effort in the heavy task of learning science when one has continually been given to believe that science, at least in part, is an arrogant sham, and that the most fearless minds, the choicest spirits of the age, have seen through it? In more prosaic terms, why bother to take tough science courses when you can learn all about it by signing up for a radical-feminist critique of science or an anthropology course eager to tell you why science ought not to be "privileged" over shamanism? The world is not going along so nicely right now that we can casually diminish the supply of informed intelligence, in or out of professional science, Down the line somewhere all these genuinely well-meaning professorial leftists may find that they have helped to bring about a future far grimmer, nastier, and more dangerous than they-and all of us--were hoping for. (To be fair, other factors, such as the anti-scientism of the screwball Right, will have contributed to this outcome.) Science gives us the best chance we have against a multitude of evils. To push it to the margins of our common culture would be suicidal. This is, as already suggested, the time-bomb that Gerald Holton hears ticking.

#### And the skepticism to scientific progress kills tech innovation

**Hughes 6** doctorate in sociology from the University of Chicago, sociologist and bioethicist teaching health policy at Trinity College (James, “Democratic Transhumanism 2.0, modified 1/6/06, http://www.changesurfer.com/Acad/DemocraticTranshumanism.htm)

The Estrangement of Technology and the Left So why did these two strains of thought become estranged in the late 20th century? Why are so many contemporary social democrats, feminists, and Greens suspicious and hostile to biotechnologies, computers and science in general? The answer probably starts with the left-romantic traditions that grew up in reaction to modern technology. William Morris’ pastoralist visions of a deindustrialized socialism, Luddite machine-wrecking by the proto-worker’s movement, and absorption into pseudo-science, spiritualism and back-to-land communalism by bohemian radicals were all reactions to capitalism. The romantics and Luddites associated technology with capitalism, and thought that they could create a healthier, more egalitarian society only by fighting the new technologies. In fact, in the Communist Manifesto Marx and Engels specifically warns against clerical, aristocratic and petit-bourgeois socialists who advance pastoralism and pre-industrial production as the cure to social ills. But it wasn’t until World War Two that the generally tight association of the Left with science, technology and reason began to be superceded by the romantic tradition. Left interest in re-engineering the nature of Man was silenced by Nazi eugenics. The gas chambers revealed that modern technology could be used by a modern state for horrific uses, and the atomic bomb posed a permanent technological threat to humanity’s existence. The ecological movement suggested that industrial activity was threatening all life on the planet, while the anti-nuclear power movement inspired calls for renunciation of specific types of technology altogether. The counter-culture attacked positivism, and lauded pre-industrial ways of life. While the progressives and New Dealers had built the welfare state to be a tool of reason and social justice, the New Left joined cultural conservatives and free-market libertarians in attacking it as a stultifying tool of oppression, contributing to the general decline in faith in democratic governments. Intellectual trends such as deconstruction began to cast doubt on the “master narratives” of political and scientific progress, while cultural relativism eroded progressives’ faith that industrialized secular liberal democracies were in fact superior to pre-industrial and Third World societies. As the Left gave up on the idea of a sexy, high-tech vision of a radically democratic future, libertarians became associated with technological progress. Techno-enthusiasm on the Left was supplanted by pervasive Luddite suspicion about the products of the corporate consumerist machine. Celebrating technology was something GE and IBM did in TV ads to cover up their complicity in napalming babies. Activists fight the machine.

**Critiquing technology kills billions of people—the environmental crisis is real, but we need more technology, not less—transhumanism breaks all the limits to a new ecologically healthy world**

**Bostrom 3** PhD from the London School of Economics (Nick, 2003, “Transhumanism FAQ”, http://www.paulbroman.com/myspace/Transhumanism\_FAQ.txt) \

Population increase is an issue we would ultimately have to come to grips with even if healthy life-extension were not to happen. Leaving people to die is an unacceptable solution. A large population should not be viewed simply as a problem. Another way of looking at the same fact is that it means that many persons now enjoy lives that would not have been lived if the population had been smaller. One could ask those who complain about overpopulation exactly which people’s lives they would have preferred should not have been led. Would it really have been better if billions of the world’s people had never existed and if there had been no other people in their place? Of course, this is not to deny that too-rapid population growth can cause crowding, poverty, and the depletion of natural resources. In this sense there can be real problems that need to be tackled. How many people the Earth can sustain at a comfortable standard of living is a function of technological development (as well as of how resources are distributed). New technologies, from simple improvements in irrigation and management, to better mining techniques and more efficient power generation machinery, to genetically engineered crops, can continue to improve world resource and food output, while at the same time reducing environmental impact and animal suffering. Environmentalists are right to insist that the status quo is unsustainable. As a matter of physical necessity, things cannot stay as they are today indefinitely, or even for very long. If we continue to use up resources at the current pace, without finding more resources or learning how to use novel kinds of resources, then we will run into serious shortages sometime around the middle of this century. The deep greens have an answer to this: they suggest we turn back the clock and return to an idyllic pre-industrial age to live in sustainable harmony with nature. The problem with this view is that the pre-industrial age was anything but idyllic. It was a life of poverty, misery, disease, heavy manual toil from dawn to dusk, superstitious fears, and cultural parochialism. Nor was it environmentally sound – as witness the deforestation of England and the Mediterranean region, desertification of large parts of the middle east, soil depletion by the Anasazi in the Glen Canyon area, destruction of farm land in ancient Mesopotamia through the accumulation of mineral salts from irrigation, deforestation and consequent soil erosion by the ancient Mexican Mayas, overhunting of big game almost everywhere, and the extinction of the dodo and other big featherless birds in the South Pacific. Furthermore, it is hard to see how more than a few hundred million people could be maintained at a reasonable standard of living with pre-industrial production methods, so some **ninety percent** of the world population would somehow have to vanish in order to facilitate this nostalgic return. Transhumanists propose a much more realistic alternative: not to retreat to an imagined past, but to press ahead as intelligently as we can. The environmental problems that technology creates are problems of intermediary, inefficient technology, of placing insufficient political priority on environmental protection as well as of a lack of ecological knowledge. Technologically less advanced industries in the former Soviet-bloc pollute much more than do their advanced Western counterparts. High-tech industry is typically relatively benign. Once we develop molecular nanotechnology, we will not only have clean and efficient manufacturing of almost any commodity, but we will also be able to clean up much of the mess created by today’s crude fabrication methods. This would set a standard for a clean environment that today’s traditional environmentalists could scarcely dream of.

#### And you should continue to strive for long life --- nature’s out to kill us

**BOSTROM 2003** (Nick, Faculty of Philosophy, Oxford University, “Transhumanism FAQ,” October, http://www.transhumanism.org/index.php/WTA/faq21/78/)

Average human life span hovered between 20 and 30 years for most of our species’ history. Most people today are thus living highly unnaturally long lives. Because of the high incidence of infectious disease, accidents, starvation, and violent death among our ancestors, very few of them lived much beyond 60 or 70. There was therefore little selection pressure to evolve the cellular repair mechanisms (and pay their metabolic costs) that would be required to keep us going beyond our meager three scores and ten. As a result of these circumstances in the distant past, we now suffer the inevitable decline of old age: damage accumulates at a faster pace than it can be repaired; tissues and organs begin to malfunction; and then we keel over and die. **The quest for immortality is one of the most ancient and deep-rooted of human aspirations**. It has been an important theme in human literature from the very earliest preserved written story, The Epic of Gilgamesh, and in innumerable narratives and myths ever since. It underlies the teachings of world religions about spiritual immortality and the hope of an afterlife. If death is part of the natural order, so too is the human desire to overcome death. Before transhumanism, the only hope of evading death was through reincarnation or otherworldly resurrection. Those who viewed such religious doctrines as figments of our own imagination had no alternative but to accept death as an inevitable fact of our existence. Secular worldviews, including traditional humanism, would typically include some sort of explanation of why death was not such a bad thing after all. Some existentialists even went so far as to maintain that death was necessary to give life meaning! That people should make excuses for death is understandable. **Until recently** there was absolutely nothing anybody could do about it, and it made some degree of sense then to create comforting philosophies according to which dying of old age is a fine thing (“deathism”). If such beliefs were once relatively harmless, and perhaps even provided some therapeutic benefit, they have now outlived their purpose. Today, we can foresee the possibility of eventually abolishing aging and we have the option of taking active measures to stay alive until then, through life extension techniques and, as a last resort, cryonics. This makes the illusions of deathist philosophies dangerous, indeed fatal, since they teach helplessness and encourage passivity. Espousing a deathist viewpoint tends to go with a certain element of hypocrisy. It is to be hoped and expected that a good many of death’s apologists, if they were one day presented with the concrete choice between (A) getting sick, old, and dying, and (B) being given a new shot of life to stay healthy, vigorous and to remain in the company of friends and loved ones to participate in the unfolding of the future, would, when push came to shove, choose this latter alternative. If **some people would still choose death, that’s a choice that is of course to be regretted, but nevertheless this choice must be respected**. **The transhumanist position on the ethics of death is crystal clear: death should be voluntary**. This means that everybody should be free to extend their lives and to arrange for cryonic suspension of their deanimated bodies. It also means that voluntary euthanasia, under conditions of informed consent, is a basic human right. It may turn out to be impossible to live forever, strictly speaking, even for those who are lucky enough to survive to such a time when technology has been perfected, and even under ideal conditions. The amount of matter and energy that our civilization can lay its hands on before they recede forever beyond our reach (due to the universe’s expansion) is finite in the current most favored cosmological models. The heat death of the universe is thus a matter of some personal concern to optimistic transhumanists! It is too early to tell whether our days are necessarily numbered. Cosmology and fundamental physics are still incomplete and in theoretical flux; theoretical possibilities for infinite information processing (which might enable an upload to live an infinite life) seem to open and close every few years. We have to live with this uncertainty, along with the much greater uncertainty about whether any of us will manage to avoid dying prematurely, before technology has become mature.

# Neg v UMKC

## 1NR

### Solvency Deficit

**Second, if we win the counter-plan solves the case you vote negative – when faced with two choices it’s ethical to choose the one that does the least damage.**

**Finnis 1980** (John, Prof of Law and Legal Philosophy, Natural Law and Natural Rights, p 111-112, AD: 11/16/09) jl

The sixth requirement has obvious connections with the fifth, but introduces a new range of problems for practical reason, problems which go to the heart of ‘morality’. For this is the requirement that one bring about good in the world (in one’s own life and the lives of others) by actions that are efficient for their (reasonable) purpose(s). One must not waste one’s opportunities by using inefficient methods. One’s actions should be judged by their effectiveness, by their fitness for their purpose, by their utility, their consequences… There is a wide range of contexts in which it is possible and only reasonable to calculate, measure, compare, weigh, and assess the consequences of alternative decisions. Where a choice must be made it is reasonable to prefer human good to the good of animals. Where a choice must be made it is reasonable to prefer basic human goods (such as life) to merely instru­mental goods (such as property). Where damage is inevitable, it is reasonable to prefer stunning to wounding, wounding to maiming, maiming to death: i.e. lesser rather than greater damage to one-and-the-same basic good in one-and-the-same instantiation. Where one way of participating in a human good includes both all the good aspects and effects of its alternative, and more, it is reasonable to prefer that way: a remedy that both relieves pain and heals is to be preferred to the one that merely relieves pain. Where a person or a society has created a personal or social hierarchy of practical norms and orienta­tions, through reasonable choice of commitments, one can in many cases reasonably measure the benefits and disadvantages of alternatives. (Consider a man who ha decided to become a scholar, or a society that has decided to go to war.) Where one is considering objects or activities in which there is reasonably a market, the market provides a common de­nominator (currency) and enables a comparison to be made of prices, costs, and profits. Where there are alternative techniques or facilities for achieving definite objectives, cost-benefit analysis will make possible a certain range of reasonable comparisons between techniques or facilities. Over a wide range of preferences and wants, it is reasonable for an individual or society to seek to maximize the satisfaction of those preferences or wants.

**Examining consequences of actions all the time, even while combining ethical concern makes for better policy making.**

**Kennedy 4** (David, Manley O. Hudson Professor of Law at Harvard Law School, The Dark Sides of Virtue: Reassessing International Humanitarianism, p. xxii-xxiii) jl

These limitations are often addressed by shifting attention from goals and purposes toward assessment of outcomes. A pragmatism of consequences seems more hard-boiled, focusing our attention on good outcomes rather than good intentions. Innoculate this child, and don’t worry so much about the precise entailments of the “right to health,” or about your original desires for and fantasies about what doing good might mean. When activists think in instrumental or functional terms about their advocacy — when they make strategic choices about which rule or standard to invoke, which institution to engage — they focus on the consequences. The best humanitarian pol­icy makers think this way all the time — in many ways policy making is precisely the effort to ask as carefully and rationally as possible who would win and who would lose from proposed governmental action. The decision to set up a rule system or institutional structure to address an international humanitarian problem is similar.

### Solar Power Net Benefit

#### ALL solar panels are toxic – solar causes massive e-waste

Guiterrez 10 Solar panels to become future source of toxic e-waste Saturday, December 11, 2010 by: David Gutierrez, staff writer Learn more: <http://www.naturalnews.com/030696_e-waste_solar_panels.html#ixzz25ejt7hAl>

Researcher Dustin Mulvaney of the University of California-Berkeley recently conducted a analysis of all solar panels on the market, and found major toxics concerns with every variety. The oldest and most prevalent type of panel, crystalline photovoltaic, is made with lead. Newer thin film panels, holding 21 percent of the market share, contain cadmium, which has been linked to lung and kidney damage and can be fatal in large quantities. "It's gene toxic and a mutagen, so it has the ability to affect DNA, meaning it could affect reproduction and future generations' DNA," Mulvaney said. Amorphous silicon panels, holding 16 percent of the market share, and copper indium gallium selenide (CIGS) panels, holding 6 percent, are both made with indium tin oxide, another hazardous substance. CIGS panels also contain cadmium. Solar panels are designed to last 20 years, so manufacturers are giving little thought to the end of their product's life cycle, yet transport breakage and factory scrap are already producing [waste](http://www.naturalnews.com/waste.html). With U.S. solar demand projected to increase 50 percent per year for the next two years, photovoltaic waste is a potential disaster in the making. "If you don't look at the recycling when you're designing the product, then it's really, really difficult to recycle," said Sheila Davis, executive director of the Silicon Valley Toxics Coalition.

#### Public won’t speak out against production processes

Nath 10(Stanford Journal of International Relations, Vol. XI | No. 2 , Spring, “Cleaning Up After Clean Energy: Hazardous Waste in the Solar Industry”, <http://www.stanford.edu/group/sjir/pdf/Solar_11.2.pdf>, Ishan Nath is a sophomore at Stanford University doublemajoring in Economics and Earth Systems with a focus on energy science and technology)

These hopes for a viable source of renewable energy, however, have recently been tempered with a word of caution. Toxic waste, experts say, is something the solar industry must watch out for, as detailed by the watchdog nonprofit Silicon Valley Toxics Coalition (SVTC) in a widely circulated new report. Essentially, solar firms face two dilemmas concerning their hazardous chemicals. How can the production process ensure that panels are manufactured without leaking waste and how will they be disposed of after a lifetime of use? These concerns, though fairly manageable in and of themselves, exist in a complex international web of competing political, economic, and scientific interests. Given this complexity, most solar firms have focused on the more straightforward of the two problems: end-of-life recycling. But in creating a fairly solid foundation for addressing this issue, the industry has largely overlooked investigative reports revealing current problems with production waste, particularly pertaining to Chinese manufacturing. Until these concerns receive more attention, promises of panel recycling will quell any public anxiety, preventing the creation of necessary safeguards to stop rogue firms from unsafe manufacturing practices. To fully address its hazardous waste issues, the solar industry must move forward aggressively not only with its development of panel recycling programs, but also with steps to address more pressing issues in the production process.

## T

### Overview

#### They promote multidirectionality, destroys topic coherence

McKie 84

 Professor James W. McKie, distinguished member of the economics department at The University of Texas at Austin for many years

McKie, J W

Annual Review of Environment and Resource , Volume 9 (1)

Annual Reviews – Nov 1, 1984

 THE MULTIPLE PURPOSES OF ENERGY REGULATION AND PROMOTION Federal energy policy since World War II has developed into a vast and multidirectional program of controls, incentives, restraints, and promotions. This development accelerated greatly during the critical decade after 1973, and has become a pervasive and sometimes controlling influence in the energy economy. Its purposes, responding to a multitude of interests and aims in the economy, have frequently been inconsistent, if not obscure, and the results have often been confusing or disappointing.

### AT: Counter-Interpretation

#### Regulation is strictly distinct from restriction of production

**Qureshi 46**

Indian representative at the United Nations Social and Economic council

<http://www.wto.org/gatt_docs/English/SULPDF/90220091.pdf>

Mr. Chairman, I would like to point out that in Article 47, Paragraph 1, the regulation of productionshould not mean restriction of production, otherwise the whole aim of raising the standard of living will be defeated; nor should it mean to discourage the production of certain commodities if certain countries find it necessary to do so and to expand their production in the interests of their country.

#### Restrictions go beyond inducements and disadvantages—formal, legal interpretation is key to avoid effects topicality and mixing burdens

**Groves 97**

Sourcebook on Intellectual Property Law

Dr Peter J Groves, LLB, MA, PhD, MITMA, Solicitor

Then I come to the word 'restrict', A person though not prohibited is restricted from using something if he is permitted to use it to a certain extent or subject to certain conditions but otherwise obliged not to use it, but I do not think that a person is properly said to be restricted from using something by a condition the effect of which is to offer him some inducement not to use it, or in some other way to influence his choice. To my mind, the more natural meaning here is restriction of the licensee's right to use the article and I am fortified in that opinion by two considerations. If I am right in thinking that 'require' and 'prohibit' refer to legal obligations to buy or not to use, I see nothing to suggest that 'restrict' is used in quite a different sense which has nothing to do with legal obligation but which relates to financial disadvantage. And, second, to say that the effect will be to restrict seems to me much more appropriate if restriction refers to restriction of the licensee's right to use than it would be if restriction refers to an inducement not to use. The legality of the condition has to be determined at the time when the licence is granted and if the terms of the conditions are such as to restrict the licensee's right to use an article in certain circumstances then it can properly be said that its effect will be to restrict him from using it. But if, as in the present case, all that can be said is that the effect of the condition in some circumstances will be to offer a financial advantage, which may be considerable or may be small, if the licensee uses the licensor's goods, I do not see how it can be said that its effect will be to restrict the licensee from using other goods. The licensee may be influenced by this financial advantage or he may, perhaps for good reason, choose to disregard it; it is impossible to say in advance what the effect will be.

**Conditions and restrictions are distinct—key to predictability**

Pashman, justice – New Jersey Supreme Court, 3/25/’63

(Morris, “ISIDORE FELDMAN, PLAINTIFF AND THIRD-PARTY PLAINTIFF, v. URBAN COMMERCIAL, INC., AND OTHERS, DEFENDANT,” 78 N.J. Super. 520; 189 A.2d 467; 1963 N.J. Super. LEXIS 479)

HN3A title insurance policy "is subject to the same rules of construction as are other insurance policies." Sandler v. N.J. Realty Title Ins. Co., supra, at [\*\*\*11] p. 479. It is within these rules of construction that this policy must be construed.

Defendant contends that plaintiff's loss was occasioned by restrictions excepted from coverage in Schedule B of the title policy. The question is whether the provision in the deed to Developers that redevelopment had to be completed [\*528] within 32 months is a "restriction." Judge HN4 Kilkenny held that this provision was a "condition" and "more than a mere covenant." 64 N.J. Super., at p. 378. The word "restriction" as used in the title policy cannot be said to be synonymous with a "condition." A "restriction" generally refers to "a limitation of the manner in which one may use his own lands, and may or may not involve a grant." Kutschinski v. Thompson, 101 N.J. Eq. 649, 656 (Ch. 1927). See also Bertrand v. Jones, 58 N.J. Super. 273 (App. Div. 1959), certification denied 31 N.J. 553 (1960); Freedman v. Lieberman, 2 N.J. Super. 537 (Ch. Div. 1949); Riverton Country Club v. Thomas, 141 N.J. Eq. 435 (Ch. 1948), affirmed per curiam, 1 N.J. 508 (1948). It would not be inappropriate to say that the word "restrictions," as used [\*\*\*12] by defendant insurers, is ambiguous. The rules of construction heretofore announced must guide us in an interpretation of this policy. I find that the word "restrictions" in Schedule B of defendant's title policy does not encompass the provision in the deed to Developers which refers to the completion [\*\*472] of redevelopment work within 32 months because (1) the word is used ambiguously and must be strictly construed against defendant insurer, and (2) the provision does not refer to the use to which the land may be put. As the court stated in Riverton Country Club v. Thomas, supra, at p. 440, "HN5equity will not aid one man to restrict another in the uses to which he may put his land unless the right to such aid is clear, and that restrictive provisions in a deed are to be construed most strictly against the person or persons seeking to enforce them." (Emphasis added)

### C/S

**1 – it encompasses 40 distinct federal agencies with tons of reports a year – that’s doub – blows the lid off the topic and destroys research which is the only portable skill in debate**

Tugwell 88

 The Energy Crisis and the American Political Economy:

Politics and Markets in the Management of Natural Resources

 Previously, Dr. Tugwell was the executive director of the Heinz Endowments of Pittsburgh, the founder and president of the Environment Enterprises Assistance Fund, and as a senior consultant for International Projects and Programs at PG&E Enterprises. He served as a deputy assistant administrator at USAID (1980-1981) and as a senior analyst for the energy program at the U.S. Office of Technology Assessment (1979-1980). Dr. Tugwell was also a professor at Pomona College and an adjunct distinguished professor at the Heinz School of Carnegie Mellon University. Additionally, he serves on the Advisory Board and International Committee of the American Council on Renewable Energy and on the Joint Board of Councilors of the China-U.S. Center for Sustainable Development. He also serves on the Board of Eucord (European Cooperative for International Development). Dr. Tugwell received a PhD in political science from Columbia University.

 Finally, administering energy regulations proved a costly and cumbersome endeavor, exacting a price all citizens had to pay. As the energy specialist Paul MacAvoy has noted: "More than 300,000 firms were required to respond to controls, ranging from the three dozen major refining companies to a quarter of a million retailers of petroleum products. The respondents had to file more than half a million reports each year, which probably took more than five mil- lion man-hours to prepare, at an estimated cost alone of $80 mil- lion."64 To these expenditures must be added the additional costs to the government of collecting and processing these reports, monitor- ing compliance, and managing the complex process associated with setting forth new regulations and adjudicating disputes. All to- gether, it seems likely that the administrative costs, private and public, directly attributable to the regulatory process also exceeded $1 billion a year from 1974 to 1980.^

**2 – regulation is too big – it’s torture**

**Edwards 80**

 JUDGES: Before EDWARDS, LEAR and WATKINS, JJ. OPINION BY: EDWARDS

 AYOU BOUILLON CORPORATION, ET AL. v. ATLANTIC RICHFIELD COMPANY

 No. 13229 Court of Appeal of Louisiana, First Circuit 385 So. 2d 834; 1980 La. App. LEXIS 3972; 67 Oil & Gas Rep. 240 May 5, 1980 PRIOR HISTORY: [\*\*1] ON APPEAL FROM THE 18TH JUDICIAL DISTRICT COURT, PARISH OF IBERVILLE, HONORABLE EDWARD N. ENGOLIO, JUDGE.

 Comprehending the applicability and complexity of federal energy regulation necessitates both a stroll down the tortuous legislative path and a review of legal challenges so numerous as to require the establishment of a Temporary Emergency Court of Appeals.

**Even full-time professionals can’t manage that research burden**

Stafford 83 <http://felj.org/elj/Energy%20Journals/Vol6_No2_1985_Book_Review2.pdf> Associate, Ross, Marsh & Foster, Washington, D.C. The assistance of David L. Wallace, a third year student at the Georgetown University Law Center, in the preparation of this review is greatly appreciated.

FEDERAL REGULATION OF ENERGY by William F. Fox, Jr. Shepard'slMcGraw-Hill, 1983, 846 pages Reviewed by G. William Stafford\* It may safely be said that any effort to catalogue "the entire spectrum of federal regulation of energy"' in a single volume certainly requires an enterprising effort on the part of the author. In this regard, Mr. William F. Fox, Jr., an Associate Professor of Law at Catholic University of America, has undertaken an examination of a vital aspect of United States policy in Federal Regulation of Energy, published in 1983 with an annual pocket supplement available. Despite the complex nature of the subject of his work, Mr. Fox has prepared a text that provides a significant description of many aspects of federal energy regulatory policy. Initially, the book's title may prove somewhat misleading in that it approaches the subject from an historical perspective focused more on substantive than procedural issues. Although a reader gets the impression that the author at time has tried to do too much -at least from the standpoint of the energy practitioner- the historical and technical insights it offers the student of federal energy relation are valuable. Moreover; its detailed explanations of the methods used to tneet federal energy goals are useful for those in the position of initiating energy policy. This strength notwithstanding, it appears unlikely that an energy law practitioner would benefit significantly from its use, other than from its historical point of view. A general impression is that the author may have been overly ambitious in his effort to undertake the monumental task of evaluating laws, regulations, and significant judicial decisions in a single work.

**Limits outweigh**

**a.) Education – their interpretation dis-insentivises in depth debate and pre round prep – impossibility to prepare for the infinite amount of affs means the neg relies on process counter-plans that destroy topic education and plan education – small topic means a better depth of education – a broad range of education is inevitable through the news – but depth is the only way to master knowledge and apply it outside of debate**

**b.) Fairness – impossibility to prepare all affirmatives means the aff will always be ahead in research**

**c.) Kills the activity**

**Rowland ’84 -** (Robert C., Baylor U., “Topic Selection in Debate”, American Forensics in Perspective. Ed. Parson, p. 53-4)

The first major problem identified by the work group as relating to topic selection is the decline in participation in the National Debate Tournament (NDT) policy debate. As Boman notes: There is a growing dissatisfaction with academic debate that utilizes a policy proposition. Programs which are oriented toward debating the national policy debate proposition, so-called “NDT” programs, are diminishing in scope and size.4 This decline in policy debate is tied, many in the work group believe, to excessively broad topics. The most obvious characteristic of some recent policy debate topics is extreme breath. A resolution calling for regulation of land use literally and figuratively covers a lot of ground. Naitonal debate topics have not always been so broad. Before the late 1960s the topic often specified a particular policy change.5 The move from narrow to broad topics has had, according to some, the effect of limiting the number of students who participate in policy debate. First, the breadth of the topics has all but destroyed novice debate. Paul Gaske argues that because the stock issues of policy debate are clearly defined, it is superior to value debate as a means of introducing students to the debate process.6 Despite this advantage of policy debate, Gaske belives that NDT debate is not the best vehicle for teaching beginners. The problem is that broad policy topics terrify novice debaters, especially those who lack high school debate experience. They are unable to cope with the breadth of the topic and experience “negophobia,”7 the fear of debating negative. As a consequence, the educational advantages associated with teaching novices through policy debate are lost: “Yet all of these benefits fly out the window as rookies in their formative stage quickly experience humiliation at being caugh without evidence or substantive awareness of the issues that confront them at a tournament.”8 The ultimate result is that fewer novices participate in NDT, thus lessening the educational value of the activity and limiting the number of debaters or eventually participate in more advanced divisions of policy debate. In addition to noting the effect on novices, participants argued that broad topics also discourage experienced debaters from continued participation in policy debate. Here, the claim is that it takes so much times and effort to be competitive on a broad topic that students who are concerned with doing more than just debate are forced out of the activity.9 Gaske notes, that “broad topics discourage participation because of insufficient time to do requisite research.”10 The final effect may be that entire programs either cease functioning or shift to value debate as a way to avoid unreasonable research burdens. Boman supports this point: “It is this expanding necessity of evidence, and thereby research, which has created a competitive imbalance between institutions that participate in academic debate.”11 In this view, it is the competitive imbalance resulting from the use of broad topics that has led some small schools to cancel their programs.

**Potential abuse is a voter – only objective standard – impossible to quantify abuse in this round and claims are self serving in only objective way is to look at what it justifies – And there is abuse – it was debating an untopical aff –**

**Also there was abuse this round – we could not prepare because we did not see it coming**

**Precision is key**

**Petress**, Professor Emeritus of Communication at the University of Maine at Presque Isle, 9/22/**2006**

(Ken, “The value of precise language usage,” *Reading Improvement*, Highbeam Research)

Precision in language usage can be thought of as an ego boosting activity, a snobbish pastime, an arrogant trait; or it can be interpreted as an attempt to aid audiences in understanding exact meaning, an effort to reduce ambiguity, and/or as a positive role model for others in one's language community. This essay argues that the latter set of interpretations are desirable and that we should all make modest efforts to learn how to write and speak more precisely and then to actually practice [most of the time] what we have learned. Reading (like listening) is the reception of and interpretation of messages. In order for readers to garner full impact, power, and intention of messages, the message makers must do all in their ability to aid the eventual receiver. A major component of this message creator duty is to form as precise messages as possible. **Language precision eliminates or reduces ambiguity** and equivocation (when not intended). (1) As Hayakawa and Hayakawa have convincingly pointed out, precise language aids in adapting appropriately and successfully when needing to employ skills to reach various language levels such as variant age levels, education levels, class structures, and degrees of familiarity to the language being used. (2) Precision is defined as possessing exactitude; the opposite of precise is that which is vague, **"close enough,"** somewhat "fuzzy," and perhaps ambiguous. Precision is not designed to be knit picking, obtuse, a way to show off, nor a way to demonstrate linguistic superiority; it is a way to state directly, clearly, specifically, exactly, and vividly what you mean. Precision does not guarantee that readers or hearers will better understand you or that they will personally appreciate the effort of being precise; however, we stand a better chance of being understood when we are precise.

**Precision is vital—turns solvency and research quality**

**Resnick 1** [Evan Resnick, Journal of International Affairs, 0022197X, Spring 2001, Vol. 54, Issue 2, “Defining Engagement”]

In matters of national security, establishing a clear definition of terms is a precondition for effective policymaking. Decisionmakers who invoke critical terms in an erratic, ad hoc fashion risk alienating their constituencies. They also risk exacerbating misperceptions and hostility among those the policies target. Scholars who commit the same error undercut their ability to conduct valuable empirical research. Hence, if scholars and policymakers fail rigorously to define "engagement," they undermine the ability to build an effective foreign policy.

### AT: We’re a Financial Incentive

#### This uniquely makes you not topical –

**Financial incentives require the disbursement of public funds linked to energy production – excludes regulations**

Webb, 93 – lecturer in the Faculty of Law at the University of Ottawa (Kernaghan, “Thumbs, Fingers, and Pushing on String: Legal Accountability in the Use of Federal Financial Incentives”, 31 Alta. L. Rev. 501 (1993) Hein Online) – **italics in the original; this is from a Canadian law journal and it is written by a Canadian.** In this paper, "financial incentives" are taken to mean disbursements 18 of public funds or contingent commitments to individuals and organizations, intended to encourage, support or induce certain behaviours in accordance with express public policy objectives. They take the form of grants, contributions, repayable contributions, loans, loan guarantees and insurance, subsidies, procurement contracts and tax expenditures.19 Needless to say, the ability of government to achieve desired behaviour may vary with the type of incentive in use: up-front disbursements of funds (such as with contributions and procurement contracts) may put government in a better position to dictate the terms upon which assistance is provided than contingent disbursements such as loan guarantees and insurance. In some cases, the incentive aspects of the funding come from the conditions attached to use of the monies.20 In others, the mere existence of a program providing financial assistance for a particular activity (eg. low interest loans for a nuclear power plant, or a pulp mill) may be taken as government approval of that activity, and in that sense, an incentive to encourage that type of activity has been created.21 Given the wide variety of incentive types, it will not be possible in a paper of this length to provide anything more than a cursory discussion of some of the main incentives used.22 And, needless to say, the comments made herein concerning accountability apply to differing degrees depending upon the type of incentive under consideration.

By limiting the definition of financial incentives to initiatives where public funds are *either* disbursed or *contingently* committed, a large number of regulatory programs with incentive effectswhich exist, but in which no money is forthcoming,23 are excluded from direct examination in this paper.

#### That’s not the Aff – it excludes communities from SEC registration requirements

**Their version of incentive would unlimit the topic – providing over 40 additional mechanisms to all of the potential energies**

Moran, 86 **-** non-resident fellow at the Center for Global Development and holds the Marcus Wallenberg Chair at the School of Foreign Service at Georgetown University(Theodore, Investing in Development: New Roles for Private Capital?, p. 29 - googlebooks) Guisinger finds that if “incentives” are broadly defined to include tariffs and trade controls along with tax holidays, subsidized loans, cash grants, and other fiscal measures, they comprise more than forty separate kinds of measures. Moreover, the author emphasizes, the value of an incentive package is just one of several means that governments use to lure foreign investors. Other methods—for example, promotional activities (advertising, representative offices) and subsidized government services—also influence investors’ location decisions. The author points out that empirical research so far has been unable to distinguish the relative importance of fundamental economic factors and of government policies in decisions concerning the location of foreign investment—let alone to determine the effectiveness of individual government instruments.

**AND their interpretation confuses FINANCIAL incentive with REGULATORY incentive**

Brady, 4 **-** A Thesis In The Department of Political Science Presented in Partial Fulfillment of the Requirements for the Degree of Master of Arts (Public Policy and Public Administration) at Concordia University Montreal, Quebec, Canada (Jonathan, “Wind Boom, Wind Bust: An Examination of the Conditions and Policies that Led to Gennany's Wind Industry and Canada's Lack Thereof,” December, <http://spectrum.library.concordia.ca/8274/1/MR20699.pdf>) This chapter outlines my approach to answering the central question of this examination what conditions affect the will and ability of German and Canadian federal political leaders, respectively, to create a wind energy incentive policy, designed to stimulate private investment into their country's wind industry? The focus of comparison is on the degree of variation between the two countries' wind energy incentive policy (my dependent variable) and federal political leaders' will and ability (my independent variables) to create them. For the purpose of this examination I define wind energy incentive policyas a single outcome that constitutes the regulatory pricing (i.e. feed-in tariffs) and/or financial incentives created to stimulate wind energy production and industry growth. I define regulatory incentives as regulatory pricing legislation design to catalyze wind energy production and industry growth. Conversely, I define financial incentives as financial instruments designed spark wind energy production and industry growth. For the purpose of this investigation I define federal political leaders as the elected leaders of the ruling government as well as the senior civil servants of the federal ministries examined. When necessary to distinguish between these actors I refer to the former as the elected federal political leaders and former as the civil federal political leaders.

### AT: We’re Predictable

#### No overlimiting impact – and they’re not predictable

Diehl, Junior Staff Member – Journal of Land, Resources & Environmental Law, JD – University of Utah, ‘7

(Rustin P., 27 J. Land Resources & Envtl. L. 345)

A. Available Incentives for Implementing Clean Renewables

Many studies have considered the benefits and achieved results of the available renewable energy financial incentives. While studies agree that these incentives are effectively promoting business integration of renewable energies, it is questionable whether the incentives encourage private adoption of renewable energy technology. n55 The incentives for implementing clean renewable power generation fall into two main categories: financial incentives and policy [\*354] incentives. These incentives can be provided at federal, state, and municipal levels.

A laundry list of financial incentives include: corporate equipment rebates, energy efficient mortgages, accelerated corporate depreciation schedules, corporate tax credits, corporate production incentives, corporate and personal tax exemptions, personal tax credits, federal grant programs, USDA renewable energy systems and energy efficiency improvements loan programs, green power purchasing or aggregation, corporate tax incentive, industry recruitment incentives, property tax incentives, state public benefit funds, and state sales tax incentives. n56

Some of the policy incentives encouraging the use of renewable energies include: construction and design policies, contractor licensing, equipment certifications, generation disclosure rules, net metering rules, renewables portfolio set asides, required utility green power option, and solar and wind access laws. n57 In addition to these policy incentives, many states have adopted portfolio mandates or portfolio standards, which require certain percentages of energy come from renewable sources.

### AT: Reasonability

**Infinitely regressive – there’s no brightline for what *is* and what is *not* reasonable. Teams will always push these limits to catch the neg unprepared**

**Stone ‘23**

[Justice in the Circuit Court of Appeals, 8th Circuit. Sussex Land & Live Stock Co v. Midwest Refining Co, 1923. Lexis//GBS-JV]

Where the use of land affects others, the use must be "reasonable" to escape liability for resultant damage to others. What is "reasonable" depends upon a variety of considerations and circumstances. It is an elastic term which is of uncertain value in a definition. It has been well said that "reasonable," means with regard to all the interest affected, his own and his neighbor's and also having in view public policy. But, elastic as this rule is, both reason and authority have declared certain limitations beyond which it cannot extend. One of these limitations is that it is "unreasonable" and unlawful for one owner to physically invade the land of another owner. There can be no damnum absque injuria where there is such a trespass.

# Neg v MSU

### 1NC

#### Financial incentives must be direct

Dyson et al 3 - International Union for Conservation of Nature and Natural Resources (Megan, Flow: The Essentials of Environmental Flows, p. 67-68) Understanding of the term ‘incentives’ varies and economists have produced numerous typologies. A brief characterization of incentives is therefore warranted. First, the term is understood by economists as incorporating both positive and negative aspects, for example a tax that leads a consumer to give up an activity that is an incentive, not a disincentive or negative incentive. Second, although incentives are also construed purely in economic terms, incentives refer to more than just financial rewards and penalties. They are the “positive and negative changes in outcomes that individuals perceive as likely to result from particular actions taken within a set of rules in a particular physical and social context.”80 Third, **it is possible to distinguish between direct and indirect incentives, with direct incentives referring to financial or other inducements and indirect incentives referring to both variable and enabling incentives**.81 Finally, incentives of any kind may be called ‘perverse’ where they work against their purported aims or have significant adverse side effects. **Direct incentives lead people**, groups and organisations **to take particular action** or inaction. In the case of environmental flows these are the same as the net gains and losses that different stakeholders experience. The key challenge is to ensure that the incentives are consistent with the achievement of environmental flows. This implies the need to compensate those that incur additional costs by providing them with the appropriate payment or other compensation. Thus, farmers asked to give up irrigation water to which they have an established property or use right are likely to require a payment for ceding this right. The question, of course, is how to obtain the financing necessary to cover the costs of developing such transactions and the transaction itself. Variable incentives are policy instruments that affect the relative costs and benefits of different economic activities. As such, they can be manipulated to affect the behaviour of the producer or consumer. For example, a government subsidy on farm inputs will increase the relative profitability of agricultural products, hence probably increasing the demand for irrigation water. Variable incentives therefore have the ability to greatly increase or reduce the demand for out-of-stream, as well as in-stream, uses of water. **The number of these incentives within the realm of economic and fiscal policy is practically limitless**.

#### For is a term of exclusion requiring direct action

US CUSTOMS COURT 39AMERICAN COLORTYPE CO. v. UNITED STATES C. D. 107, Protest 912094-G against the decision of the collector of customs at the port of New York UNITED STATES CUSTOMS COURT, THIRD DIVISION 2 Cust. Ct. 132; 1939 Cust. Ct. LEXIS 35 The same reasons used by the appellate court may be adopted in construing the language of the statute herein involved. If the words "for industrial use" mean no more than the words "articles of utility," there could be no reason for inserting the additional words "for industrial use" in the paragraph. Therefore, it must be held that the [\*135] new language "for industrial use" was intended to have a different meaning from the words "articles of utility," as construed in the case of Progressive Fine Arts Co. v. United States, [\*\*8] supra. Webster's New International Dictionary defines the word "industrial" as follows: Industrial. 1. Relating to industry or labor as an economic factor, or to a branch or the branches of industry; of the nature of, or constituting, an industry or industries \* \* \* . The transferring of the scenes on an oil painting to a printed copy is a branch of industry under the definition above quoted. **Some of the meanings of the preposition "for" signify intent,** as shown by the following definition in the same dictionary: For. 2. **Indicating the end with** reference **to which anything is**, acts, serves, or is **done**; as: a. As a preparation for; with the object of; in order to be, become, or act as; conducive to. \* \* \*. d. Intending, or in order, to go to or in the direction of. Therefore**, the words "articles for industrial use"** in paragraph 1807 **imply that Congress intended to exclude from that provision articles either purchased or imported with the intention to use the same in industry** for manufacturing purposes.

#### Violation – funding energy R&D is an indirect incentive

EIA 7 (Energy Information Administration, "Federal Energy Research and Development," http://www.eia.gov/oiaf/servicerpt/subsidy2/pdf/chap3.pdf)

It is easier to measure energy R&D spending than to characterize it as a subsidy. R&D spending is intended to create useful knowledge and develop technologies that have **potential** commercial benefits to society. Thus, all Federal R&D spending could, in a general way, be considered a subsidy to knowledge and technology. However, the extent to which specific R&D programs actually affect energy markets is more **difficult to ascertain**. The results of R&D are **inherently uncertain**. Many programs are intended to advance knowledge across a range of energy and non-energy applications, rather than in the context of a particular fuel or form of consumption. Furthermore, the knowledge obtained may not be of value, in the sense that the research may **only reveal technical or economic dead ends** to be avoided in the future.65 Thus, only a portion of Federal energy R&D is likely to achieve results in the form of changes in energy production costs or consumption that can be attributed to a specific R&D program. Moreover, to the extent that R&D yields commercial technologies, they are likely to be measurable **only years after the funded research effort is initiated**.

#### Vote neg

#### 1. Limits – indirect incentives could include 40 different mechanisms

Moran 86 **-** non-resident fellow at the Center for Global Development and holds the Marcus Wallenberg Chair at the School of Foreign Service at Georgetown University(Theodore, Investing in Development: New Roles for Private Capital?, p. 29 - googlebooks) Guisinger finds that **if “incentives” are broadly defined to include** tariffs and **trade controls** along with **tax holidays, subsidized loans, cash grants, and other fiscal measures, they comprise more than forty separate kinds of measures**. Moreover, the author emphasizes, the value of an incentive package is just one of several means that governments use to lure foreign investors. Other methods—for example, promotional activities (advertising, representative offices) and subsidized government services—also influence investors’ location decisions. The author points out that empirical research so far has been unable to distinguish the relative importance of fundamental economic factors and of government policies in decisions concerning the location of foreign investment—let alone to determine the effectiveness of individual government instruments.

#### 2. Topic education – allowing indirect incentives means affs don’t even have to target the energy sector

Enters 4 - Food and Agricultural Organization (Thomas, “What does it take? The role of incentives in forest plantation development in Asia and the Pacific”, http://www.fao.org/docrep/007/ad524e/ad524e05.htm) While there is no dearth of definitions for incentives, a single agreed definition does not exist (Meijerink 1997). Defined in very broad terms, an incentive is anything that motivates or stimulates people to act (Giger 1996; cited in FAO 1999). Sargent (1994; cited in Tomforde 1995) defines incentives as signals that motivate action. Other definitions refer to the “incitement and inducement of action” (Enters 2001). Within the context of development projects, incentives have also been described as “bribes” and “sweeteners” (Smith 1998). To be of interest and to have an impact, incentives need to affect the cost-benefit structure of economic activities such as plantation management. Hence, in the context of the regional study, incentives can be defined as policy instruments that increase the comparative advantage of forest plantations and thus stimulate investments in plantation establishment and management. This definition is broader than the more narrow definition for subsidies. The latter are of a purely pecuniary nature and usually viewed as payments provided to reduce the costs of or raise the returns on an activity. The broader definition includes research and extension, which are important elements in supporting plantation development. The definition also includes sectoral and macro-economic policies which, as will be argued in the concluding chapter, establish much of the general investment climate and heavily influence the economic behaviour of individuals and corporations. Consequently, the spectrum of incentives is considerably broadened and a distinction is made between direct and indirect incentives (Figure 5). Direct incentives are designed to influence returns to investment directly The distinction between direct and indirect incentives is somewhat blurred. **Direct incentives are designed to have an immediate impact on resource users** and influence returns to investment directly. Indirect incentives on the other hand have an indirect effect through setting or changing the overall framework conditions within and outside **the forestry** sector. There are some overlaps. For example, **tax concessions for plantation investors are a direct incentive, whereas general tax reductions for fuel are considered indirect incentives**, because they lower production and transport costs within - as well as outside - the plantation sector.

### 1NC

#### Hagel will be confirmed now but the GOP is on the fence – it’s not a lock – this assumes your Schumer warrant.

Cassata 1-22. [Donna, Political Editor at Associated Press, "Senate chair: Count up Hagel vote after hearing" Aiken Standard -- www.aikenstandard.com/article/20130122/AIK0105/130129873/senate-chair-count-up-hagel-vote-after-hearing]

Top Senate Republicans said Tuesday they would reserve judgment on Chuck Hagel’s nomination until after his confirmation hearing next week, a positive sign for President Barack Obama’s choice to head the Defense Department.¶ Hagel, who already has drawn strong opposition from six Senate Republicans, continued his outreach to lawmakers on Tuesday, meeting with Sen. John McCain, whose support for the nomination could smooth the way for the former GOP senator and provide political cover for other Republicans to back the nominee.¶ “Senator Hagel and I are old friends and we had a very frank and candid conversation, and I’ll be looking forward to the hearing and asking him questions,” the Arizona Republican told reporters at a news conference on his recent overseas trip. “He should be given the opportunity of a hearing before any of us make a judgment.”¶ Hagel, during a brief conversation with reporters in the Capitol, declined to answer specific questions, simply saying, “we have a hearing next week and I look forward to answering questions.”¶ Sen. Carl Levin, D-Mich., the chairman of the Senate Armed Services Committee, said earlier in the day that it was too soon to count the votes and he would have a better assessment of the support for Hagel after his confirmation hearing on Jan. 31.¶ Asked if there were any Republican votes for Hagel, Levin said, “I haven’t seen any, but there may be that I haven’t seen. That doesn’t mean that there won’t be.”¶ The Hagel nomination gained momentum last week as Sens. Chuck Schumer, D-N.Y., and Barbara Boxer, D-Calif., two of the strongest pro-Israel Democrats in the Senate, said the former Nebraska senator had addressed their concerns about his stand on Iran sanctions and support for Israel.¶ But Hagel still faces ambivalence among Republicans, if not outright opposition, and could emerge from the Senate committee vote with only party-line support. Sen. Jim Inhofe of Oklahoma, the panel’s top Republican, has announced his opposition as have several other committee members.¶ Hagel was scheduled to meet on Wednesday with Sen. Kelly Ayotte, R-N.H., a committee member who has said she was perplexed by the nomination.¶ Another panel member, Sen. Saxby Chambliss, R-Ga., said Tuesday, “I look forward to visiting with him and hearing his testimony and we’ll see where it goes.”¶ Concerns about Hagel replacing Defense Secretary Leon Panetta have centered on whether he is sufficiently pro-Israel, his description of pro-Israel groups as a “Jewish lobby,” and his stand on gay rights. Some GOP lawmakers also are concerned about potential cuts to defense spending and Hagel’s past support for reductions in nuclear weapons.¶ “That’s of great importance to me,” said Sen. Bob Corker of Tennessee, the top Republican on the Senate Foreign Relations Committee. Corker’s state is home to the Y-12 nuclear facility and significant cuts in the nuclear arsenal would affect his state.¶ “I want to delve beyond the one-liners and sentences that have been brought forth by groups. It’ll be a very earnest conversation. I always start with an open mind. But I do have concerns,” said Corker, who is scheduled to meet with Hagel on Friday.¶ Democrats hold a 55-45 advantage in the Senate and would have the votes to confirm Hagel on a simple majority, but they would need five Republican votes for the 60-vote threshold to break a GOP filibuster. A Republican effort to block Obama’s choice of a former Republican senator would set off a firestorm as Senate leaders try to negotiate new rules on filibusters.

#### Capital is key.

Stirewalt 1-7. [Chris, reporter, “Obama Antagonizes with Hagel Pick” Fox News -- http://www.foxnews.com/politics/2013/01/07/obama-antagonizes-with-hagel-pick/#ixzz2HIw1d0GW]

With Republicans still resentful of Hagel’s ostentatious opposition of Bush-era policies and support for Obama’s two presidential runs, confirmation would have been tricky enough. But the queasy feelings of pro-Israel Democrats on the tough-talking Vietnam vet will make it so much worse.¶ Maryland Sen. Ben Cardin, a dutiful Democrat if ever there was one, told the soon-to-be-former cable news network Current TV on Sunday that there are “some statements that [Hagel] needs to clarify” and called the nomination “controversial.”¶ Coming from Cardin, ranked in the 10 most liberal senators by National Journal, that’s the equivalent of a cannon shot across Obama’s bow.¶ It will take lots of time and effort to drag Hagel, opinionated and confrontational, across the finish line. The president can get it done, but the ordeal will be frightful and expend plenty of political capital.

#### Plan’s unpopular – Congress sees fusion as a money vacuum

Rogers 12 – The Wisconsin Engineer is published by the Wisconsin Engineering Journal Association (Nathan, September, “Congress' Fusion Cutter,” http://wisconsinengineer.com/magazine/11/42/)

From what I learned, this seems to be a reoccurring theme in the field of fusion research here. The U.S. was once the leader in the field, but with constant cuts to funding we are quickly losing our title as ‘king of the hill.’ “You’ll hear the joke ‘fusion’s 40 years away; always has been, always will be’. What’s really been the problem is we said it was 40 years away when we looked at the funding level that was going on in the 60s and 70s when they were on track. But then you get political figures [that] aren’t seeing the progress that’s going to get recognition right away so they don’t maintain the funding level. This sets back fusion and sort of mothballs things and slows down the programs…” says Alexis Briesemeister, one of the graduate students working on HSX. It appears history is repeating itself as there has been a recent proposal to cut $50 million dollars from the fusion research budget. Not only that, but larger portions of the decreased budget have been promised to the International Thermonuclear Experimental Reactor (ITER) project being constructed in France. This combination has led to the need to shut down domestic research programs like the Alcator C-Mod over at MIT. Cuts like this have many concerned about the future of domestic fusion research. “Some of the best scientists end up leaving [the U.S.] because they can’t count on support” says Alexis. This is a real fear that many physicists are starting to face. I asked a few of the graduate students at HSX what their stance on the subject was. The reaction was unanimous; though none were overly eager to leave the U.S. for work abroad they would if the opportunities were not present here.

#### Hagel is key to a soft landing critical military transitions that are key to prevent global conflict

Jessie Daniels (Truman National Security Project Fellow, worked in the US Senate) January 7, 2013 “Chuck Hagel Nomination: A Look At the Security Threats He Will Face” http://www.policymic.com/articles/21946/chuck-hagel-would-be-a-defense-secretary-for-the-21st-century

As President Obama heads into his second term, and a new cabinet comes into shape, attention now focuses on the leading choice for Secretary of Defense: Chuck Hagel. As the Chairman of the Atlantic Council, and former Nebraska GOP Senator, Hagel certainly has the policy chops and political bona fides to take over the reins from the current Secretary Leon Panetta. The next secretary of defense will immediately be faced with managing American commitments and new priorities. The Pentagon will continue its rebalance — or "pivot" — toward the Asia-Pacific, where the U.S. has already been bolstering its presence in the region. At the same time, the next secretary of defense will preside over a transition in Afghanistan that insiders say appears harder than anticipated — both politically and operationally. Then there's the Middle East at large, which presents a separate set of challenges: Egypt's rocky political transitions, an intransigent Iran, and escalating violence in Syria. Key in managing the U.S. role in each and all of these situations is recognizing the limits of American power and influence. Fortunately, Hagel gets how complex the picture is, and would be committed to ensuring that the U.S. military does not become overextended yet again. America's commitments will also be shaped by Pentagon budget reforms. The Defense Department is scheduled to trim $487 billion in spending over the next decade. If the sequester cuts eventually do go into effect — the fiscal cliff deal only delayed them by two months — the Pentagon will face an additional $500 billion in cuts. If confirmed as the next secretary of defense, Hagel would already come into the position with the mindset that the Defense budget is "bloated." Moreover, his political experience on Capitol Hill would prove useful in guiding the department through reforms that, though necessary, are likely to be highly politicized and contentious. Aside from these near-term challenges, the next secretary of defense will also need to prepare for 21st century threats. Tomorrow's threats could just as easily come from non-state actors or take place in cyberspace. Issues once unconnected to national security — such as the environment — now play critical roles for America's military, as resource insecurity (like water or energy) can escalate the risk of conflict. During his time in the Senate and now at the Atlantic Council, Hagel has been a strategic thinker who understands the interconnectedness of an array of threats. He has demonstrated the ability to understand the terrain of these new battlefields, and would be well-prepared shape the military as it prepares for this new security environment. Considering the overall breadth and depth of his experience, Chuck Hagel would bring many relevant strengths to the table — which is all the more important, since the next Pentagon chief will find a full plate of challenges upon arrival.

### 1NC

#### **MSU’s 1AC offers a vision of a future abundant with fusion energy reminiscent to a Star Trek cartoon that is no different from neoconservative defenses of fusion spoon-fed by biased PR campaigns. Their unflinching optimism creates a smokescreen for proliferation of dangerous nuclear weapons technology.**

Gusterson 2009 – An anthropologist, Gusterson is a professor of anthropology and sociology at George Mason University. His expertise is in nuclear culture, international security, and the anthropology of science. He has conducted considerable fieldwork in the United States and Russia, where he studied the culture of nuclear weapon scientists and antinuclear activists (Hugh, “Why Thomas Friedman is wrong about the National Ignition Facility,” http://thebulletin.org/web-edition/columnists/hugh-gusterson/why-thomas-friedman-wrong-about-the-national-ignition-facility)

Tom Friedman's brain is flat. That is the only conclusion I can reach after reading his New York Times piece on Lawrence Livermore National Laboratory's National Ignition Facility (NIF). A flat brain cannot tolerate complexity. It turns things--such as globalization and laser facilities--into cartoon versions of themselves. The recently finished NIF is set to be the world's most powerful laser system. It's a remarkable piece of engineering. The size of a football stadium, its 192 laser arms are aligned to within 100 microns. They were largely assembled by robots to keep them super-clean, and they must converge within a few microns and a few billionths of a second of one another in order to create an evanescent star within the laboratory. Delivering more than the entire energy supply of the U.S. electrical grid for a few billionths of a second, the laser strikes a tiny pellet of tritium and deuterium and creates transitory pressures and temperatures greater than those inside the sun--and all of this just a few hundred yards from a suburban housing estate. Friedman touted the NIF as a possible solution to the nation's energy problems. In his characteristically turbocharged prose, he asks, "What if a laser-powered fusion energy power plant that would have all the reliability of coal, without the carbon dioxide, all the cleanliness of wind and solar, without having to worry about the sun not shining or the wind not blowing, and all the scale of nuclear, without all the waste, was indeed just 10 years away or less? That would be a holy cow game-changer." He does note (at the end of the column, of course, where it won't be seen by many readers), that he isn't sure NIF can be made to work as a viable commercial technology. But much of his golly-gosh evocation of NIF (complete with a comparison to the USS Enterprise from Star Trek) reads like a weak paraphrase of shovel-ready prose from the lab's public relations department. Surely New York Times readers have a right to expect more from a high-profile columnist than an embellished press release. Here are a number of important points Friedman did not mention: Although the NIF has been funded through the Stockpile Stewardship Program for the nuclear weapons complex and presented to Congress as a vital facility for training a new generation of nuclear weapon scientists--ensuring that aging U.S. nuclear weapons continue to work--remarkably, the words "nuclear weapons" never appear in Friedman's column. Friedman is right that the NIF could be a prototype for a fusion energy reactor, and indeed, many Livermore scientists were enthusiastic about working on it for just this reason, but New York Times readers deserve to know that, thus far, this supposedly miraculous energy technology has been funded entirely by the nuclear weapons budget. Although NIF has become a more open facility recently, in the past those who worked on it at Livermore needed security clearances, and the details of the target capsule design were long classified because of their relevance to hydrogen bomb physics. Many New York Times readers might feel a little differently about Friedman's miraculous new green energy technology if they knew that it was so closely tied to nuclear weapons development, and that the United States presumably would be concerned if some countries (India and Japan come to mind) began to develop such fusion reactors themselves because it could help them better understand the science of hydrogen bombs. We don't need to repeat the mistakes of the Atoms for Peace program, when the U.S. government enthusiastically encouraged the development of nuclear energy technology all over the world in blithe ignorance of the proliferation dangers this would entail. It's not clear whether Friedman knows about the NIF's weapons connection and decided to leave it out, or whether he cut so many corners in writing his piece that he wasn't aware of it. I appreciate that, in the harsh world of a twice-a-week columnist, deadlines are a brute fact, but there are times when a column isn't yet ready for prime time. Friedman also tells us that, if we want a follow-on to NIF, "a pilot [fusion energy plant] would cost about $10 billion--the same as a new nuclear power plant." There is no mention of a source for the cost estimate, which is simply stated as fact. Not only does Freidman seem to have accepted a publicist's number as true; he never mentions that Livermore originally promised that the NIF would cost $1.2 billion and open for business in 2001. Instead, it has cost around $4 billion (estimates vary depending on what you count) and construction wasn't completed until this year--eight years behind schedule. In other words, buyer beware when it comes to Livemore's cost estimates for such technology. I once asked a senior manager for the NIF how they came up with the initial $1.2 billion cost estimate. I naively thought he'd tell me that they added up all of the costs for wiring, steel, glass, and labor, but somehow underestimated. Instead he told me, with astonishing frankness, that they decided how much they thought Congress was willing to spend and worked back from there. Given that early estimates in the 1950s substantially underestimated the cost of commercial nuclear energy, we might be suspicious of cost estimates today for a fusion plant that, by amazing coincidence, have it costing the same as a nuclear energy reactor. The holy grail of laser fusion is "ignition"--getting more energy out than you put in. "Once the lab proves that it can get energy gain from this laser-driven process," a breakthrough "the NIF expects to achieve" in two to three years, we can proceed to the next step, Friedman writes. Not "if," but "once." But is the NIF assured to achieve ignition? According to some accounts, there have been difficulties focusing the laser beams at high energies. Additionally, early tests showed the lasers shattering the glass lenses at the high energies needed to approach ignition. Nor does Friedman mention that Nova, the predecessor to NIF, also was supposed to achieve ignition, but Livermore scientists later found that, due to an error in their calculations, they had dramatically underestimated the energy required for ignition. Given these uncertainties, it's irresponsible and misleading for Friedman to speak of ignition as if it's assured. This has implications for another issue that Friedman doesn't raise--the expense of running a fusion reactor. He talks about the initial construction costs, but that's all. For a fusion reactor to be a viable energy source, it would have to be fired as many as thousands of times a day, but this puts immense stress on the lenses and can burn them out. It's far from clear that the economics can be made to work. As one of the few people in the country who has written consistently about Livermore, I often lament that the NIF--one of the most expensive science programs in the nation's history and an extraordinary technical accomplishment for all its problems--hasn't received the press coverage it deserves. And I'm in broad agreement with Friedman's conclusion: "We need to make a few big bets on potential game-changers. . . . At the pace we're going with the technologies we have, without some game-changers, climate change is going to have its way with us." But that doesn't mean we should repeat the mistakes that we made in the 1950s when techno-enthusiasts such as Friedman helped incite the global efflorescence of nuclear energy while minimizing the dangers of nuclear weapons proliferation and the difficulties of disposing of nuclear waste. By abnegating his responsibilities as a journalist, giving us instead PR masquerading as reportage, Friedman would lead us into the era of nuclear fusion with our eyes wide shut.

#### **VOTE NEG – Their technological optimism is mutually exclusive with skeptical approaches and undermines sustainable policy solutions.**

Costanza 2K – leading ecological economist and Professor of Public Policy at the Crawford School of Economics and Government at The Australian National University (Robert, “Visions of Alternative (Unpredictable) Futures and Their Use in Policy Analysis,” Ecology and Society Vol. 4, No. 1)

Probably the most challenging task facing humanity today is the creation of a shared vision of a sustainable and desirable society, one that can provide permanent prosperity within the biophysical constraints of the real world in a way that is fair and equitable to all of humanity, to other species, and to future generations. This vision does not now exist, although the seeds are there. We all have our own private visions of the world that we really want, and we need to overcome our fears and skepticism and begin to share these visions and build on them, until we have built a vision of the world that we want.

To contribute to that process, this paper lays out four visions of the future. Although there are an infinite number of possible future visions, I believe that these four visions embody some basic patterns within which much of this variation occurs. The visions are based on some critical assumptions about the way the world works, which may or may not turn out to be true. This format allows one to clearly identify these assumptions, access how critical they are to the relevant vision, and recognize the consequences if they are wrong.

FOUR VISIONS OF THE FUTURE

The four visions derive from two basic worldviews, whose characteristics are laid out in Table 1. These worldviews have been described in many ways (Bossel 1996), but an important distinction has to do with one's degree of faith in technological progress (Costanza 1989). The "technological optimist" world view is one in which technological progress is assumed to be able to solve all current and future social problems. It is a vision of continued expansion of humans and their dominion over nature. This is the "default" vision in our current Western society, one that represents continuation of current trends into the indefinite future. It is the "taker" culture, as described so eloquently by Daniel Quinn (1992) in Ishmael.

There are two versions of this vision, however: one that corresponds to the underlying assumptions on which it is based actually being true in the real world, and one that corresponds to those assumptions being false, as shown in Fig. 1. The positive version of the "technological optimist" vision I will call "Star Trek," after the popular TV series that is its most articulate and vividly fleshed-out manifestation. The negative version of the "technological optimist" vision I will call "Mad Max," after the popular movie of several years ago that embodies many aspects of this vision gone bad.

The "technological skeptic" vision is one that depends much less on technological change and more on social and community development. It is not in any sense "anti-technology." However, it does not assume that technological change can solve all problems. In fact, it assumes that some technologies may create as many problems as they solve, and that the key is to view technology as the servant of larger social goals rather than the driving force. The version of this vision that corresponds to the skeptics being right about the nature of the world I will call "Ecotopia," after the semipopular book of the late 1970s (Callenbach 1975). If the optimists turn out to be right about the real state of the world, then what I will call the "big government" vision will come to pass: Ronald Reagan's worst nightmare of overly protective government policies getting in the way of the free market. Each of these future visions is described here from the perspective of the year 2100. The visions are described as narratives with specific names and events, rather than as vague general conditions, in order to make them more real and vivid. They are, of course, only caricatures, but I hope that they capture the essence of the visions they represent.

Star Trek: the default technological optimist vision

The turning point came in 2012, when scientists at Cal Tech finally confirmed the reality of what had once been thought to be a scientific hoax. The "cold fusion" that was crudely detected by scientists Flieshman and Ponds in Utah in the 1980s had been perfected and reemerged as the "warm fusion" that ultimately powered humanity to the stars. By 2012, things were really starting to get dicey on Earth. Population pressure was mounting, because of the ascendancy of Julian Simon's theory that more people were actually better for the planet. In his seminal work, Simon (1981) recognized that the real limiting factor was not technology or natural resources, but the number of human brains working on solving problems. Those human brains came up with the solution just in the nick of time, in 2012. By then, natural resources were definitely being strained. The "greenhouse effect" caused by burning fossil fuel was beginning to cause some major disruptions, and warm fusion allowed a rapid reduction of global fossil fuel burning to practically zero by the year 2050, with eventual reversal of the greenhouse effect. Although warm fusion was not quite as convenient as cold fusion had promised to be, it was infinitely better and cheaper than any alternative, and was inexhaustible, to boot. The air pollution problem was essentially eliminated over the period from about 2015 to 2050, as cars were converted to clean-burning hydrogen, produced with energy from warm-fusion reactors. Electricity for homes, factories, and other uses came increasingly from warm fusion, so the old, risky nuclear-fission reactors were gradually decommissioned. Even some hydropower stations were eliminated, returning some great rivers to their wild state. In particular, the dams along the Columbia River in Oregon were completely eliminated by 2050, allowing the wild salmon runs and spawning grounds to be reestablished.

Although clean, unlimited energy allowed the impact of humans on the environment to be significantly lessened, the world was still getting pretty crowded. The solution, of course, was space colonies, built with materials taken from the moon and asteroids, and with energy from the new warm-fusion reactors. The initial space colonies were on the Earth's moon, the moons of Jupiter, and in free space in the inner solar system. From there, it was a relatively short step to launch some of the smaller space colonies off toward the closer stars. By 2050, about 10% of the total population of 20 billion was living in space colonies of one kind or another. Currently (year 2100), the total human population of 40 billion is split almost equally between Earth and extraterrestrial populations. The population of Earth is not expected to rise above about 20 billion, with almost all future growth coming in space-based populations. The prospects for near-light-speed space ships seems very good in the next few years, and some people are even speculating that faster than light space travel may actually be possible, and may one day allow colonization of distant stars and galaxies.

#### Interrogating dominant policy frameworks creates space for new ways of approaching energy policy – our role as energy policy researchers should be to interrogating the methodological framing of our policies

**Scrase and Ockwell 10** (J. Ivan - Sussex Energy Group, SPRU (Science and Technology Policy Research), Freeman Centre, University of Sussex, David G - Tyndall Centre for Climate Change Research, SPRU, Freeman Centre, University of Sussex, “The role of discourse and linguistic framing effects in sustaining high carbon energy policy—An accessible introduction,” Energy Policy: Volume 38, Issue 5, May 2010, Pages 2225–2233)

We hope that this article has served to provide an accessible introduction to the ways in which discourse and linguistic framing effects might be playing a role in sustaining **energy policy frameworks** that are **resistant to** the many insightful **changes** often advocated in the pages of Energy Policy. If the influence of such framing effects is accepted, we begin to see how the process of effecting changes in energy policy is not just a technical or economic task, but also a political task. Moreover, this highlights an urgent need for civil society to engage directly with the existing framing of energy policy and the problems it seeks to address in an effort to reframe it around more sustainable, low carbon principles and concerns. The demonstration of the value of a **discourse analytic approach** in this paper, together with other emerging contributions in this field (cited above), also serves to highlight some **important considerations for energy policy researchers**. Moving away from the traditional **linear understanding** of the policy process **requires** researchers to critically reflect on the interplay of values, beliefs, entrenched interests and institutional structures that serve to **facilitate** or constrain **the policy traction** of certain framings of **energy policy problems and solutions**. Further than this, it also highlights the role in this process that we ourselves play as **researchers**, and the extent to which our own values, beliefs and interests influence the **framing of our research practice and communication**. This has important and far reaching implications, both **methodological** and normative, raising considerations that are likely to continue to gain traction as researchers and policy makers alike increasingly appreciate the need for reflexivity in our approach to **framing**, interpreting and implementing **energy policy** in the decades to come.[2](http://www.sciencedirect.com/science/article/pii/S0301421509009471#fn2)

### 1NC

#### Text: The United States Federal Government should not increase funding for fusion energy production in the United States. The United States Federal Government should substantially increase funding for fusion science research in the United States.

#### Solves every advantage except Development and avoids Politics and the ITER DA – the perm links

Rowberg 2k – Associate Executive Director for Communications in the Division of Engineering and Physical Sciences of the National Research Council of the National Academies (Richard E., 01/31, “Congress and the Fusion Energy Sciences Program: A Historical Analysis,” http://fire.pppl.gov/RL30417.pdf)

If Congress were to decide that fusion research was to be primarily a science program albeit with a definite goal, the question arises as to how long and at what level it would continue to support the program. As a science program, it may have certain limitations that would not be there if it were considered primarily an energy development program. An important example concerns growth in the scale of research facilities. A program that was concerned only with basic plasma physics research would likely be able to continue for several years without needing to scale up facilities to the multi-million dollar level. It also is possible that such a program would be funded at levels considerably below current amounts.

#### Spinoffs from fusion development will be produced in super-conductivity

Silverstein 12 (Ken, Editor of Energy Central and Contributor – Forbes, "The Tantalizing Promise And Peril Of Nuclear Fusion", Forbes Magazine, 4-15, http://www.forbes.com/sites/kensilverstein/2012/04/15/nuclears-strongest-potential-weapon-fusion/)

“Despite fusion’s tantalizing benefits, it has been largely ignored in energy policy discussions because it is viewed as a technology too immature to affect energy production over the next few decades, when it is most needed,” says the Lawrence Livermore National Laboratory. The lab, which is part of a $3.5 billion research effort to help commercialize fusion, says that the United States is in a “unique position to change this paradigm.” To be clear, fusion is different from fission, which is how today’s nuclear reactor’s produce energy. Fission splits atoms apart whereas fusion combines them — a process that thus far consumes more energy than it generates. The aim, though, is to heat the hydrogen gas to more than 100 million degrees Celsius so that the atoms will bond instead of bounce off each another. If scientists are ultimately able to achieve success, the end result would be the production of 10 million times more power than a typical chemical reaction, such as the burning of fossil fuels. And it would occur without the carbon emissions or the disposal of high-level radioactive waste. To that end, an international consortium has already spent $20 billion on fusion research and development. The so-called International Nuclear Fusion Project, or ITER, is aiming to have a demonstration reactor erected in France by 2019. All of the member states comprising the European Union, as well as the United States, Russia, Japan, China, India and South Korea participate. They are sharing their resources to pay for the scientific and engineering skills needed to bring such a concept to scale. What immediate benefits do those participants get from funding ITER, or from making their own national investments in nuclear fusion? Magnet technology is one area, which is used in medical devices such as magnetic resonance imagery that allows doctor’s see completely inside the human brain. That’s what Michael Claessens, head of communications for ITER Organization, explained to this reporter in an email. Superconducting and advanced materials are two additional benefits, he notes, adding that more such bonuses will occur in the future, as it does with any high-level research.

#### Causes EMP weapons integration and use

Wilson 1 (Jim, September, Popular Mechanics, http://superconductors.org/emp-bomb.htm)

America has remained at the forefront of EMP weapons development. Although much of this work is classified, it's believed that current efforts are based on using high-temperature superconductors to create intense magnetic fields. [And it's] an astoundingly simple weapon. It consists of an explosives-packed tube placed inside a slightly larger copper coil. The instant before the chemical explosive is detonated, the coil is energized by a bank of capacitors, creating a magnetic field. The explosive charge detonates from the rear forward. As the tube flares outward it touches the edge of the coil, thereby creating a moving short circuit. "The propagating short has the effect of compressing the magnetic field while reducing the inductance of the stator [coil]," says Carlo Kopp, an Australian-based expert on high-tech warfare. "The result is that FCGs will produce a ramping current pulse, which breaks before the final disintegration of the device. Published results suggest ramp times of tens of hundreds of microseconds and peak currents of tens of millions of amps." The pulse that emerges makes a lightning bolt seem like a flashbulb by comparison. Ultimately, the Army hopes to use E-bomb technology to explode artillery shells in midflight. The Navy wants to use the E-bomb's high-power microwave pulses to neutralize antiship missiles. And, the Air Force plans to equip its bombers, strike fighters, cruise missiles and unmanned aerial vehicles with E-bomb capabilities. When fielded, these will be among the most technologically sophisticated weapons the U.S. military establishment has ever built. There is, however, another part to the E-bomb story, one that military planners are reluctant to discuss.

#### That kills satellites

Air University 3 – the U.S. Air Force's primary center for professional military education (09/06, “SPACE SYSTEMS SURVIVABILITY,” http://space.au.af.mil/primer/space\_systems\_survivability.pdf)

Prompt radiation can be described just like early-time EMP; it hits the satellite very quickly with maximum levels of energy. This charge of energy can be devastating to the satellite's health. Skin-charge effects are like intermediate EMP; they destabilize the energy fields and lead to the generation of internal EMP, which is similar to late-time EMP. The generation of internal EMP is the result of the satellite attempting to equalize the energy fields within itself. These charges collect on the cables, and high voltages are sent to various components, causing effects ranging from simple logic changes or circuitry disruptions to total component burnout.

#### Satellites are key to anti-submarine warfare

Brown 10(Peter J. Brown, journalist specializing in US satellite technology, former senior multimedia editor for “Via Satellite” magazine, “US Satellites Shadow China’s Submarines,” Asia Times, May 13, 2010, <http://www.atimes.com/atimes/China/LE13Ad01.html>)

Detecting submarines via satellite is a form of Non-Acoustic Anti-Submarine Warfare (NAASW). Lasers, infrared and other detectors and synthetic aperture radar (SAR) in space may be used as part of this NAASW activity. Satellites might see subtle undersea disturbances caused by submarines, watch wave patterns on or beneath the sea surface, or detect subtle variations in ocean temperature. This is not to be confused with satellite communications, nor is an "EO" or "Earth Observation" satellite to be confused with "EO" as in an "Electro-Optical" means of detecting submarines. Over the next 18 months, the US National Reconnaissance Office (NRO) - operator of the US spy satellite fleet - is planning multiple satellite launches, and China must assume that one or more of these new US surveillance satellites will help support US Navy efforts to locate and track PLAN submarines.

#### ASW deterrence is uniquely key to prevent conflict, specifically Korean war

Finch 11(Lieutenant Commander David P. Finch, EA Chief of Transformation, “Anti-submarine Warfare (ASW) Capability Transformation: Strategy of Response to Effects Based Warfare,” Collective C2 in Multinational Civil-Military Operations, Command and Control Research Program, 16th ICCRTS, Paper ID 103, <http://www.dodccrp.org/events/16th_iccrts_2011/papers/103.pdf>)

The importance of our ability to achieve a traditional ASW deterrence posture was recently reinforced with the sinking of the ROK Cheonan destroyer by a probable PRK submarine. Despite the authoritative findings of an International team that forensically examined the evidence of the sinking implicating PRK, North Korea continues to maintain its innocence and deny any involvement, especially since there is no eye witness to attribute their involvement in the event. Less obtrusive but no less confrontational was the sighting of a previously undetected Song Class Chinese diesel submarine within potential weapons range of an US Navy Aircraft Carrier in 2006. The resurgence of the Cold War adversary was noted in 2009 with a tandem deployment of Russian Akula attack SSN’s to positions along the North American coastline that positioned them well within range of likely cruise missile weapons loads of major North American centres. 8 Submarine capability and emergent UUV technologies enable nations to leverage the inherent stealth of the platform to force reactive defensive measures. As witnessed with the Koreas incident, the stealth and plausible deniability of undersea actions is of Strategic value to the nation willing to apply the capability to achieve national objectives.

#### Global nuclear war – submarine attacks uniquely escalate

Stratfor 10(5/26/10, “North Korea, South Korea: The Military Balance on the Peninsula,” <http://www.stratfor.com/analysis/20100526_north_korea_south_korea_military_balance_peninsula>)

Managing Escalation But no one, of course, is interested in another war on the Korean Peninsula. Both sides will posture, but at the end of the day, neither benefits from a major outbreak of hostilities. And despite the specter of North Korean troops streaming under the DMZ through tunnels and wreaking havoc behind the lines in the south (a scenario for which there has undoubtedly been significant preparation), neither side has any intention of invading the other. So the real issue is the potential for escalation — or an accident that could precipitate escalation — that would be beyond the control of Pyongyang or Seoul. With both sides on high alert, both adhering to their own national (and contradictory) definitions of where disputed boundaries lie and with rules of engagement loosened, the potential for sudden and rapid escalation is quite real. Indeed, North Korea’s navy, though sizable on paper, is largely a hollow shell of old, laid-up vessels. What remains are small fast attack craft and submarines — mostly Sang-O “Shark” class boats and midget submersibles. These vessels are best employed in the cluttered littoral environment to bring asymmetric tactics to bear — not unlike those Iran has prepared for use in the Strait of Hormuz. These kinds of vessels and tactics — including, especially, the deployment of naval mines — are poorly controlled when dispersed in a crisis and are often impossible to recall. For nearly 40 years, tensions on the Korean Peninsula were managed within the context of the wider Cold War. During that time it was feared that a second Korean War could all too easily escalate into and a thermonuclear World War III, so both Pyongyang and Seoul were being heavily managed from their respective corners. In fact, USFK was long designed to ensure that South Korea could not independently provoke that war and drag the Americans into it, which for much of the Cold War period was of far greater concern to Washington than North Korea attacking southward. Today, those constraints no longer exist. There are certainly still constraints — neither the United States nor China wants war on the peninsula. But current tensions are quickly escalating to a level unprecedented in the post-Cold War period, and the constraints that do exist have never been tested in the way they might be if the situation escalates much further.

### 1NC

#### Plan trades off with U.S. ITER funding – turns the case faster than the aff can solve

Dylla 12 – executive director and CEO of the American Institute of Physics (H. Frederick, 08/14, “How long is the fuse on fusion?” http://www.physicstoday.org/daily\_edition/points\_of\_view/how\_long\_is\_the\_fuse\_on\_fusion)

As I write this, ITER, a fusion facility that will cost more than $10 billion, is being built by an international consortium—the European Union, Japan, Russia, the US, South Korea, China, and India—in Cadarache, France. The device is scheduled to begin operation by 2019, and scientists plan to demonstrate 500 million watts of fusion power for several minutes' duration a decade later. That may sound like a slogging pace when considering the world's constantly growing demand for energy. But consider that DOE and numerous study groups must struggle in their periodic attempts to construct and advocate national and international long-term energy strategies. Those efforts must compete against the enormous influence of the entrenched trillion-dollar interests in hydrocarbon-based energy sources. Moreover, with the fiscal realities of energy production and global debt crises reining in research budgets, it's even more of a challenge to sustain robust annual progress toward a long-term solution like fusion research. That creates a painful reality for DOE and the US fusion community. The present fusion budget cannot sustain the remaining domestic research program at PPPL, MIT, General Atomics, and several other major centers and also fulfill the US's international obligations for funding its 10% share of the ITER project. Yet I strongly believe that the US's 60-year investment in this "holy grail of energy sources" has allowed scientists to make tremendous progress, and they are positioned to take a major step forward. The nation should find a way to sustain a critical mass of both domestic and international investments. The ultimate goal is so attractive that the US should not lose the opportunity to be a leader in the international fusion program. Consider that energy is the heart of every society's infrastructure; two examples illustrate how a society's sustained, long-term investment in infrastructure ultimately produced abundant rewards.

#### ITER cuts kills our cred and U.S.-Russia relations

Fedoroff 8 – Ph.D., Science and Technology Adviser to the Secretary of State and the Administrator of USAID (Nina V., 04/02, “Making Science Diplomacy More Effective,” http://2001-2009.state.gov/g/stas/2008/105286.htm)

Finally, some types of science – particularly those that address the grand challenges in science and technology – are inherently international in scope and collaborative by necessity. The ITER Project, an international fusion research and development collaboration, is a product of the thaw in superpower relations between Soviet President Mikhail Gorbachev and U.S. President Ronald Reagan. This reactor will harness the power of nuclear fusion as a possible new and viable energy source by bringing a star to earth. ITER serves as a symbol of international scientific cooperation among key scientific leaders in the developed and developing world – Japan, Korea, China, E.U., India, Russia, and United States – representing 70% of the world’s current population. The recent elimination of funding for FY08 U.S. contributions to the ITER project comes at an inopportune time as the Agreement on the Establishment of the ITER International Fusion Energy Organization for the Joint Implementation of the ITER Project had entered into force only on October 2007. The elimination of the promised U.S. contribution drew our allies to question our commitment and credibility in international cooperative ventures. More problematically, it jeopardizes a platform for reaffirming U.S. relations with key states. It should be noted that even at the height of the cold war, the United States used science diplomacy as a means to maintain communications and avoid misunderstanding between the world’s two nuclear powers – the Soviet Union and the United States. In a complex multi-polar world, relations are more challenging, the threats perhaps greater, and the need for engagement more paramount.

#### Accidental extinction

ROJANSKY AND COLLINS 10 (James F. Collins – Director, Russia and Eurasia Program at the Carnegie Endowment and an ex-US ambassador to the Russian Federation, Matthew Rojansky – the deputy director of the Russia and Eurasia Program at the Carnegie Endowment, August 18, 2010, “Why Russia Matters”, http://www.foreignpolicy.com/articles/2010/08/18/why\_Russia\_matters)

Russia's nukes are still an existential threat. Twenty years after the fall of the Berlin Wall, Russia has thousands of nuclear weapons in stockpile and hundreds still on hair-trigger alert aimed at U.S. cities. This threat will not go away on its own; cutting down the arsenal will require direct, bilateral arms control talks between Russia and the United States. New START, the strategic nuclear weapons treaty now up for debate in the Senate, is the latest in a long line of bilateral arms control agreements between the countries dating back to the height of the Cold War. To this day, it remains the only mechanism granting U.S. inspectors access to secret Russian nuclear sites. The original START agreement was essential for reining in the runaway Cold War nuclear buildup, and New START promises to cut deployed strategic arsenals by a further 30 percent from a current limit of 2,200 to 1,550 on each side. Even more, President Obama and his Russian counterpart, Dmitry Medvedev, have agreed to a long-term goal of eliminating nuclear weapons entirely. But they can only do that by working together.

### Advantage 1

#### No fusion

Geoff Brumfiel, Scientific American, June 2012, Fusion's Missing Pieces, EBSCO

Scientists such as Lee have been seduced by fusion for half a century. Many before him have promised its impending arrival. Although some of those researchers were charlatans, the vast majority of them turned out to be plain wrong. Fusion is tough, and nature breaks promises. Here is the core challenge: because hydrogen ions repel one another, scientists must slam them together to make them fuse. ITER's strategy is to heat the hydrogen inside a magnetic cage. The particular type of magnetic cage it employs is called a tokamak -- a metal doughnut circled by loops of coil that generate magnetic fields. These magnetic cuffs squeeze a charged plasma of hydrogen ions as it warms to hundreds of millions of degrees -- temperatures no solid material can withstand. In the 1970s tokamaks looked so promising that some researchers predicted they could build fusion electricity plants by the mid-1990s. The only challenge was scaling research reactors up to sufficient size -- in general, the bigger the tokamak, the hotter the plasma can get, and the more efficient fusion becomes. Then problems arose. Plasma conducts electricity and so can suffer from self-generated currents that make it buck and writhe. Violent turbulence snaps the plasma out of its cage, firing it toward the machine's wall. As the temperature rises, the tokamak grows to give the plasma space, and the magnetic fields need to be stronger to hold it. Extra room and stronger magnetic fields require higher electric current in the doughnut's copper coils. And higher current requires more power. Put simply: the larger and more powerful a machine becomes, the more energy it consumes trying to hold everything together. This feedback meant that conventional tokamaks would never produce more energy than they consumed. Lee and others knew of only one solution: superconductors -- special materials that, at very low temperatures, can carry extremely high current with no resistance. If a tokamak's magnets were superconducting, they could be pumped up with current and left to run indefinitely. It would solve the energy problem but would not be cheap. Superconductors are exotic, expensive materials. And to work, they need to be constantly cooled with liquid helium to just four kelvins above absolute zero.

#### No fusion – Tech doesn’t work

Geoff Brumfiel, Scientific American, June 2012, Fusion's Missing Pieces, EBSCO

Scientists such as Lee have been seduced by fusion for half a century. Many before him have promised its impending arrival. Although some of those researchers were charlatans, the vast majority of them turned out to be plain wrong. Fusion is tough, and nature breaks promises. Here is the core challenge: because hydrogen ions repel one another, scientists must slam them together to make them fuse. ITER's strategy is to heat the hydrogen inside a magnetic cage. The particular type of magnetic cage it employs is called a tokamak -- a metal doughnut circled by loops of coil that generate magnetic fields. These magnetic cuffs squeeze a charged plasma of hydrogen ions as it warms to hundreds of millions of degrees -- temperatures no solid material can withstand. In the 1970s tokamaks looked so promising that some researchers predicted they could build fusion electricity plants by the mid-1990s. The only challenge was scaling research reactors up to sufficient size -- in general, the bigger the tokamak, the hotter the plasma can get, and the more efficient fusion becomes. Then problems arose. Plasma conducts electricity and so can suffer from self-generated currents that make it buck and writhe. Violent turbulence snaps the plasma out of its cage, firing it toward the machine's wall. As the temperature rises, the tokamak grows to give the plasma space, and the magnetic fields need to be stronger to hold it. Extra room and stronger magnetic fields require higher electric current in the doughnut's copper coils. And higher current requires more power. Put simply: the larger and more powerful a machine becomes, the more energy it consumes trying to hold everything together. This feedback meant that conventional tokamaks would never produce more energy than they consumed. Lee and others knew of only one solution: superconductors -- special materials that, at very low temperatures, can carry extremely high current with no resistance. If a tokamak's magnets were superconducting, they could be pumped up with current and left to run indefinitely. It would solve the energy problem but would not be cheap. Superconductors are exotic, expensive materials. And to work, they need to be constantly cooled with liquid helium to just four kelvins above absolute zero.

#### Extremely long timeframe for any production

Physics Central 12 – published by the American Physical Society, which represents some 48,000 physicists (03/21, “Fusion Finally on the Horizon?” http://physicsbuzz.physicscentral.com/2012/03/fussion-finally-on-horizon.html)

Because we can't rely on gravity to squeeze fusion fuel together down here on Earth, physicists have been working on a number of alternatives. For **the past half century** or so most of the focus has been on using magnetic fields to confine gas-like plasmas of super hot hydrogen. Unfortunately, plasmas are slippery and holding onto them for long is very, very difficult. So difficult, in fact, that the approach has been the butt of a longstanding joke that goes something like this, "Practical plasma fusion is only twenty years away, and always will be." It's funny, 'cause it's true. When I was a physics student in the 1980's, the plasma physicists I was working for told me we'd have magnetic fusion reactors in twenty years, and they are saying the same thing today. (Some are even saying it may take thirty years, essentially indicating that the field is making anti-progress towards its lofty goal.)

#### No commercialization – definitely not fast

Geoff Brumfiel, Scientific American, June 2012, Fusion's Missing Pieces, EBSCO

ITER will prove whether fusion is achievable. It will not prove whether it is commercially viable. There is good reason to think it might not be. For starters, the radiation from fusion is very intense and will damage ordinary material such as steel. A power plant will have to incorporate some as yet undeveloped materials that can withstand years of bombardment from the plasma -- otherwise the reactor will be constantly down for servicing. Then there is the problem of tritium fuel, which must be made on-site, probably by using the reactor's own radiation. Arguably the greatest obstacle to building a reactor based on ITER is the machine's incredible complexity. All the specialized heating systems and custom-built parts are fine in an experiment, but a power plant will need to be simpler, says Steve Cowley, CEO of the U.K.'s Atomic Energy Authority. "You can't imagine producing power day in and day out on a machine that's all bells and whistles," he says. Another generation of expensive demonstration reactors must be built before fusion can come onto the grid. Given ITER's lumbering development, none of these will be up and running before the middle of the century.

#### Spinoffs inevitable

David Malakoff, Science Magazine, 3/21/12, Proposed U.S. Fusion Cuts Ignite Debate, news.sciencemag.org/scienceinsider/2012/03/proposed-us-fusion-cuts-ignite.html

Members of the panel repeatedly asked Brinkman about the implications of a plan, outlined in the Obama Administration's 2013 budget request released in February, to trim DOE's fusion energy sciences budget by 0.8%, to $398 million. At the same time, the budget would increase the U.S. contribution to ITER, a $23 billion fusion reactor being built in Cadarache, France, to $150 million, up from $105 million this year. To help pay for the ITER increase, DOE is proposing to shut down a fusion experiment known as the Alcator C-Mod at the Massachusetts Institute of Technology (MIT) in Cambridge. Cutting C-Mod, which is one of three major fusion devices in the United States, would save $18 million in the next fiscal year, which begins in October. That plan, Brinkman told committee members, partly reflected an effort to avoid duplication, since C-Mod does research that could also be done elsewhere in the United States and abroad. "I don't want to belittle the MIT work, [they have] done some very fine work," he said. But the other two U.S. fusion projects—particularly the DIII-D tokamak operated by General Atomics in San Diego, California—are now more scientifically productive, he said.

#### Err neg—this is nonsense

Chris Rhodes, Sussex University, Physical Chemistry Professor, 6/10/12, The Progress made in the Different Fields of Nuclear Fusion, oilprice.com/Alternative-Energy/Nuclear-Power/The-Progress-made-in-the-Different-Fields-of-Nuclear-Fusion.html

When I was about 10, I recall hearing that nuclear fusion power would become a reality "in about thirty years". The estimate has increased steadily since then, and now, forty odd years on, we hear that fusion power will come on-stream "in about fifty years". So, what is the real likelihood of fusion-based power stations coming to our aid in averting the imminent energy crisis? Getting two nuclei to fuse is not easy, since both carry a positive charge and hence their natural propensity is to repel one another. Therefore, a lot of energy is required to force them together so that they can fuse. To achieve this, suitable conditions of extremely high temperature, comparable to those found in stars, must be met. A specific temperature must be reached in order for particular nuclei to fuse with one another. This is termed the "critical ignition temperature", and is around 400 million degrees centigrade for two deuterium nuclei to fuse, while a more modest 100 million degrees is sufficient for a deuterium nucleus to fuse with a tritium nucleus. For this reason, it is deuterium-tritium fusion that is most sought after, since it should be most easily achieved and sustained. One disadvantage of tritium is that it is radioactive and decays with a half-life of about 12 years, and consequently, it exists naturally in only negligible amounts. However, tritium may be "bred" from lithium using neutrons produced in an initial deuterium-tritium fusion. Ideally, the process would become self-sustaining, with lithium fuel being burned via conversion to tritium, which then fuses with deuterium, releasing more neutrons. While not unlimited, there are sufficient known resources of lithium to fire a global fusion programme for about a thousand years, mindful that there are many other uses for lithium, ranging for various types of battery to medication for schizophrenics. The supply would be effectively limitless if lithium could be extracted from the oceans. In a working scenario, some of the energy produced by fusion would be required to maintain the high temperature of the fuel such that the fusion process becomes continuous. At the temperature of around 100 - 300 million degrees, the deuterium/lithium/tritium mixture will exist in the form of a plasma, in which the nuclei are naked (having lost their initial atomic electron clouds) and are hence exposed to fuse with one another. The main difficulty which bedevils maintaining a working fusion reactor which might be used to fire a power station is containing the plasma, a process usually referred to as "confinement" and the process overall as “magnetic confinement fusion” (MCF). Essentially, the plasma is confined in a magnetic bottle, since its component charged nuclei and electrons tend to follow the field of magnetic force, which can be so arranged that the lines of force occupy a prescribed region and are thus centralised to a particular volume. However, the plasma is a "complex" system that readily becomes unstable and leaks away. Unlike a star, the plasma is highly rarefied (a low pressure gas), so that the proton-proton cycle that powers the sun could not be thus achieved on earth, as it is only the intensely high density of nuclei in the sun's core that allows the process to occur sustainably, and that the plasma is contained within its own gravitational mass, and isolated within the cold vacuum of space. In June 2005, the EU, France, Japan, South Korea, China and the U.S. agreed to spend $12 billion to build an experimental fusion apparatus (called ITER) by 2014. It is planned that ITER will function as a research instrument for the following 20 years, and the knowledge gained will provide the basis for building a more advanced research machine. After another 30 years, if all goes well, the first commercial fusion powered electricity might come on-stream. The Joint European Torus (JET) I attended a fascinating event recently - a Cafe' Scientifique meeting held in the town of Reading in South East England. I have also performed in this arena, talking about "What Happens When the Oil Runs Out?", which remains a pertinent question. This time it was the turn of Dr Chris Warrick from the Culham Centre for Fusion Energy based near Abingdon in Oxfordshire, which hosts both the MAST (Mega Amp Spherical Tokamak) and the better known JET (Joint European Torus) experiments. In the audience was a veteran engineer/physicist who had worked on the pioneering ZETA4 experiment in the late 1950s, from which neutrons were detected leading to what proved later to be false claims that fusion had occurred, their true source being different versions of the same instability processes that had beset earlier machines. Nonetheless, his comment was salient: "In the late 50s, we were told that fusion power was 20 years away and now, 50-odd years later it is maybe 60 years away." Indeed, JET has yet to produce a positive ratio of output power/input energy, and instability of the plasma is still a problem. Dr Warrick explained that while much of the plasma physics is now sorted-out, minor aberrations in the magnetic field allow some of the plasma to leak out, and if it touches the far colder walls of the confinement chamber, it simply "dies". In JET it is fusion of nuclei of the two hydrogen isotopes, deuterium and tritium that is being undertaken, a process that as noted earlier, requires a "temperature" of 100 million degrees. I say "temperature" because the plasma is a rarefied (very low pressure) gas, and hence the collisions between particles are not sufficiently rapid that the term means the same distribution of energy as occurs under conditions of thermal equilibrium. It is much the same as the temperatures that may be quoted for molecules in the atmospheric region known as the thermosphere which lies some 80 kilometres above the surface of the Earth. Here too, the atmosphere is highly rarefied and thus derived temperatures refer to translational motion of molecules and are more usefully expressed as velocities. However expressed, at 100 million degrees centigrade, the nuclei of tritium and deuterium have sufficient translational velocity (have enough energy) that they can overcome the mutual repulsion arising from their positive charges and come close enough that they are drawn together by attractive nuclear forces and fuse, releasing vast amounts of energy in the process. JET is not a small device, at 18 metres high, but bigger machines will be necessary before the technology is likely to give out more energy than it consumes. Despite the considerable volume of the chamber, it contains perhaps only one hundredth of a gram of gas, hence its very low pressure. There is another matter and that is how long the plasma and hence energy emission can be sustained. Presently it is fractions of a second but a serious "power station" would need to run for some hours. There is also the problem of getting useful energy from the plasma to convert into electricity even if the aforementioned and considerable problems can be overcome and a sustainable, large-scale plasma maintained. The plan is to surround the chamber with a "blanket" of lithium with pipes running through it and some heat-exchanger fluid passing through them. The heated fluid would then pass on its heat to water and drive a steam-turbine, in the time-honoured fashion used for fossil fuel fired and nuclear power plants. Now my understanding is that this would not be lithium metal but some oxide material. The heat would be delivered in the form of very high energy neutrons that would be slowed-down as they encounter lithium nuclei on passing through the blanket. In principle this is a very neat trick, since absorption of a neutron by a lithium nucleus converts it to tritium, which could be fed back into the plasma as a fuel. Unlike deuterium, tritium does not exist is nature, being radioactive with a half-life of about 12 years. However produced, either separately or in the blanket, lithium is the ultimate fuel source, not tritium per se. Deuterium does exist in nature but only to the extent of one part in about two thousand of ordinary hydrogen (protium) and hence the energy costs of its separation are not inconsiderable. The neutron flux produced by the plasma is very high, and to enhance the overall breeding efficiency of lithium to tritium the reactor would be surrounded with a “lithium” blanket about three feet thick. The intense neutron flux will render the material used to construct the reactor highly radioactive, to the extent that it would not be feasible for operators to enter its vicinity for routine maintenance. The radioactive material will need to be disposed of similarly to the requirements for nuclear waste generated by nuclear fission, and hence fusion is not as "clean" as is often claimed. Exposure to radiation of many potential materials necessary to make the reactor, blanket, and other components such as the heat-exchanger pipes would render them brittle, and so compromise their structural integrity. There is also the possibility that the lithium blanket around the reactor might be replaced by uranium, so enabling the option of breeding plutonium for use in nuclear weapons. Providing a fairly intense magnetic field to confine the plasma (maybe Tesla - similar to that in a hospital MRI scanner) needs power (dc not ac as switching the polarity of the field would cause the plasma to collapse) and large power-supply units containing a lot of metals including rare earths which are mined and processed using fossil fuels. The issue of rare earths is troublesome already, and whether enough of them can be recovered to meet existing planned wind and electric car projects is debatable, let alone that additional pressure should be placed upon an already fragile resource to build a first generation of fusion power stations. World supplies of lithium are also already stressed, and hence getting enough of it not only to make blankets for fusion reactors and tritium production but also for the millions-scale fleet of electric vehicles needed to divert our transportation energy demand away from oil is probably a bridge too far, unless we try getting it from seawater, which takes far more energy than mining lithium minerals. The engineering requirements too will be formidable, however, most likely forcing the need to confront problems as yet unknown, and even according to the most favourable predictions of the experts, fusion power is still 60 years away, if it will arrive at all. Given that the energy crisis will hit hard long before then, I suggest we look to more immediate solutions, mainly in terms of energy efficiency, for which there is ample scope. To quote again the ZETA veteran, "I wonder if maybe man is not intended to have nuclear fusion," and all in all, other than from solar energy I wonder if he is right. At any rate, garnering real electrical power from fusion is so far distant as to have no impact on the more immediately pressing fossil fuels crisis, particularly for oil and natural gas. Fusion Power is a long-range "holy grail" and part of the illusion that humankind can continue in perpetuity to use energy on the scale that it presently does. Efficiency and conservation are the only real means to attenuate the impending crisis in energy and resources.

### Advantage 2

### Growth

#### Economic collapse is inevitable – it forces a transition to sustainable communities – we indict your authors

Brownlee 10 – This essay was adapted from a presentation at Xavier University in Cincinnati on Nov. 7, 2010, as part of a lecture series on Ethics, Religion, and Society (Michael, 11/30, “The Evolution Of Transition In The U.S,” http://countercurrents.org/brownlee301110.htm)

Here, we need to know that economic decline will soon accelerate to inevitable collapse. There will be no long-term economic recovery. The underpinnings of modern human society (and the global economy) as we have known it are fundamentally unsustainable, and they are beginning to unravel before our eyes. This is partly because the entire globalized economy is based on the U.S. dollar, which is based on cheap oil. And now the whole system is beginning to come apart. When you hear predictions of economic recovery, just remember that those economists and politicians who are making these predictions are the very same ones who were predicting not so long ago that there was virtually zero chance that we could slip into an economic recession—and we now understand they were saying this at a time when we were already at least a year into recession. We need to recognize these rosy predictions for what they are, and prepare for the end of economic growth as we have known it. In our lifetime, we will most likely experience roller-coaster periods of global recession followed by weak and partial recoveries; this will ultimately give way to grinding, long-term global depression. In the process, many of the institutions on which we have come to rely as anchors for certainty and normalcy and sanity will surely fail, some of them slowly, some of them suddenly and spectacularly. It will be a chaotic time for the next several decades, and the chaos will prevail long after most of us have left this planet. Over the last few years I’ve noticed that we tend to think of fossil fuel depletion, climate change, and economic decline as three separate global crises. But of course they are all deeply interrelated. When we say this, it seems so obvious. But we’re just beginning to wake up to this reality: Our growth economy is based on cheap fossil fuels, and burning fossil fuels is obviously dramatically altering our climate. Therefore, economic growth as we have known it cannot and will not continue. Our Industrial Growth Society cannot and will not continue. This is what James Howard Kunstler has called The Long Emergency. And this is really what we are preparing ourselves and our communities for. Clearly, we are entering into a prolonged period of profound change, an era of “unintended consequences.” The changes that are coming our way will profoundly alter not only how we live, but even how we conceive of ourselves, how we think about the world, and how we see the future. And not only will we have to learn to cope with severe disruption to our conception of ourselves and the world, but we will also need to forge a new vision of the world that we can live by. Where will that vision come from? The larger context for the Transition movement, of course, is that all communities are in transition, whether we realize it or not, whether there is a formal Transition Initiative present or not—and so are all cultures, all nations, and all institutions. We are in a transition as a species, even as a planet in a larger Universe.

**Growth is unsustainable and we’ll face extinction if we keep growing. Collapse now key to mindset shift**

[positive feedbacks, biogeochemical limits]

**Barry ‘10** (Glen, President and Founder of Ecological Internet. Ph.D. in "Land Resources" from the University of Wisconsin-Madison, a Masters of Science in "Conservation Biology and Sustainable Development" also from Madison, and a Bachelor of Arts in "Political Science" from Marquette University, March 29, “Overshoot: Climate, Inequity, Corruption”, <http://sen4earth.org/articles/2010/03/29/overshoot-climate-inequity-and-corruption/>)

More than just a climate crisis, humanity is facing profound over-population and injustice that are spurring **dozens of inter-related ecological and social crises**. Billions suffer as their basic human needs go unmet, while billions more gorge themselves. Forests, prairies, streams, rivers, estuaries, wetlands, lakes, soil, oceans, air and all the rest are all life’s flesh and blood. Humanity, Earth and kindred species have entered the late stage condition of ecological overshoot — whereby our cumulative demands upon ecosystems exceed their life-giving capacity and cause them to collapse. We are eating creation. Hardly anyone is thinking or acting at the necessary scale to avert global ecological Armageddon. Market based solutions are pervasive with corruption and inequity. Nothing we do is going to maintain an affluent life, as it is now for some. Widespread economic decline will certainly accompany abrupt climate change and global ecosystem collapse; indeed, it has begun. If existing political systems are unable to deal with the inevitable collapse of the growth machine, at the same time as pursuing rigorous environmental policy-making, then new political structures will be necessary. A stewardship revolution that maintains life of some worthy, habitable sort is possible. Surely in a free country whose liberty came from such means, we can talk about revolutionary violence, as Thomas Jefferson said would continue to be necessary. “The blood of tyrants and patriots must flow to renew the soil.” What could be more glorious than fighting, and perhaps dying, for the Earth, and maybe even succeeding in saving her (and us)? It is time for a credible revolutionary threat to protect the biosphere. What is needed is a steady ratcheting up of pressure – protests, sit-ins, sabotage, assassinations — giving opponents every opportunity to respond to reasoned arguments – and culminating in guerrilla warfare and whatever else is necessary to save the Earth. If a few thousand insurrectionists can tie up the American military in Iraq, think what dedicated, highly decentralized and autonomous groups of tens of thousands of Earth insurgents could do to bring down industrial capitalism and the Earth-eating growth machine. People power protest culminating in an Earth Revolution needs to be done urgently yet thoughtfully. Not speaking of mob rule or rioting — that is what is coming from the status quo. We are speaking of highly disciplined, targeted protests including the possible use of violence to bring down the equipment and individuals responsible for destroying global ecosystems, and herald in a new ecologically sustainable, just and equitable way of living with the land, water and sky. Living must become a matter of what you can give to ecosystems, and others with whom you share being, rather than only being concerned with what you can take. Economic growth **cannot continue forever** if greenhouse gases are to be curbed, and the myriad of other eco-crises solved. Efforts to cap and trade, certify, sustainably manage and otherwise reform our way out of the situation are orders of magnitude inadequate and failing. Free markets appear to inherently be unable to price carbon and other externalities. It is becoming increasingly unlikely (if not impossible) that current political and business growth systems can reform in time to maintain the ecosystems necessary for life. The looming death of Gaia and most or all being is no one’s fault, or rather, it is all our faults. As many species have done previously, we have collectively overgrazed our habitat. We simply **must immediately** allow traditional ecological disturbance, regeneration and succession patterns to again operate. The industrial growth machine must be powered off and we must herald in an era of ecological stewardship and restoration. Even while we organize and pursue revolutionary action; each of us must plant, tend and restore our Earth’s natural ecosystems and permaculture gardens, and help others to do so. Only dramatic and immediate revolutionary action to destroy the growth machine offers any hope of maintaining a livable Earth. We must commit to stopping burning and cutting — antiquated means to make a living — indeed killing those that refuse to stop. Rich people are setting themselves up to be fine in geo-engineered comfort while sacrificing the poor who no longer have free ecosystem services to sustain them. There can be no engineering of a biosphere; indeed, thinking we can has brought us to this moment. We must return to nature. We must hold onto our humanity as we **collapse and renew ourselves**. Earth Revolution is as much about helping those that want to reconnect to Earth as it is sabotaging equipment and killing people directly responsible for ecocide. This means sharing food and water, shelter and clothing. But bring those responsible for ecocide to justice, utterly destroying them, their institutions and their equipment. There must be no indiscriminate terror, but if our warnings go unheeded, targeted violence against known ecological criminals is justified and warranted. Given the momentum of nearly seven billion seeking to be super-consumers, do not see any other way to stop the forces of destruction other than a revolution. There is absolutely no way current energy and other resource use– much less expected growth in population and per capita consumption — can be produced either from agrofuels or more drilling. Humans have hit the **biogeochemical limits** **of a finite planet**, and each of us must seek what is enough, rather than always more. It is well past time to be men and women of fortitude, set aside our computers and amusements, and commit our minds and bodies to stopping the destruction of being. We must demand more courage and less corruption from ourselves and our leaders. The Arctic has already been changed forever. Soon your neighborhood, ecosystem and bioregion will be too (if you really look, almost certainly it is already). Please, as I do, take the end of human being through needless habitat destruction personally. Part of the solution is allowing people to get back to Earth on their own plot of land. How we live in the future will be by necessity less urban. We will be called upon to make do with what is in our bioregion. Let me make some further suggestions to you. Acquire land and seeds. Make or restore an Earth friendly shelter and plant trees and permaculture forest gardens. Prepare to live in your changing bioregion. Go back to the land. Ecologically farm and restore as you connect with like minded Earth revolutionaries to clandestinely carry out escalating protest, sabotage and guerrilla war. I urge you to really think about what is necessary — both personally and in terms of social change — to sustain being, and committing to it. Token managerial reforms of the antiquated ecologically damaging activities of burning and cutting are not enough. Technology is not going to save us. Market campaigns using glamorous celebrities are not enough. Petitioning our leaders is not going to save us. Personal efforts will only get you and Gaia so far. Only escalating protest action targeting the destroyers, their equipment and their Earth eating worldview can still avert biosphere disintegration. Set aside your best efforts at ecological denial, acknowledge the task before us, and join with others in becoming a reluctant revolutionary. An Earth insurgency could topple the growth machine in a day, though it may take years. The sooner the better, as more ecological remnants will exist to serve as the basis of ecological restoration. Even as we pursue revolutionary strategies and tactics to maintain a habitable Earth, commit to remaining free and humane. The answer is neither tyranny of the left nor right. Above all else we must achieve global ecological sustainability through just and equitable means. Protect and restore natural ecosystems including old forests right now. Work with others to destroy coal, tar sands, fishing trawlers, oil palm, industrial agriculture, pipelines and ancient forest loggers. Start today. Now continued human existence depends upon your courage, ecological wisdom and taking direct lethal action in defense of our shared ecological heritage. Each of us and together will transition to a state of ecological grace, quickly, and through action against the Earth destroyers, or **we will all die** a horrific and barbaric death **together as being ends**.

**Collapse now creates a mindset shift towards small local civilizations**

**Lewis 2k** - Ph.D. University of Colorado at Boulder (Chris H, “The Paradox of Global Development and the Necessary Collapse of Global Industrial Civilization” <http://www.cross-x.com/archives/LewisParadox.pdf>)

With the collapse of global industrial civilization, smaller, autonomous, local and regional civilizations, cultures, and polities will emerge. We can reduce the threat of mass death and genocide that will surely accompany this collapse by encouraging the creation and growth of sustainable, self-sufficient regional polities. John Cobb has already made a case for how this may work in the United States and how it is working in Kerala, India. **After the collapse of global industrial civilization, First and Third World peoples won't have the material resources, biological capital, and energy and human resources to re-establish global industrial civilization**. Forced by economic necessity to become dependent on local resources and ecosystems for their survival, peoples throughout the world will work to conserve and restore their environments. Those **societies that destroy their local environments and economies, as modern people so often do, will themselves face collapse and ruin.**

**Failure to dedevelop ensures global pandemics and extinction**

Frank Ryan, M.D., 1997, virus X, p. 366

How might the human race appear to such an aggressively emerging virus? That teeming, globally intrusive species, with its transcontinental air travel, massively congested cities, sexual promiscuity, and in the less affluent regions — where the virus is most likely to first emerge — a vulnerable lack of hygiene with regard to food and water supplies and hospitality to biting insects' The virus is best seen, in John Hollands excellent analogy, as a swarm of competing mutations, with each individual strain subjected to furious forces of natural selection for the strain, or strains, most likely to amplify and evolve in the new ecological habitat.3 With such a promising new opportunity in the invaded species, natural selection must eventually come to dominate viral behavior. In time the dynamics of infection will select for a more resistant human population. Such a coevolution takes rather longer in "human" time — too long, given the ease of spread within the global village. A rapidly lethal and quickly spreading virus simply would not have time to switch from aggression to coevolution. And there lies the danger. Joshua Lederbergs prediction can now be seen to be an altogether logical one. Pandemics are inevitable. Our incredibly rapid human evolution, our overwhelming global needs, the advances of our complex industrial society, all have moved the natural goalposts. The advance of society, the very science of change, has greatly augmented the potential for the emergence of a pandemic strain. It is hardly surprising that Avrion Mitchison, scientific director of Deutsches Rheuma Forschungszentrum in Berlin, asks the question: "Will we survive!” We have invaded every biome on earth and we continue to destroy other species so very rapidly that one eminent scientist foresees the day when no life exists on earth apart from the human monoculture and the small volume of species useful to it. An increasing multitude of disturbed viral-host symbiotic cycles are provoked into self-protective counterattacks. This is a dangerous situation. And we have seen in the previous chapter how ill-prepared the world is to cope with it. It begs the most frightening question of all: could such a pandemic virus cause the extinction of the human species?

**Global war will kill everyone in 2025 without dedev**

Christopher Chase-Dunn, Director of the Institute for Research on World-Systems, University of California-Riverside, and Bruce Podobnik, Assistant Professor in the Department of Sociology and Anthropology at Lewis and Clark College, 1999, in The Future of Global Conflict, ed. Bornschier and Chase-Dunn, p. 43

While the onset of a period of hegemonic rivalry is in itself disturbing, the picture becomes even grimmer when the influence of long-terni economic cycles is taken into account. As an extensive body of research documents (see especially Van Duijn, 1983), the 50 to 60 year business cycle known as the Kondratieff wave (K-wave) has been in synchronous operation on an international scale for at least the last two centuries. Utilizing data gathering by Levy (1983) on war severity, Goldstein (1988) demonstrates that there is a corresponding 50 to 60 year cycle in the number of battle deaths per year for the period 1495-1975. Beyond merely showing that the K-wave and the war cycle are linked in a systematic fashion, Goldstein’s research suggests that severe core wars are much more likely to occur late in the upswing phase of the K-wave. This finding is interpreted as showing that, while states always desire to go to war, they can afford to do so only when economic growth is providing them with sufficient resources. Modelski and Thompson (1996) present a more complex interpretation of the systemic relationship between economic and war cycles, but it closely resembles Goldstein’s hypothesis. In their analysis, a first economic upswing generates the economic resources required by an ascending core state to make a bid for hegemony; a second period of economic growth follows a period of global war and the establishment of a new period of hegemony. Here, again, specific economic upswings are associated with an increased likelihood of the outbreak of core war. It is widely accepted that the current K-wave, which entered a downturn around 1967-73, is probably now in the process of beginning a new upturn which will reach its apex around 2025. It is also widely accepted that by this period US hegemony, already unravelling, will have been definitively eroded. This convergence of a plateauing economic cycle with a period of political multicentricity within the core should, if history truly does repeat itself, result in the outbreak of full-scale warfare between the declining hegemon and the ascending core powers. Although both Goldstein (1991) and Modelski and Thompson (1996) assert that such a global war can (somehow) be avoided, other theorists consider that the possibility of such a core war is sufficiently high that serious steps should be taken to ensure that such collective suicide does not occur (Chase-Dunn and O’Reilly, 1989; Goldfrank, 1987).

**Growth causes ecosystem collapse and extinction**

Jim **Chen 00** - Prof of law U of Minneasota, Now Dean of Law School at Louisville (“Globalization and Its Losers:, 9 Minn. J. Global Trade 157’ HeinOnline)

Globalization marks the end of an epoch. Not merely an ep- och in the colloquial sense, but an epoch in the geological sense. **The spread of Homo sapiens around the earth has brought about mass extinctions and related ecological changes on a scale not seen since the Cretaceous period.** In its evolutionary impact**, comprehensive human colonization of the planet easily out- classes an ice age, or even twenty**.' The previous geological event of comparable magnitude ushered out the dinosaurs; the one before that, the mass extinction that closed out the Permian period, nearly ended the terrestrial tenure of what we arro- gantly call "higher" life forms.2 In the last 600 million years of geological history, only five previous extinction spasms have taken place.3 We are living - or perhaps more accurately, dy- ing - through the sixth.4 "[**Half the world's species will be extinct or on the verge of extinction" by the end of the twenty-first century**.5 In environmental terms, globalization merely continues what humanity has been doing since the glaciers last re- treated: subdue every niche within its reach. he spectacle of mass extinction gives rhetorical ammuni- tion to all opponents of globalization - not just environmental- ists, but also those who resist free trade as a threat to labor standards, cultural independence, religious values, declining languages, agricultural self-sufficiency, and the like. Just as the global expansion of a single "Terminator" primate species has sparked the Holocene epoch's ecological holocaust, the emer- gence of a global society threatens a host of human institutions. Where a geological clock once marked the entrance and exit of species, an accelerated human stopwatch now tracks the rise and fall of regimes, religions, languages, and civilizations. Time and chance happen to them all.7 The extinction metaphor describes not only a natural world in ecological cataclysm, but also a human society buffeted by changes of unprecedented scope and seemingly relentless accel- eration. In this dual sense, **globalization is nothing short of the end of the world.8** So apocalyptic an assertion deserves nothing less than the most grandiose of intellectual frameworks. I will examine globalization through a Darwinian lens, in the hope that an application of natural evolution as "universal acid" will "eat[ ] through just about every traditional concept, and leave[ ] in its wake a revolutionized world-view, with most of the old landmarks still recognizable, but transformed in fundamental ways."9 In economic, cultural, and environmental realms, globalization unleashes the same Darwinian dynamics of adaptation, natural selection, and extinction. But the natural world and human society do differ fundamentally. For natural species, extinction truly is forever. The ecosystems they inhabit will not recover in any time frame that humans can meaningfully contemplate. **Human institutions, by contrast, are much more readily preserved and revived. To the extent that globalized society must choose, it should systematically favor the environ- ment over jobs and even culture.** One final observation bears notice. Received wisdom in American intellectual circles distrusts almost any extension of evolutionary metaphors and analogies outside the strictly bio- economic case for free trade lies beyond reasonable dispute, "so- cial issues" affecting employment and income, community and culture, and health and environment supply the primary - per- haps even exclusive - fault lines for legal debate.16

**Economic growth bad – overpopulation**

**Hickerson ‘9**  (Jeremy, Statesman Journal, Economic growth might be bad, as well, 5/4/09)

I couldn't agree more with the April 29 letter from David Ellis, "Population growth might be bad." I suggest "Economic growth might be bad." In both cases, it depends on where you're at in the spectrum of the physical limits of your environment. For the population issue, experts concluded in the 1970s that we were nearing our planet's population limit (see the 1972 "The Limits to Growth" report to the Club of Rome). The idea that economic growth might not be desirable is just an extension of the population growth discussion. Continual economic growth depends on a growing population to supply more labor and more consumers. Likewise, a continually growing population depends on economic growth to provide jobs. Overpopulation implies economic growth is no longer good, though it remains a necessity for some of the undeveloped world. So if we can't have an economy based on continual growth, what should we do? (See Bill McKibben's "Deep Economy.") We must only manufacture what we need and end marketing ploys aimed at getting people to buy new gadgets; dismantling the economy we have known and beginning a totally different way of life. This can't be accomplished solely by the free market.

**Linear impact – every life saved now means ten dead in the future**

**Ehrlich, 74** – Professor of Biology @ Stanford (Paul, New York Times)

Furthermore, there are other pernicious fallacies in the “what we as Americans can do about the world population program” game.  Let’s start with a fallacy that the authors helped to create-the idea that we might successfully pressure governments of developing countries into launching effective population control programs.  In the first edition of our book “The Population Bomb,” it was suggested that the United States try to use its food aid as a lever to get recalcitrant governments moving on population control programs.  The logic then (as today) was impeccable.  If you deluded people into thinking that either the U.S could ( or would) supply food in perpetuity for any number of people, you were doing evil.  Sooner or later, popualation growth would completely outstrip the capacity of the **U**nited **S**tates or any other nation to supply food.  **For every 1,000 people saved today**, perhaps **10,000 would die when the crunch came.**  Simply sending food to hungry nations with population explosions is analogous to a physician prescribing aspirin as a treatment for a patient with operable cancer-in deferring something unpleasant, disaster is entrained.  Yes, send some good- but insist that population control measure be instituted.  But despite the logic, no one in the U.S. Government paid the slightest heed to that suggestion ( or to related proposals by William and Paul Paddock in their 1968 book, “Famine-1975!”) , and the point is now moot, since we have no more surplus food.

## 2nc

### CP

### Solvency Wall

#### CP key to viability

Loris, Herbert and Joyce Morgan Fellow in the Thomas A. Roe Institute for Economic Policy Studies at The Heritage Foundation, 3/23/2012

(Nicolas, “Department of Energy Budget Cuts: Time to End the Hidden Green Stimulus,” http://www.heritage.org/research/reports/2012/03/department-of-energy-budget-cuts-time-to-end-the-hidden-green-stimulus)

**The government programs that have become commercial successes**—**the Internet**, **computer chips**, the global positioning system (**GPS**)—**were not intended to meet a commercial demand**. They were each the result of defense-related programs that were created to meet national security requirements. Entrepreneurs saw an opportunity in these defense technologies and created the commercially viable products available today. The reality is that when it comes to energy policy, the free market works. Indeed, the business environment for energy is robust despite seemingly endless forays by policymakers and bureaucrats into the energy industry. But those attempts to control energy markets do have an effect: They result in higher prices, fewer available energy sources, reduced competition, and stifled innovation. As federal interventions increase, so do the—almost always negative—effects. As a result, the U.S. is now dangerously close to a point where meddling by Washington could have a long-term negative impact on the standard of living of every American. By attempting to force government-developed technologies into the market, **the government diminishes the role of the entrepreneur and crowds out private-sector investment**. **This practice of the government picking winners and losers denies energy technologies the opportunity to compete in the marketplace**, **which is the only proven way to develop market-viable products**. When the government attempts to drive technological commercialization, it circumvents this critical process. Thus, almost without exception, it fails in some way. **The DOE may not be explicitly involved in commercialization**, **but the agency has intervened through** applied research, technology **development**, **and demonstration activities**, such as carbon capture and sequestration and biomass infrastructure. With respect to the DOE budget, necessary reforms generally fall into two major categories: (1) programs that the DOE should eliminate or privatize, and (2) programs for which the DOE should scale funding back significantly because they evolved well beyond the scope of basic research.

#### CP leads to better private sector adoption

Thorning, chief economist for the American Council for Capital Formation, 9/29/2011

(Margo, “Stop DOE's Double Down on Risky Energy Ventures,” http://energy.nationaljournal.com/2011/09/what-role-should-government-pl.php)

DOE's race against the clock to approve more guaranteed loans for energy projects that haven't been properly vetted is completely reckless after the Solyndra fiasco. **The government should limit its involvement and funding to basic research** on alternative energy sources and should not be funding risky “start-ups." If a renewable technology makes economic sense, **the private sector will adopt it and it will succeed without mandates and subsidies**. Federal and state governments should not mandate renewable energy, it’s cost is usually at least twice that of conventional energy and places an economic burden on households and industry (see Energy Information Administration data on cost of renewable electricity at http://www.eia.gov/oiaf/aeo/electricity\_generation.html).

#### No risk of a solvency deficit – the private sector will cover development. Only research is a problem—

Congressional Budget Office June 2007

(“Federal Support for Research and Development,” http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/82xx/doc8221/06-18-research.pdf)

**Research**—especially basic research—generally **produces larger** external effects, or **spillovers, than development does**, suggesting that the government’s involvement in such research may lead to more spillovers than those generated by its support of development activities. The purpose of basic research (for example, physics research on the properties of elementary particles) is to make discoveries that expand scientific knowledge, even though commercial applications of that knowledge may be far in the future and not readily identifiable. Applied research (for example, the discovery of new materials for drug delivery) is a step closer to commercialization because it seeks to connect scientific knowledge to some practical purpose. Development applies scientific knowledge to the creation of specific marketable products. **The private sector has more of an incentive to invest in development activities than in basic or applied research**, for several reasons: the uncertainty surrounding the results of research, the long time horizon needed to commercialize research findings, the lack of connection of research in many instances to the current demand for products, or some combination of those factors. 15 And even if all of those problems could be addressed, underinvestment in research by the private sector might still occur, because the returns to research for private firms, unlike the social returns, do not encompass the benefits that research might bring to others who could also put that knowledge to use.

### A2 Flat Budgets

OTA 95

The Fusion Energy Program: The Role of TPX and Alternate Concepts, February 1995, https://docs.google.com/viewer?a=v&q=cache:\_w5qo98xgtkJ:fire.pppl.gov/OTA\_TPX\_alt.pdf+&hl=en&gl=us&pid=bl&srcid=ADGEESgzZN1KQAcnTKlVZ1Ie2ZVxWnJzwwOo3wJKoZ99YX-VO0eW1ACEQtu-eoXgZl6pi3Wyom5PrGA85\_1UU2A892TRefeY9uSRaWDA2eXTHgziwuB76evtAxvZfk2vI7Tq1--cs\_5t&sig=AHIEtbQFvcPEKWChVC-55utf6Kh2OwV1vQ

A second and related critical issue for the fu-

sion energy program not addressed in this paper

has to do with the possibility of declining budgets.

Proposals to **greatly reduce** fusion energy re-

search spending heighten the importance of

identifying possible new roles, directions, and

goals for the program under scenarios of flat or

declining budgets. This paper discusses the like-

ly cost involved in continuing along the current

path of fusion research, and it is substantial. As

noted below, the current fusion energy program

goals and directions, including construction and

operation of large new tokamaks, are inconsistent

even with flat budgets; the possibility of declining

budgets sharpens the issue. Certainly, potentially

valuable work can be performed under a wide

range of research budgets. However, this would call for revised goals and directions. For example,

even under substantial cuts, some see the possibil-

ity of sustaining progress by focusing on physics

issues using existing machines, increasing in-

ternational collaboration, supporting a modest but

expanded effort to investigate alternate concepts,

and concentrating on materials and technology

advances that would be necessary for fusion pow-

erplants.

An effort to identify the most productive uses

of fusion energy funds under a variety of scenarios

could provide information critical in **making**

**budget decisions**. Eventually, however, absent

novel, unexpected science developments, prog-

ress toward development of a fusion powerplant

would require a commitment to construction of

expensive new facilities. Finally, under any budg-

et scenario, consideration must be given to exist-

ing commitments such as decommissioning

TFTR and the international agreement to com-

plete the engineering design of ITER. These two

commitments alone total a few hundred million

dollars over the next several years.

### K

### A2 FW

#### Our interpretation is the affirmative must defend their political and epistemological strategies.

#### All our eggs in the fusion basket --- any chance they’ve got the ethic wrong means vote negative

#### Education – Sheehi says political discussions must include epistemology – it brackets the discussion for what is and isn’t possible

#### Predictability and Fairness – They choose their epistemology – they should have to defend it.

#### FW is the alt - methodological investigation is a prior question to the aff – strict policy focus creates a myth of objectivity that sustains a violent business-as-usual approach

**Scrase and Ockwell 10** (J. Ivan - Sussex Energy Group, SPRU (Science and Technology Policy Research), Freeman Centre, University of Sussex, David G - Tyndall Centre for Climate Change Research, SPRU, Freeman Centre, University of Sussex, “The role of discourse and linguistic framing effects in sustaining high carbon energy policy—An accessible introduction,” Energy Policy: Volume 38, Issue 5, May 2010, Pages 2225–2233)

The way in which **energy policy is “framed**” refers to the **underlying assumptions policy is based on** and the ways in which **policy debates ‘construct’, emphasise and link particular issues**. For example energy ‘security of supply’ is often emphasised in arguments favouring nuclear-generated electricity. A more limited framing effect operates on individuals in opinion polls and public referendums: here the way in which questions are posed has a strong influence on responses. The bigger, **social framing** effect referred to here **colours societies’ thinking** about whole areas of public life, in this case energy use and its environmental impacts. A key element of the proposed reframing advanced by commentators concerned with decarbonising energy use (see, for example, [Scrase and MacKerron, 2009](http://www.sciencedirect.com/science/article/pii/S0301421509009471#bib25)) is to cease treating energy as just commercial units of fuel and electricity, and instead to focus on the energy ‘services’ people need (warmth, lighting, mobility and so on). This paper helps to explain why any such reframing, however logical and appealing, is politically very challenging if it goes against the perceived interests of powerful groups, particularly when these interests are aligned with certain imperatives which governments must fulfil if they are to avoid electoral defeat. There is a **dominant conception** of **policy-making as an objective, linear process**. In essence the process is portrayed as proceeding in a series of steps from facts to analysis, and then to solutions (for a detailed critique of this linear view see [Fischer, 2003](http://www.sciencedirect.com/science/article/pii/S0301421509009471#bib11)). In reality, policy-making is usually messy and political, rife with the exercise of **interests and power**. **The veneer of objective, rational policy-making**, that the dominant, linear model of policy-making supports is therefore cause for concern. It effectively sustains energy policy ‘business as usual’ and excludes many relevant voices that might be effective in opening up space to reframe energy policy problems and move towards more sustainable solutions (see, for example, [Ockwell, 2008](http://www.sciencedirect.com/science/article/pii/S0301421509009471#bib21)). This echoes concerns with **what counts as knowledge** and whose voices are heard in policy debates that have characterised strands of several literatures in recent decades, including science and technology studies, sociology of scientific knowledge, and various strands of the political science and development literatures, particularly in the context of knowledge, discourse and democracy. An alternative to the linear model is provided by a ‘discourse’ perspective. This draws on political scientists’ observations of ways in which politics and policy-making proceed through the use of language, and the expression of values and the assumptions therein. Discourse can be understood as: ‘… a **shared way of apprehending the world**. **Embedded in language** it enables subscribers to **interpret bits of information** and put them together into **coherent stories** or accounts. Each discourse **rests on assumptions**, judgements and contentions that provide the basic terms for analysis, debates, agreements and disagreements…’ [Dryzek (1997, p.8)](http://www.sciencedirect.com/science/article/pii/S0301421509009471#bib5). A discursive approach rejects the widely held assumption that policy language is a **neutral medium** through which ideas and an objective world are represented and discussed ([Darcy, 1999](http://www.sciencedirect.com/science/article/pii/S0301421509009471#bib4)). Discourse analysts examine and explain language use in a way that helps to **reveal the underlying interests, value judgements and beliefs** that are often **disguised by policy actors’** factual claims and the arguments that these are used to support. For example UK energy policy review documents issued in 2006–2007 are criticised below for presenting information in ways that subtly but consistently favoured new nuclear power while purporting to be undecided on the issue. People (including scientific and policy experts) **base their understanding of problems and solutions on their knowledge, experiences, interpretations and value judgements**. These are **coloured and shaped** by social interactions, for example by what is considered an ‘appropriate’ perspective in one's work life within certain institutions. Policy actors therefore expend considerable effort on influencing the design and evolution of institutions in order to ensure problems and solutions are framed in ways they favour. Thus discourse is fundamental to the way that institutions are created, but in the short-term institutions also have a constraining or structuring effect. At a more fundamental level there are even more rigid constraints, which can be identified as a set of core imperatives, such as sustained economic growth and national security, which states and their governments, with very few exceptions, must fulfil in order to ensure their survival ([Dryzek et al., 2003](http://www.sciencedirect.com/science/article/pii/S0301421509009471%22%20%5Cl%20%22bib6)—these are explored in detail further below).

### A2 Security

**Transforming security just plays musical chairs with which threats we construct, ensuring continued violence**

**- Aradau ‘4** (Security and the democratic scene: desecuritization and emancipation Claudia Aradau. Journal of International Relations and Development. Ljubljana: Dec 2004. Vol. 7, Iss. 4; pg. 388

These uses of security forget that **security itself institutes a particular kind of politics and that it is important to be aware of the politics one legitimizes by endorsing security**. The equivalence of security and emancipation suspends the project of making the effects of securitization explicit, of analyzing its political effects and assumes 'security' is worth being achieved. CSS thus inadvertently endorse the exclusionary logic of security and the politics that is instituted by doing security, independent of which/who is the referent object (or subject in Booth's parlance). The dual usage of security makes the CoS half-right in arguing that CSS 'will often try to mobilize other security problems -- environmental problems, poverty, unemployment -- **as more important and more threatening'** (Buzan et al. 1998: 204), thereby **reproducing the traditional and objectivist concept of security**. The charge of 'objectivist security' is partly wrong because it fails to acknowledge that the CSS project is a thoroughly political project, harnessed to bettering the fate of the 'wretched of the earth'. It is not a question of saying what security is but of claiming security for those who are deprived of it. In this sense, CSS share a radically democratic political project with feminist scholars. Feminists have also been on the side of those who cannot voice their security concerns, those 'whose experiences of danger and violence are written out of the account' (Pettman 1996: 98). They have either set out to make such concerns audible from specific loci or have advocated, more generally, the diminution of all forms of violence (Tickner 2001: 143). They have tirelessly interpellated those whom Cynthia Enloe (1996: 186) metaphorically called the 'margins, silences, and bottom rungs.' To use Lene Hansen's extended metaphor (2000), it is the little mermaids with silent security dilemmas who are the security have-nots in need of emancipation as they are those who cannot utter their security concerns, those ignored by the CoS' theory. 17 Once little mermaids utter their security concerns, other little mermaids risk being silenced. This point about the enmity and exclusion constitutive of security has not raised many concerns as it seems obvious that vulnerable women would utter their insecurities against existing security articulations privileging the state or patriarchal power relations. What happens when such an uttering of insecurity leads to increased insecurity for other subjects of power relations? **The securitization of trafficking in women would fit the feminist logic of giving voice to the insecurities of those who suffer at the hands of traffickers** only to be revictimized by the state as illegal immigrants and prostitutes. It has appeared almost self-evident to activists to point out these insecurities of trafficked women and to try to obtain protection for them (Jordan 2002). **Such a move of 'securing' the victims of trafficking has, however, led to spiralling insecurity for prostitutes** (now subjected to increasing raids, interrogatories, and incarceration) as well as for asylum-seekers and refugees (suspected of having been trafficked or of being exploited). 18 The Schmittian politics at the heart of security will reiterate the logic of enmity against 'other others' and feminists, just like critical theorists, would need another concept to ground their normative politics. **Democratic politics is incompatible with the politics of security as we cannot all be equal sharers of security**. **Reclaiming security** as both Critical and feminist security studies **functions more as a 'counter-securitization' and not desecuritization**, **as this move leaves intact the logic of security that shapes social relations.** They only attempt to shift security within the social realm and shuffle various categories of security have-nots. **Individual or human security cannot be the answer of emancipatory politics as this would trigger the question of whose individual security is supposed to be sacrificed**. **Who is to be made dangerous so that others be made secure**? On which grounds can one privilege such a construction of security, the security of migrants over the security of racists, the security of HIV-positive people over those at risk of being infected? The line of inquiry could be prolonged by many other examples. Huysmans has also argued that **it is difficult to employ security in an emancipatory way in the context of societal questions as 'the security formation in this field is a conservative one with strong roots in a 'vulgarised' Hobbesian version of the human condition'** (2002: 60). At this point it is important to remind ourselves of Rob Walker's insight (1997: 78) that it is only in the context of the subject of security that it is 'possible to envisage a critical discourse about security, a discourse which engages with contemporary transformations of political life, with emerging accounts of who we might become, and the conditions under which we might become other than we are now without destroying others, ourselves, or the planet on which we all live.' 19 A new concept to unmake security has to make sense of this concomitant relation between becoming-other and not destroying others. Such un-making of security becomes a process of re-thinking the relation between subjects of security, and of imagining localized, less exclusionary and violent forms of interaction. Behnke (2000: 21) has also pointed out that what is needed is 'safeguarding the coexistence and intercourse of strangers, rather than the separation of friends from enemies.' The only discerning thought on the possibility of such a desecuritizing move is probably Huysmans' 'political aesthetics of everydayness... [which] defines the public, political sphere in terms of the complexity and plurality of daily human practices' (1998a: 588). What is implicit in his endorsement of an aesthetics of everydayness is a 'flexibility' of subjectivities, the possibility to challenge what is constructed as dangerous. In a Foucauldian understanding of power as traversing social relations and thus percolating everydayness, everyday life cannot however be an uncorrupted life that either precedes or confronts strategies of power. Even if strategies of resistance are part of everyday interactions and subject relations are being negotiated at the everyday level, **everyday life is also necessarily linked with the reproduction of hegemonic structures**. To paraphrase Slavoj Zizek (1992: 49), securitization is only successful when it finds its support in everyday life, when even the **facts which at first sight seem to contradict it start working in its favour.** The appeal to everydayness is fraught with dangers as securitization itself can find its legitimization in practices of everyday life. The securitization of migration creates and subsequently legitimizes itself on the basis of everyday fears, such as the fear of crime. If desecuritization cannot find support in everydayness against institutional authority, then how can it 'democratize' it? Desecuritization as the democratic challenge to the non-democratic politics of securitization has to be inscribed institutionally and needs to create a different relation from the one of enmity, a relation which is not rooted in the exclusionary logic of security. 20 The poststructuralist take on modifying the self/other relation is based on an injunction for the subject to become-less-threatening-to-the-other or more open to difference. The poststructuralist project attempts to ' imagine a world in which a given field of identities might hope to recognize differences without being internally compelled to define some of them as forms of otherness to be conquered, assimilated or defiled' (Connolly 1991: 48). To put it in pragmatic terms, it is unclear how Connolly's injunction could reach the bureaucratic field where security is carried out. At the same time, such a project of openness to difference would do away with the possibility of discriminating between different categories of others and would make one unable to engage in a project that would, for example, directly speak against racism. 21 Democracy against security: universality and recognition The final question that the emancipatory project confronts is how it can suspend the exclusionary logic of security without losing all possibility of discriminating among others, or of fighting fascism for example? 22 I have suggested that a poststructuralist form of 'agonism between closure and disturbance, naturalisation and denaturalisation' (Campbell 1998: 227) cannot be translated politically to counter questions of racism vs claims for minority rights. The agonism of difference resides everywhere and **one cannot privilege one constructed difference over another** (poststructuralists often need to invoke other concepts to make a political choice). Similarly, **security, with its logic of existential threat, survival and political realism can be indefinitely reversed to securitize other referent objects**. In this sense, the Welsh School equation 'emancipation is security' buys into this logic of replacing one referent object/subject by another.

## 1nr

### Overview

#### DA outweighs the case

Hallam 9 – Editor of Nuclear Flashpoints, cites Toon and Robock (John, John Burroughs and Marcy Fowler, Lawyers’ Committee on Nuclear Policy, “Lowering the operational readiness of nuclear weapons systems,” PDF)

Why did an article in the September 2008 edition of the Bulletin of the Atomic Scientists, entitled 'avoiding human extinction' give a list of measures needed to avoid that, with lowering the operating status of nuclear weapon systems (along with their elimination) topping the rather consequential 'to - do' list, even before climate - change measures and incoming large asteroids? Why over the years has this issue been thought so important at such a high level? The US and Russia undeniably keep a large number (estimated by Blair at 2,654 by Kristensen more recently 2,300) of nuclear warheads (both land - based ICBMs and SLBMs) in a status in which they can be launched at roughly 2 minutes or less notice. This fact is never seriously disputed. The core of the issue is that standard operating procedures envisage extremely short decision making timeframes, and these are imposed by the simple fact of having some missiles on quick - launch status. Careful and measured decision-making in such a situation is simply not possible. Yet the consequences of such decisions are truly apocalyptic. Recent research by US scientists (Toon and Robock 2008/9) on the effects of the use of US and Russian arsenals indicates that even at levels down to 1000 warheads, the use by malice, madness, miscalculation or malfunction of the 'on alert' portions of US and Russian strategic nuclear forces would be essentially terminal for civilization.

#### DA turns the whole case – U.S. ITER funding is a prerequisite to aff solvency and science diplomacy

NRC 8 – National Research Council (“A Review of the DOE Plan for U.S. Fusion Community Participation in the ITER Program”, Released in July, http://www.nap.edu/catalog.php?record\_id=12449)

On January 4, 21 members of the U.S. fusion community sent a letter to members of Congress and the Executive Branch protesting the removal of funds for U.S. participation in the ITER project in the Fiscal Year 2008 appropriations bill recently signed by the President. The letter was addressed to the President's Science Advisor, John Marburger, the Secretary of Energy, Samuel Bodman, and the chairs of the Senate and House Appropriations Subcommittees on Energy and Water Development, Byron Dorgan and Peter Visclosky, respectively. Copies of the letter were sent of Department of Energy Under Secretary for Science Raymond Orbach and to all members of the Senate and House Committees on Appropriations, Energy and Natural Resources, and Science and Technology. The letter reads as follows: Despite being fully funded in the President's and in the House and Senate Appropriations measures, the Fiscal Year 2008 omnibus funding measure contains $0 for the U.S. contribution to the ITER Project. ITER is the key breakthrough project for magnetic fusion energy. The purpose of the ITER Project is to "demonstrate the scientific and technological feasibility of fusion energy for peaceful purposes." If the United States cannot participate in ITER, the U.S. will lose a centerpiece of its own fusion program, a key scientific tool for understanding a fundamental process in the universe (burning plasmas like those in the sun and stars) and the pathway to the future of fusion energy. ITER is a joint project of the China, the European Union, India, Japan, Korea, Russia and the United States. Congress authorized U.S. participation in this project in the Energy Policy Act of 2005 and the President committed the United States to its approximately 10% share of the ITER construction just a few months ago. Failure by the United States to sustain its international commitments to ITER seems certain to establish the United States as an unreliable partner not only in the ITER project, but in many other areas of science. This comes at a time when the expense and scope of many critically important scientific activities suggest international partnership and cooperation. Therefore, for the sake of the international and domestic fusion effort and for the sake of the U.S. reputation in the international scientific community, we most respectfully urge that funding be provided for continued U.S. participation in ITER. Finally, as scientists concerned about the whole U.S. scientific enterprise, we also ask that funding be restored to the other areas of the Department of Energy's Office of Science. There is no doubt that scientific progress on a broad variety of fronts is essential for our nation's future. These areas of science also represent essential fronts in our understanding of the universe and the basic functioning of the world around us. We therefore urge that these budgets also be made whole.

#### Turns case – leads to U.S. engagement in fusion science and establishes leadershio

Dorsk 12 – The American Security Project is a non-profit, bipartisan public policy and research organization dedicated to fostering knowledge and understanding of a range of national security issues, promoting debate about the appropriate use of American power, and cultivating strategic responses to 21st century challenges (Harper, 03/29, “FPA: Brinkman Defends Fusion funding in FY 2013 Budget Request,” http://americansecurityproject.org/blog/2012/fpa-brinkman-defends-fusion-funding-in-fy-2013-budget-request/)

Fusion Power Associates recently released their notes on the March 22nd House Energy and Water Appropriations Subcommittee hearing where DOE Office of Science Director William Brinkman defended the budget for ITER: “In Fusion Energy Sciences, the budget includes support for the ITER project, an international fusion experiment involving six nations and the European Union. The U.S. remains committed to the scientific mission of ITER, while maintaining a balanced research portfolio, and will work with ITER partners to accomplish this goal. ITER aims to produce the world’s first “burning plasma,” which will result in net energy production from sustained thermonuclear reactions. This is the culmination of decades of research in fusion. “I want to emphasize that eighty percent of our ITER funding is spent in the United States, with U.S. designed and constructed components sent to the project site located in France. If you include the support of American scientists working overseas, that share of ITER funds used to support American workers rises to ninety percent. ITER will engage U.S. industry and our national labs in design and construction work for the project. In order to support an increase in ITER funding, we had to make several difficult decisions in the rest of the U.S. fusion program, including an early closure of the Alcator C-Mod tokamak at MIT. Even so the proposed budget for FY13 is not sufficient to keep the project on track and we are discussing with our partners how we might mitigate its effects.

### AT: U.S. Won’t Cut ITER

#### Their Dean ev cites the Secretary of Energy, Steven Chu, to say the U.S. won’t bail on ITER, but he says the plan would force cuts (repeated in Link Wall)

Chu 12 – Secretary of Energy (Steven, 03/14, “Hearing on FY 2013 Budget Request for the Dept. of Energy,” http://www.fusionfuture.org/wp-content/uploads/2012/03/Feinstein-Tester-Reed\_Chu\_testimony\_Senate\_Energy\_Water\_14\_03\_2012\_v3.pdf)

Chu: Well, Senator, you’re asking a very important question that we ask ourselves, but first, let me assure you that the program at NIF is not actually competing with ITER. NIF is supported by the NNSA budget and we want to make sure that that new program goes forward. Now, ITER is an international science collaboration. It, in the view of the fusion community, represents the most advanced, best chance we have of trying to control plasmas in a way that can potentially bring about controlled fusion for power generation. And it is an international cooperation and we…I think we want this to go forward, we want to be seen as reliable international partners, but we’re also very cognizant of the spending profiles and we are working with the fusion community in the United States, as well as internationally, to see if we satisfy both the needs of the fusion community in the U.S. and this ITER commitment, but in these tight budget times, it’s tough.

#### The U.S. will fund ITER now, but it can still be cut (repeated in AT: Link Turn – U.S. Scientists)

Dean 12 (Stephen, President – Fusion Power Associates, "Senate Bill Raises Possibility of Withdrawl From ITER As Science Cuts Loom", Slashdot, 7-25, <http://news.slashdot.org/story/12/07/25/136210/senate-bill-raises-possibility-of-withdrawl-from-iter-as-science-cuts-loom>)

"Are the knives coming out for ITER? A Senate Department of Energy spending bill, yet to be voted on, would cut domestic research for fusion and directs the DOE to explore the impact of withdrawing from ITER. The proposed cuts for domestic fusion research are in line with those proposed in the Obama administration's budget request but come after the House ... voted to boost ITER funding and to support the domestic program at almost 2012 levels on 6 June. U.S. fusion researchers do not want a withdrawal from ITER yet but if the 2014 budget looks at all like the 2013 one, that could change. 'They're not trying to kill ITER just yet,' says Stephen Dean, president of advocacy group Fusion Power Associates. 'If this happens again in 2014, I'm not so sure.' The problems for fusion could be small beans though. The 'sequester', a pre-programmed budget cut scheduled to take effect on 2 January, could cut 7.8% or more off science and other federal budgets unless Congress can enact last-minute legislation to reduce the deficit without starving U.S. science-funding agencies."

### AT: Squo Screws Both

#### The U.S. will fully fund its commitment to ITER now

Dorsk 12 – The American Security Project is a non-profit, bipartisan public policy and research organization dedicated to fostering knowledge and understanding of a range of national security issues, promoting debate about the appropriate use of American power, and cultivating strategic responses to 21st century challenges (Harper, 03/29, “FPA: Brinkman Defends Fusion funding in FY 2013 Budget Request,” http://americansecurityproject.org/blog/2012/fpa-brinkman-defends-fusion-funding-in-fy-2013-budget-request/)

“The difficult decisions in Fusion and other areas were not made lightly, and reflect the choices necessary to ensure a strong American infrastructure for innovation. I look forward to working with you, Mr. Chairman, and the rest of the Committee to fully fund the Office of Science budget request.” Brinkman’s written statement further shows this support and goes on to mention MIT’s Alcator C-Mod: “The Fusion Energy Sciences program request reflects the continued U.S. commitment to the scientific mission of ITER, while maintaining a balanced research portfolio across the program. The ITER experiment aims to produce the world’s first “burning plasma,” in which thermonuclear reactions will produce net energy for the first time (with a projected amplification factor of ten). “The funding increase of $45 million for the U.S. contributions to the ITER Project bring the FY 2013 request to $150 million and will enable the U.S. to make long-lead procurements as the project enters its construction period. Eighty percent of U.S. ITER funding is spent in the United States. The majority of our ITER obligations are “in-kind,” with components designed and built in the U.S. before being shipped to France for final assembly into the ITER apparatus.

#### This assumes their evidence

Dorsk 12 – The American Security Project is a non-profit, bipartisan public policy and research organization dedicated to fostering knowledge and understanding of a range of national security issues, promoting debate about the appropriate use of American power, and cultivating strategic responses to 21st century challenges (Harper, 03/29, “FPA: Brinkman Defends Fusion funding in FY 2013 Budget Request,” http://americansecurityproject.org/blog/2012/fpa-brinkman-defends-fusion-funding-in-fy-2013-budget-request/)

Fusion Power Associates noted that “During questioning, Frelinghuysen said, “Fusion sort of comes out as a loser here,” as domestic fusion programs see their money drawn away to increase funding for ITER. The ITER funding would still be lower than needed for the U.S. to fulfill its FY13 obligations. Brinkman commented: “That’s a problem we are working right now,” adding, “We intend to fulfill our (total) obligation. He also acknowledged, “We are taking some risk here.”

#### ITER funding is sufficiently increasing – plan’s money trades off

Feinstein 12 – Senator (Diane, 03/14, “Hearing on FY 2013 Budget Request for the Dept. of Energy,” http://www.fusionfuture.org/wp-content/uploads/2012/03/Feinstein-Tester-Reed\_Chu\_testimony\_Senate\_Energy\_Water\_14\_03\_2012\_v3.pdf)

Feinstein: ...Let’s go to fusion and ITER and the 150 million this year with the United States’ contribution to ITER subject to grow to 300 million. Now, this is going to take money away from domestic fusion programs. They’re already concerned at NIF and also other scientific priorities, such as materials and biology research.

## T

**Overview**

#### They justify medical diagnosis, food, weaponization and sterilization of consumer goods affs

US Court of Appeals DC 6 STATE OF NEVADA, PETITIONER v. DEPARTMENT OF ENERGY, RESPONDENT No. 04-1309 UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT 457 F.3d 78; 372 U.S. App. D.C. 432; 2006 U.S. App. LEXIS 20238; 63 ERC (BNA) 1097; 36 ELR 20159 October 18, 2005, Argued August 8, 2006, Decided KAREN LECRAFT HENDERSON, Circuit Judge: Since scientists split the atom in 1942, nuclear technology [\*\*\*2] has proliferated into many areas of society. **No longer limited to the defense of our nation, nuclear technology is used in energy production, medical diagnosis and treatment, food processing and agriculture and sterilization of consumer goods.** For all of the advances it has brought, however, those advances have come at a price--the waste that is the inevitable byproduct. What to do with the waste has plagued scientists and policymakers for decades. As a result of scientific, political and regulatory consultation and comment, the consensus is that the waste should be stored in an underground repository to be located at Yucca Mountain, Nevada (Yucca). The State of Nevada (Nevada), concerned about the storage of nuclear waste within its borders, has vigorously opposed the construction of a nuclear repository at Yucca and, after failing in the political and regulatory arenas, has attacked the statutory and regulatory scheme governing the construction and operation of the Yucca repository. See [Nuclear Energy Inst., Inc. v. EPA, 362 U.S. App. D.C. 204, 373 F.3d 1251 (D.C. Cir. 2004)](http://www.lexisnexis.com/lnacui2api/mungo/lexseestat.do?bct=A&risb=21_T15305759034&homeCsi=6320&A=0.5880211425473155&urlEnc=ISO-8859-1&&citeString=362%20U.S.%20App.%20D.C.%20204&countryCode=USA)

**AT: Fusion = Production**

#### It’s also still an indirect incentive – courts have acknowledged a separation of ENERGY PRODUCTION and experimentation and research

US District Court 99 EVELYN HEINRICH ON BEHALF OF HER HUSBAND GEORGE HEINRICH, HENRY M. SIENKEWICZ, JR., ON BEHALF OF HIS MOTHER EILEEN ROSE SIENKEWICZ, ROSEMARY GUALTIERI ON BEHALF OF HER FATHER JOSEPH MAYNE, WALTER CARL VAN DYKE ON BEHALF OF HIS FATHER WALTER CARMEN VAN DYKE AND ALL OTHERS SIMILARLY SITUATED, PLAINTIFFS, v. WILLIAM H. SWEET, M.D., TRUSTEE OF THE LEE EDWARD FARR TRUST DATED 1/11/71, AS AMENDED, THE ESTATE OF LEE EDWARD FARR, M.D., ASSOCIATED UNIVERSITIES, INC., MASSACHUSETTS GENERAL HOSPITAL, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, AND THE UNITED STATES OF AMERICA, DEFENDANTS. CIVIL ACTION NO. 97-12134-WGY UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MASSACHUSETTS 62 F. Supp. 2d 282; 1999 U.S. Dist. LEXIS 12943 August 16, 1999, Decided The private defendants, however, argue that two of these tests ought quickly yield a result in their favor. First, although the plaintiffs contend that the private defendants assumed a traditional public function by operating a nuclear reactor, **the private defendants argue that the function "traditionally exclusively reserved to the [government],**" [id. at 493-94](http://www.lexisnexis.com/lnacui2api/mungo/lexseestat.do?bct=A&risb=21_T15305885381&homeCsi=6323&A=0.23748907765458016&urlEnc=ISO-8859-1&&citeString=84%20F.3d%20487,%20493&countryCode=USA), **is that of energy production through the operation of nuclear reactors, not experimentation or research**. Likewise, the private defendants believe that the "symbiotic relationship" test is not met [\*\*65] because the Plaintiffs have not alleged that the United States shared in any profits obtained from the complained-of activity, nor have they alleged that the United States mandated the allegedly unconstitutional activity (namely, experimentation without obtaining informed consent). See [id. at 494](http://www.lexisnexis.com/lnacui2api/mungo/lexseestat.do?bct=A&risb=21_T15305885381&homeCsi=6323&A=0.23748907765458016&urlEnc=ISO-8859-1&&citeString=84%20F.3d%20487,%20494&countryCode=USA). Both of these arguments are misplaced. First, **the private defendants' distinction between energy production and experimentation does not control** [HN32](http://www.lexisnexis.com/lnacui2api/frame.do?reloadEntirePage=true&rand=1344749943852&returnToKey=20_T15305920652&parent=docview&target=results_DocumentContent&tokenKey=rsh-20.223937.6839398104#clscc32)**the traditional public function test**. That test asks whether "the private entity assumed powers traditionally exclusively reserved to the State." [Rockwell v. Cape Cod Hosp., 26 F.3d 254, 258 (1st Cir. 1994)](http://www.lexisnexis.com/lnacui2api/mungo/lexseestat.do?bct=A&risb=21_T15305885381&homeCsi=6323&A=0.23748907765458016&urlEnc=ISO-8859-1&&citeString=26%20F.3d%20254,%20258&countryCode=USA) (internal quotations omitted). The use and control of radioactive substances presents a highly unusual factual setting. Under federal law, the possession and use of fissionable materials was not just traditionally reserved to the government, but was legally mandated to be reserved to the government. See Atomic Energy Act of 1946 §§ 4, 5 (prescribing that only the Commission could own a nuclear reactor that was capable of producing "within a reasonable period of time a sufficient quantity of fissionable [\*\*66] material to produce an atomic bomb or any other atomicweapon" and only the Commission could own fissionable materials). In the view of Congress, there were sound policy reasons for this exclusivity: one of the purposes of the Atomic Energy Act of 1946 was to provide "[a] program for Government control of the production, ownership, and use of fissionable material to assure the common defense and security . . . ." Id. at § 1(b)(4). Although the Act clearly contemplated private research activities under Commission supervision and allowed certain small-scale research facilities to be privately owned, such arrangements were required to "contain such provisions to protect health . . . as the Commission may determine." Id. at §§ 3, 4. If, as the Plaintiffs allege, the Commission failed properly to fulfill its duty of supervision as to the boron neutron capture therapy experiments and indeed knowingly approved of experiments that violated the Commission's own professional guidelines, then it is arguable that the Commission "tried to escape its responsibilities by delegating them to private parties." [Rockwell, 26 F.3d at 258](http://www.lexisnexis.com/lnacui2api/mungo/lexseestat.do?bct=A&risb=21_T15305885381&homeCsi=6323&A=0.23748907765458016&urlEnc=ISO-8859-1&&citeString=26%20F.3d%20254,%20258&countryCode=USA). In such a situation, the Court views [\*\*67] the exclusive function test as met.

#### Nuclear energy production exclusively focuses on electricity

Herrsnz, Linares, and Moratilla 8 (L.E. - Unit of Nuclear Safety Research, J.I. and B.Y - Rafael Marino Chair of New Energy Technologies Comillas Pontifical U, "Power cycle assessment of nuclear high temperature gas-cooled reactors," <http://www.ewp.rpi.edu/hartford/users/papers/engr/ernesto/millav/EP/References/Applied%20Thermal%20Engineering%20%5B6%5D.pdf>)

Nonetheless, at present nuclear energy production is almost exclusively focused on electricity generation, which accounts for only 16% of the energy consumed worldwide (being nearly 80% of the remaining energy obtained by burning fossil fuels [3]). Therefore, nuclear energy contribution to overcome issues like depletion and supply shortages of fossil fuels and global warming would be vigorously reinforced if a wider energy market was addressed. Industrial heat consumption is a good candidate to accomplish such a diversity of energy products. However, most of the industrial process heat applications require much higher temperatures than the operating temperatures of present light water reactors (LWR). Besides, the amount of energy required is never more than a few hundred MWs, while the present systems become competitive only for a thermal production of a few thousand MWs.

**AT: For = Support**

#### For is a term of exclusion – Constitution provesClegg 95 - J.D., 1981 Yale Law School; the author is vice president and general counsel of the National Legal Center for the Public Interest. (Roger, “Reclaiming The Text of The Takings Clause,” 46 S.C. L. Rev. 531, Summer, lexis) Even if it made no sense to limit the clause to takings "for public use"--and, as discussed below, it might make very good sense--that is the way the clause reads. It is not at all ambiguous. The prepositional phrase simply cannot be read as broadening rather than narrowing the clause's scope. Indeed, a prepositional phrase beginning with "for" appears twice more in the Fifth Amendment, and in both cases there is no doubt that the phrase is narrowing the scope of the Amendment. n20

**AT: “Applied R&D” C/I**

#### This is also a distinction without a difference and still links to our limits disad – DOE evidence

E-CFR 12 (Electronic Code of Federal Regulations, Updated 10/4/12, Title 10: Energy, <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div5&view=text&node=10:4.0.1.3.13&idno=10>)

**This part sets forth the policies and procedures applicable to the award** and administration of grants and cooperative agreements **by the DOE Office of Energy Research** (ER) **and** the **Science and Technology** Advisor (STA) Organization **for basic and applied research**, educational and/or training activities, conferences and related activities.¶ § 605.2 Applicability.¶ top¶ (a) This part applies to all grants and cooperative agreements awarded after the effective date of this amended rule.¶ (b) Except as otherwise provided by this part, the award and administration of grants and cooperative agreements shall be governed by 10 CFR part 600 (DOE Financial Assistance Rules).¶ § 605.3 Definitions.¶ top¶ In addition to the definitions provided in 10 CFR part 600, **the following definitions are provided** for purposes of this part—¶ **Basic and applied research means basic and applied research and that part of development not related to the development of specific systems or products. The primary aim of research is scientific study and experimentation** directed toward advancing the state of the art **or increasing knowledge** or understanding **rather than focusing on a specific system or product**.¶

#### In the context of the AFF that means experimenting with “scientific feasibility”

E-CFR 12 (Electronic Code of Federal Regulations, Updated 10/4/12, Title 10: Energy, <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div5&view=text&node=10:4.0.1.3.13&idno=10>)

**Advanced Energy Projects**

**The objective of this program is to support exploratory research on novel concepts related to energy.** The concepts may be in any field related to energy but must not fall into an area of programmatic responsibility of an existing ER technical program. The **research is** usually **aimed at establishing the scientific feasibility of a concept and**, where appropriate, at **estimating** its economic **viability**.