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## 1NC 1/4

### Space exploration is merely another technological quick fix to profound environmental and social problems that threaten to collapse the biosphere—the 1AC merely replicates this dangerous mentality and actively precludes moving to a more sustainable way of life.

Munevar ’10 (Gonzalo Munevar professor in the School of Humanities, Social Sciences and Communication at Lawrence Technological University in Southfield, Michigan, and a former student of the philosopher of science Paul K.) ***Philosophy of Space Exploration*** http://philosophyofspaceexploration.blogspot.com/2010/03/standard-case-for-exploration.html

The ideological critics argue that wisdom does not lie along any road that exploration may discover. "People," admonished one of their forerunners, the 18th-century French philosopher Jean-Jacques Rousseau, "know once and for all that nature wanted to keep you from being harmed by knowledge, just as a mother wrests a dangerous weapon from her child's hands; that all the secrets she hides from you are so many evils from which she protects you."[1] Rousseau's romanticism lives on among the ideological critics of space exploration. As they see it, the secrets our curiosity has pried from nature have brought us to the brink of disaster. We should have heeded Lao Tzu's warning: "[T]hose who would take the whole world to tinker with as they see fit . . . never succeed."[2] Ignoring this advice, Western science aims to control nature by interfering with it. In spite of all the so-called progress of the scientific era, Western science has not succeeded and will not succeed. To come to this conclusion, these critics argue, we only need observe the trends set in the previous century: the population explosion; the massive use of resources at an ever increasing rate; and the unparalleled poisoning of the soil, the air, and the water of the Earth. It is doubtful that our planet can withstand this situation for long. Indeed, the Club of Rome Study, among others, has predicted a global environmental collapse around the middle of this century.[3] Even if this crisis does not spell doom for mankind, and it might, it deserves serious attention. The first thing we must determine is what makes all these dangerous trends possible. And, the ideological critics say, it does not take much to isolate the main factor: technology has coupled with the mentality of growth and together they have run amok. But surely technology on such a grand scale could not have existed without prior great advances in science. And what is space exploration, these critics ask, if not the expansion of this mentality of growth and scientific development? Hence they find unacceptable the suggestion that space exploration can help us out of our dire straits. For that suggestion masks the imminence of the crisis and entreats us to engage in distracting pursuits – at a time when all our attention and effort should be concentrated on the abyss that is opening just a few careless steps ahead of us. From this ideological perspective, space exploration is no more than another technological fix for problems that cry out for a different approach. The only solution is to realize that the crisis is upon us and to stop the activities that have created it. Above all, we must stop interfering with nature. Space exploration not only delays the real solution to the problem but is itself a symptom of the problem. The ideological critics thus find little hope in the attempt to push science and technology beyond the confines of our natural habitat. Nor is the search for truth enough of a warrant. As Rousseau put it: "What dangers there are! What false paths when investigating the sciences! How many errors, a thousand times more dangerous than the truth is useful, must be surmounted in order to reach the truth? The disadvantage is evident, for falsity is susceptible of infinite combinations, whereas truth has only one form."[4] Wisdom dictates, then, neither investigation nor exploration, but living in harmony with nature. An extreme fringe of ideological critics finds space exploration not just unwise, but positively evil. They fear, for instance, that a satanical science and technology will lead to the destruction of the human race at the hands of terrifying weapons. The Mercury Program may have sent astronauts on voyages of discovery, but its Atlas rockets became also the first intercontinental ballistic missiles (ICBMs) poised to destroy human lives by the hundreds of millions. Some writers, such as Lewis Mumford, hold that big science and technology magnify some of the worst human traits: Not only have men wrought a brutal conquest of nature in "the effecting of all things possible" (in the words of that early promoter of science, the English philosopher Francis Bacon), but the social "megamachine" they have produced has developed means for the complete extermination of the race.[5] Others like C.S. Lewis think that space exploration is a manifestation of unchecked pride and power. These critics argue that we have no right to pollute the heavens with our fallen race. Only a return to a more spiritual way of life can save us from a degrading future.[6]

1NC 2/4

### And, their call to use technology to produce social change ensures perpetual dependence on institutions to mediate our ethical relationships—even their best laid plans strengthen the bonds of social control and make authentic connections with the world impossible.

Hershock, ‘99, (East-West Center, Journal of Buddhist Ethics, Vol6, [jbe.gold.ac.uk/6/hershock991.html](http://jbe.gold.ac.uk/6/hershock991.html))

I have argued at some length (Hershock, 1999) that evaluating technologies on the basis of the tools they generate commits us to taking individual users and not the dramatic patterns of our lived interdependence as the primary locus of evaluation. In doing so, we effectively exclude from consideration precisely that domain in which the values informing our technological bias have the most direct bearing on the quality of our personal and communal conduct -- the movement of our shared narration. This has led to a stubborn and at times even righteous blindness regarding our slippage into a new era of colonization -- a colonization, not of lands or cultural spheres, but of consciousness as such. Indeed, the disposition to ignore the critical space of interdependence has been so thoroughly prevalent that the conditions of possibility for this new form of colonialism are widely championed -- in both the "developed" and the "developing" world -- as essential to establishing and safeguarding our individual and collective dignity, a crucial component of our growing equality and autonomy.

By using the same information technologies employed by those individuals and institutions perpetrating and perpetuating the inequitable distribution of power and wealth, social activists may have enjoyed the opportunity to "beat them at their own game." However, they have also insured that everyone remains on the same playing field, playing the same game. Social activist successes have in this way blinded us to our deepening submission to technologies of control and the consequent depletion of precisely those attentive resources needed to meaningfully accord with our changing circumstances and contribute to them as needed.

The costs of such blindness are practically limitless. The more "successful" a technology is, the more indispensable it becomes. That is, all technologies are liable to crossing thresholds beyond which they generate more new problems than they solve. Because technologies arise as patterns of value-driven conduct, they function as ambient amplifiers of our individual and cultural karma -- our experience-conditioning, intentional activity. In crossing the threshold of their utility, technologies create the karmic equivalent of a gravitational black hole, funneling all available attention-energy into themselves. For the dominant technological lineage correlated with the rise of liberal democracy and the imperative for social activism, this has meant an intensification of our karma for both controlling and being controlled. The more successfully we extend the limits of control, the more we extend the range of what can and must be controlled. In capsule form: the better we get at getting what we want, the better we get at wanting; but the better we get at wanting, the better we get at getting what we want, though we won't want what we get. This karmic circularity is pernicious, and the attention-energy invested in it to date has already brought about an epidemic depletion of precisely those resources needed for realizing dramatically satisfying -- and not merely factually sufficient -- solutions to our troubles, both personal and communal. The methodological irony of social activism is that it does not free us from dependence, but rather sustains its very possibility. This is not as paradoxical as it might sound. Insuring our independence by means of restructuring the institutions that mediate our contact with one another renders us dependent on those institutions -- on the structure, and hence the technologies, of our mediation. In consequence, our freedom comes to be increasingly dependent on the rationalization and regulation of our relationships with one another -- the realization of secure and yet generic co-existence. Just as the technology-driven transformation of societies in the industrial and post-industrial eras has involved an ever more detailed refinement of class divisions and labor categories, social activism advances through an ever more varied identification of populations in need of guaranteed freedoms.

In valorizing both autonomy and equality, social activism denies our dramatic interdependence and tacitly endorses not-seeing (avidyĀ) or not-attending to the full set of conditions sponsoring our present situation. Although unique and deeply local patterns of injustice may be important in building a legal case, the work of social activism is not to encourage our liberating intimacy with such patterns. Rather, it consists of constructing legal mechanisms for exerting reformative control over institutional structures and the processes by means of which (generically) given individuals play or are forced to play particular roles therein.

Unfortunately, as generic 'women', 'children', 'workers', or 'minorities', the beneficiaries of social activism are effectively cut off from precisely those aspects of their circumstances, relationships, and self-understanding which provide them with the resources necessary for locally realizing meaningful -- and not merely factual -- alternatives to the patterns of injustice in which they find themselves embedded. Among the products of social activism are thus virtual communities of individuals having no immediate and dramatically responsive relationship with one another -- individuals who have relinquished or been deprived of intimate connection with the causes and conditions of both their troubles and those troubles' meaningful resolution.

With no intended disregard of the passion many activists bring to their work, social activism has aimed at globally re-engineering our political, economic and societal environments in much the same way that our dominant technological lineage has been committed to re-making our world -- progressively "humanizing" and "rationalizing" the abundantly capricious natural circumstances into which we human beings have found ourselves "thrown." This shared strategic genealogy is particularly disturbing, suggesting that -- like all technologies oriented toward control -- social activism is liable to rendering itself indispensable. If the history of social activism is inseparable from the rise and spread of influential technologies and subject to similar accelerating and retarding conditions, so is its future.

Social Activist Strategy: Legally Leveraging Institutional Change

While it has become common practice to decry the excessive legalism of contemporary societies, the ramifications of strategic collusion between social activism and the way we have technically and legally tooled our factual co-existence have remained largely unattended. In part, this is because the legal bias of social activism has appeared so incontestably "practical." Legislation allows for directly restructuring power relations and negotiating justice at the "highest" possible levels. The legislative process has also become the dominant technology for mediating divergent claims about the facts of our (often troubled) co-existence and for preserving "fair" definitions of 'being right' and 'being wronged'.

1NC 4/4

### vote negative to take a heretic stand against the affirmative’s secular religion of progress—only our reinfusing science with an ethics of respect prevent the violence of technology from takeover all aspects of life.

Andrew Kimbrell (Executive Director of the International Center for Technology Assessment), 2000, ***Cold Evil: Modern Technology and Ethics***, published by the E.F. Schumacher Society, http://www.smallisbeautiful.org/publications/kimbrell\_00.html

We can also break distancing by using our imagination to alter the language of cold evil that has almost become second nature to us. For example, we could stop saying "consumer" to define our role in the technological system. To consume means to destroy (as in a consuming fire) or to waste (tuberculosis was called consumption because it wastes away the body). We must no longer be mere consumers, destroying and wasting the natural world. We must no longer be complicit in the crimes of our industrial system. To face cold evil we must become creators, not consumers. We must break out of our techno-cocoons and recognize that the actions we take in deciding which products to buy or which services to use or render will create a better future for ourselves and the earth. We must take responsibility for the consequences of how we fulfill our basic human needs. Further, we must become true citizens, asserting our sovereignty over corporations and not allowing ourselves to be mere consumers of what they provide us. We must also attempt to change our relationship to work. We can no longer be content with mere “jobs” and the wage blackmail through which cold evil works. Despite often overwhelming economic pressures, we must at least attempt to seek a vocation, a calling, that expresses our values and fits our needs. Our work should be a “profession,” a profession of our beliefs—good work whose consequences we can embrace. In addition, we must learn to regularly practice heresy against the religion of Progress. We must reinfuse science with the qualitative experiences required for any holistic search for truth. We must balance efficiency with empathy, and competition with cooperation, not only in our private lives but also in our policy and public discourses. We must never allow the word “progress” to be used except in the context of the question, "Progress toward what?" We then must redefine progress as movement toward a future vision in harmony with the Creation and our spiritual needs. Ultimately, confronting cold evil requires us to begin dismantling the totalitarian technological structures and systems in which it thrives. Our technologies and technocracies currently legislate our complicity in cold evil. Most of us cannot control where our energy or food comes from, where our taxpayer dollars go, what is taught in our public schools, whether or not to use automobiles, or even what jobs we will have. Moving toward the restoration of human scale in our social and production systems as an alternative to current global-scale organizations and technologies may be the only way to permanently defeat the distancing that has been such a moral disaster for modern humankind. We can start small by growing our own food or joining a Community Supported Agriculture group or starting a local drive for sustainable transportation and energy. As E.F. Schumacher teaches in Good Work, "I can't myself raise the winds that might blow us, or this ship, into a better world. But I can at least put up the sail so that when the wind comes, I can catch it." There is, of course, a metaphysical part of this work. In the memorable words of Father Thomas Berry, our current economic and technological systems have turned all of nature "from a community of subjects into a collection of objects." To restore relationship and begin healing we must again treat the living kingdom as a community of subjects, each with its own meaning and destiny, its own eidos and telos. Living beings must never be treated as mere objects, commodities, or means of production. Moving toward this new moral community involves nothing less than replacing the infrastructure of cold evil with technologies and human systems that are responsive to our physical and spiritual needs and the needs of the rest of the biotic community. This requires evolving a means of production and social organization for which we can truly take responsibility. It is a daunting, even overwhelming task, but the alternative is to continue to live in a state of cold evil, complicit in the current system's crimes and distanced from relationship and healing. This we can no longer do. If we are going to rid ourselves of the cold evil threatening the biosphere, destroying society, and emptying our children of all meaning, we simply must devolve our technological systems so that they are democratic, so that they can be responsive to us and we can take responsibility for them, and so that they comport with nature, with life forms on the earth. There is absolutely no doubt that we cannot be a democratic nation, we cannot be a democratic people, and we cannot free ourselves from the cold evil of technological control that now has spread even to our genetic core until we stop allowing technology to control human choices and instead see to it that our human choices control technology.

# Links

## Development Link

### Their call to develop space is an extension of the technological logic of cold evil—these “development” strategies systematically exploit the environment and the world’s poorest people.

Andrew Kimbrell (Executive Director of the International Center for Technology Assessment), 2000, ***Cold Evil: Modern Technology and Ethics***, published by the E.F. Schumacher Society, http://www.smallisbeautiful.org/publications/kimbrell\_00.html

The workings of the global trade and finance corporations and organizations epitomize the physical and psychological distancing of cold evil. In the isolation of their First-World offices, members of the World Trade Organization and their partner financiers and economists of the World Bank and the International Monetary Fund (IMF) make decisions affecting millions. This is most evident in the imposition of “structural adjustment” measures on developing countries. For decades the IMF and World Bank loaned money at considerable interest to “developing” nations, essentially to capitalize modernization and technification. The funding was often for huge, ecologically devastating industrial projects. Not surprisingly, much of the money ended up in the hands of corrupt governments or as kickbacks to First-World corporations. As payments became overdue and interest rates skyrocketed, many countries found themselves unable to repay these loans. To solve this repayment problem the IMF and World Bank implemented a series of “structural adjustment programs” (SAPs). These programs involve renegotiating a country’s loan on more favorable terms if it agrees to "adjust” its spending policies, which means reducing wages, lowering labor and environmental standards, slashing social programs (particularly in health, education, and welfare), and allowing increased foreign domination of the country’s industries.

The effects of the SAPs have been disastrous. Millions have lost their jobs and find themselves with no access to housing, health care, or food. Spending on education in many countries has declined by more than 25% in less than a decade. It is now estimated that as many as 19,000 children die every day from disease or malnutrition as a direct consequence of the SAPs mandated by the IMF and World Bank. Yet despite its horrific toll, the cold-evil practice of structural adjustment has gone without ethical censure until quite recently. Contrast this indifference with the public and media outrage that would erupt if a group of terrorists, driven by hot-evil hatred, were killing thousands of children a day. It is now accepted, even by the global financial technocracies, that SAPs have been fiscally ineffective as well as socially and environmentally devastating. But the trade technocrats and corporations simply view this outcome as a policy “miscalculation” that requires “modification.”

## Efficiency/Impact Calculus Link

### Their celebration of efficiency has disastrous ethical implications—their impact calculus and solvency claims foster a way of relating to others which necessitates their systematic exploitation.

Andrew Kimbrell (Executive Director of the International Center for Technology Assessment), 2000, ***Cold Evil: Modern Technology and Ethics***, published by the E.F. Schumacher Society, http://www.smallisbeautiful.org/publications/kimbrell\_00.html

Perhaps the greatest impact of Cartesian mechanism is its creation of the cult of efficiency. Efficiency—maximum output with minimum input in minimum time—is an appropriate goal for the productivity of machines. Under the sway of mechanism, however, efficiency has metastasized over the past century into the principle virtue, not just for machines but for all life forms as well. We have undergone a kind of mechano-morphism, turning all life into machines and then judging and changing life utilizing the mechanistic value of efficiency. The effort to make humans more efficient began in earnest over a century ago when the eugenics movement became accepted public policy in the United States and led to the sterilization of thousands of the “unfit.” The cult of efficiency was further forced on humans in the years prior to World War I by the pioneering work of U.S. mechanical engineer Frederick Winslow Taylor, who began a managerial revolution to make workers more efficient in the newly developed assembly-line method of production.

Over the generations the trickle-down effects of the cult of efficiency have turned into a veritable flood. Efficiency has become our number one unquestioned virtue. A large part of our public and personal lives is constructed around this cult. As a society we repeatedly urge efficient government, an efficient and productive work force, efficient use of natural resources, and efficient use of human resources (that’s us!). Everyone is trying to become more efficient. We have all become “multi-taskers,” using the best-selling minute-manager manuals for reference (surely The Nanosecond Manager will be a bestseller of the future).

As demonstrated by the creation of pig no. 6707 the cult of efficiency is leading to enormous potential crimes against life. The great philosopher Owen Barfield in his seminal work Saving the Appearances warned that “those who mistake efficiency for meaning inevitably end by loving compulsion.” Now the genetic engineers such as Pursel are literally remaking the genetic code of the world’s life forms in order to make them more efficient. Humans are not to be spared, as indicated by a recent report with recommendations by the U.S. Department of Commerce and the National Science Foundation; altering the permanent genetic make-up of humanity to increase the “efficiency of performance” is now a top scientific priority. Even as the doctrine of efficiency is becoming the dictate for biotechnology, nanotechnologists tell us that they will soon be rebuilding all of matter, molecule by molecule, to make it more efficient.

As with the cult of objectivity, if the efficiency principle is applied to private life, it quickly turns into the ludicrous. This should not surprise us, for efficiency is a machine value, not a life value. Is a father to treat his children efficiently, giving them minimum food, affection, and “quality” time for maximum good behavior or academic performance? Are we to treat our friends according to an efficiency calculation? Do we treat our beloved pets on an efficiency basis? Most pets produce nothing at all (my dogs specialize in spoiled rugs and chewed baseball gloves), but we lavish on them our love and affection. In fact, all these relationships are based not on efficiency but on empathy and love. Yet the cult of efficiency has robbed much of our public life of the language of empathy. Thus, the cold-evil cruelties of the workplace, slaughterhouse, and research laboratory overwhelm the values that could reform and heal them.

## Hegemony Link

### American hegemony is a blank check for genocide—as long as the US assumes the role of global sheriff then there is no check on the violence it can perpetrate for sake of maintaining “international stability.”

William Spanos, Literature—SUNY Binghampton, 2000 (America’s Shadow, p. xvi-iii)

This euphoric representation of the end of the Cold War by the intellectual deputies of the dominant culture has been modified under the pressure of world events since the apparently decisive defeat of the Iraqi army in the Gulf War: the genocidal ethnic strife in the for- mer Yugoslavia; the political instability and violence in much of central and southern Africa; the bloody struggle between the secular state and religious fundamentalists in Algeria; the continuing tensions between East and West in the Middle East, not least, the reaffirmation of Iraqi sovereignty against the United States's threat of intervention; and the emergent threat of nuclear war between India and Pakistan. Indeed, references to the end of history and the New World Order have all but disappeared from mediatic and theoretical representations of the contemporary occasion. But I interpret this modification not as a tacit admission of the illegitimacy of the end-of-history discourse, but rather as an accommodation of these contradictory events to its universalist scenario, an accommodation that, in fact, renders this end-of-history discourse more powerful insofar as the apparent acknowledgment of their historical specificity obscures its real metaphysical basis, i This accommodational strategy of representation, for example, is epitomized by Richard Haass, a former official in the Bush adminis- tration and now director of foreign policy studies at the Brookings Institution, in his book The Reluctant Sheriff: The United States after the Cold War (1997).4 Eschewing Fukuyama's Hegelian eschatologi- cal structure in favor of theorizing the actual practices of the United States in the international sphere -- Somalia, Haiti, Bosnia, Iraq, and so forth -- Haass frames the post-Cold War conjuncture in the totalizing image of a "deregulated world" (in contrast to the world "regulated" by the Cold War scenario) and the role of the United States in the trope of a sheriff leading posses (the appropriate members of the United Nations) to quell threats to global stability and peace posed by this international deregulation. Despite Haass's acknowledgment that conflict is inevitable (which, in fact, echoes Fukuyama), the triumphant idea of liberal capitalist democracy remains intact in his discourse. That is, his commitment to the "laissez-faire" polity (deregulation) -- to the fictional concept of the sovereign subject -- continues to be grounded in the metaphysics that informed America's global errand in the "wilderness" of Southeast Asia. Indeed, Haass gives this representational framework far more his- torical power than Fukuyama's disciplinary discourse of political science is able to muster. For, unlike the Fukuyamans, Haass informs his repre- sentation of the United States's historically determined and determining exceptionalist mission in the post-Cold War era with the teleological metaphorics that have been from the beginning fundamental to the con- stitution and power of the American globally oriented national identity. The metaphor of the sheriff/posse derives from the history of the Amer- ican West and constitutes a variation of the pacification processes of westward expansion. As such it brings with it the entire baggage of the teleological metanarrative of the American frontier from the Puri- tans' "errand in the ['New World'] wilderness" to the myth of Manifest Destiny. As the "New Americanist" countermemory has persuasively shown, this is the myth that has saturated the cultural discourse of America, both high and low, since its origins: whether in the form of the American jeremiad, which, from the Puritans through Daniel Webster to Ronald Reagan, has always functioned to maintain the national con- sensus vis-a-vis its providentially ordained mission to domesticate (and dominate) what is beyond the frontier5 or in the form of the Hollywood western, which has functioned to naturalize what one New American- ist has called the American "victory culture."6 Reconstellated into this context, Haass's more "realistic" analysis of the post-Cold War oc- casion comes to be seen not simply as continuous with Fukuyama's, but as a more effective imperial global strategy. The utter immunity to criticism of the Clinton administration's "humanitarian" war against Serbia in the spring of 1999 which perfectly enacted the Haassian Scenario bears witness to this. In the following chapters of this book I will, by and large, refer to Fukuyama's version of the post-Cold War American end-of-history discourse. But I wish to make it clear at the beginning that, in doing so, I am referring not to a particular theory, but to a fundamental American tradition whose theorization extends from de Tocqueville through Frederick Jackson Turner to Fukuyama \ and Haass.

## Mars Link

### Colonizing Mars will lead its exploitation

Jerkins ’09 (Jae Jerkins M.A. in Interdisciplinary Humanities from Florida State University) Heidegger’s Bridge: The Social and Phenomenological Construction of Mars

For Mars, the prospect of enframing is extremely problematic, given its phenomenological nature. As interpretive discourse directs the narratives of Mars (scientific and otherwise), enframing comes rather easily and often appears as a benign force in the media and public discourse, asking, “What can Mars do for us?” Because the interpretation of Mars precedes any objective knowledge, as illustrated by Lowell’s once popular canal theories, we must proceed in the awareness that Mars is, in the public mind, what is said of it. Heidegger warns, “The rule of Enframing threatens man with the possibility that it could be denied to him to enter into a more original revealing,” adding his somewhat romantic call to modernity, “and hence to experience the call of a more primal truth.”52 Heidegger’s point is well-taken—what is damaging to our participation in the world is the exclusivity technology brings to bear as a form of modern revelation. Heidegger explains that when technological enframing takes place, “it drives out every other possibility of revealing.”53 When technological ordering comes to be the only way we perceive the world, then the world becomes revealed to us only through the banal act of securing natural resources, no longer allowing what Heidegger calls the “fundamental characteristics” of our resources to appear to us.54 The Earth becomes minerals, the sky becomes gases, and the Martian surface becomes whatever those with means will it to be. When we gaze at Mars with an eye toward technologically enframing it, we deny ourselves the possibility of other forms of revelation which, given the great passage of time, may come to make our generation appear quite near-sided and audacious—or worse, cause permanent damage to a planet we are far from grasping in its sublime entirety. Heidegger describes the enframing of a tract of earth as “a coal–mining district”; can the enframing of Mars as a natural resource be far from Heideggerian thought?55 To appreciate fully the meaning in this world and of the “red planet,” we must come to terms with our modern predilection for technological enframing and be accepting of other, more long-term, open-minded and inclusive perspectives of place-making.

## Space Exploration Link 1/4

### State dismisses narrative discourse in context of colonialism—the plan only accelerates imperial thought.

Jerkins ’09 (Jae Jerkins M.A. in Interdisciplinary Humanities from Florida State University) Heidegger’s Bridge: The Social and Phenomenological Construction of Mars

Today, scientists studying Mars use the tools of the narrative of colonialism—with the enthusiasm of nationalism, the promises of corporate success, and the desire to dominate new frontiers—all to legitimate the project of going to Mars. When one legitimates an activity, they are promoting said activity as authorized, validated, or normative.33 Both scientific and governmental discourses are legitimated by narrative, and yet scientific discourse tends to push narrative aside as an inferior method of conveying knowledge. There also exists a vague correlation between legitimation and truth. Jean-François Lyotard explains, “The language game of science desires its statements to be true but does not have the resources to legitimate their truth on its own.”34 The state tends to render science “understandable” by relating “scientific knowledge to ‘popular’ knowledge,” doing so by “spend[ing] large amounts of money to enable science to pass itself off as an epic.”35 Scientific documentaries like *MARS: Dead or*  *Alive* are saturated with narratives, from the anthropomorphic rovers to the “hostile” land, because “scientific knowledge cannot know and make known that it is the true knowledge without resorting to the other, narrative, kind of knowledge, which from its point of view is no knowledge at all.”36 This paradoxical viewpoint of scientific narratives threatens to render scientific accounts of Mars unchallengeable. Scientists attempt to explain what Mars is like, but then use colonialist narratives, modernist narratives, and Hegelian narratives of progress to induce the public into funding scientific projects. Thus, it becomes cumbersome to engage in dialogue concerning the legitimacy of Martian endeavors when scientists utilize narrative to legitimate what they do, while dismissing narrative as non-science. Instead, the scientific discourse of Mars should be seen for what it is—a changing, subjective, and complex exchange of the narrative and the empirical, influenced by historical context, bureaucratic powers, and the technological drive toward efficiency.

Space Exploration Link 2/4

### Building the infrastructure necessary for solvency ensures mass environmental damage—critique turns case

Munevar ’10 (Gonzalo Munevar professor in the School of Humanities, Social Sciences and Communication at Lawrence Technological University in Southfield, Michigan, and a former student of the philosopher of science Paul K.) ***Philosophy of Space Exploration*** http://philosophyofspaceexploration.blogspot.com/2010/03/standard-case-for-exploration.html

Critics of these proposals have argued that the mining of the enormous quantity of materials required to build such structures would cause major environmental headaches, while the many thousands of flights by giant rockets to haul the materials into orbit might damage the atmosphere and are certain to cost far too much – in the hundreds of billions of dollars, at least for the system as presented to the U.S. Congress in the late 1970s. Congress found the proposal technologically feasible but accepted the criticisms and refused funding. These criticisms seemed misleading at the time. The late physicist Gerard O'Neill, one of the most vocal proponents of the idea, had said all along that most of the required materials (e.g., aluminum, oxygen, and silicon) could be rather easily extracted from the Moon, placed in lunar orbit and processed there. The gravity pull of the Moon is only one sixth that of Earth, and thus the materials could be shot into lunar orbit, at great savings of energy and money, by what O'Neill called "mass drivers": long superconducting rails that use powerful electromagnetic fields to accelerate metal buckets full of lunar soil. This project would be the beginning of the eventual colonization of the solar system, for no insurmountable technological barriers would then keep us from the abundant resources available in the asteroids, nor from building large habitats in space (Figure 2.3). To paraphrase O'Neill, the closing of the Earthly frontiers would be compensated for by the opening of the “high frontier” to the needs and hopes of humankind.

Space Exploration Link 3/4

### Space will be exploited by modern colonialism—their us/them thinking ensures the plan is enacted violently

Jerkins ’09 (Jae Jerkins M.A. in Interdisciplinary Humanities from Florida State University) Heidegger’s Bridge: The Social and Phenomenological Construction of Mars

Since the beginning of Modern colonialism, the nature of place-making has largely been an imperial venture. When voices of authority assign a name to a space, this activity transforms it into a meaningful place.1 In this way, Mars has become a real place for us now, in the same way that America and Africa became meaningful places at the beginning of their colonial period—with maps of Latin place-names, the language of apparent scientific austerity. Philosopher V. Y. Mudimbe describes “the opposition of Greek or Roman civility” to that of the ancient “barbarians” “concretized by being located on a map…[where] the map is a scientific project” meant to identify the other; map-making thus becomes “the technical vision of subjective perceptions.”2 The power of the scientist as *creator of place* is palpable. Henri Lefebvre identifies map-making with creating a conceptualized, conceived space—calling this space “the space of scientists.”3 For example, outside the purview of the naked eye, scientists have used their unique powers of analysis to identify the source of the Mississippi River. When scientists identified the source as one particular lake among many, the area around the lake was designated a park—now flocked to by eager tourists. Yi-Fu Tuan, a scholar of place studies, explains, “Scientists thus appear to have a certain power: they can create a place by pointing their official fingers at one body of water rather than another.”4 In this way, place is given official meaning and status.

Space Technology Link 4/4

### Our obsession with technology and space exploration is a moral problem

Munevar ’10 (Gonzalo Munevar professor in the School of Humanities, Social Sciences and Communication at Lawrence Technological University in Southfield, Michigan, and a former student of the philosopher of science Paul K.) ***Philosophy of Space Exploration*** http://philosophyofspaceexploration.blogspot.com/2010/03/standard-case-for-exploration.html

A justification that involves technological and economic growth is not likely to impress ideological critics. Indeed, they see the alleged benefits as causes for concern. For many of these critics, and especially for some influenced by the environmentalist movement, the very idea of space exploration is not only unwise, but also immoral. They are particularly harsh to some of the grandiose proposals for going into outer space to solve pressing terrestrial problems. According to Wendell Berry, for example, the lesson that we should learn from the closing of the earthly frontiers "calls for an authentic series of changes in the human character and community that, if made, will afford us the spiritual resources to live both within our material means and with each other." Space exploration, he thinks, tries to outflank the lesson entirely. The space enthusiast – and here Berry has Gerard O'Neill in mind – ignores what is essentially a moral problem (i.e., the changing of human character and community) and offers technological solutions instead. The morality of the space enthusiast is thus both shallow and gullible, for he offers "a solution to moral problems that contemplates no moral change." Space exploration, to someone like Berry, could only be "a desperate attempt to revitalize the thug morality of the technological specialist, by which we blandly assume that we must do anything whatever that we can do." According to another critic, Dennis Meadows, "What is needed to solve these problems on earth is different values and institutions – a better attitude towards equity, a loss of the growth ethic.... I would rather work at the problems here."

## Technology Link

### The peace that technology presents is a lie which only justifies continued exploitation

Mitchell ’05 (Post-Doctoral Fellow in the Humanities at Stanford University where he teaches in the Philosophy and German Studies departments) Heidegger and Terrorism

War and peace come to complete agreement and lose their oppositional identity in the age of value and the ersatz. Without concern for resources, consumption continues untroubled, since war is a kind of “consumption of beings” no diﬀerent from peace: “War no longer battles against a state of peace, rather it newly establishes the essence of peace” (GA69: 180). The essence of peace so established is a peace that deﬁnes itself in regards to war, which binds itself inseparably to war, and which functions equivalently to war. In either case, it is simply a matter of resource consumption and replenishment. In Clausewitzian terms, there is perhaps too much continuity or “continuation” between war and peace, “War has become a distortion of the consumption of beings which is continued in peace” (GA7: 89/EP, 104). The peace that technology brings is nothing restful; instead it is the peace of unhindered circulation. We cannot even ask when there will be peace or when the war will end. Such a question, Heidegger speciﬁes, cannot be answered, “not because the length of the war can- not be foreseen, but because the question itself asks for something which no longer is, since already there is no longer a war that would be able to come to a peace” (GA7: 89/EP, 104; tm). The basic oppositions of Clausewitzian warfare are undone at this point, an undoing that includes the distinction between ideal and real.

## Technology Link—Nihilism

### Technology is root of all nihilism—their ontological grounding makes it impossible for them to create meaning.

Claude Karnoouh, visiting professor at the National University of Arts Bucharest, 2002

“Technology and Destiny” Telos 124 (Summer 2002): 71-94.

Since Heidegger’s account of the history of philosophy as the “forget- ting of Being,” it has become clear that this technology is rooted in the ontological foundations of modern metaphysics — the one deployed by Descartes with the certainty of his ego cogitans, and sure to be able to grasp truth by means of its mathematical charts.5 According to Nietzsche, this is how nihilism came about. This metaphysics implies a philosophy in which man becomes the center of the world, and his activities are justified by their practical effects. Proud of his achievements, man eventually becomes convinced that he is the only demiurge, that he can do anything, that scientific knowledge will lead to the discovery of all of nature’s secrets — even about himself — and that he will be able to express them as “natural” laws couched in logical and mathematical terms. Thus, Des- cartes laid the foundation for Galileo’s discoveries: because of the sub- ject’s certainty of the logical and mathematical configuration of its object, the truth of its effects could be universalized. With Descartes, Western knowledge began to unfold as modernity.

## Technology Link

### The whole idea of technology is rooted in the idea of violence which must be contested

E.F. Schumacher Society ’76 http://www.schumachersociety.org/publications/efs\_nonviolence.html

The whole idea of sending people to the moon has to be understood metaphysically.  It is not good enough to say, "Well, we are just little boys and because we can do it, we must do it."  No, we have a need for this upward movement and when we can't do it spiritually, then we have to do it physically.  Perhaps this has spiritual consequences that may be beneficial.  These people have seen the earth from a distance and have suddenly become conscious that the earth is not as scientific philosophers have been telling us, just a cosmic accident, of no importance.  They have come back and they have said that we have seen the jewel of the universe, a thing of genuine beauty, and a thing all round and just as big as it is and no bigger.  We have visited other planets either in person or by photography and all that we can see is wasteland.  Horrifying wasteland.  Of course, we haven't seen many of them, but those we have seen gave us a new view of the world.  Perhaps even the silliness of sending people to the moon may bring us back to the truth, because an operation like shooting people up to the moon is an operation that can only grow out of a very violent spirit.  We want to be masters and possessors also of the moon, also of the solar system; with all the fantasies that are being discussed about space colonies and all that, well, one has to keep one's sense of humor.  I was asked what I thought about it and I said, "Well, you can have my list of people whom I would nominate to send, and I would even subsidize them.  But I'm afraid it won't happen because this event is losing all sense of reality." The things we work with must have some physical existence.  That's why we are on this earth.  The word is indeed the beginning, but it is not good enough to stay only with the word.  The Gospel, the fourth Gospel says, "In the beginning is the Word," but read on, the Word has to come down, become flesh and dwell among us.  So the real question of all of us is, how can we first hear the Word, but then bring it down and make it flesh so that it can become a reality among us?  Therefore, we have to do something in the material world, and one of the biggest tasks in my group is to work toward the creation of a nonviolent technology.

## Objectivity/Knowledge Production Link

### Their attempt to objectively know the world and then fix it based on their diagnosis is a product of the logic of cold evil—necessitates the destruction of the biosphere and causes serial policy failure.

Andrew Kimbrell (Executive Director of the International Center for Technology Assessment), 2000, ***Cold Evil: Modern Technology and Ethics***, published by the E.F. Schumacher Society, http://www.smallisbeautiful.org/publications/kimbrell\_00.html

One of the epochal moments in the history of Western science occurred on June 22, 1633, when Galileo, under extreme pressure from Church inquisitors, “abjured” his heresy that the earth revolves around the sun. Since that time Galileo has remained an ultimate symbol of modern enlightenment martyred by the forces of superstition and prejudice. Yet if we consider the nature of the cold evil so prevalent today, we can bring charges against Galileo anew. For his real crime was not his understanding of the nature of the heavens but rather his seminal role in creating what could be called “the cult of objectivity”—resulting in a science and science community that have largely been purged of subjectivity and qualitative human thought. Galileo, a mathematician, was convinced that the natural world could not be understood through participation, relation, or metaphysical or spiritual work; rather, he maintained that the truth could be found only by means of objective quantitative measurement and rigorous mathematical analysis. All the “warm” aspects of the human—memories, senses, kinship, relationship—he dismissed as subjective and immeasurable and therefore without value in the scientific search for truth. Galileo wrote that color, taste, and all subjective experiences were “merest opinion” while “atoms and the void are the truth.” He then carried this argument one incredible step further, positing that what cannot be measured and reduced to number is not real. This philosophical “crime” of amputating human qualities from the search for truth is summarized by historian Lewis Mumford in The Myth of the Machine: Galileo committed a crime far greater than any dignitary of the Church accused him of; for his real crime was that of trading the totality of human experience for that minute portion which can be observed and interpreted in terms of mass and motion. . . . In dismissing human subjectivity Galileo had excommunicated history’s central subject, multi-dimensional man . . . Under the new scientific dispensation . . . all living forms must be brought into harmony with the mechanical world picture by being melted down, so to say, molded anew to conform to a more mechanical model. The magnitude of the revolution in science inaugurated by Galileo and his fellow Enlightenment thinkers is difficult to comprehend. Perhaps philosopher Scott Buchanan best encapsulated this transformation when he described Galileo and his generation of thinkers as “world-splitters.” For that is what they were. Focusing fully on treating all of life and creation in cold, strictly mathematical and mechanical terms, they created a lasting dualism by separating the quantitative and qualitative, the objective and subjective. Regarding all the warm, subjective, and feeling functions of the human as incapable of quantification and therefore of little or no importance, they elevated one value, the objective, as the only road to truth. Their dualism resulted in the attempt to completely eliminate human subjectivity from the scientific search for knowledge and truth. This cult of objectivity is thus based on the pathetic fallacy that somehow the observed can be separated from the observer, a fallacy which has disfigured and deformed science for centuries. The cult of objectivity also provides the central ideological underpinning for cold evil, offering a sure ideological defense against any attempt to reduce distancing through the infusion of qualitative human experience, whether it be feeling, relationship, participation, or culture. Its influence results in a “just the facts,” “bottom line” conception of truth. Whoever seeks to break the bondage of cold evil, to strike out against that “grey eminence,” is inevitably accused of being unscientific or, even worse, emotional. When we protest against the dangers of nuclear technology, the dire effects of global warming, the massive destruction of wildlife, forests, and biodiversity, or the monstrous creations of genetic engineering, we are inevitably warned not to react emotionally but rather to rely on purportedly objective “experts” using “sound science.” We are intellectually bludgeoned into abandoning our protest and acquiescing to the objective “laws” and methods of science, the cold facts. As a result, the arts and philosophy are ghettoized as entertainment or academic pursuits while love of, and participation in, nature are dismissed as “romantic.” The cult of objectivity results in a kind of social schizophrenia that separates our public lives from our private lives. If we tried to bring the cult of objectivity into our family setting, we would correctly be viewed as insane. If a mother described her child solely in mathematical terms, stating that all the rest is “unreal, ” she would be an appropriate candidate for institutionalization. Yet this objectivist view is exactly what determines public policy in science, law, and much of our governmental and educational systems. Woe to the scientist who would speak of scientific truth received through poetry, long meditation on a salmon, or the experience of a Mozart piano concerto; woe to the lawyer who would ask the judge to use intuition in resolving the case; or even to the biology teacher who would teach that all of life has an “inside,” a soul. The ideological hold of the cult of objectivity is so strong that as a society we have virtually eliminated human culture and subjectivity as part of our scientific pursuit of knowledge and truth. Our policies continue to be guided by the cold objective values of quantification and measurability; they ignore intuition, emotional understanding, spiritual wisdom, and all the warm, subjective human values so needed for our healing and wholeness. The continued reign of the cult of objectivity among our scientific and policy elites is a fundamental precondition of the technosphere and ensures the continuing spread of cold evil.

## Space Exploration Link\*\*\* 1/3

### Space technology and exploration should not be interpreted as hopes for human survival; their try or die thinking is what locks in an irresponsible and ultimately disastrous relationship to nature and ensures extraterrestrial arms races.

Wendell Berry, B.A. and M.A. in [English](http://en.wikipedia.org/wiki/English_language) at the [University of Kentucky](http://en.wikipedia.org/wiki/University_of_Kentucky)

“The Debate Sharpens” Space Colonies: A CoEvolution Book, April 27, 1976

Your promotion of the space colony idea is getting more and more irresponsible. Like O'Neill and Vajk, you begin with an air of critical reasonableness, and promptly resort to the glib logic of a salesman. None of you has yet foreseen a problem without at the same time foreseeing a more than adequate answer; indeed, as you represent it, a space colony will be nothing less than a magic machine that will automatically transmute little problems into big solutions. Like Utopians before, you envision a clean break with all human precedent: history, heredity, character. Thanks to a grandiose techno­logical scheme, nothing is going to happen from now on that is not going to improve everything; as you say, even if it fails, we will be much better off.1) You people are operating at about the cultural depth of an oil company public relations expert. All this prophetic-ethical computer-mysticism! What is wrong with it is that it is simply failing to make sense — unless, of course, one is looking at it as a sycophant of science, or from the point of view of a government agency or a corporation. That is exactly what worries me: that your coverage of this issue, whatever you mean it to do, will serve to recruit and train a company of intellectual yahoos to justify the next power-grab by the corporations and the government. Your dismissal, out of hand, of so many people's objections and doubts — solicited by you — is an alarming display of smugness. It is also insulting. I thought I was being asked to take part in a debate on an issue that you felt to be debatable. I now sense, from the substance and tone of your various remarks in the spring issue, that I was asked to say something that you expected to be inconsiderable in support of what you had already determined would be the losing side. As you might have expected, I hold this treatment in some­thing less than esteem. Perhaps, I have said to myself, I should just leave my statement in the spring issue as my final words to The CoEvolution Quarterly, and say no more. The trouble is that those were not meant as parting words, and I think parting words should be offered and understood as such. Here, then, are some parting words. First, some objections to various statements in your editorial (p. 72): "Either knowledge," you say, meaning either the success or the failure of space colonization, "is a kind of growing up.' This assumes that all knowledge is good — which, of course, is not true. It is especially not true of knowledge that depends on practical proof or demonstration. Most people, one hopes, would not consider themselves improved by having killed someone, though, having done so, they would know more about it than before. There is no culture I know of that has not held that good people must refuse to know some things. "If we can learn to successfully manage large complex ecosystems in the Space Colonies, that sophistication could help reverse our destructive practices on Earth." Sophisti­cation, like knowledge, is a subject power, is good or bad according to the use that is made of it. Generally speaking, the more technological sophistication we have attained, the more destructive we have become do not think you recognize any of the doubts that now must surround the argument that still more of such sophistication will make less destructive. It is not sophistication that makes people behave responsibly, but generous purpose and moral restrain Peasants in Japan 4,000 years ago had these competences character — and hade technology appropriate to them. 1 was a kind of sophistication, I think, though very different from the kind you are talking about. It was not inherent their technical expertise, but in their willingness to live was strict moral-ecological limits. They did not waste anything There have been other cultures that have had something of this sophistication. Some people in our own culture have something of it now. If such undestructiveness is so clear possible on earth, by what logic shall we look for it in out space? How can we expect to discover it by extravagance when its first principle is thrift? You say that what the space colonists consume or destroy outside Earth's atmosphere will be "taken from no one else They are out of the Earthly 'zero sum game' where one group's gain is another's loss." But do we not live in a uni verse? Is there no ecology of the heavens? You sound like Columbus taking "possession" of the Indies. I think you are only serving up again in space-jargon the ancient fallacy that we are somehow licensed to misbehave when we are away from home. "The experiment of space colonies endangers only the experimenters." Not so. This continues your deliberate evasion of the fact that this project calls for more govern­ment and more government spending. Who do you think going to pay the bill? And do you think people become more free by having their taxes increased? And what is military potential of a space colony? "People want to go not because it may be nicer than what they have on Earth but because it will be harder." This is essentially a warmed-over Marine Corps recruitment advertise ment — the same irresponsible promise, appealing to the sad fantasy: "If I could just get out of this nowhere place I could be a real man. I could show 'em." Let me point out to you, Stewart, that we have not yet, in this country, faced the hardship of the earth. As a people we lack the disciplines either of character or method to live here without destruc­tion. If some of your would-be space recruits want to be sure-enough heroes, let them encapsulate themselves on a strip mine bench and try to make it fit for life by 1990. Let them "extend the biosphere" to the man-made deserts. Space colonization, you say "employs the same nations, the same engineers, manufacturers, contractors, etc." as the arms race. Exactly. And this makes it certain that the worst characteristics of this society will survive in space coloniza-tion. The assumption I am arguing from is that you cannot escape character; you can only change it by changing its understanding of its limits. The arms race mentality is exactly the sort that would most like to re-enfranchise itself by opening "infinite" sources of energy and materials in space. That supposed infinity will be a perfect greenhouse for bad character; look at what mere abundance has already produced. Good character requires the disciplines of finitude. "The Arms Race is a big bore." I have no understanding at all of your willingness to be responsible for this statement. Is space colonization, then, to be a kind of governmental entertainment for those who are bored with war? "To us," said D. H. Lawrence, "heaven switches on daylight, or turns on the showerbath. We little gods are gods of the machine only. It is our highest. Our cosmos is a great engine. And we die of ennui. A subtle dragon stings us in the midst of plenty." "I guess I expect that there will be much more public participation in Space Colonies than there has been in the Space Program so far. Debate such as in this issue." Why has there not been more public participation so far? What reason is there to expect an increase? And what is the force of public debate in the face of the economic and political power of the engineers, manufacturers, and contractors you were talking about? As you may remember, we carried on a protracted debate with those people during the Vietnam War. They stopped somewhat short of having us over for supper. "Now is the time for NASA to encourage people besides engineers to get into the act. The program needs adminis­trators who are not afraid of excellent artists . . ." The fundamental totalitarian impulse is to officialize excellence. Wee already have far too little free science because most scientists. are busy "applying" science for the corporations or the government, which are therefore not afraid of excellent scientists. Almost any conservation fight will reveal very quickly whose hand most of the excellent scientists are eating out of. Now you would like to see excellent artists applying art for NASA. I hope the excellent artists will have the lecency to remain a little hungry. Excellence in art, and science too, requires enough independence so that one an afford to tell the truth. Economic dependence makes xcellence servile. The government's prophet is always a liar. I think you have wandered into a trap — one that is crowded with so many glamorous captives that you think t is some kind of escape. The trap is that a technological “solution" on the scale of this one is bound to create a hole set of new problems, ramifying ahead of foresight, here is a pertinent quote from Mr. Vajk, whose essay ou offer with evident approval: The popular wisdom currently holds that purely technological fixes are 'bad' because each technological 'solution' creates five new and different problems. But the reverse de of the coin is surely just as valid: purely societal fixes e also 'bad' because each societal 'solution' creates five new and different problems! What it is important to recognize here is that it is not relevant whether a 'fix' is societal or technological; what matters is whether or not the consequences of any proposed program have been carefully thought out, and that steps be taken to forestall or minimize any adverse effects on the system and its parts. Mr. Vajk apparently does not recognize that he is talking about a condemnation peculiar to his kind of "scientific" mind. It is a condemnation in two ways: (1) It would commit us to a policy of technological "progress" as a perpetual bargaining against "adverse effects." (2) It would make us perpetually dependent on the "scientific" fore­telling and control of such effects — something that never has worked adequately, and that there is no good reason to believe ever will work adequately. The fact is that when you overthrow the healthful balance of the relationships within a system — biological, political, or otherwise — you start a ramifying sequence of problems (Mr. Vajk's "five" is a figure of speech) that is not subject to prediction, and that can be controlled only by the restoration of balance. If we elect to live by such disruptions then we must resign ourselves to a life of desperate (and risky) solutions: the alternation of crisis and "breakthrough" described by E. F. Schumacher. To say that we can only choose between purely technological solutions and purely societal solutions is a gross oversimplifi­cation, and probably a gross deception as well. To begin with, the distinction itself is counterfeit: it is impossible to differentiate between a society and its technology; there is a mutuality of causation and influence that I do not believe can be convincingly picked apart. All that can be served by this distinction is the self-esteem of a specialist who, for moral convenience, wishes to ignore the social consequences of mechanical "solutions." Solutions that are only technological or only social or only both are necessarily accompanied by adverse effects because even both together fail to provide an adequate context or standard of behavior. Mr. Vajk's false distinction between technology and society rests upon another, implicit distinction that is equally false: he supposes that the human considerations of technology and society can somehow be separated from all of creation that is not human: plants, animals, soils, waters, climates, regions, continents, the world, the universe. The universe of systems within systems survives because it is healthy, it is in balance. Humans survive within it because — only because — they are, so far, more healthy than not. When the whole is considered, then it becomes possible to conceive of solutions of which the standard is not technological and/or social (wealth, power, comfort) but ecological or organic (health). When health or wholeness (not cure) is the standard, then solutions do not create problems. I doubt that either of those terms (ecological or organic) is definitive; I use them for want of a better term. I can better define what I mean by an example: The flush toilet is a social-technological solution to a problem: How to get rid of excrement inoffensively. This solution immediately creates two problems (soil depletion and water pollution) which call for solutions (agricultural chemicals and sewage treatment plants) which create many other problems which call for more solutions which create even more problems, and so on and on. I doubt seriously that Mr. Vajk, if he had the national budget at his disposal, could accurately trace out and forestall or minimize the adverse effects of the flush toilet, much less those of space colonization. By contrast, we have here on our farm an outdoor toilet with a concrete-block chamber underneath, in which, by the addition of sawdust and some effort and care, we compost the excrement of our household and make it fit to return to the soil. We do not do this, the Lord knows, because we want to be wealthy, powerful, and comfortable, but because we want to be healthy, and we know that we cannot be healthy if our soil is unhealthy. It is an ecological or organic solution. It was not prescribed to us by technology or society, but by a need more comprehensive than both. It is less dependent upon a device that upon an understanding or a discipline. And it does not cause a ramifying series of problems- or of problems and solutions madly leapfrogging over the top of each other. It is a solution that causes a ramifying series of solutions. It withholds contaminants from the water, it enriches the ground, it calls for forethought, moral responsibility, physical exertion – and from those solutions other solutions follow. It begins a process of healing, and healing does not cause a problem; it only incidentally causes a “cure”. Healing can properly end only when we are whole, when health joins us to the universe. The whole is a great concordance of solutions. Such solutions, I think, come from the understanding and acceptance of limits. I do not think they can come from dependence on any kind of quantity to which there is “no perceptible or theoretical end.” But that is enough of picking at details. Let me see if I can give you a more concise statement of my objection. It is this: your thinking (and that of O’Neill, Vajk and Co.) on this matter is demonstrably superficial, and its superficiality slides over a political alignment that I find both morally repugnant and personally threatening. The fact is that you cannot advocate space colonization without implicitly advocating an enlargement and enrichment of the corporations. As you are bound to be aware, this project will not be carried out in place of or at the expense of any other government project. It will be added to a budget that is already oppressive. The people will have to pay for it – which is to say that the people of moderate and low income will have to pay for it. To point the issue more exactly, you are proposing to increase the tax burdens of those of your readers who are struggling to implement in craft shops, in communes, and on small farms ideas and hopes that you have supported. These are marginal enterprises, already threatened with being taxed and priced out of existence. In practical terms, your advocacy of space colonization amounts to a betrayal of these modest settlements of the earth.That is why I intend these to be parting words. That, and disappointment. Since 1968 I have followed what you did with that, to me, has been a satisfying interest and friendliness – not to mention a steadily growing sense of indebtedness and gratitude. But now you have set yourself up as what I can only look as a political enemy – not because we do not agree, but because you have now made it plain that you are willing to coerce to my support of an undertaking with which I disagree: though you offer me room in turn my tax money and my citizenship against me. I cannot be tolerant of that. I am not going to associate myself or my work with coercion.

## Scientific Rationality Link

### Scientific rationality is committed to a conception of being which is tied to a technological thinking intent on planetary domination.

Norman Swazo, Philosophy—University of Alaska, Fairbanks, 2002

(Crisis Theory and World Order: Heideggerian Reflections, p.121-2)

The determination of world civilization by Western European thinking, by Western categories of reason, is also scientific in character: "The develop­ment of philosophy into the independent sciences ... is the legitimate com­pletion of philosophy. Philosophy ... has found its place in the scientific attitude of socially active humanity."' In the scientific attitude, calculative thinking (rechnendes Denken) sustains and enhances its power to interpret and to order various regions of being or reality. But all the sciences, natural and social, are positive sciences in the sense that their respective regions or domains are posited by them in advance. In this posit, the beings of these domains are categorized in terms of what and how these beings are. In short, each such science is explicitly or implicitly committed to an ontology, to a conception of being. Indeed, what is significant about the sciences today is that they "are now taking over as their own task what philosophy in the course of its history tried to present in part, and even there only inade­quately, that is, the ontologies of the various regions of beings (nature, his­tory, law, art)."' It is in this sense that the sciences are said to be indepen­dent of philosophy.

Modern science, however, is fundamentally different from earlier sci­ence. Whereas the latter was consistent with philosophy as "the queen of thsciences" in the pursuit of knowledge for its own sake, modern science is operationally oriented in its research enterprise. The fundamental feature of modem science as "the theory of the real," observes Heidegger, is its mathematical project, wherein method "decides in advance what truth we shall seek out in the things," and in such a manner that the thingness of things (the being of beings) is determined axiomatically.' It is this mathematical project that gives evidence of something other reigning in or holding sway over all the sciences. This other is modern technology. Modern science is technological in essence. Accordingly, the legitimate completion of philosophy in terms of (a) its development into the independent sciences and (b)

It is in terms of this latter "fact" that it is meaningful to say that the Western tradition of political philosophy attains its completion in world order thinking.' More specifically, it is in the technocratic conception of world orjc­that this completion finds its place: World order thinking thus (a) manifest, the "triumph" now taking place of Western reason qua scientific-technol(c, cal reason, and (b) thereby establishes the acme of subjectivism which He-, degger has characterized as "the planetary imperialism of technologicali, organized man."' This means that political thought and practice become play etary only insofar as subjectivism first is enhanced in the direction of its acmc of lordship of the Earth, i.e., global governance. In that moment in which the actuality of the first beginning of Western thought is held in tension with the possibility of the second or new beginning, planetary politics and the plane­tary domination of technology belong together. The former is the most intense phenomenal configuration of the latter as an essential formation (Wesensgestalt). Only insofar as the historical moment is in essence that the planetary domination of technology is there 'planetary' politics.

# Impacts

## 2NC Impact Calculus

### err neg on impact calculus—cold evil systematically conceals itself means that you should treat their arguments with extreme skepticism.

Andrew Kimbrell (Executive Director of the International Center for Technology Assessment), 2000, ***Cold Evil: Modern Technology and Ethics***, published by the E.F. Schumacher Society, http://www.smallisbeautiful.org/publications/kimbrell\_00.html

The passionate, pathological, or satanic villainy of yesteryear has been largely replaced by a technified evil which appears cold and impersonal and as faceless as daily life in the technological milieu. Passionate, feverish “hot evil,” though clearly still with us, has been largely usurped by this automatic, systemic “cold evil” in which we all partake, in which we all are complicit. As noted by M. Scott Peck, modern evil is that which “one percent of the people cause, but in which 100 percent of us ordinary sinners participate through our everyday sins.”

In The Enigma of Evil theologian Alfred Schutze sums up this evolution of ethics in our technological times:

Whereas only a few centuries ago evil, so-called, had to be considered pertinent to moral behavior, more specifically the backsliding or weakness of the individual, today it also appears in a manner detached from the individual. It shows up impersonally in arrangements and conditions of social, industrial, technical and general life which, admittedly, are created and tolerated by man. It appears anonymously as injustice, or hardship in an interpersonal realm where nobody seems directly liable or responsible. . . . It has become the grey eminence infiltrating all areas of human existence . . . .

Unfortunately, despite the unprecedented perils it spawns, this “grey eminence,” this cold evil, so intrinsic to the technosphere with its systemic exploitation of nature, culture, and societies goes virtually unrecognized. Our society continues to be deeply concerned about the remaining “evils” brought to us by the natural sphere (e.g.., floods and tornadoes) and nearly obsessed with the acts of personal hot evil endemic to the social sphere. We have utterly failed, however, to register the appropriate recognition and abhorrence of this new form of institutional evil produced by and through the technological system. Our churches, moral leaders, and teachers rarely recognize or speak out against the cold evil that has impersonally devastated so many lives and destroyed and disfigured so much of creation. The tragic result of this failure is that cold evil flourishes, causing ever greater ecocide and genocide even as it remains unnamed and unaddressed.

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## Alienation/NVL Impact

### The technological cocoon causes psychic distancing and apathetic behavior throughout the human race—aff locks in a state of permanent alienation.

Andrew Kimbrell (Executive Director of the International Center for Technology Assessment), 2000, ***Cold Evil: Modern Technology and Ethics***, published by the E.F. Schumacher Society, http://www.smallisbeautiful.org/publications/kimbrell\_00.html

In recent years the technological system has engendered the ultimate in psychic distancing. Whether we are in the automobile, office, or airplane or using the television, computer, or telephone, we are ever surrounded and circumscribed by technologies and technocratic thinking. Our daily work usually involves being cocooned indoors in artificially lit, temperature-controlled, machine-laden office cubicles and locked into the technocratic hierarchies emblematic of corporate and bureaucratic life. As for our non-work hours, the average American spends more than four hours a day in front of the TV and an increasing number of hours using a computer. In the transition between home and work the majority of Americans commute to work alone, inside temperature-controlled cars and utilizing their radios or stereo systems. This absorption of each individual into what I call the “techno-cocoon” profoundly limits our experience and consciousness of anything not part of the technosphere.

As a result of techno-cocooning, huge segments of the population have become autistic in relation to the natural world. Non-human creation is almost completely ignored; when we do notice nature, it is usually viewed on television or glimpsed from a whizzing car, train, or plane. For the short periods when we are in nature, it is usually experienced as technological recreation (re-creation) mediated through the roar of RVs, motor boats, jet skis, snowmobiles, and other power toys.

Our circumscription by technology has also made us autistic in relation to one another, markedly eroding our social lives in recent years. Come twilight time, I often note the startling difference between the streets of suburban northern Virginia, where I currently live, and those of Queens, New York City, where I was raised more than three decades ago. When I was growing up, people talked on the stoops in the evening, kids played games together, babies were walked in strollers—there was a real sense of neighborhood. Now, as I walk my dog each evening along successive suburban cul de sacs, what I see are the glowing blue lights emanating from the various TVs and computers in each home as family members individually cocoon themselves into their favorite night-time techno-entertainment or work. This technologically engendered isolation and collapse of community are not merely anecdotal. Author and scholar Robert D. Putnam, in his aptly titled study and later book Bowling Alone, carefully documents the precipitous decline in all forms of civic participation during recent decades.

Many argue that rather than eroding our social lives, techno-cocooning actually expands the scope of our interaction with others. After all, people are making contacts at an astonishing rate. We are constantly communicating with others by telephone, e-mail, and “chat rooms” as well as catching up with the rest of the world via TV, radio, and the Internet. The obvious problem is that all these contacts are mediated through technology and its ever-present distancing. All of the human connections in the techno-cocoon are “long-distance” ones. There is little or no human-to-human (face-to-face) communication taking place. This creates a tragi-comic paradox for those living in the techno-cocoon: in a world of ever expanding, near universal communications, we grow ever more alone, locked into the noisy solitude of the cocoon. As activist Beth Burroughs quips, “Sex on the Internet is mostly typing.”

Ultimately, techno-cocooning makes impossible the “acts of will and imagination” that Weizenbaum so aptly calls for to restore ethics to our society and to end cold-evil distancing. Recovering a sense of ethics is permanently precluded by our circumscription into the perpetual distancing of the cocoon. Passively and with little awareness, we abandon our minds and wills to the convenience, power, and amusement offered by the technological cocoon. In fact, the technological environment becomes to us as water is to fish; we do not consciously recognize that we are enclosed in a cocoon. We do not experience the ongoing devastation of nature, society, or even our own spirit.

As we slip into near total technological autism, we cannot hear the great machines as they level the world’s forests and dig up and destroy the earth. We cannot hear the cries of animals being abused, slaughtered, or harassed to extinction. We cannot see the suffering of our fellow humans, whether they are the homeless we step over to reach our cars and offices or even despondent members of our own family locked into nearby, but utterly separate, cocoons. We do not recognize the banalization and ultimate death of our own will and imagination as we “amuse ourselves to death.” All in all, the techno-cocoon provides a kind of final anatomy of cold evil, creating a continuous buffer between each person and the many horrific wrongs of our technological system, sins in which we are all complicit and yet blissfully unaware of our complicity. We sit in our cocoons, fully alienated from nature and one another while fully entranced by and engaged with machines. This mass autism is surely unprecedented in both the scope and extent of its alienating impacts. We literally are no longer present to participate in the Creation, the social world, or the spiritual world. The diremption caused by cold evil is complete. We are deprived of the very relationships required for our healing.

## Environment Impact\*\* 1/6

### Technology leads to dangerous exploitation of nature and causes global biosphere collapse.

Egbert Schuurman (Professor, Department of Christian Philosophy, Technological Universities of Delft and Eindhoven and the Agricultural University of Wageningen) 2002, published by the Lily Fellows Program, [**http://www.nd.edu/~ecoltheo/text\_schuurman.htm**](http://www.nd.edu/~ecoltheo/text_schuurman.htm)

In the present culture the shadowy sides of the scientific-technological development becomes clearer. The technological control motive penetrates and directs the culture. It permeates many, if not all, aspects of society and infiltrates the human experiential world as an matter of course. Culture is thereby conveniently reduced to that which technology, science and economy can offer. Not only is man threatened by overrating technology and the economy, but nature is also exploited and human society disintegrates. There is talk of threats from nuclear weapons or radioactive waste from nuclear power plants, of the exhaustion of natural resources, of the extinction of many plant and animal species, deforestation, siltation and desertification - with loss of food and rich soils - the depletion of the ozone layer, the emission of exhaust gases with far-reaching consequences for life and climate, the rapid and large-scale destruction and pollution of nature, and the accelerating threat of the over-estimation of genetic manipulation techniques, with as offshoot the technical possibility the cloning and genetic manipulation of humans, etc. Finally the latest information and communication techniques suggest ample information and communication. But in reality there is less face-to-face contact between people leading to mutual alienation, loneliness and social disintegration. Western man has, with the passage of time, subjected himself to limitless technical manipulation and economic exploitation of reality, but with a massive threat of the destruction of the very basis of human existence. The current technological development threatens the sustainability of the natural environment and of the biosphere. The relevant values are simply ignored.

Environment Impact 2/6

### Our overuse age of the Earth’s resources will lead to an imbalance of CO2 that will destoy life on Earth

Munevar ’10 (Gonzalo Munevar professor in the School of Humanities, Social Sciences and Communication at Lawrence Technological University in Southfield, Michigan, and a former student of the philosopher of science Paul K.) ***Philosophy of Space Exploration*** http://philosophyofspaceexploration.blogspot.com/2010/03/standard-case-for-exploration.html

In the truly long run, but long before the sun becomes a red giant, the Earth’s thermostat is likely to malfunction. It was Lovelock himself who realized that Gaia would eventually fail as the planet’s self-regulatory mechanism. In a 1982 article with M. Whitfield, he argued that life was steadily removing CO2 from the atmosphere – it actually has been doing so for the last 400 million years, when plants conquered the land – and in about 100 million years the level of CO2 will go below 150 parts per million (ppm)of air. This level is important because most plants require at least that much atmospheric CO2 to survive. Newer forms of plants – grass, palm trees – use slightly different mechanisms for photosynthesis and can go well below the 150 ppm. The flora of the future, then, will have a very different view: gone will be the apple orchards and the rose gardens, replaced by new and exotic varieties of plants. But, eventually, the level of atmospheric CO2 will go below 10 ppm and photosynthesis will come to an end altogether. More recent studies following on Lovelock and Whitfield’s footsteps have revised their estimate to between 500 million and a billion years. The loss of plants will be a catastrophe for animals, obviously, but also for marine life, since it depends so much on the run-off of the soil nutrients that result from the presence of plants. Those few animals that can manage to survive will be obliterated in a few million years by the rising temperatures, for eventually significant levels of atmospheric CO2 will rise in the atmosphere by geological processes but will no longer be kept in check by photosynthetic organisms. Several scenarios have been proposed to explain what will happen after that point. To me it seems simple to imagine that a highly increased level of solar energy coupled with high levels of atmospheric CO2 will quickly lead to the sort of runaway greenhouse effect that vaporized Venus’ oceans. It is possible, nonetheless, that Lovelock and those who refined his prediction of doom have not given Gaia enough credit. After all, just as cyanobacteria were able to survive in small, protected pockets the flooding of the planet by oxygen, a few plants may just barely survive near vents that outgas CO2, lie low until the CO2 rises again, and then explode once more through ocean and land. Other photosynthetic life on land and in the ocean will thrive also, as their ancestors now do, and together with the plants will begin to regulate the climate and, literally, give the Earth a new lease on life. Of course, this new, though not improved, version of the planetary thermostat gives even less reassurance than the previous one. Indeed, it turns out that the thermostat has allowed the entire planet to become a ball of ice once or twice in the eons before the Cambrian explosion. We cannot escape the need to reach a better understanding of our global environment.

Environment Impact 3/6

### Technological thinking perverts ethics and devastates the environment.

Egbert Schuurman (Professor, Department of Christian Philosophy, Technological Universities of Delft and Eindhoven and the Agricultural University of Wageningen) 2002, published by the Lily Fellows Program, [**http://www.nd.edu/~ecoltheo/text\_schuurman.htm**](http://www.nd.edu/~ecoltheo/text_schuurman.htm)

The technological worldview not only causes specific problems, but is mostly also decisive for the ethical solutions sought. By means of the technological worldview there is coherence in the current approach. Ethics finds difficulty in freeing itself from the technological system. The current recipe for the treatment of technological problems amounts to attempts to investigate 'cases' in order to develop rules of thumb for the future. Man seldom goes back to the roots of the problem and to the connection between problems. This results in the frequent trading of one problem for another, because people are caught in a type of technological labyrinth. The current ethics of technology prevents them from taking risks by acting in a controlled and cautious way. I have once called this the technological ethics. Ethics becomes a technique because people attempt to streamline and guide technological development. A 'technological control perspective' then dominates the ethics of technology. People limit themselves to unfavorable symptoms of an otherwise boundless developing scientific-technological control. The problems in technological development is somewhat softened by this ethics. In a certain sense this state of affairs confirms - following Habermas - what can be termed the ideology of technology. The ideology, inspired by the Enlightenment, implicates viewpoint-restricting limitations. Fundamental or essential questions are excluded, for instance questions concerning the background to technological development, questions regarding the origin, meaning, motives, values and norms for technology. I would like to call this partial nihilism. Changes in the development, the search for alternatives or even rejection are rarely accounted. In a certain sense people are entangled in technology, which they try to untangle without providing a well-founded direction. This imprisonment or adjustment is reinforced by ICT. In the process of adjustment it becomes increasingly difficult to adopt a specific vision of reality, from a certain picture of reality, entailing other motives, values and norms. The technological or industrial and the post-industrial society are permeated with strong technological values, attitudes and ways of thinking. The main motive in this fundamental ethical attitude is that of striving for power over reality. This power has the pursuance of technical artificiality as its dominating value. The concomitant implicit values are those of being lord and master of man, the human passion for control, technological advancement, the (economic) self-interest and, in coherence herewith, growing consumption as added-value: that is to say, benefit for all. No attention is given to the ecological and social context values. At most it subsequently receives political attention. The norms that follow from the values of the technological worldview are effectiveness, normalization or standardization, efficiency, success, maximum profit, with no or insufficient attention given to the cost to humanity, society and the environment. We continually encounter more problems in which the technological worldview and its befitting ethics fail us. This is clear from problems concerned with sustainability. Sustainability aims to comply with the requirements of the present generation, without possibly jeopardizing the ability of coming generations to fulfill their needs. Why is sustainability under pressure? The commanding technological worldview dominates the current economy via a control model, which from the start, forces one-sided growth. In this development sustainability cannot be reached. In the context of environmental problems we may advance one step by means of environmental technology, but this step is nullified in subsequent development because the step is taken within the framework of a materialistic economy. The technological worldview also prevents abatement of the growing concern over climatic change. Our way of dealing with creation is preventing the gaining of a new perspective within which these problems can be lessened. Werner Heisenberg has drawn an impressive picture of this situation. "With the seeming limitless expansion of material power man has arrived in a situation of a captain whose ship was so well constructed from steel and iron that the needle of his compass reacted only on the iron mass of the ship and no longer pointed to the North. With such a ship the correct direction can no longer be established, it simply circles around or is at the mercy of wind and currents" (Werner Heisenberg, Das Naturbild der Heutigen Physik, rde 8, p.22). We have abandoned our culture in favour of this lack of orientation. Man undoubtedly has received power, but the threatening devastation increases. Technological advancement per se can turn itself against man and his environment. This threatening frequently hides behind the desired superiority of technological effectiveness and economic efficiency. The ethical reduction contained therein is scarcely recognized. We saw that the current cultural view is fed by a technological expectation of salvation and is mentally and spiritually oriented to technology itself. In addition real questions or a quest for meaning are excluded and reality becomes a reality to be controlled. A clue is the picture of a continuously self-empowering technological construction in which reality is not real but has a merely instrumental value. Thus plants and animals are largely seen in the light of their material benefit to humans through science and technology. Even man himself is increasingly seen as 'makeable'. In addition, the needle of the compass - to return to that picture once more - points only to man and his technology. Technological man appears to be the last point of orientation.

Environment Impact 4/6

### The industrial technology kills the ecosystem and gives way to a new form of useless algae

Munevar ’10 (Gonzalo Munevar professor in the School of Humanities, Social Sciences and Communication at Lawrence Technological University in Southfield, Michigan, and a former student of the philosopher of science Paul K.) ***Philosophy of Space Exploration*** http://philosophyofspaceexploration.blogspot.com/2010/03/standard-case-for-exploration.html

Still, the most Lovelock can conclude is that life on this planet is very resilient. But after this point is acknowledged, we still have much reason for concern. For example, he points out that the present industrial pollution of the planet cannot compare with the massive poisoning of the atmosphere by oxygen a billion years ago. When the free hydrogen in the atmosphere had been used up or escaped into space, bacteria began to withdraw it from H2O in photosynthesis. The waste product, oxygen, was extremely toxic to most of the bacteria that dominated the Earth in those days. Sure enough, life overcame this threat by developing organisms that used oxygen. But we should find no comfort in learning that those evolutionary solutions led to the replacement of one kind of life by another. If we foul up our own planet, life may survive – but we might not. Industrial waste fertilizes the water in our lakes and rivers and leads to the rapid growth of algae. This kills the fish, the frogs, and the water lilies. It is not much consolation to know that upon the ruins of the present order life will adapt and produce a new kingdom of scum. The pessimists urge us to think about the Earth in the long run, and particularly about the drastic changes that we may bring about in the next few centuries because of our use of fossil fuels. But we may also wish to put their own concerns in the context of the truly long-run, not just centuries, but thousands of years, and then tens and hundreds of millions of years.

Environment Impact 5/6

### Human dependence on technology causes the agricultural and social worlds to be depleted.

Andrew Kimbrell (Executive Director of the International Center for Technology Assessment), 2000, ***Cold Evil: Modern Technology and Ethics***, published by the E.F. Schumacher Society, http://www.smallisbeautiful.org/publications/kimbrell\_00.html

Further, living fully in the technosphere is now seen as the ultimate goal of human endeavor. So much so, that we patronizingly refer to societies still living in natural or social milieus as “undeveloped,” no matter how sustainable their relation to the natural world or how sophisticated their social organization, arts, or philosophic and religious beliefs. A central and disturbing question is: What happens to the natural and social spheres when they are subsumed into (i.e., developed into) the technosphere? In The Technological System Ellul gives us the chilling answer:

The technological environment could not exist if it did not find its support and resources in the natural world (nature and society). But it eliminates the natural as a milieu, supplanting it while wasting and exhausting it. . . . Technology acts upon the past environments by dividing and fracturing the natural and cultural realities. That implies destructuring the past milieu as an environment and exploiting it to such an extreme that nothing is left of it. For example, the well known “depletion” of natural resources results not only from abuse by the technologies, but from the very establishment of technology as man’s new milieu.

Environment Impact 6/6

### Technology destroys the environment, the economy, and instigates the spread of disease and destroy agriculture; this eliminates our sustainability.

Egbert Schuurman (Professor, Department of Christian Philosophy, Technological Universities of Delft and Eindhoven and the Agricultural University of Wageningen) 2002, published by the Lily Fellows Program, [**http://www.nd.edu/~ecoltheo/text\_schuurman.htm**](http://www.nd.edu/~ecoltheo/text_schuurman.htm)

Explanation: The technological world picture summons a technological expectation of salvation that marks economic development. Because technological development and economic growth mutually miss every opportunity for equitable distribution, poverty and hunger are expanding in the Third World. The growth in trade in between the USA, Europe and Japan is still increasing, while it is receding amongst other countries. The four leaders in the new economy have a greater income per annum than 48 poor countries. The increasing concentration of economic power has, apart from many advantages, also numerous disadvantages. In agriculture we experience loss of fertile soils and an increase in new pathogens. Irresponsible genetic manipulation intensifies this process, while people aim for the opposite. Loss of biodiversity is dangerous for sustainable agriculture in future. Therefore, tenableness and sustainability come into question.

## Exclusion Impact

### Technology promotes a movement of social division, leading to countless instances of racism, prejudice, eugenics, and discrimination.

Claude Karnoouh, visiting professor at the National University of Arts Bucharest, 2002

“Technology and Destiny” Telos 124 (Summer 2002): 71-94.

The frantic quest for infinite knowledge seeks to reveal the ultimate secrets of nature (including man), in order to substitute it with artifacts (clones). Within the context of what is already technically possible, social reality could be organized into different genetically predefined groups. Each one would be concerned with fulfilling the programs set by the mas- ters of economic knowledge and power.28 Each group would be subjected to regulations and assisted by brain implants connected to detect even the smallest deviations from the norm, under the vigilant eyes of video cameras and other computers constantly spying on tele- phone transmissions and whatever travels through the Internet. Are not the most advanced research programs in the US seeking to connect human brains to computers? “A completely paralyzed man can use a computer only through the power of his thought. Thanks to cerebral implants, 21st century man could increase his natural capacities, understand languages he had never learned, instantaneously mobilize vast sources of informa- tion, and no longer see the difference between his own body and his ‘external’ organs.”29 This would be an absolute form of ***extasis***, of human identification with what is totally external, even though this exteriority is the product of man’s imagination. It would be the complete triumph of the *Gestell*. The results of this research seem as promising as its director, the American neurologist Philip Kennedy, is wobbly: “The medical applica- tions of our research are immense, but I prefer not to think about them, because I am a little scared.”30 Others are already rejoicing: “Electronics would increase the power of the brain much like the hammer has increased the power of the arm.”31 But they forget to note that these elec- tronic implants “create, to different degrees, new problems with respect to privacy and the confidentiality of personal data. It seems as if permanent virtual communities are about to emerge, whose members would receive and emit huge amounts of private data to be duplicated and spread every- where.”32 Simpletons dream of more freedom: “We cannot wait to hear the noise of the drill going through our skulls to install electronic devices.”33 They are prisoners of a prison with no bars, set up by biology, cybernetics, and the virtuality of the great network of global information. This is the program of an implacable fate: the elementary particles of an anthropologically renewed society.

## Kritik Turns Case 1/2

### Our western thought about technology is destined to fail—their modest gains are rolled back

Munevar ’10 (Gonzalo Munevar professor in the School of Humanities, Social Sciences and Communication at Lawrence Technological University in Southfield, Michigan, and a former student of the philosopher of science Paul K.) Philosophy of Space Exploration http://philosophyofspaceexploration.blogspot.com/2010/03/standard-case-for-exploration.html

But perhaps there is a more sympathetic reading of Berry's position. What he may have in mind is that the experience of the (partial) closing of the earthly frontiers is enough to show that Western man's approach to nature is inherently unwise, and thus that its extension through space exploration is destined to fail. On what grounds should we trust O'Neill's grandiose plans for gigantic solar power satellites, let alone those for artificial worlds (his space colonies)? Surely projects of such magnitude cannot be made plausible by mere theoretical proposals. How can we be assured that no essential detail has been left out?[6] The most straightforward way to resolve this issue might be to demonstrate the feasibility of increasingly more complex stages of these projects. O'Neill would have been quite agreeable to this suggestion, but Berry and many other ideological critics would probably resist it. The reason for resisting it is that to undertake such demonstrations we first need a large commitment to space exploration, for the demonstrations require that we build and operate very large structures in space. But given the poor record of big technology, Berry would say, why should we extend it the benefit of the doubt on such a scale?

Kritik Turns Case 2/2

### Modern technology is destroying its main purpose (to serve as a commodity) and is evolving into a radical problem for humanity by wearing away at the profoundness of destruction.

Claude Karnoouh, visiting professor at the National University of Arts Bucharest, 2002

“Technology and Destiny” Telos 124 (Summer 2002): 71-94.

What characterizes modern revolutions is that they seek to speed up the development of modernity. They always seek to uproot people further, to destroy what scientific knowledge considers outdated, doomed to the “trashcan of history.” By promising a “future happiness,” modernity justifies the destruction of parts of life it has helped build. As soon as there is some stability, when there are apparent improvements in everyday life, the price of the immense destruction that has produced them is forgotten. This amnesia allows humanists to claim that tomorrow will never be that way again. Also, those who have used scientific knowledge for evil purposes are condemned retroactively, with the present exonerated of all potential consequences. These are naïve or cynical visions, which rule out evil as a possible outcome of today’s deployment of techno-science. A new cycle may thus begin out of various possibilities, some of them more violent than others, whose actors, paradoxically, pretend to disconnect themselves morally, feeding the most captivating anachronistic illusions. Those who plead for soft forms of development (and there are many) only obscure this abysmal problem. They cannot suggest the possibility of soft development except by capitalizing on their knowledge, i.e., by inventing new products that will eventually be transformed into commodities. By so acting, they pave the way for an “extension of the domain of the struggle,”15 if by struggle one understands the frantic competition necessary to the machin- ery that unites capital, scientific research, and the market. Thus, those “good” producers, those “good” bio-agricultural merchants, cannot avoid technological development, even if they wanted to give it the taste of organic honey. A new expression has been coined in all seriousness: “to make agriculture and traditional food with modern means.” A civilization of leisure — a postmodern form of the commodification of free time — demonstrates that the commodification of earlier domains has remained under the spell of what Heidegger called the *Gestell* (the recasting every- thing in terms of a generalized framework) typical of the very essence of technology. The development of agriculture, of nutritional supplements, and of distribution systems based on an industrial logic, and the rationalization of the production process in order to maximize profits engenders struggles ever more radical to stem the tendential falling rate of profit. This crisis — both biological (contaminated blood, mad cow disease, chicken laced with dioxin) and economic (unemployment, and the ruin of industrial farms created through technological means as well as trade- union and agricultural policies) — demonstrates the resistance of life to what is fundamentally foreign to it, i.e., techno-industrial and logico-scien- tific constraints. How could one think that the so-called “organic agricul- ture” could escape the limitations imposed by profitability, without which modernity would be condemned to economic stagnation, i.e., death?

## Mass Killing Impact 1/2

### Pushing technology beyond its limit creates a system in which the government has the ability to conduct atrocities

Munevar ’10 (Gonzalo Munevar professor in the School of Humanities, Social Sciences and Communication at Lawrence Technological University in Southfield, Michigan, and a former student of the philosopher of science Paul K.) ***Philosophy of Space Exploration***

http://philosophyofspaceexploration.blogspot.com/2010/03/standard-case-for-exploration.html

The ideological critics thus find little hope in the attempt to push science and technology beyond the confines of our natural habitat. Nor is the search for truth enough of a warrant. As Rousseau put it: "What dangers there are! What false paths when investigating the sciences! How many errors, a thousand times more dangerous than the truth is useful, must be surmounted in order to reach the truth? The disadvantage is evident, for falsity is susceptible of infinite combinations, whereas truth has only one form." Wisdom dictates, then, neither investigation nor exploration, but living in harmony with nature. An extreme fringe of ideological critics finds space exploration not just unwise, but positively evil. They fear, for instance, that a satanical science and technology will lead to the destruction of the human race at the hands of terrifying weapons. The Mercury Program may have sent astronauts on voyages of discovery, but its Atlas rockets became also the first intercontinental ballistic missiles (ICBMs) poised to destroy human lives by the hundreds of millions. Some writers, such as Lewis Mumford, hold that big science and technology magnify some of the worst human traits: Not only have men wrought a brutal conquest of nature in "the effecting of all things possible" (in the words of that early promoter of science, the English philosopher Francis Bacon), but the social "megamachine" they have produced has developed means for the complete extermination of the race. Others like C.S. Lewis think that space exploration is a manifestation of unchecked pride and power. These critics argue that we have no right to pollute the heavens with our fallen race. Only a return to a more spiritual way of life can save us from a degrading future.

Mass Killing Impact 2/2

### Techno economic innovations root cause to all modern warfare and destruction

Claude Karnoouh, visiting professor at the National University of Arts Bucharest, 2002

“Technology and Destiny” Telos 124 (Summer 2002): 71-94.

It should not be forgotten that war is a function of techno-economic progress. Despite all the evidence, humanists still refuse to admit it. They argue that only totalitarian regimes misuse science and technology. They act as if, since the Enlightenment, an ethical imperative dominates politi- cal systems as well as institutional and legislative tools, which requires the peaceful settlement of conflicts. But war is a formidable instrument of production and techno-scientific innovation.23 It is not only a violent confrontation between peoples (war being as old as their presence on earth); since the invention of artillery, it also has been part of the endless process of scientific invention. It is a pawn of power, because it is com- mitted to the creation of more effective means of killing, of destroying what took centuries to build. This scientificity of war has erased ancient notions of courage and bravery and replaced them with industrial con- cepts that promote an ever-growing need for new arms, new munitions, new buildings better able to resist gunfire, etc., i.e., a programmatic calculus.24 Today, the power of mobilized human masses has been substi- tuted by the production of “intelligent” weapons and of more sophisticated tools in general. This implies new needs, new management, and a multi- tude of ever more rationalized means of transportation. It also implies an unprecedented progress in medicine, surgery, psychiatry, etc.25 War con- stantly innovates,26 and within this process of mass destruction there are even more gigantic plans for reconstruction. War (or its preparation, as in the case of the Cold War, which lasted 45 years) has become a decisive factor in the deployment of techno-science and capital. In other words, war requires a rationalization similar to that involved in the most complex kinds of industrial production. To consider war the result of a degenerated use of science or as some kind of social pathology, as humanist philistines do, is metaphysical tomfoolery. When all is said and done, it is an escape without any consideration of reality, as if the latter was nothing but another illusion. As for “realist” strategists, they proclaim the end of metaphysics. Consider the following, written in 1961 by Herman Kahn, an American expert on nuclear war: “Objective examinations show that human trage- dies (*sic*) would enormously increase in the world [after nuclear war] but that this increase would not exclude normal and happy existence for the majority of the survivors and their descendents. The embryonic deaths would not have but relative importance . . . . It is probable that, in the first generation, there would be around five million of these cases and about a hundred million in the next generations. I consider this last figure as not weighing too much in the balance . . . . Nonetheless, humanity is so fecund that even a small diminution of its fertility is not a reason to be taken particularly seriously, not even by the individual affected.”27

## Morality/No Value to Life Impact

### The power given by technology takes away an individual’s morals, ethics, and values.

Andrew Kimbrell (Executive Director of the International Center for Technology Assessment), 2000, ***Cold Evil: Modern Technology and Ethics***, published by the E.F. Schumacher Society, http://www.smallisbeautiful.org/publications/kimbrell\_00.html

Even as it exploits, wastes, and exhausts our natural and social resources, the technosphere provides us with our means of production and survival. We utterly depend on our technological system for sustenance, and it provides us with the basis of our collective and individual dreams and desires—from visions of an endless array of products to our hopes for new techniques that will cure all disease, feed the world, and conquer the solar system. Clearly, living in the technosphere raises very different ethical questions and responsibilities than did the past milieus of human existence. We find ourselves not only in a novel physical environment, the technological system, but also in a new ethical landscape. For technology is never neutral. Whether it’s a hammer or a nuclear bomb or a piano or genetic engineering, technology always represents power, an extension of human power. And the question always arises, Is that power appropriate. Simply put, when power is inappropriate, evil results.

Understanding the full ethical revolution brought to us by the technosphere is beyond both my ken and the boundaries of this lecture; however, I believe we can now see a dramatic dichotomy between evil as it occurred in the social era of human history and evil as incarnated in the current technological sphere. When humanity was still in the social sphere, ethics tended to be a matter for the individual. Right and wrong were choices each of us could make. Evil thrived on the emotionally unstable, vulnerable, or violent individual or on those who were confused or misguided, and it had a tendency toward the irrational. By contrast, the technosphere has created a technological, institutional plane on which “the system” effectuates evil in circumstances where individuals and their emotions, ethics, or morals play no significant role.

## No Value to Life Impact—AT: Case Outweighs

### Freedom is impossible in the world of the affirmative—their impact scenarios are constructions created to justify their infatuation with their power to “fix” the world.

Egbert Schuurman (Professor, Department of Christian Philosophy, Technological Universities of Delft and Eindhoven and the Agricultural University of Wageningen) 2002, published by the Lily Fellows Program, [**http://www.nd.edu/~ecoltheo/text\_schuurman.htm**](http://www.nd.edu/~ecoltheo/text_schuurman.htm)

I have shown in miscellaneous publications - with reference to reputable philosophers, that, under the influence of the Renaissance and in particular the Enlightenment, modern philosophy and modern thinking became increasingly a scientific-technological mentality. Man as ' lord and master' - a term used by Descartes, the father of modern philosophy - articulates technological rationality by which the natural sciences and the technical sciences are used as instruments under the pretension that everything can be manipulated in order to solve problems - both old and new - relating to man and culture. It was especially the ideas of Frances Bacon that kept alive the utopia which promised a return to the lost paradise by means of scientific-technological advance.

The technological control mentality originates in man's pretence of being autonomous. He desires to strengthen his freedom by means of scientific-technological command. All problems are considered to be solvable by this mentality. In a sense only those problems are recognized that can be solved through science and technology. All questions relating to spiritual reflection and religious problems are ruled out. The technological culture therefore is accompanied by secularization, with spiritual emptiness on a scale previously unheard of. We could say that, behind the mask of modern technology and of autonomous freedom, a spiritual emptiness hides. The situation is made more serious by the fact that this is not recognized. The result is that culture is wholly saturated by technological way of thinking or the technological mentality. Society is experiencing it's influence in many sectors. The whole complex of science, technology and economy is being influenced by an over-excited technological spirit.

This causes problems. Let me provide two examples: In biotechnology, justice is mostly not done to life in advance. The technological model of life disregards life. Small wonder that genetic manipulation has to deal with so many problems. Another actual example: sometimes people think that the danger of the Internet is the so-called pollution of information and that the ethical problems can be solved by a 'clean' net. Yet, here also certain technological thought processes force behavioral pattern which reduce the fullness of life. The thought pattern built into computers influences the uncritical user. He will increasingly use the same mental patterns. When man is occupied with technology day in and day out, it will eventually conquer his heart. Therefore, also spiritually, man is becoming more technological, making him deaf and insensitive to other dimensions. Thus: more information, less meaning; more interactions, less contact; more information, less wisdom and depth. In other words, more communication, less spirituality. The overuse of material technology isolates man spiritually. Stated once more: the advance of the technological mentality is in our time leading to growing secularization.

## No Value To Life Impact

### Technology has turned human beings into a resource—means we can only understand ourselves as objects

Mitchell ’05 (Post-Doctoral Fellow in the Humanities at Stanford University where he teaches in the Philosophy and German Studies departments) ***Heidegger and Terrorism***

The will that dominates the modern era is personal, even if, as is the case with Leibniz, the ends of that will are not completely known by the self at any particular time. Nonetheless, the will still expresses the individuality of the person and one’s perspective. In the era of technology, the will that comes to the fore is no longer the will of an individual, but a will without a restricted human agenda. In fact, the will in question no longer wills an object outside of itself, but only wills itself; it is a will to will. In this way, the will need never leave itself. This self-aﬃrming character of the will allows the will an independence from the human. Manifest in the very workings of technology is a will to power, which for Heidegger is always a will to will. Because the will to will has no goal outside of it, its willing is goalless and endless. The human is just another piece of a standing-reserve that circulates without purpose. Actually, things have not yet gone so far; the human still retains a distinction, however illusive, as “the most important raw material” (GA7: 88/EP, 104). This importance has nothing to do with the personal willing of conditional goals, as Heidegger immediately makes clear, “The human is the ‘most important raw material’ because he remains the subject of all consumption, so much so that he lets his will go forth unconditionally in this process and simultaneously becomes the ‘object’ of the abandonment of being” (GA7: 88/EP, 104). Unconditioned willing transcends the merely human will, which satisﬁes itself with restricted goals and accomplishments. Unconditioned willing makes of the subject an agent of the abandonment of being, one whose task it is to objectify everything. The more the world comes to stand at the will’s disposal, the more that being retreats from it. The human will is allied with the technological will to will.

## Nuclear War Impact

### Technological cold evil relies ethically distances us from the effects of our actions—nuclear violence is inevitable in this world free of personal responsibility.

Andrew Kimbrell (Executive Director of the International Center for Technology Assessment), 2000, ***Cold Evil: Modern Technology and Ethics***, published by the E.F. Schumacher Society, http://www.smallisbeautiful.org/publications/kimbrell\_00.html

A synonym for the word “cold” is “distant,” and a vital component in the success of modern cold evil is the physical and psychic distance that technology creates between the doer and the deed. This technological distancing is, of course, the key to “the pilot’s dilemma” that so captivated me many years ago. Using the technologies of air flight, electronic targeting, and bombs, the pilot could kill without compunction at 20,000 feet, his victims now abstracted as “coordinates,” their humanity virtually invisible. Yet once he had been shot down, the technology’s physical and emotional distance was removed. In his provocative book Faces of the Enemy, psychologist Sam Keen quotes a pilot who served in Vietnam and who directly experienced “the pilot’s dilemma.” “I was OK so long as I was conducting high altitude missions, but when I had to come in and strafe and I could see the faces of the people I was killing, I got very disturbed.” Technological distance creates the faceless quality so emblematic of cold evil. Computer scientist and author Joseph Weizenbaum noted this distancing and the ethical task it creates when he critiqued a massive bombing strategy outlined by a Department of Defense science panel during the Vietnam war: These men were able to give the counsel they gave because they were operating at an enormous psychological distance from the people who would be maimed and killed by the weapons systems that would result from the ideas they communicated to their sponsors. The lesson, therefore, is that the scientist and technologist must, by acts of will and imagination, actively strive to reduce such psychological distances, to counter the forces that tend to remove him from the consequences of his actions. (“Closing the Distance” in Visions of Technology: A Century of Vital Debate About Machines, Systems and the Human World, ed. Richard Rhodes) Needless to say, our military scientists and technologists have yet to demonstrate the “acts of will and imagination” called for by Weizenbaum to breach psychological distancing. Far from it. During the Persian Gulf War enemy troops and houses were viewed by pilots as so many blips on computer screens, blips which disappeared after a “hit”—a kind of desert Nintendo. Television stations such as CNN seemed particularly enamored with the images of the computer-generated “hits.” It was not until long after the war that we learned about significant human “collateral damage” caused by the weapons’ surprisingly large margin of error. Nuclear war perhaps best exemplifies the facelessness and technological distancing that confounds traditional ethics and creates the cold-evil scenario. The nuclear annihilation of much of the human race is designed to take place thousands of miles away, through aptly named inter-continental ballistic missiles. These weapons, capable of destroying life as we know it, are to be launched half a world away from the intended targets. To compound the physical and psychic distancing and further deflect responsibility, the missiles will not even be launched by humans but rather by technology—computers programmed to assess the threat and make the “cold” launch decision. When contemplating cold evil’s military incarnations we see not only the ethical consequences of distancing but also the critical role of scale. Kirkpatrick Sale has written eloquently in Human Scale about the crucial role scale plays in all aspects of contemporary life. It is also an essential problem of modern ethics. When technology allows us to deliver weapons (or energy, food, education, etc.) on a tremendous scale, personal contact and responsibility are lost. Imagine if one had to kill millions of people one at a time with a sword. Contrast this with allowing a computer to annihilate the same number of people with a few nuclear bombs. The sword, however destructive, is a human-scale weapon that has a very circumscribed ability to kill. By contrast, the nuclear bomb’s scale is almost unlimited and its consequences beyond individual or even social control.

## Totalitarianism Impact

### Technology would ultimately lead to a world consumed by nuclear nihilism due to governmental totalitarianism

Claude Karnoouh, visiting professor at the National University of Arts Bucharest, 2002

“Technology and Destiny” Telos 124 (Summer 2002): 71-94.

The model of the future global totalitarian state is a nuclear one, which Huxley described in the following terms: “a single supra-national totalitarianism, generated by the social chaos resulting from rapid and general technological progress and the atomic revolution in particular, and developing, under the need for efficiency and stability, the form of a wel- fare-tyranny of Utopia.” In order to comprehend the implications of this model and its implementation, one needs only to add to the global danger posed by the nuclear revolution, those posed by the cybernetic and biolog- ical revolutions. Huxley further elaborated this analysis twelve years later. This is what he writes about modern techno-science in *Brave New World Revisited*,51 which today is totally forgotten: “modern technology has led to the concentration of economic and political power as well as the emergence of a controlled society (with ferocity in totalitarian states, courtesy and discretion in democracies) by big business and big government.”52 After communism imploded, the most accurate model was no longer Orwells *1984*, but *Brave New World*. Today, when there are no more ene- mies embodying “absolute evil,” or alternative models able to raise peo- ple’s hopes, the capitalism of mass democracies is much less courteous and discrete toward its citizens, revealing a brutality that was supposed to have disappeared after the second half of the 20th century or to have been relegated to Third World countries.

# Alt and A2

## Alternative—Must Help Least Well Off

### Instead of spending incredulous amounts of money searching for alien life we should spend that money in humanitarian aid for underdeveloped countries

Munevar ’10 (Gonzalo Munevar professor in the School of Humanities, Social Sciences and Communication at Lawrence Technological University in Southfield, Michigan, and a former student of the philosopher of science Paul K.) ***Philosophy of Space Exploration*** http://philosophyofspaceexploration.blogspot.com/2010/03/standard-case-for-exploration.html

The typical social critics oppose space exploration on what we may call humanitarian grounds. They cannot justify spending billions of dollars to find out what the Moon is made of at a time when hunger and poverty are rampant on our own planet. As they see it, space exploration takes money, resources, and talent away from helping people in need and from improving the quality of life for everybody. The human condition, one might quip, ought to take precedence over the condition of alien atmospheres and surfaces. Unlike their ideological counterparts, some of these social critics may even think that space exploration is a good thing. They may agree that producing knowledge and satisfying man's intellectual curiosity and thirst for adventure are all worthwhile goals. But they may also think that opera is a good thing without being prepared to spend billions of dollars in its support. The problem is not what space exploration tries to accomplish but rather the commitment of resources upon which other human needs may have a larger claim. Now, when we speak of improving the human condition and satisfying other human needs, it is important to be specific. Presumably there are areas of human suffering that come starkly to mind and demand immediate attention. Indeed there are: Millions, perhaps billions, of people in the world suffer hunger and malnutrition, lack proper housing, education and opportunity, and are afflicted by myriad diseases. But even this list does not convey the full extent of misery. To do so, we must attempt to understand the hopelessness, the sense of being at the whim of tragedy – a tragedy brought about by nature, by man, or by man's indifference. These are the burdens we should lift from the people of the Earth before we go looking under the rocks of far-away worlds.

## Alternative—Rejection Key 1/2

### Only a change of Western ideology will be the appropriate way to change the system—we need a total break with technological thought.

Munevar ’10 (Gonzalo Munevar professor in the School of Humanities, Social Sciences and Communication at Lawrence Technological University in Southfield, Michigan, and a former student of the philosopher of science Paul K.) ***Philosophy of Space Exploration*** http://philosophyofspaceexploration.blogspot.com/2010/03/standard-case-for-exploration.html

The urgency of the situation, as these ideological critics perceive it, makes unwarranted our engaging in any more technological detours. Western man's approach has brought the world to the edge of crisis by marrying technology to the mentality of growth. This ideological criticism touches the heart of space exploration insofar as science is supposed to provide the promissory note that underwrites that marriage in the first place. Once again, the satisfaction of scientific curiosity – at least where "big science” is concerned – may be seen as a disturbance, an interference with nature. The emphasis on beneficial results is only a smoke screen: In the long run only a change of attitude can be beneficial. Anything not in harmony with nature is bound to make us fail. In the eyes of the ideological critics, space exploration amounts to a distraction at a time of crisis – the siren voice that calls us from the cosmos still sings the tune of our doom. I will offer three comments on this controversy. First, most of the vehemence against O’Neill was caused by his suggestion to build space colonies, some of which would house millions of human beings. The idea that one could build artificial self-sufficient environments on that scale seemed naive and arrogant to his critics. As the many difficulties encountered in trying to create such a closed environment in Biosphere 2 indicate, we are a long way from knowing enough to attempt anything remotely approaching the ambition of O’Neill’s projects.

Alternative—Rejection Key 2/2

### Renouncing technological thought is key—this is the only way to open up the possibilities for authentic engagement with the world.

Norman Swazo, Philosophy—University of Alaska, Fairbanks, 2002 (Crisis Theory and World Order: Heideggerian Reflections, p.141-2)

Insofar as it is in thinking and speech that phenomena are disclosed to and for a public, it is critical to concede that calculative thinking is but one way in which the relation of word and thing is expressed. Calculative think­ing is but one way in which political phenomena can be understood. Here language—that phenomenon through which the relation of word and thing is disclosed—is what matters in clarifying political phenomena. This means we must come to see that 'word' rules in that it is not "just a name-giving grasp reaching for what is present and already portrayed, it is not only a means of portraying what lies before us. On the contrary, the word first bestows presence, that is, Being in which things appear as beings."" Such is the power of the word in its disclosure of reality. Political science under the sway of an isomorphy of conceptual frameworks already, i.e., from the incep­tion, bestows presence to political things in a way that must distort. Inasmuch as it is the theoretic conception that holds sway here, determining in advance what truth is to be revealed in things, there is here already a failure. That is, what matters in genuine disclosure is "fulfilling the requirement ... to take the phenomena as they offer themselves as against all firmly rooted theory and even despite it, that is, the requirement to align theory according to the phenomena rather than the opposite, to do violence to the phenomena by a preconceived theory."" Yet, in the absence of any heed to what is happening in this manner of revealing the political, it is precisely this distortion which rules in contemporary political thinking and doing as if it were a fate that compels without exception. In short, political science as swayed by the theo­retic conception and systems science never lets political things be as they are, never lets human beings be in their most proper politicality. Consequently, for all that political science says in its theoretic conceptions, the domain of the political and the essence of being-political remain enigmatic. It is this enigma which calls for another thinking, an essential *(wesentliche)* or origi­nary *(anfangliche)* thinking, indeed an essential political thinking in which the presumed self-evidence of tradition is rendered questionable. Despite the urgency of the world order crisis which solicits answers to questions and solutions to global problems, a reflective insight into "the cri­sis of political understanding" insists on renouncing representational saying, i.e., discourse steeped in subjectivity such that the thingness of things issues from representation by the human subject. "Renunciation commits itself to the higher rule of the word which first lets a thing be as thing."" This is no mere negation. On the contrary, it is affirmation, openness to the original claim of the political and political beings, to what this claim vouchsafes to a thinking attuned to the ecstatic-temporal character of being-political. Only along this way can thinking prepare what may endure. Thus must an essen­tial thinking concerning the future of the world order pit itself against a cal­culative thinking largely inattentive to the need for reflective insights. Hence, one is led to conclude: (a) The systems approach to world order is not the same as essential political thinking;(b) world system consciousness is not the same as planetary thinking; (c) global homeostasis is not the same as planetary dwelling. The former conceptions are yet under the sway of mode of metaphysics and, moreover, manifest an extreme possibility of metaphysical thinking which, as I have tried to make clear, is ontologically questionable. Heidegger's insights as I have tried to articulate them provide reasons for being wary of world order thinking qua technocratic reason. Heidegger's understanding of the essence of technology, over against the instrumental definition of technology and the presupposition that the future is inevitably and unalterably technocratic, requires that one reject the legitimacy of the systems approach to world order theorizing.

## AT: Framework 1/2

### Humans fail to see beyond their constructed world which leads to a dangerous anthropocentric postion—their impacts are constructed

Jerkins ’09 (Jae Jerkins M.A. in Interdisciplinary Humanities from Florida State University) Heidegger’s Bridge: The Social and Phenomenological Construction of Mars

This is a central point of concern I have over the issue of colonization. When Modernity’s gaze upon the world calls forth the project of colonization, this causes the process of enframing to begin, whereupon we mark the world for our own usage until the day comes when humanity itself may be commodified as a standing-reserve. Heidegger explains, “Man becomes that being upon which all that is, is grounded as regards the manner of its Being and its truth. Man becomes the relational center of that which is as such.”48 As objects in nature are relegated to standing-reserve, Heidegger explains, “everything man encounters exists only insofar as it has his construct.”49 Since nothing exists outside of humanity’s construction, we end up only ever encountering ourselves. Yet because we do not realize that the phenomena before us are of our own construction, a distortion caused by enframing, Heidegger contends that we fail to grasp an important existential truth—we can never truly encounter ourselves, our world, or Mars for that matter.50 When humanity gazes out at the world, “he fails to see himself as the one spoken to.”51 The dizzying rise in modern technology has precipitated a fundamental change in our perception of objects and, inevitably, in ourselves. By turning the world into technology, humankind turns itself into the world’s technicians. We reassemble and reconfigure the natural world for our own use, playing the part of the self-made, frontier-forging individual—the modern man. Technology unlocks the energy in nature, transforming the rushing water of the Rhine into energy, storing up that energy, distributing it to German power outlets, and thus *revealing* the concealed power in nature. This challenge to nature, to stop being and to become a resource/commodity for modern human beings, is how modern technology serves as revealer.

AT: Framework 2/2

### Discourse shapes reality in how we view Mars—it’s a prior question.

Jerkins ’09 (Jae Jerkins M.A. in Interdisciplinary Humanities from Florida State University) Heidegger’s Bridge: The Social and Phenomenological Construction of Mars

Thus, the meaning of Mars comes to us, not empirically from a telescope, but first and foremost hermeneutically through its discourse. This interpretive process means that there is no absolutely objective knowledge—only the changing interpretation of phenomena. Geneticist Richard Lewontin maintains that Even agreed–on, widely practiced methodologies are culturally and historically situated...scientific truth-claims have complex internal structures and complicated networks of external affiliations that cannot be explained solely by reference to internal standards of legitimation.37 Though humankind has never set foot on Mars—somehow we seem to know when the movies have it right; somehow we seem to know when the author has grabbed hold of some kernel of truth about the “red planet.” This is because we are both audience and actor in an unending exchange of signifiers—movies, stories, pictures, and articles that share with us a phenomenon we call “Mars.” Edmund Husserl explains that we study phenomena by “grasp[ing] the corresponding subjective experiences in which we become ‘conscious’ of them, in which (in the broadest sense) they ‘appear.’”38 As narratives of Mars appear in the public discourse, we read and interpret them, utilizing the sum of our experiences and perspectives. There exists the notion in science that Mars is a kind of unmarked, “empty slate” for us to write upon. In fact, Mars comes to us not only containing a rich heritage of stories and representations, but our own personal influences and interpretations as well. Percival Lowell’s ideas were not born in a vacuum. The romance of exotic places, the popularity of Darwinian evolution, and the political and religious climate of the day all played a significant part in Lowell’s interpretation of Mars.

## AT: Framework—Tech Truth Link

### Technology creates a sphere of false knowledge—their advantages are just constructions used to justify scientific exploitation.

Claude Karnoouh, visiting professor at the National University of Arts Bucharest, 2002

“Technology and Destiny” Telos 124 (Summer 2002): 71-94.

In fact, scientific knowledge and its practical results are always some- what ambiguous. For life, government, and the various ways of organiz- ing communal life (i.e., what is called politics, modes of socialization, customs, laws, economic exchange, modes of production, etc. — what constitutes a community), science is both good and bad. To the extent that phenomena embodying technology and scientific knowledge produce ambiguous results, modernity is in a permanent state of crisis, which the masters of knowledge and power need to deal with constantly. Created by knowledge, power over people is driven forward by the logic of scientific progress, which engenders a permanent state of crisis. This is why history teaches nothing. As Marc Bloch wrote in 1940: “People are always closer to their time than to their fathers.” Crises are also due to the contradictory conditions of a reconstituted present. This means that they cannot be overcome merely by decisions, which engage the future and cause other crises — an acceleration of progress *ad infinitum*. It is as if people, first scientists, then ordinary consumers, were hypnotized, always enthusiastic and blinded by the technological exploits of scientific knowledge. It never, or almost never, occurs to them that tomorrow may not be bright, since no transcendence could reestablish order or limit their freedom of knowledge, which ultimately is unlimited power. Because of the anonym- ity of a definite and enigmatic presence, they are fascinated by the most immediate and ephemeral present in the name of a bright future. Crises of modernity occur when it is time to apply new political and economic the- ories, which transform modes of production, consumption, exchange, construction, and destruction that science had prefigured as possibilities. Crises are signals warning about rising new force.

## AT: Framework—Our Link Spills Over

### Every technological development increases the hold of the technological world, where all other concepts that do not fit the model are discarded—their understanding of the world shapes how they act on it, means our critique is a prior question.

Egbert Schuurman (Professor, Department of Christian Philosophy, Technological Universities of Delft and Eindhoven and the Agricultural University of Wageningen) 2002, published by the Lily Fellows Program, [**http://www.nd.edu/~ecoltheo/text\_schuurman.htm**](http://www.nd.edu/~ecoltheo/text_schuurman.htm)

As a result of the absolutization of technological thought much of reality is lost. That which does not fit into the technological model, is disregarded or forgotten. The worldview has been transformed to a technological worldview by this development. Similar to the technological development, this worldview is not static. To the contrary, each new technological development -- e.g. those resulting from discoveries and innovations - make the worldview dynamic and easier adaptable. The technological worldview is therefore continually changed by technological development. It is however a human construct and functions as a cultural paradigm. It is a type of framework within which people think and act. It has normative meaning. Motives, values and norms are derived from it. It therefore also forms an ethical framework. That which can be scientifically known and made technologically is, as it were, the veracious reality. It has increasingly marked the development of western culture and it is also marking the current globalization.

The worldview is therefore derived from the technological development and has, out of reach of technology, through technological thought, far-reaching influence even to the extent that not only the relation to nature and the milieu, but also human society is stamped or coloured. It strives to command or control technologically both nature and society. The technological - economical powers are especially the driving forces and simultaneously they breathe the air of this technological mentality.

Actually, the worldview is scientific-technological. It displays the characteristics of abstract science, regarding its functionality, universality and rationality. As such it operates reductionistically and nivellating and sometimes its influence is even destructive. This applies to both nature and the milieu (ecosystem and biosphere) as well as society. The ecological crisis receives ample attention, but its parallel in societal problems receives much less.

## AT: Link Turns/Permutation

### Technological rationality spills over and swaps all attempts at resistance—if we win any risk of a link then any potential transformative effects of the plan will be eliminated in advance by elites.

Andrew Kimbrell (Executive Director of the International Center for Technology Assessment), 2000, ***Cold Evil: Modern Technology and Ethics***, published by the E.F. Schumacher Society, http://www.smallisbeautiful.org/publications/kimbrell\_00.html

Modernity has brought with it increasing tolerance for diverse religious beliefs and traditions. We are rightfully proud of our pluralistic religious environment. Yet over the years I have grown skeptical about this purported robust religious pluralism. The almost unquestioned acceptance of the cold-evil ideologies of objectivity, efficiency, and competition makes it obvious how little our religious beliefs affect our social practice. I have come to a far different conclusion about the diversity of our religious life: I now believe that we tolerate various religions with increasing ease because they have gradually become tangential and irrelevant to the actual workings of the technosphere and do virtually nothing to impede the work of that grey eminence “cold evil.” I see somewhere in the dark oracular workings of the technosphere a single “default” religion made up of these ideologies, a religion whose doctrines the vast majority consciously or unconsciously believes. This new secular religion is, of course, Progress. Almost a half century ago philosopher Richard Weaver, in The Ethics of Rhetoric, noted the central religious position that “progress” has taken in the modern technological state: “. . . ‘progress’ becomes the salvation man is placed on earth to work out; and just as there can be no achievement more important than salvation, so there can be no activity more justified in enlisting our sympathy and support than ‘progress.’” Our faith in technological progress may be obvious, but I think it is more difficult, and not completely fanciful, to see that it has a governing trinity. The secular “cold trinity” of Progress apes the Christian trinity in a tragi-comic way: Science will let us know everything; Technology will let us do everything; the Market will let us buy everything. Science takes the place of God the Father in this new trinity. Mysterious and unknowable to all but the cognoscenti, science has its own objective, unemotional laws and rules, which define the universe. To find “the Truth” it has its own unwavering impersonal process (ritual), known as “the scientific method.” Any statement that begins “Science tells us . . . has the imprimatur of unquestioned truth.” Technology plays the role of the incarnated God, The Son. Science incarnates in our daily lives as technology. It is an admittedly inhuman, cold, mechanical incarnation, yet it manufactures miracles. Technology saves lives, allows us to fly and to speak to others who are thousands of miles away, and creates so many other everyday wonders. Our belief in the Father (Science) is bolstered by the acts of the Son (Technology), which appear to be devoted to making our lives a “heaven on earth.” Technology also has its impersonal, unquestioned commandments based on its mechanical nature, the aforementioned “laws” of efficiency. Importantly, Technology takes on the mysterious nature of its progenitor Science. After all, few of us understand how even the most basic technologies (telephone, television) actually work. So Technology is in this world but, at least to our consciousness, not wholly of this world. It is a kind of incarnated magic. Our adoration of Technology, despite its dominance over our lives, is not with us at all times, nor does it fully motivate our daily lives. Although we do not understand our technologies, we soon tend to take them for granted, so an animating, ever-visiting third member of the trinity is needed: the Spirit (the Market). We wake every day, go to work, and make money—with a deep desire to buy. Just as in traditional theology the Holy Spirit gives us access to the Son, so too the Market gives us access to (the ability to purchase) Technology and brings it into our lives. It is this spirit of acquisition that brings us fully to the trinity. The Market also takes on the numinous quality of Science and Technology. As noted, its “laws” of supply and demand and competition are unquestioned dogmas that control public policy in virtually every sphere of our national and global economic lives. They are laws to which almost all of our economists and politicians genuflect on a daily basis. The cold trinity provides a powerful, though mostly unconscious, arsenal for the defense of cold evil. No matter what environmental horror or exploitation of animals or humans occurs, it can be rationalized through the trinity, whereas complaints against cold evil are routinely condemned as heresies. The trinity acts as a kind of implicit enclosure of the spirit, a spiritual cocoon, blocking society from any incursion against the cold and binding laws of Science, Technology, and the Market. Questioning any one part of the trinity leads to immediate suspicion, the potential ouster from serious discussion, or loss of influence. Those “heretics” who would expose the cold evil inherent in this default religion of Progress risk ridicule as well as academic and social excommunication.

## AT: Permutation 1/4

### Permutation cannot solve our ethics argument and only reproduces hierarchies of control.

Hershock, ‘99, (East-West Center, Journal of Buddhist Ethics, Vol6, [jbe.gold.ac.uk/6/hershock991.html](http://jbe.gold.ac.uk/6/hershock991.html))

According to this distinction, much of what has been called "social activism" has been correlated with and promoted an increasingly societal movement of our narration -- the realization of an increasingly rational life-world, globalizing economic "development," the fragmentation of community and family, and the legal consolidation of individual and class rights. As such, it has ably secured and managed the interests of factually subordinate but ideally autonomous 'individuals' who are themselves the end products of both a technological lineage biased toward control and those political, philosophical, and religions institutions that have systematized this bias.

A truly social form of activism would by contrast be oriented toward enhancing our capacity for uniquely responsive contribution, not increasing capacities for living "as we want." It would express an ethics of responsibility, not one of protest or refusal; a bias toward improvisation and the unprecedented, not regulation and predictability; a focus on realizing what it means to have no-self and to refrain from discharging blame. Rather than legally ignoring our uniqueness, by aiming at dramatically satisfying interdependence, truly social activism would facilitate improvising creative and surprising communities in which our differences always and thankfully make a difference.

The karmic implications of these two forms of activism are profoundly disparate. Like technologies oriented toward control, to the extent that societal activism is successful, it brings about the conditions of its continued necessity and success. In much the same way that our technological tradition has promised, but not delivered, a life of ease and leisure,[4]societal activism promises an end of inequality and imposition while instituting a need for ever finer institutional distinctions, definitions, and constraints. Societal activism produces legal horizons. That is its business. And the more effective it is, the more effective it must be.

Just as getting better at getting what we want invariably means getting better at wanting, getting better at legally insuring rights and freedoms for generic populations will mean developing further legal mechanisms for specifying and enforcing those legally defined rights and freedoms. But if regulated freedom stands in need of "external" enforcement -- that is, new patterns of policing and not just new policies -- it establishes fertile ground for new hierarchies of control. Those institutions which police the enforcement of legally won rights and freedoms will also need policing. The circle is, again, finally a vicious one. Freedom becomes an end-in-itself -- an abstract status -- that in an irreducibly dynamic world can only be maintained by dramatic disengagement or the loss of meaning.

Instead of concentrating on patterns of conduct oriented toward the institutional guarantee of generic rights and statuses, the basic strategy of a truly social activism is to foster appreciative and contributory virtuosity -- primarily through encouraging practices for continuously relinquishing our horizons for relevance, responsibility, and readiness.[5] The karmic ramifications of this shift away from institutional control are both radical and profound.

First, if consciousness is understood as irreducibly relational, appreciation cannot be reduced to an emotionally decorative and dramatically superfluous acceptance of things as they are. To the contrary, appreciation means attending to or relating with things in such a way the value of our situation continuously increases or appreciates. Karmically, this not only develops the conditions for living in circumstances that are increasingly valuable, but being more and more valuably placed within them. Moreover, because our situation is always dramatic, the practice of appreciation is inseparable from discerning and attuning ourselves to our situation's potential for superlative meaning -- the realization of dramatic and contributory creativity. That is, in sharp contrast with the karma of control–oriented conduct, the better we get at contributing to our situation in a dramatically satisfying way, the more opportunity we will have to do so. Truly social activism means realizing our situation as one of horizonless value and opportunity through amplifying the unique capacities each of us has for sui-shih-ying-yung or "according with our situation, responding as needed." The result of radically social activism is a dramatic revision of our present circumstances as the bodhima.n.dala or "place of enlightenment."

As implied in this four-character narrative of Ch'an Buddhist enlightenment, increasing virtuosity in contribution (dĀnapĀramitĀ, or perfection of offering) is inseparable from increasing virtuosity in appreciation (praj~nĀpĀramitĀ, or the perfection of wisdom). If appreciation is not a subjective decoration of our circumstances, neither is it an attainment that comes -- as is sometimes maintained -- only after we have established sufficiently comfortable and edifying circumstances for "serious" meditative discipline and the exercise of compassion to be "really" possible. Again, if consciousness consists of patterns of interdependence from which we abstract such things as 'individual beings' and their 'environments', there is no precedent for assuming that the perfection of wisdom depends on the realization of certain material comforts or that factually altering our circumstances is more effective or basic than changing minds. In a thoroughly karmic world, attention and responsive activity are separable -- if at all -- only on heuristic grounds, not ontological ones. Changing how we place ourselves in attending a situation is already to transform it. Appreciative virtuosity directly alters the complexion of our interdependence with all things -- changing at once our 'world' and 'who we are within it'.

AT: Permutation 2/4

### Trade-off Disad—even limited commitment to ethical mediation recreates technological dependence writ large—depletes critical energies that are integral to ethical living.

Hershock, ‘99, (East-West Center, Journal of Buddhist Ethics, Vol6, [jbe.gold.ac.uk/6/hershock991.html](http://jbe.gold.ac.uk/6/hershock991.html))

The trouble is that, like other technologies biased toward control, the more successful legislation becomes, the more it renders itself necessary. Because it aims at rigorous definition -- at establishing hard boundaries or limits -- crossing the threshold of legislative utility means creating conditions under which the definition of freedom becomes so complex as to be self-defeating. Taken to its logical end, legally-biased social activism is thus liable to effect an infinite density of protocols for maintaining autonomy, generating a matrix of limits on discrimination that would finally be conducive to what might be called "axiological entropy" -- a state in which movement in any direction is equally unobstructed and empty of dramatic potential. Contrary to expectations, complete "freedom of choice" would not mean the elimination of all impediments to meaningful improvisation, but rather an erasure of the latter's conditions of possibility.

The effectiveness and efficiency of "hard," control-biased technologies depend on our using natural laws -- horizons of possibility -- as fulcrums for leveraging or dictating changes in the structure of our circumstances. Unlike improvised contributions to changes taking place in our situation, dictating the terms of change effectively silences our situational partners. Technological authority thus renders our circumstances mute and justifies ignoring the contributions that might be made by the seasons or the spiritual force of the mountains to the meaning -- the direction of movement -- of our ongoing patterns of interdependence. With the "perfection" of technically-mediated control, our wills would know no limit. We would be as gods, existing with no imperatives, no external compulsions, and no priorities. We would have no reason to do one thing first or hold one thing, and not another, as most sacred or dear.

Such "perfection" is, perhaps, as fabulous and unattainable as it is finally depressing. Yet the vast energies of global capital are committed to moving in its direction, for the most part quite uncritically. The consequences -- as revealed in the desecration and impoverishing of both 'external' and 'internal' wilderness (for instance, the rainforests and our imaginations) -- are every day more evident. The critical question we must answer is whether the "soft" technologies of legally-biased and controlled social change commit us to an equivalent impoverishment and desecration.

The analogy between the dependence of technological progress on natural laws and that of social activism on societal laws is by no means perfect. Except among a scattering of philosophers and historians of science, for example, the laws of nature are not viewed as changeable artifacts of human culture. But for present purposes, the analogy need only focus our attention on the way legal institutions -- like natural laws -- do not prescriptively determine the shape of all things to come, but rather establish generic limits for what relationships or states of affairs are factually admissible. Laws that guarantee certain "freedoms" necessarily also prohibit others. Without the fulcrums of unallowable acts, the work of changing a society would remain as purely idealistic as using wishful thinking to move mountains. Changing legal institutions at once forces and enforces societal reform.

By affirming and safeguarding those freedoms or modes of autonomy that have come to be seen as generically essential to 'being human', a legally-biased social activism cannot avoid selectively limiting the ways we engage with one another. The absence of coercion may be a basic aim of social activism, but if our autonomy is to be guaranteed both fair and just, its basic strategy must be one of establishing non-negotiable constraints on how we co-exist. Social activism is thus in the business of striking structural compromises between its ends and its means -- between particular freedoms and general equality, and between practical autonomy and legal anonymity. By shifting the locus of freedoms from unique persons to generic citizens -- and in substantial sympathy with both the Platonic renunciation of particularity and the scientific discounting of the exceptional and extraordinary -- social activist methodology promotes dramatic anonymity in order to universally realize the operation of 'blind justice'.

Much as hard technologies of control silence the contributions of wilderness and turn us away from the rewards of a truly joint improvisation of order, the process of social activism reduces the relevance of the always unique and unprecedented terrain of our interdependence. This is no small loss. The institutions that guarantee our generic independence effectively pave over those vernacular relationships through which our own contributory virtuosity might be developed and shared -- relationships out of which the exceptional meaning of our immediate situation might be continuously realized. In contrast with Buddhist emptiness -- a practice that entails attending to the mutual relevance of all things -- both the aims and strategies of social activism are conducive to an evacuation of the conditions of dramatic virtuosity, a societal depletion of our resources for meaningfully improvised and liberating intimacy with all things.

## AT: Permutation 3/4

### Permutation can’t solve—even “benign” uses of technological thinking commit us to spiritual and physical impoverishment.

Peter D. Hershock (East-West Center Asian Studies Development Program) circa 2001, published by East-West Center Asian Studies Development Program, http://www.buddhismtoday.com/english/sociology/020-changing.htm

The effectiveness and efficiency of "hard," control-biased technologies depend on our using natural laws -- horizons of possibility -- as fulcrums for leveraging or dictating changes in the structure of our circumstances. Unlike improvised contributions to changes taking place in our situation, dictating the terms of change effectively silences our situational partners. Technological authority thus renders our circumstances mute and justifies ignoring the contributions that might be made by the seasons or the spiritual force of the mountains to the meaning -- the direction of movement -- of our ongoing patterns of interdependence. With the "perfection" of technically-mediated control, our wills would know no limit. We would be as gods, existing with no imperatives, no external compulsions, and no priorities. We would have no reason to do one thing first or hold one thing, and not another, as most sacred or dear. Such "perfection" is, perhaps, as fabulous and unattainable as it is finally depressing. Yet the vast energies of global capital are committed to moving in its direction, for the most part quite uncritically. The consequences -- as revealed in the desecration and impoverishing of both 'external' and 'internal' wilderness (for instance, the rainforests and our imaginations) -- are every day more evident. The critical question we must answer is whether the "soft" technologies of legally-biased and controlled social change commit us to an equivalent impoverishment and desecration.

AT: Permutation 4/4

The implications of the plan and the social ethics of the kritik are disparate. Technology strives for autonomy over man while social activism strives for liberty, and the consequence of regulated freedom is an endless cycle of viciousness.

Peter D. Hershock (East-West Center Asian Studies Development Program) circa 2001, published by East-West Center Asian Studies Development Program, http://www.buddhismtoday.com/english/sociology/020-changing.htm

The karmic implications of these two forms of activism are profoundly disparate. Like technologies oriented toward control, to the extent that societal activism is successful, it brings about the conditions of its continued necessity and success. In much the same way that our technological tradition has promised, but not delivered, a life of ease and leisure,[4]societal activism promises an end of inequality and imposition while instituting a need for ever finer institutional distinctions, definitions, and constraints. Societal activism produces legal horizons. That is its business. And the more effective it is, the more effective it must be. Just as getting better at getting what we want invariably means getting better at wanting, getting better at legally insuring rights and freedoms for generic populations will mean developing further legal mechanisms for specifying and enforcing those legally defined rights and freedoms. But if regulated freedom stands in need of "external" enforcement -- that is, new patterns of policing and not just new policies -- it establishes fertile ground for new hierarchies of control. Those institutions which police the enforcement of legally won rights and freedoms will also need policing. The circle is, again, finally a vicious one. Freedom becomes an end-in-itself -- an abstract status -- that in an irreducibly dynamic world can only be maintained by dramatic disengagement or the loss of meaning.

## AT: Utilitarianism

### Their impact framework always counts out that which doesn’t easily fit in to the “profit/loss” model of value—causes wide scale structural violence which undoes their carefully made calculations.

Andrew Kimbrell (Executive Director of the International Center for Technology Assessment), 2000, ***Cold Evil: Modern Technology and Ethics***, published by the E.F. Schumacher Society, http://www.smallisbeautiful.org/publications/kimbrell\_00.html

Ethical distancing and ethical problems of scale are not limited to high-impact military technology. The behavior and nature of modern technocracies, business, and government organizations are equally illustrative of this cold evil. Witness how corporations, now working on the global scale, routinely make calculated decisions about the risks of the products they manufacture. Typically, they weigh the cost of adding important safety features to their products against the potential liability to victims and the environment and then make the best “bottom line” decision for the company. More often than not, safety or environmental measures lose out in this calculation. As for people or nature, they have been “distanced” into numerical units relegated to profit-or-loss columns. The corporations then decide how many units they can afford to have harmed or killed by their products.

# \*\*\*Aff\*\*\*

## AT: Alternative 1/5

### Technophobia conflates societal and scientific thought, destroying any hope of progress and objectivity. Technology isn’t the problem; rather it is how humans use technology. The K doesn’t solve.

Tim Barton, activist/ writier for BlueGreenEarth, and Murray Bookchin, founder of Social Ecology, 2003

(<http://www.bluegreenearth.us/archive/reviews/2003a/bookchin1.html>

But the basic assumption all of these groups make when embracing a technophobic attitude is that it is the scientific knowledge and our ability to apply it that is the problem. The realisation that technology can often be an inherently value-free tool, whose misuse is down to human connivance, shortsightedness, or what have you, is extremely rare. It is the application of technology that causes problems. It is often applied via centralised and hierarchical bureaucracies, for example. To look at one particular area: advances in electronics have yielded many devices. Some of these are centralising (because expensive, large-scale, and expert-orientated), like nuclear power; others are decentralising and can empower communities rather than states (because they are cheaper, small-scale and can be comprehended and maintained with less skill on a day-to-day basis), like wind power, or solar power. All of these devices may be seen to have some inherent bent, but the technological knowledge that produced them is itself value-neutral. It should be obvious why someone like Bookchin, who wishes to see wide ranging changes in human relations with other humans and with the environment, deplores technophobia. What may be less obvious is why he would accuse so many people with different beliefs of suffering from it. In his book he makes it clear, however, that, often without knowing it themselves, all sorts of people in fact follow ideas that tend towards an anti-technology mentality; ie, that many world views are inherently technophobic even when those holding them use a good deal of technological products and do not have a conscious position on them. Green groups are particularly susceptible to such a position, since the anger resulting from misuse of technology is a fundamental that greens of many shades can agree on - slowly it becomes easier to lump technology and its effects together in order to make their point more forcibly, unaware that this can only work as a pragmatic technique if they are conscious enough of the pitfalls to separate the two when necessary (it also encourages extremists, and discourages sensible sympathisers, thus reinforcing the technophobe tendency). That there occurs an identification of technology and science with its social application as a force for capitalism is even less surprising when capitalism itself encourages this view, with the intention of mysticising the relationship between capital and the economic and social realities of our daily lives - and deaths. "It becomes difficult for the ordinary person to see that it is not science and technology that threaten to turn the entire world into a huge market and factory; rather, it is the market and factory that threaten to 'technologise', to objectify or commodify the human spirit and reduce the natural world to mere raw materials for capital expansion" (p154). Bookchin is very aware of the way in which society, particularly capitalist society, manipulates scientific discourse. "That science and technics conduct lines of research and open visions toward new developments is certainly true, but these developments are rigorously guided by the prevailing market society rather than the other way around" (p154). This awareness makes it particularly painful for Bookchin to see groups who claim to wish for radical changes in the way we live, but who thoughtlessly throw out the baby (our rationality, and scientific ability) with the bathwater (hierarchical and dominance-oriented society), because they fail to understand even the basics of how their own society works. As Bookchin says, "...technophobia sets up a misleading enemy for committed environmentalists and culture critics, redirecting their attention away from patently social concerns. ...technophobes leave unanswered the strategic question of how a truly democratic society could be possible, if its members lacked the means of life and the free time to exercise their freedoms. ...the basic decision they face is how to use their vast fund of technological knowledge and devices, not whether to use them" and, "...without a technics that will free humanity from onerous toil - and without values that stress democratic forms of social organisation in which everyone can participate - all hopes for a free society in the future are chimeras. ...to glibly abstract technology from its social context, to let destructive current uses of technologies outweigh their potentially more rational application in a better society, would deny us the opportunity to choose what technologies should be used and the forms they will take" (p156/7). Indeed, Bookchin's bottom line on the subject is related to the deep kinship between rationality and scientific thought, and its mirror in ecomystic groups who reject objective thought, rationality, and technology. "Freed of values grounded in objectivity, we are lost in a quasi-religious antihumanism, a spirituality that can with the same equanimity hear the cry of a bird or ignore the anguish of 6,000,000 once-living people who were put to death by the National Socialist state" (p170).

AT: Alternative 2/5

### Withdrawing from technology leads to extinction—it's better to turn technology against its ecologically destructive uses

Zimmerman 89 – Philosophy Professor, Tulane (Michael, Introduction To Deep Ecology, <http://www.context.org/ICLIB/IC22/Zimmrman.htm>

A critique I hear often is that deep ecologists want to return to a way of life that's totally tied to the rhythms of the Earth, but at this point we have so disturbed those rhythms that we can't even consider going back. To retreat to a pre-technological state would in fact be dooming the Earth to destruction, whereas what we need now is to be more engaged in trying to repair the damage. How would a deep ecologist respond? Michael: I think deep ecologists have mixed emotions about that, but I would agree with that critique. For example, if we stopped our development at the current level, it would be a catastrophe, because our production methods are so dirty and inefficient and destructive that if we keep this up, we're really in trouble. Some deep ecologists say that it would be all for the best if the industrial world were just to collapse, despite all the human suffering that would entail. If such a thing ever occurs, some people have suggested, we could never revive industrialization again because the raw materials are no longer easily accessible. I hope that doesn't happen, and yet it may happen. Now, social ecologists say that deep ecologists flirt with fascism when they talk about returning to an "organic" social system that is "attuned to nature." They note that reactionary thinkers often contrast the supposedly "natural" way of life - which to them means social Darwinism and authoritarian social systems - with "modernity," which in politial terms means progressive social movements like liberalism and Marxism. But deep ecologists recognize this danger. They call not for a regression to collective authoritarianism, but for the evolution of a mode of awareness that doesn't lend itself to authoritarianism of any kind. So I think the only thing we can do is to move forward. We need to develop our efficiency and production methods so that we'll be able to take some of the pressure off the environment. We also need to develop increasing wealth for the highly populated countries so their populations will go down. [Ed. Note: See Lappé and Schurman, "The Population Puzzle," in IC #21.] There's a necessity for new technology. The question is, can it be made consistent with our growing awareness that the planet is really hurting?

AT: Alternative 3/5

### Eco-centricism Is Anthropocentric. Postmodern Critics Construct Meaning for The Non Human World; Seeing a Reflection of Themselves.

Paul Wapner, winter 2003, Leftist Criticism of 'Nature', <http://www.dissentmagazine.org/article/?article=539>, Professor and Director of the Global Environmental Politics Program in SIS, PhD, MA, Princeton University; MA, University of Chicago; BA, University of Colorado, associate professor and director of the Global Environmental Policy Program at American University

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 non-existence. 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.

AT: Alternative 4/5

### The World of the Alternative is That of the Pre-Industrial World— One Which Allows for Patriarchy, Poverty, and Authoritarianism Placing Ecology over the Life of Hundreds of People.

Martin W. Lewis, Green Delusions: An Environmentalist Critique of Radical Environmentalism, Duke University Press Durham and London Dystopia of Craft production, 1992, professor of geography at George Washington University pg 127-126, <http://www.brontaylor.com/courses/pdf/Lewis--Technophobia.pdf>

Since eco-radicals idealize craftwork and disparage industrial produc- tion, it is first necessary to examine the social relations and environmen- tal impacts associated with manufacturing prior to the industrial revolu- tion. An appropriate starting point is Europe's medieval guild system, which several writers have touted as exemplifying social and ecological harmony. If the guild system can be proved socially exploitative, an important element of the eco-radical attack on industrialism will be discredited.

Eco-radicals are correct in arguing that working conditions within the guilds were, on average, far more humane than those imposed on the first industrial laborers. But medieval guilds most certainly were not the caring, familial institutions pictured in eco-radical fantasies. Many were authoritarian, if paternal, organizations; apprentices and journeymen worked firmly under the fists of their masters, and not all graduated to the status of independent craftsmen. Moreover, in heavy proto-industrial crafts, like metalwork, labor was hardly safe, let alone pleasant.

The medieval system of craft production is revealed to be even more objectionable when examined within its social context. The medieval world that made small-scale, socially organized craft production possible was rigidly hierarchical. The vast majority of Europeans in this period were impoverished peasants unable to buy anything produced by the guilds. In fact, until the 1820s members of the working class in France typically purchased their clothing second hand; only with the introduc- tion of modem manufacturing and retailing could they afford to buy new goods (Reddy 1984:96) In preindustrial times, Femand Braudel reminds us, the poor "lived in a state of almost complete deprivation" (1981 :283). Sturdy craft objects were destined for the elite: the landed aristocracy, the ecclesiastical hierarchy, and the small but rising bourgeoisie within the towns. The entire guild system was founded on an extraordinarily inequitable distribution of resources. This should not surprise us; even today, craft goods (as well as many "natural" products) are purchased primarily by the rich, the only group able to afford them.

It was precisely because medieval and early modem craft production was so inefficient that only the truly wealthy could afford more than an extremely meager store of material possessions (Braudel 1981). While one could argue that poverty was widespread because the aristocracy monopolized consumption, it must be realized that the elite constituted a minuscule fraction of the population(Braudel1982:466-7%). Moreover, even many medieval and early modem aristocrats were not as wealthy as we enjoy picturing them. In preindustrial Europe there was nothing at all oxymoronic in the phrase "impoverished noble"; some were even re- duced to begging for living (Blum 1 9 8 7 : ~ ) .

The material deprivation of medieval Europeans was not founded on a spiritual appreciation of the world uncorrupted by base material desires, as some em-radicals seem to believe. Quite the contrary, material goods were actually valued more highly, relative to human life, than they are in modem society. As Braudel(1ggo:553J writes: ''In the thirteenth century, '30 meters of Flanders cloth sold a t Marseille [reached] two to four times the price of a Saracen woman slave! [Such a price] may leave us 'ponder- ing the mentality of the age, the price set on human life, the extraordi- nary value placed on a length of drapery from the Netherlands, and the considerable profits to be made from it by producers and negociants.'"

In select preindusuial societies, to be sure, certain social classes ac- cumulated great hordes of material wealth, and in a few favored soci- eties, such as in the seventeenth-century Netherlands, prosperous mid- dle classes grew to substantial proportions (Schama 1988). But such wealth as did exist was made possible only by large-scale transregional exchange or imperial plundering. In the immediate preindustrial period, much of Europe's prosperity rested on trade with, and exploitation of, the rest of the world. Even in the medieval period, trade networks spanned the subcontinent and extended ultimately to many far reaches of the globe. Bioregionalism was never an operative principle in the world of the guild.

One should also recognize that centuries before the mechanization of cotton spinning, Europe as a whole had been benefiting from technologi- cal innovations that many eco-radicals would disparage. Historian Jean Gipel (1976) argues that the first industrial revolution occurred pre- cisely in the Middle Ages. Medieval engineers and entrepreneurs were already damming rivers to harness water power, digging for coal in strip mines, and processing select raw materials in reasonably large-scale operations. Such technical advances vastly increased the subcontinent's meager store of wealth, but they also brought about a sometimes sub- stantial level of industrial pollution. Gimpel's (1976:86) description of tannery wastes is apposite here: "Tanning polluted the river because it subjected the hides to a whole series of chemical operations requiring tannic acids and lime. Tawing used alum and oil. Dried blood, fat, sur- plus tissue, flesh impurities, and hair were continually washed away with the acids and the lime into the streams running through the cities. The waters flowing from the tanneries were certainly unpalatable, and there were tanneries in every medieval city!'

In short, the preindustrial world was far from the ecological and social paradise imagined by some eco-radicals. Only by embracing an idealized and ultimately fraudulent picture of life before mechanization can one accept the eco-radical faith in craft production.

AT: Alternative 5/5

### The World of the Alternative is Worse Than the Status Quo. Technology is Key to Prevent Disease, Famine, and Extinction

Martin W. Lewis, Green Delusions: An Environmentalist Critique of Radical Environmentalism, Duke University Press Durham and London, Disease: Technological and Natural,1992, professor of geography at George Washington University pg 127-126, <http://www.brontaylor.com/courses/pdf/Lewis--Technophobia.pdf>

No one acquainted with the rudiments of medical history could deny that health has vastly improved since the industrial revolution. Most of the credit for such amelioration belongs precisely to the medical, dietary, and sanitary advances associated with the transition to industrialism. One has only to examine average longevity, which stood in the United States at a miserable forty-seven years as recently as 1900, to grasp the magnitude of progress over this period. If we go back to medieval Europe, socio-ecological idyll of many eco-radicals, we find that in some villages average life spans were as low as seventeen to eighteen years (Cohen 1989:124]. By other indices as well, the health standards of most preindustrial regimes were atrocious. Again, consider medieval and early modem Europe. As Braudel (1981:gr) relates, the ancient regime was character- ized by "very high infant mortality, famine, chronic under-nourishment, and formidable epidemics." Moreover, nonelite Europeans were contam- inated by a wide variety of toxins on a regular basis. Few even experi-enced the delights of breathing clean air, for the atmospheres of their own dwellings were horribly polluted. "It is difficult. . . to comprehend," writes Norman Pounds [1989:187), "how fetid and offensive must have been the air about most cottages and homes." Indeed, indoor air pollu- tion has long been [as it perhaps still is] a greater contributor to respira- tory illness than industrial airborne waste.

But the most severe toxic pollution problem of the premodern world was associated with natural poisons produced by molds infecting the food supply. "Everyone suffered from food that was tainted," Pounds reminds us, "and the number who died of food-poisoning must have been immense" (1989:213). Especially pronounced where rye was the staple food, poisons produced by the ergot and Fusarium molds massively suppressed immune systems, reduced fertility levels, brought on delu- sions and sometimes mass insanity, and reduced blood circulation to such an extent that gangrene in the lower extremities was commonplace (Matossian 19891.

Even where the food supply was safe, poor nutrition resulted in wide- spread immunological stress. Infectious diseases were rife, and periodic plagues would decimate most populations in a cruel manner. Water supplies, especially in towns, were so contaminated by human waste as to become deadly in their own right. Skin and venereal diseases were often rife and difficult, if not impossible, to cure. Other scourges abounded, including those-such as leprosy-that have been virtually eliminated by modem medicines and sanitary techniques. Individuals deformed by genetic inheritance or accident typically led short and brutal lives. And every time a woman went into labor she faced a very high risk of dying. This cursory review of the horrors of preindustrial European life may seem a pointless exercise in overkill; all of this is, or at least used to be, common knowledge. But it is important to recall in detail the kind of social environment many eco-radicals would seek to recreate. And were we to adhere strictly to the tenets of bioregionalism, even the levels of prosperity achieved in the medieval world would be difficult if not im- possible to maintain without first experiencing a truly massive human die-off.

## Framework—AT: Discourse First

### A focus on representations destroys social change by ignoring political and material constraints

Taft-Kaufman, 95  (Jill, professor, Department of Speech Communication And Dramatic Arts, at Central Michigan University, Southern Communication Journal, Spring, proquest)

The postmodern passwords of "polyvocality," "Otherness," and "difference," unsupported by substantial analysis of the concrete contexts of subjects, creates a solipsistic quagmire. The political sympathies of the new cultural critics, with their ostensible concern for the lack of power experienced by marginalized people, aligns them with the political left. Yet, despite their adversarial posture and talk of opposition, their discourses on intertextuality and inter-referentiality isolate them from andignore the conditions that have produced leftist politics--conflict, racism, poverty, and injustice. In short, as Clarke (1991) asserts, postmodern emphasis on new subjects conceals the old subjects, those who have limited access to good jobs, food, housing, health care, and transportation, as well as to the media that depict them. Merod (1987) decries this situation as one which leaves no vision, will, or commitment to activism. He notes that academic lip service to the oppositional is underscored by the absence of focused collective or politically active intellectual communities. Provoked by the academic manifestations of this problem Di Leonardo (1990) echoes Merod and laments: Has there ever been a historical era characterized by as little radical analysis or activism and as much radical-chic writing as ours? Maundering on about Otherness: phallocentrism or Eurocentric tropes has become a lazy academic substitute for actual engagement with the detailed histories and contemporary realities of Western racial minorities, white women, or any Third World population. (p. 530) Clarke's assessment of the postmodern elevation of language to the "sine qua non" of critical discussion is an even stronger indictment against the trend. Clarke examines Lyotard's (1984) The Postmodern Condition in which Lyotard maintains that virtually all social relations are linguistic, and, therefore, it is through the coercion that threatens speech that we enter the "realm of terror" and society falls apart. To this assertion, Clarke replies: I can think of few more striking indicators of the political and intellectual impoverishment of a view of society that can only recognize the discursive. If the worst terror we can envisage is the threat not to be allowed to speak, we are appallingly ignorant of terror in its elaborate contemporary forms. It may be the intellectual's conception of terror (what else do we do but speak?), but its projection onto the rest of the world would be calamitous....(pp. 2-27)  The realm of the discursive is derived from the requisites for human life, which are in the physical world, rather than in a world of ideas or symbols.(4) Nutrition, shelter, and protection are basic human needs that require collective activity for their fulfillment. Postmodern emphasis on the discursive without an accompanying analysis of how the discursive emerges from material circumstanceshides the complex task of envisioning and working towards concrete social goals (Merod, 1987). Although the material conditions that create the situation of marginality escape the purview of the postmodernist, the situation and its consequences are not overlooked by scholars from marginalized groups. Robinson (1990) for example, argues that "the justice that working people deserve is economic, not just textual" (p. 571). Lopez (1992) states that "the starting point for organizing the program content of education or political action must be the present existential, concrete situation" (p. 299). West (1988) asserts that borrowing French post-structuralist discourses about "Otherness" blinds us to realities of American difference going on in front of us (p. 170). Unlike postmodern "textual radicals" who Rabinow (1986) acknowledges are "fuzzy about power and the realities of socioeconomic constraints" (p. 255), most writers from marginalized groups are clear about how discourse interweaves with the concrete circumstances that create lived experience. People whose lives form the material for postmodern counter-hegemonic discourse do not share the optimism over the new recognition of their discursive subjectivities,because such an acknowledgment does not address sufficiently their collective historical and current struggles against racism, sexism, homophobia, and economic injustice. They do not appreciate being told they are living in a world in which there are no more real subjects. Ideas have consequences. Emphasizing the discursive self when a person is hungry and homeless represents both a cultural and humane failure. The need to look beyond texts to the perception and attainment of concrete social goals keeps writers from marginalized groups ever-mindful of the specifics of how power works through political agendas, institutions, agencies, and the budgets

## Framework—AT: Prior Question

### No prior questions—focus on critical theory makes it impossible to describe the world and act

David Owen, Reader of Political Theory at the Univ. of Southampton,  Millennium Vol 31 No 3 2002 p. 655-7

Commenting on the ‘philosophical turn’ in IR, Wæver remarks that ‘[a] frenzy for words like “epistemology” and “ontology” often signals this philosophical turn’, although he goes on to comment that these terms are often used loosely.4 However, loosely deployed or not, it is clear that debates concerning ontology and epistemology play a central role in the contemporary IR theory wars. In one respect, this is unsurprising since it is a characteristic feature of the social sciences that periods of disciplinary disorientation involve recourse to reflection on the philosophical commitments of different theoretical approaches, and there is no doubt that such reflection can play a valuable role in making explicit the commitments that characterise (and help individuate) diverse theoretical positions. Yet, such a philosophical turn is not without its dangers and I will briefly mention three before turning to consider a confusion that has, I will suggest, helped to promote the IR theory wars by motivating this philosophical turn. The first danger with the philosophical turn is that it has an inbuilt tendency to prioritise issues of ontology and epistemology over explanatory and/or interpretive power as if the latter two were merely a simple function of the former. But while the explanatory and/or interpretive power of a theoretical account is notwholly independent of its ontological and/or epistemological commitments (otherwise criticism of these features would not be a criticism that had any value), it is by no means clear that it is, in contrast, wholly dependent on these philosophical commitme nts. Thus, for example, one need not be sympathetic to rational choice theory to recognise that it can provide powerful accounts of certain kinds of problems, such as the tragedy of the commons in which dilemmas of collective action are foregrounded. It may, of course, be the case that the advocates of rational choice theory cannot give a good account of why this type of theory is powerful in accounting for this class of problems (i.e., how it is that the relevant actors come to exhibit features in these circumstances that approximate the assumptions of rational choice theory) and, if this is the case, it is a philosophical weakness—but this does not undermine the point that, for a certain class of problems, rational choice theory may provide the best account available to us. In other words, while the critical judgement of theoretical accounts in terms of their ontological and/or epistemological sophistication is one kind of critical judgement, itis not the only or even necessarily the most important kind. The second danger run by the philosophical turn is that because prioritisation of ontology and epistemology promotes theory-construction from philosophical first principles, it cultivates a theory-driven rather than problem-driven approach to IR. Paraphrasing Ian Shapiro, the point can be put like this: since it is the case that there is always a plurality of possible true descriptions of a given action, event or phenomenon, the challenge is to decide which is the most apt in terms of getting a perspicuous grip on the action, event or phenomenon in question given the purposes of the inquiry; yet, from this standpoint, ‘theory-driven work is part of a reductionist program’ in that it ‘dictates always opting for the description that calls for the explanation that flows from the preferred model or theory’.5 The justification offered for this strategy rests on the mistaken belief that it is necessary for social science because general explanations are required to characterise the classes of phenomena studied in similar terms. However, as Shapiro points out, this is to misunderstand the enterprise of science since ‘whether there are general explanations for classes of phenomena is a question for social-scientific inquiry, not to be prejudged before conducting that inquiry’.6Moreover, this strategy easily slips into the promotion of the pursuit of generality over that of empirical validity. The third danger is that the preceding two combine to encourage the formation of a particular image of disciplinary debate in IR—what might be called (only slightly tongue in cheek) ‘the Highlander view’—namely, an image of warring theoretical approaches with each, despite occasional temporary tactical alliances, dedicated to the strategic achievement of sovereignty over the disciplinary field. It encourages this view because the turn to, and prioritisation of, ontology and epistemology stimulates the idea that there can only be one theoretical approach which gets things right, namely, the theoretical approach that gets its ontology and epistemology right. This image feeds back into IR exacerbating the first and second dangers, and so a potentially vicious circle arises.

## Permutation

### Perm do both. Vote for the aff plan but adopt an ethics of responsibility where we take responsibility for our actions.

Egbert Schuurman (Professor, Department of Christian Philosophy, Technological Universities of Delft and Eindhoven and the Agricultural University of Wageningen) 2002, published by the Lily Fellows Program, <http://www.nd.edu/~ecoltheo/text_schuurman.htm>

I believe an ethics of responsibility is the most appropriate approach for an ethics of technology. The word responsibility is very apt because it indicates that everyone who is involved in scientific-technological development must assume the role of envoy. The wider meaning is also illustrated by the double foundation of the word 'responsibility'. Everyone involved in scientific-technological development not only carries accountability, but must also answer for his actions. In other words, everyone must indicate on the grounds of which cultural picture, which motives, values, principles, norms he acted and made his contribution in the scientific-technological events. It means that in ethics of responsibility there is scope for 'calling'. 'Calling' especially emphasizes the positive instruction. While ethics is associated with 'what may not be allowed' in actual discussions on problematic development, within the context of 'responsibility ethics' a start has to be made to place emphasis on the positive. It is aptly said that, by means of new technological possibilities to alleviate human suffering or distress, the ethical conception of possible help changed to an ethical obligation. In general, a good starting point for an ethics of responsibility seems that the 'actors' must be aware of the positive scope of their action in or with technology. They have to publicly give account of their actions and must also be answerable. In the first place the point at issue is rendering and keeping the world habitable, to provide the necessities of life and the alleviation of need and suffering. Successively I would like to give brief attention to the implications of responsibility ethics for motives, values and norms.

## Positivism Good

### Positivist epistemology is best – we can objectively analyze and describe truths about the state of the world

Geller, Professor and Chair of the Department of Political Science at Wayne State University and Consultant with the U.S. Department of State Office of Technology and Assessments and Vasquez, Harvey Picker Chair in International Relations at Colgate University and President of the Peace Science Society (International) and the International Studies Association, ‘4 (Daniel and John, December, “The Construction and Cumulation of Knowledge in International Relations: Introduction” International Studies Review, Vol 6 Issue 4, p 1-6, Blackwell Synergy)

The idea of building knowledge—that humans can observe and think about the world in such a way that they learn things that they did not know before and are able to understand and explain processes—is at the center of all inquiry. This natural tendency has gone hand in hand with those who have questioned whether what we think we know is actually true and who have demanded that we defend the rules by which we believe knowledge is acquired. Despite this epistemological skepticism the quest goes on and on, even though those who want to display their sophistication may put key concepts, like "reality" or "cause" or "truth" in quotes or use intellectual euphemisms, like "utility" or "adequacy." Today, within international relations (IR) inquiry, the debate over knowledge—its possibility, its nature, even its desirability—is informed by much of the postmodern and postpositivist movements within the social sciences and the humanities (see Foucault 1972, 1980; Vasquez 1995; Hellmann 2003). Constructivism has emerged as an alternative intellectual pillar of mainstream international relations theory to take its place alongside its competitors—realism and liberalism—to claim its role as a productive approach to inquiry. Although, like realism and liberalism, constructivism is better seen as a paradigm that encompasses a number of specific theoretical formulations, it nonetheless has a core set of assumptions and theoretical perspectives that shape its approach and provide guidance to its practitioners. Among the most central in terms of its epistemological assumptions is the idea that "reality" is constructed by concepts, ideas, and knowledge and not the other way around, namely, that the observation or study of "reality" gives rise to knowledge. Within constructivism this assumption is then used to push inquiry into new directions (see, for example, Onuf 1989; Wendt 1992; Katzenstein 1996; and earlier, Berger and Luckman 1966). Realism and liberalism, despite their differences, have maintained the more positivist assumption that the empirical world can be analytically separated from the ideas and concepts we use to observe and study it, so that the former can be used to test the adequacy (indeed accuracy) of the latter. With the proper tools and appropriate criteria and methods—in particular the use of science (although traditionalists and quantitative scholars differ sharply on the meaning and limits of the scientific approach)—knowledge is not only possible but can accumulate in ways anticipated and promised by the Enlightenment—a project that postmodernists, of course, reject out of hand (Foucault 1980). For the most part, postmodernist alternatives have been more influenced by philosophy and the humanities, in general, than mainstream social sciences. Nevertheless, to the extent that constructivism has been primarily an epistemic stance, it is not surprising that attempts have been made to reformulate positivist IR theories, like realism, on a constructivist basis (see Wendt 1999).

## Scenario Planning Good

### They’ve Got It Backwards – Failure To Plan For Catastrophes Causes Them

Macy, General Systems Scholar and deep ecologist, 1995 (Joanna, Ecopsychology)

There is also the superstition that negative thoughts are self-fulfilling. This is of a piece with the notion, popular in New Age circles, that we create our own reality I have had people tell me that “to speak of catastrophe will just make it more likely to happen.” Actually, the contrary is nearer to the truth. Psychoanalytic theory and personal experience show us that it is precisely what we repress that eludes our conscious control and tends to erupt into behavior. As Carl Jung observed, “When an inner situation is not made conscious, it happens outside as fate.” But ironically, in our current situation, the person who gives warning of a likely ecological holocaust is often made to feel guilty of contributing to that very fate.

### Policy solutions overcomes fear and prevent numbing – the alternative makes us helpless

Sandman, Professor of Public Health at Rutgers, and Valenti, Professor of Communications at BYU, ’86 (Peter and Joann, “Scared Stiff – or Scared into Action” Bulletin of Atomic Scientists)

Hope “The main obstacle to action,” writes Frank, “is neither apathy nor terror but simply a feeling of helplessness. To combat it, I have perhaps overemphasized the small signs that antinuclear activities are at last beginning to influence the political process.”(19) Helplessness, hopelessness, futility, and despair are words one hears even more often than fear from the barely active and the formerly active. And like fear, these emotions can easily lead to psychic numbing. Those who feel powerless to prevent nuclear war try not to think about it; and it serves the needs of those who do not wish to think about nuclear war to feel powerless to prevent it. Messages of hope and empowerment, however, break this vicious circle. The label “hope,” as we use it, subsumes a wide range of overlapping concepts: for example, optimism, a sense of personal control and efficacy, confidence in methods and solutions, a sense of moral responsibility, and a vision of the world one is aiming for. It is well established (and hardly surprising) that hope is closely associated with willingness to act. Activism appeals most to people who feel positive about both the proposed solution and their personal contribution to its achievement. Over the long term, this means that antinuclear organizers must communicate a credible vision of a nuclear-free world. Meanwhile, they must offer people things to do that seem achievable and worthwhile. The nuclear-weapons-freeze campaign attracted millions of new activists in 1982 because it offered credible hope. By 1985 many of those millions could no longer ground their hope in the freeze; some found other approaches and some returned to inactivity. Most social psychologists today see the relationship between hope and action as independent of fear or other feelings. For example, Kenneth H. Beck and Arthur Frankel conclude that three cognitions (not emotions) determine whether people will do something about a health risk: recognizing the danger as real, believing the recommended plan of action will reduce the danger, and having confidence in their ability to carry out the plan.(20) Similarly, Sutton’s review of the fear-appeal literature finds inconsistent support for the notion that people can accept higher levels of fear if they feel the proposed solution will remedy the problem, but strong evidence that, regardless of fear, people are more inclined to act on solutions they see as more effective.(21) In a 1983 study, Tom R. Tyler and Kathleen M. McGraw found that, compared to the general public, antinuclear activists were more likely to think nuclear war could be prevented, even though they considered nuclear war itself more likely and said they worried about it more. The activists scored higher than other citizens on measures of general personal and political efficacy, and they were more likely to believe that citizen action would make the difference in preventing nuclear war. Finally, the activists tended to believe that citizens have a moral obligation to work against nuclear war, even though they blamed governments, not citizens, for causing the threat. Interpreting this mix of hope and anger, the authors quote Jesse Jackson: “You are not responsible for being down, but you are responsible for getting up.”(22) The least studied aspect of hope is the need for an affirmative vision. People require short-term achievable goals as benchmarks along the way to build confidence that progress is being made. But progress toward what? While the movement has done an excellent job of articulating visions of nuclear apocalypse, it has only just begun the much harder job of envisioning a plausible world that has renounced nuclear weapons. It is in that vision that new activists will find their hope, and against that vision that they will measure their efficacy. Constructing it should be a top-priority task.

## Space Exploration Good 1/2

### The main problems of our planet will be solved because of space exploration

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In my reply I will show how every main branch of space science leads to new perspectives of immense value. I will argue in Chapter 4 that several of the main problems that our planet confronts now (e.g., the depletion of the ozone layer and global warming), as well as those it will probably confront in the next few centuries, are far more likely to be solved thanks to space exploration in two ways. The first is that such problems tend to be global problems and space technology is particularly well suited to study the Earth as a global system. The second is that as we explore other worlds we gain a broader and deeper understanding of our own planet. From comparative planetology we will move on to space physics and astronomy, two fields ripe with the promise of radical changes to our scientific points of view. Such changes will in turn yield an extraordinary new harvest of serendipitous consequences for technology and for our way of life. The reason these two fields are ripe with promise is simple. The Earth’s atmosphere limits drastically the information we receive about the universe because it blocks much of the radiation that comes in our direction. This shielding is, of course, a good thing, for otherwise life could not exist on our planet. But to make even reasonable guesses about the nature of the universe, we need that information. That is why we need telescopes in orbit and eventually on the Moon and other sectors of the solar system. Until the day when space telescopes began to operate, many physicists thought of space physical science as applied science, mere application, that is, of the very successful “standard model” that explained matter in term of its constituting particles and the forces between them. But, as I discuss in Chapter 5, physicists had been trying to explain a limited universe – a universe based on what we could observe through a few peepholes in the walls that protected us from cosmic dangers. It had already been known for some time, though not widely, that the visible mass in galaxies did not exert enough gravitational force to keep their outer rims of stars from being flung into intergalactic space. Astronomers presumed that eventually the missing mass would be found, but when space telescopes gave us the whole electromagnetic spectrum to look for that mass, we still could not find enough of it. According to some high estimates, up to 90% of the mass needed to account for the behavior of galaxies is undetectable (“dark matter”), apparently unlike the matter explained by the “standard model.”

Space Exploration Good 2/2

### Space exploration good for breakthroughs in biology

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Space exploration is also ripe with promise for biology. This promise is particularly interesting in the case of the astrobiologists’ attempt to search for life in other worlds. For example, when a NASA team announced in 1996 that a Martian meteorite contained organic carbon and structures that looked like fossils of bacteria, meteorite experts adduced that inorganic processes could account for all the substances and structures found in the meteorite. Therefore, these experts claimed, by Occam’s razor, we should reject the (ancient) Martian-life hypothesis (Occam’s razor is a principle that favors the simpler hypothesis; it is named after William of Occam, a medieval philosopher). Other scientists pointed out, in addition, that the presumed fossils were about one hundred times smaller than any known bacteria, too small in fact to be able to function as living organisms. But as we will see in Chapter 6, Occam’s razor would, if anything, favor the Martian-life hypothesis; and, ironically enough, the claim about the minimum size of living things spurred a search that, according to some, yielded many species of extremely small bacteria, nanobacteria, some even smaller than the purported Martian fossils![[1]](#endnote-1)[ii] Space biology proper (doing biological experiments in space) has not yet produced such spectacular and significant discoveries, but, as we will also see in Chapter 6, the main objections against its scientific value are based on misguided distinctions between fundamental and applied science not unlike those advanced some years ago against the space physical sciences. Some of these objections are also based on mistaken assumptions about genetics, and particularly about the relationship between genotype and phenotype

## Technology Good 1/2

### Modern Methods for Solving Environmental Degradation are failing, Technology is needed to help Environmental Destruction

Dr. Theodore Loder, Institute for the Study of Earth, Oceans, and Space, UNH, Durham, NH 03824 ted.loder@unh.edu 603-862-3151 “Outside-the-Box” Technologies, Their Critical Role Concerning Environmental Trends, and the Unnecessary Energy Crisis A Compilation of Briefing Papers Prepared For: The U.S. Senate Environment and Public Works Committee “Comparative Risk Issues” Regarding Present and Future Environmental Trends – Why We Need to be Looking Ahead Now! Prepared for: Senator Bob Smith and Aby Mohseni, Senate Committee on the Environment and Public Works, revised 10/6/2000

Introduction: Fundamentally, our present methods for solving current environmental problems are only partially working, because for the most part they attempt to solve the result of a problem and not get to the root causes of why we have a particular problem in the first place. It is somewhat akin to mopping the floor to fix a leaky roof. Most of our problems stem from energy issues and our tremendous dependence upon fossil fuels, especially in the transportation and power generation sectors. For example, the acid rain problem, unhealthy urban atmospheres, and global warming all arise from this fossil fuel dependence. The present MTBE crisis affecting our water supplies is the result of a well-intentioned attempt to reduce air pollution in gasoline engines. Each of these issues will continue to have a greater and greater economic impact on our country through increased cleanup and health costs. Why our present course is inadequate –An example from the automotive sector A simple analysis of numbers from the automotive sector tells us why we will continue to have problems (both in the US and world wide) and why small percentage increases in fuel efficiency will have little real effect in the long run. Increasing populations worldwide and the desires of second and third world countries to have what we in the US take for granted spells continuously increasing environmental problems. For example, by the late 1990’s there were about 500 million cars world wide with an annual production of a little less than 40 million. At the present rate of growth, there will be about 1 billion vehicles worldwide by the year 2025. Presently there is about one car per 12 people on a global basis and about 1 car per 1.3 people in the US. Why is this a long-range problem? As the result of increased global wealth and desire for automobiles world wide, no matter what we do to improve efficiency, increases in carbon dioxide from this source will continue with its attendant global warming (1), etc. Hybrid automobiles could help, but we must look at a second set of numbers from the US to understand impacts. There are over 200 million automobiles in the US and we manufacture approximately 20 million per year. Because of the “replacement lag,” it would take 10-15 years to replace existing cars, especially since some production goes towards increasing the pool. Furthermore, there is a phase–in period for any new technology, the time needed to go from development to manufacturing to sales. This will add years to the replacement cycle. Thus even if we start today, implementation of a totally non-polluting 4 technology useful for transportation would take the US circa 15 years to replace our present fleet. It could occur faster in third world countries because of the technology leapfrog phenomenon. We have similar problems with power generation in the US. We have dammed most easily dammable rivers and there is even a movement to remove some of the dams. Furthermore, it is presently nearly impossible to build more nuclear power plants and we are starting to shut some of them down. Changing any of this infrastructure could take one to two decades as well.

In a world where our petroleum supplies will become scarcer and more expensive within a few decades or less, we need to start our planning and acting now.

Technology Good 2/2

### Technology helps us discover things that we wouldn’t have been able to find through conventional measures—key to solve resource problems

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We must recall also the revolution in communications made possible by satellites. We now transmit information and contact people in ways that were unattainable prior to the launching of Sputnik I in 1957. Today, in the comfort of our living rooms, we can watch live on television a sporting or cultural event that is taking place on another continent, or have a telephone conversation with a friend at the opposite side of the world. The significance of these changes becomes evident when an emergency prompts our call to the other side of the world, or when the satellites are used, as in India, to bring education to large rural areas for the first time. And do not forget that the global Internet would not be possible without communication satellites. All these changes in people's daily lives are mirrored by improvements in the practice of commerce, the gathering of news, and the relief of disaster. The Space Shuttle, as well as other piloted vehicles and the various kinds of space stations, complement these functions of satellites. A 1994 Space Shuttle flight yielded preliminary radar measurements of hitherto undiscovered structures around Angkor Wat, a famous archeological site in Cambodia. NASA’s Jet Propulsion Laboratory then developed a sophisticated airborne radar system that allowed archeologist Elizabeth Moore and her team to discover four to six more temples and gain a better picture of the massive waterworks that were an integral part of the complex. Few of these accomplishments were likely through more conventional methods. Surveys from the ground could not compete with a perspective that permitted us to detect, at a glance, large patterns and to take inventories of minerals and vegetation. It might be imagined that perhaps airplanes could have flown high above the clouds to do a similar job for less money. But whereas satellites give us pictures of exactly the same spot time and again so we can make comparisons, the flight path of airplanes is never that precise. Nor are airplanes as reliable – they are subject to mechanical problems and the vagaries of weather. Moreover, it would have taken a fleet of thousands of airplanes to do what a single satellite does in passing over the Earth at its very high orbital speed. Using airplanes might have well cost us hundreds of times more and the results would have been vastly inferior. Today we are beginning to use new generations of light planes and other flying devices to obtain more specific local information, normally interpreted in the larger context provided by satellite data.

## Tech Good—Energy

### Space technology can solve alternative energy problems

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Third, space enthusiasts often present solar power satellites as the main scientific alternative to the energy crisis. But other scientific proposals may serve us just as well, if not better. For example, Roland Winston and others have demonstrated that by keeping light from forming images (non-imaging optics), it is possible to achieve here on Earth temperatures much higher than those on the surface of the sun. Non-imaging optics may also be used to power lasers and even spacecraft. At the moment, most of the applications are in the heating of buildings and the like, but with the advent of the right kind of photovoltaics, it will be possible to transform that energy into electricity. If that happens we will have a revolution in electrical power plants analogous to that brought about by personal computers in information. Personal computers liberated us from the institutional giant computers of three decades ago. Non-imaging power generators would liberate us from giant power plants -- for a lot less money and at far less risk. Every building would have its own extremely efficient, non-polluting, and independent means of generating all the electrical power (as well as heat and air-conditioning) it needs. Power cables to housing areas would become a thing of the past. Of course, this particular technology may not pan out any better than solar power satellites, but its very possibility should make us beware of making space technology the only scientific alternative. Solar power satellites are not even the only alternative space science and technology suggest. Jerry Kulcinski and John Santarius claim that a deuterium-helium-3 reactor would offer abundant, cheap energy free of radioactive-waste. Deuterium is an isotope of hydrogen and it is not difficult to get, but there is no helium-3 on our planet. We could mine it on the Moon, though, and, Robert Zubrin adds, we could also scoop up large quantities of it in the atmospheres of Jupiter and the other gas giants of the solar system.

## Technology Good—Environment

### Technology is Key to Preventing Environmental Degradation

Martin W. Lewis, Green Delusions: An Environmentalist Critique of Radical Environmentalism, Duke University Press Durham and London, Natural Products and the Destruction of nature, 1992, professor of geography at George Washington University pg 127-126, <http://www.brontaylor.com/courses/pdf/Lewis--Technophobia.pdf>

Assessing the eco-radical aversion to technology also requires consid- ering the environmental effects of natural, low-tech products. Although this is an extremely intricate issue, many natural substances actually prove to be far more ecologically destructive than their synthetic sub-stitutes.

Wood provides a good example of a destructive natural product. By rely-ing on wood for building materials, simple chemicals, and fuel, countless societies have deforested their environments. The switch from wood to coal as an energy source helped save European forests from total destruc-tion in the early modem age, just a s it did for American forests in the 1880s (Perlin 1989). Pressures on forests were also reduced when the Leblanc process was developed, allowing soda to be manufacwed from salt rather than from woodash. (This discovery also drastically reduced the cost of soap, tremendously benefiting human health.) The Leblanc process was, however, highly polluting, but the subsequently developed ammonia process proved to be considerably cleaner and more efficient as well(Mokyr I ~ ~ o : I ~ I ) . The common belief that wood is an environmentally benign and re- newable resource is dangerously naive. Forests are effectively renewable only where population densities are extremely low. Unfortunately, areas of requisite density are becoming increasingly rare throughout most of the world. In the contemporary Third World, technological deprivation forces multitudes to continue living within an unsustainable wood econ-omy. Poor women often spend hours each day scrounging for firewood, a process both ecologicdly and socially destructive. Where electricity 137 is available and affordable-as it should be everywhere-deforestation rates decline drastically. The use of wood as a construction material in contemporary industrial societies is also environmentally devastating. The havoc wreaked on Southeast Asian tropical rainforests by the Japanese construction indus- try is a commonly acknowledged environmental outrage (see Laarman 1988), but the effect of American house-building on our own temperate rainforests is hardly less objectionable. Economic considerations ensure that even sustainably and selectively harvested forests are degraded as wildlife habitat. Foresters shudder at the idea of preserving dead and dying stumps that might form disease reservoirs, but it is precisely such hollow trees that provide denning sites for many mammals and nesting sites for many birds. s. While radical environmentalists might argue that we should therefore adopt less efficient forms of forestry, the problems that would ensue because of the resulting decline in timber yield are not addressed. With a growing population continuing to demand lumber, a deintensified forest industry would be forced to seek new supplies else- where, thus degrading even larger expanses of land. In the end, only by developing substitutes for wood can we begin to create an environmen- tally benign construction industry. Many wood substitutes are readily available. Concrete, for example, is easily and efficiently employed in all manner of construction. Yet eco-radicals like Catton (1g80:135) warn against using concrete on the grounds that it is a nonrenewable resource. I would counter that the prospect of abandoning cement making and aggregate mining for fear that we will exhaust the planet's supply of limestone, sand, and gravel is an example of green lunacy. We might as well dismantle the ceramics indus-try for fear of exhausting the earth's clay deposits. Paper, another natural product, embodies extraordinary environmen- tal destruction. Papermaking remains one of the most polluting indus- trial processes in existence. Even if paper-mill wastes can be minimized (at some cost), and even if recycling becomes commonplace, paper pro- duction will continue to demand vast quantities of wood. Resource economics dictate that the necessary quantities of fresh pulp be derived largely from small, fast-growing trees, generally harvested in clear-cuts. The resulting pulp plantations are typically as ecologically impoverished as agricultural fields. By continuing to prefer paper to synthetic and electronic substitutes, we only ensure the needless degradation of vast tracks of land. Many other examples of the ecological destruction inflicted by natural products could easily be cited. The damage entailed in cotton production, for example, was noted twenty years ago by Ehrlich (cited in Paehlke 1989:60). While cotton could be cultivated without biocides, yields would plummet, necessitating a substantial increase in acreage to meet the present demand. The area devoted to cotton is expanding at a rapid pace already, due both t o population growth and to the mounting demand for natural fibers. Vast expanses of natural vegetation are now being cleared in order to grow cotton and to supply it with the water it requires. To provide high-class textiles, the Ogallala aquifer of America’s southern Great Plains is being depleted, rain forests in Central America are being devastated, and the extensive Sudd Swamp of the southern Sudan is being threatened with drainage. The standard environmentalist credo that renewable resources are intrinsically superior to nonrenewables rests on two fundamental errors. First, both eco-radicals and old-fashioned conservationists presume life to be so abundant that through wise use, directed either by primal affinity or scientific management, humans can obtain their needs organ-ically without detracting from other species. Second, both camps have assumed that nonrenewables are so scarce that if we dare use them they will be quickly exhausted. Both principles are suspect. In fact, the primary organic productivity of the planet is essentially limited. The more living resources are channeled into human commu- nities, the more nature itself is diminished. The essential nonrenewable resources, by contrast-elements such as silicon, iron, aluminum, and carbon-may be tapped in extraordinary quantities without substan-tially detracting from living ecosystems. Aluminum and silicon are so wildly abundant that it is ludicrous to fear that we will exhaust the earth's supply. Moreover, except in nuclear processes, elements are never actually destroyed; as recycling and sequestering techniques are per- fected, resource exhaustion will become increasingly unproblematic. Even coal and oil would be fantastically abundant if only we would cease the insane practice of burning them and instead, as suggested by Arnory Lovins, dedicate the remaining supplies to the production of synthetic organic materials (see Paehlke 1989:77).

1. [↑](#endnote-ref-1)