# Round 2 – Aff v Florida MV

## 1AC

### Ecology 1ac

#### We are in the midst of an existential ecological crisis stemming from the way we treat one-another

**Cone 2k** (James H., Briggs Distinguished Professor at Union Theological Seminary, “Whose Earth Is It Anyway?”, Cross Currents, Spring/Summer, Vol. 50 Issue 1-2, http://web.archive.org/web/20110518031005/http://www.crosscurrents.org/cone.htm)

Expanding the Ecological Critique. We are indebted to ecologists in all fields and areas of human endeavor for sounding the alarm about the earth's distress. They have been so effective in raising ecological awareness that few people deny that our planet is in deep trouble. For the first time in history, **humankind has the knowledge and power to destroy all life** -- either with a nuclear bang or a gradual poisoning of the land, air, and sea.

Scientists have warned us of the dire consequences of what human beings are doing to the environment. Theologians and ethicists have raised the moral and religious issues. Grassroots activists in many communities are organizing to stop the killing of nature and its creatures. Politicians are paying attention to people's concern for a clean, safe environment. "It is not so much a question of whether the lion will one day lie down with the lamb," writes Alice Walker, "but **whether human beings will ever be able to lie down with any creature or being at all**."(20)

What is absent from much of the talk about the environment in First World countries is a truly radical critique of the culture most responsible for the ecological crisis. This is especially true among white ethicists and theologians in the U.S. In most of the essays and books I have read, there is hardly a hint that perhaps whites could learn something of how we got into this ecological mess from those who have been the victims of white world supremacy. White ethicists and theologians sometimes refer to the disproportionate impact of hazardous waste on blacks and other people of color in the U.S. and Third World and even cite an author or two, here and there throughout the development of their discourse on ecology. They often include a token black or Indian in anthologies on ecotheology, ecojustice, and ecofeminism. It is "political correct" to demonstrate a knowledge of and concern for people of color in progressive theological circles. But people of color are not treated seriously, that is, as if they have something essential to contribute to the conversation. Environmental justice concerns of poor people of color hardly ever merit serious attention, not to mention organized resistance. How can we create a genuinely mutual ecological dialogue between whites and people of color if one party acts as if they have all the power and knowledge?

Since Earth Day in 1970, the environmental movement has grown into a formidable force in American society and ecological reflections on the earth have become a dominant voice in religion, influencing all disciplines. It is important to ask, however, whose problems define the priorities of the environmental movement? Whose suffering claims its attention? "Do environmentalists care about poor people?"(21) Environmentalists usually respond something like Rafe Pomerance puts it: "A substantial element of our agenda has related to improving the environment for everybody."(22) Others tell a different story. Former Assistant Secretary of Interior James Joseph says that "environmentalists tend to focus on those issues that provide recreative outlets instead of issues that focus on equity." Black activist Cliff Boxley speaks even more bluntly, labeling the priorities of environmentalists as "green bigotry." "Conservationists are more interested in saving the habitats of birds than in the construction of low-income housing."(23)

Do we have any reason to believe that the culture most responsible for the ecological crisis will also provide the moral and intellectual resources for the earth's liberation? White ethicists and theologians apparently think so, since so much of their discourse about theology and the earth is just talk among themselves. But I have a deep suspicion about the theological and ethical values of white culture and religion. For five hundred years **whites have acted as if they owned the world's resources** and have **forced people of color to accept their scientific and ethical values**. People of color have studied dominant theologies and ethics because our physical and spiritual survival partly depended on it. Now that humanity has reached the possibility of extinction, one would think that a critical assessment of how we got to where we are would be the next step for sensitive and caring theologians of the earth. **While there is some radical questioning along these lines, it has not been persistent or challenging enough to compel whites to look outside of their dominating culture for ethical and cultural resources for the earth's salvation**. One can still earn a doctorate degree in ethics and theology at American seminaries, even at Union Seminary in New York, and not seriously engage racism in this society and the world. If we save the planet and have a society of inequality, we wouldn't have saved much.

According to Audre Lorde, "the master's tools will never dismantle the master's house."(24) They are too narrow and thus assume that people of color have nothing to say about race, gender, sexuality, and the earth -- all of which are interconnected. We need theologians and ethicists who are interested in mutual dialogue, honest conversation about justice for the earth and all of its inhabitants. We need whites who are eager to know something about the communities of people of color -- our values, hopes, and dreams. Whites know so little about our churches and communities that it is often too frustrating to even talk to them about anything that matters. **Dialogue requires respect and knowledge of the other** -- their history, culture and religion. No one racial or national group has all the answers but all groups have something to contribute to the earth's healing.

Many ecologists speak often of the need for humility and mutual dialogue. They tell us that we are all interrelated and interdependent, including human and otherkind. The earth is not a machine. It is an organism in which all things are a part of each other. "Every entity in the universe," writes Catherine Keller, "can be described as a process of interconnection with every other being."(25) If white ecologists really believe that, **why do most still live in segregated communities?** Why are their essays and books about the endangered earth so monological -- that is, a conversation of a dominant group talking to itself? Why is there so much talk of love, humility, interrelatedness, and interdependence, and yet so little of these values reflected in white people's dealings with people of color?

Blacks and other minorities are often asked why they are not involved in the mainstream ecological movement. To white theologians and ethicists I ask, why are you not involved in the dialogue on race? I am not referring primarily to President Clinton's failed initiative, but to the initiative started by the Civil Rights and Black Power movements and black liberation theology more than forty years ago. How do we account for the conspicuous white silence on racism, not only in the society and world but especially in theology, ethics, and ecology? I have yet to read a white theologian or ethicist who has incorporated a sustained, radical critique of white supremacy in their theological discourse similar to their engagement of Anti-Semitism, class contradictions, and patriarchy.

To be sure, a few concerned white theologians have written about their opposition to white racism but not because race critique was essential to their theological identity. It is usually just a gesture of support for people of color when solidarity across differences is in vogue. As soon as it is not longer socially and intellectually acceptable to talk about race, white theologians revert back to their silence. But as Elie Wiesel said in his Nobel Peace Prize Acceptance Speech, "we must always take sides. Neutrality helps the oppressor, never the victim. Silence encourages the tormentor, never the tormented."(26) Only when white theologians realize that a fight against racism is a fight for their humanity will we be able to create a coalition of blacks, whites and other people of color in the struggle to save the earth.

Today ecology is in vogue and many people are talking about our endangered planet. I want to urge us to deepen our conversation by linking the earth's crisis with the crisis in the human family. If it is important to save the habitats of birds and other species, then it is at least equally important to save black lives in the ghettoes and prisons of America. As Gandhi said, "the earth is sufficient for everyone's need but not for everyone's greed."(27)

#### Humanity has established relationships of domination and subordination because we are afraid to recognize that in the immortal words of the Bloodhound Gang, you and me, we ain’t nothing but mammals --- only once we recognize our embeddedness within the biosphere will we have any hope of reigning in the destructive ontologies that have rendered other forms of life disposable.

**Williams, 98** (Melvin, *Race for Theory and the Biophobia Hypothesis*, p. 9-15)

We will become global citizens in a global village. In our interdependent world, relationships with “others” pose urgent social problems as long as we participate in supremacy narratives and performances. We live on a poisoned and overpopulated planet where the respect for the web-of-life and ecosystems cannot compete with an emerging **pathological human insecurity**. An alternative human value system of embodies and ecosystem can set the human stage for peace on Earth.

The origin and evolution of human culture appear to be accompanied by some persistent values and attitudes that have eventually allowed humans to dominate and endanger Earth. Thus these once adaptive propensities have become maladaptive in the global village. I argue that these same propensities create social conflict and divisiveness. Humans can transform the human **values and attitudes that are the basis for these behaviors**; they can begin with the children. My volume describes new values that will position humans within the web-of-life, make them components of Earth, allow them to perceive all forms of life as vital parts of the living community, and permit them to eradicate the production and reproduction of social inferiority. Humans eat Earth and deposit their waste there as all other forms of life. We can respect life to the extent of banishing the myths of inequality.

I revisit Erving Goffman to appreciate the nature of supremacy performances in human behavior. Both Freud and Alfred Adler will reinforce that appreciation. If a million years of adaptable human behavior is to be altered, there must be a suitable costume, stage, and script for the future human performances. If the anthropologist Leslie White is accurate, and human culture is significantly autonomous, then there needs to be a description fo the global conditions and the industrial. Darwin provides the raw material to launch our discussions, and cognitive anthropologists will guide our efforts in the socialization of children for a new world order—the rational reconstruction of society.

Ecosystems, education, and human culture are examined together to socialize and educate humans for the next century, for the next stage in social development in the global village. Humans will begin to perceive themselves as being part of Earth rather than living on it. During this period, “**ecosophy” may become one of our most important disciplines**.

Human efforts to control their environments (including arbitrarily identified populations), and to control most forms of life within those environments, have allowed humans to adapt, multiply and spread over Earth. Now our efforts will be to understand our impact and to transform those outdated values and attitudes. We have devoted many of our resources to attempt to change human habits that are harmful to our ecosystems, but I argue that we will also transform the nature of human culture itself. That culture that has allowed us to master our environments will be altered to protect them.

This book presents a social science approach that creates an understanding of the social dimension of renewable natural resource management problems and of the dissemination of research findings, and that creates efforts for the promotion of a conservation ethic that will precede the cultural explosion—the Ecological Revolution. That description will be facilitated by the historical records of the cultural revolutions, both the agricultural

and the idea of sustainable development at global, regional, national, and local levels. I develop a vision of human attitudes and values that sustain those ecosystems—a new moral order. A major component of that vision is to identify attitudes and values that enable people to comprehend and accept the necessity for conserving and protecting the world’s biological diversity and to create technology and public policy that will support these efforts.

Policy studies, conservation ethics, human rights, and new technology, for effective biological diversity and conservation requires a new human culture. That culture will eliminate social identity dependency on class, race, ethnicity, gender, religion, age, nation, and species. These new global citizens will be committed to the protection of our ecosystem, including our children, our aged, our poor, and our ill. The social commitment will be one that combines the education of parents, educators, policymakers, and industrial and military managers with the socialization of children to view the world’s ecosystems and its biological diversity as crucial parts of human life and health itself.

Adaptive cultural evolution now emerges with a **dangerous cultural lag**—attitudes and values that are **not compatible with present levels of science, weaponry, and technology**. This book examines value and attitude transformations and determines how new worldviews about ecology and human populations can be formulated and channeled into action: global change, curriculum development, interdisciplinary course, and state, local, regional, and global leadership training. This effort presents a new balance to the positivist-deconstructionist antagonisms. It creates some common research interests and new working relationships among the humanities and the social and natural sciences. WE may finally be able to understand race and cressans as supremacy narratives and performances.

Macroanthropology: Discovering Unity in the Search for Ourselves

The greater our knowledge of how man arose and how he functions, how he has developed and is developing the culture which makes him human, the greater our chance of using such knowledge in the culture process of which it becomes a part. With every increase in awareness and in our ability to articulate new social concepts which the scientific study of man makes possible, we become different human beings because our stature is enhanced by the culture we share. (Mead 1960b: 341)

Cultural anthropology can be dynamic and effective in its postcentennial period in America and in the twenty-first century in the world. The discipline can utilize all of its fields—practice, ethnology, archaeology, biology, and linguistics—to help make the world safe for humanity. If we continue to search for human nature, focus on the panhuman dilemmas of our times (see Williams 1992b), and help to sustain the ecosystems of the global village, we will learn to comprehend the human search for security. The privileged primate (humans) will deconstruct their delusions of superiority, determine the biophobia hypothesis (Williams 1992b: 192), and to welcome an Ecological Revolution. I call approach macroanthropology in order to recognize our kinship with the other social sciences that have used similar terms.

Within the context of a macrotheoretical approach to humans and to ecosystems, this book explores the social and environmental violence of humans be means of the biophobia hypothesis. The intractable destruction of Earth, including human communities, can be explored in terms of the origin, nature, and development of the human species itself. I discuss some aspects of that destruction (e.g., classism, racism, ethnocentrism, sexism, sectarianism, ageism, nationalism, and speciesism—cressans) and locate the ultimate course of that destruction (human extinction) and its diversion (the Ecological Revolution) in a rational reconstruction of human societies. The reconstruction is commenced by a new and different perception of the human body and of Earth.

The postmodern era, with its global economic, ecological, ethnic, and military threats of human disaster, can benefit from macroanthropological explanations and analyses. Contemporary times suggest that the social sciences might concentrate on the behaviors of the species. The biophobia hypotheseis permits for that concentration.

For almost twenty years, cultural anthropology has been drifting around and among other social sciences and humanities for the structures of its own identity. Reflexivity and self-examination have created no clear trajectory for cultural anthropology. Today history, cultural studies, literary criticism, development studies, and the continuous reformulations of colonial power dominate cultural anthropology. None of them shows us the future of cultural anthropology. At many universities the four-field approach has been almost abandoned, and where it does exist, the fields do not communicate well with one another. Cultural anthropology textbooks introduce students to very little that will be their course work in undergraduate and graduate curricula and even to less that will encumber their lives in the global village. I assume t n hat undergraduate and graduate courses will change in the immediate future to reflect postcolonial cultural anthropology.

If the preset situation of cultural anthropology continues, it, as a major field in anthropology, may cease to exist in the academy. But it need not continue. Macroanthropology waits in the wings. Macroanthropology asserts that the exploration of diversity is not an anthropological end but merely a means to search for ourselves as a species. One goal of cultural anthropology is to understand and explain the species. The history and development of the discipline document that. The exploration of diversity is useful only as long as it helps along that way. In fact, that exploration taken too far becomes exploitive for the human propensity to produce and reproduce social inferiority. Macroanthropology is designed to understand and explain the species as well as to be contemporary and future oriented. It recognizes that the human species has no future unless it solves some of its major problems on Earth, and macroanthropology can help by exposing the human dimensions of those problems. It is no longer enough to describe and explain the wide array of human behaviors. We must learn why humans are threatened with global suicide. Such knowledge may allow some social transformations that alter the courses that humans now steer.

Anthropology began as a search for *Homo sapiens* and human nature. Such a broad quest has taken its practitioners in many directions. Some of those directions have been found faulty, but we continue the search.

Macroanthropology proposes to return to the roots, to recapture the vision of our ancestors. It proposes to ask research questions about the species, about human nature, about “the human dilemma” (e.g., population, poverty, and pollution). Macroanthropology will design its questions such that each of the five fields of anthropology can make a contribution. I provide an example below when I ask, what about the body?

In my example I suggest that many of the problems of the species are a result of our conceptions of our bodies, but each of the five fields of anthropology can easily grapple with the question. In a research team, each of the participants can decide its own focus. The objectives of all of the perspectives are to determine where anthropologists can work to contribute to the question.

Biological anthropology has been working with the body since it began, but I propose a broader perspective for it and “scientific” anthropology. What I envision is a perspective that tackles human insecurity about the body and its function; a perspective that examines health, well-being, and longevity; a perspective that might transform all previous perspectives.

Humanistic approaches to the body are popular and are reflected in the literature, but I would nudge them to include some attention to the body’s relation to self-esteem; on language and the failures of communication; on language and human divisiveness; and on language and a support system for the animal functions of humans.

Scientific anthropology can explain why and how humans abuse their bodies. How did such devaluation begin and why does it continue? How are such devaluations distributed in the world’s population and how do they vary among them? These concerns about the body will translate into concerns about Earth (practice), violence, and human divisiveness.

There are many ways to approach this task. The present suggestions are but examples. The human quest (often appearing irrational) for power, and the exploitation and misappropriation of natural and human resources in that quest, are beacons for us to search for human nature. **Power seems a pervasive human addiction, and the exploitation of resources support the habit. Power has always required the exploitation and often misappropriation of Earth’s resources and still does**. The global transformations in technology, communications, transportation, weapons systems, and commerce are all being diverted to the quest for power in a world in which natural resources are limited. The global waste of those resources for power is symptomatic of a species gone amuck.

Humans have always had each other to exploit and abuse for power and comparisons; we continue today (e.g. cressans). But the postmodern demand for natural resources has reached an apex. This book discusses that demand as a pervasive symbol and substance that has an external impact on human affairs. I examine the human quest for power and comparison that appears to be a crucial component of human history and human nature. The human drive to be superior can be humbling in its display of a lack of self-respect and self-control. Materials for an economy and polity, the means and structure for earning a livelihood, and culture-nature relations, all have implications for power. Material and charismatic bases for power are mutually reinforcing.

The Gouro elders’ power, for example, rests on the control of objects, people, and the symbolically separate market and prestige spheres of exchange. Power is, therefore, encoded in symbols, enacted in relationships, and grounded in things. (Dimen-Schein 1977:211)

The relationship in production, distribution, and consumption reveal some basic power relationships in a culture. Contrary to Marx, the means of production is only one conduit of power. There are others: types of games, social relations, marriage, and natural resources.

Power, then, exists in different domains within each culture. It has material, psychological, and social dimensions, and its constitution varies accordingly: strength in rape, tools in production, “pull” in getting a job, charisma in group leadership, decision making in politics, or the manipulation of myth in propaganda. Its psychosocial dimensions include awe and noblesse oblige, respect and contempt, sadomasochistic relationships, among others. Its behavioral expressions vary. (Dimen-Schein 1977:211)

Together natural resources and power constitute here the deep ecological discussion that describe a course for humankind. Much of the discussion focuses on how natural resources and power produce and reproduce social inferiority in “others,” and how that production and reproduction are driven by an abiding inferiority complex in humans. The biophobia hypothesis attempts to explain this phenomenon. Most scholarship has been prey to it. Decades of research on social stratification, race and ethnicity, gender, sectarianism, age discrimination, nationalism, and speciesism do not address the human vulnerability to the eternal social divisiveness that threatens to destroy our Earth or at least our species. I postulate from discovering the fundamental basis for this abiding social divisiveness. On the contrary, scholars have taken a perverted kind of pleasure, like the “dirty old man” who spends a lifetime of well-funded research on pornography, lecherously studying “classography, raceography, ethnography, feminography, sectography, gerontography, poverography, poorography, victimography,” inferior nations and species. This book is not about blame. It asks why humans must produce and reproduce social inferiority in order to exploit it, even by perennially studying it. The biophobia hypothesis says that it is because humans have a phobia about their animal biology that creates an inferiority complex in them.

#### Part and parcel with the demand for new thinking is the demand for new technology –

**We will defend the ontological shifts in our society necessary to increase financial incentives for biomimetic solar energy production in the United States.**

**[Martin-Palmob and Lack-tack-eeyack 12]**

**Martin-Palmaab and Lakhtakiaac, 12** – Raúl J. Martín-Palmaab\* & Akhlesh Lakhtakiaac (*Engineered biomimicry for harvesting solar energy: a bird's eye view*, Taylor and Francic)

All three methodologies of engineered biomimicry – bioinspiration, biomimetics, and bioreplication – are represented in current research on harvesting solar energy. Both processes and porous surfaces inspired by plants and certain marine animals, respectively, are being investigated for solar cells. Whereas dye-sensitized solar cells deploy artificial photosynthesis, bioinspired nanostructuring of materials in solar cells improves performance. Biomimetically textured coatings for solar cells have been shown to reduce optical reflectance and increase optical absorptance over a broad spectral regime. Compound lenses fabricated by a bioreplication technique offer similar promise for reduced reflectance by increasing the angular field of view.

1. Introduction

Living organisms display an astonishing diversity of functionalities. Engineered biomimicry takes ideas and concepts from biology and implements them in different fields ranging from engineering to computing, aiming at the development of novel devices with desirable functionalities. This evolving methodology is highly multidisciplinary, and embraces aspects related to physics, materials science, nanotechnology, biology, chemistry, mechanical properties, computing and control, design integration, optimization, multifunctionality, and economics.

Engineered biomimicry comprises three methodologies: bioinspiration, biomimetics, and bioreplication [1]. Bioinspiration – an age-old methodology that is ever more fruitful with continuing techno-scientific advances – encompasses the design of a new structure or device that displays a certain functionality of a plant or animal without reproducing the biological structure responsible for that functionality. For instance, helicopters hover and so do bumblebees, but their mechanisms for hovering are entirely different. Biomimetics requires the approximate reproduction of the essential mechanism of the biological structure responsible for the display of a specific functionality. Robots that walk on four or more legs on uneven terrain furnish an excellent example of a biomimetic design methodology. The distinction between bioinspiration and biomimetics, however, is not always clear [2]. Bioreplication [3], the latest methodology in engineered biomimicry, is the direct replication of the responsible biological structure.

Engineered biomimicry has been applied for optical purposes for centuries. Perhaps the best examples are glass lenses used by a visually impaired person, many glass lenses having surfaces of roughly the same shape as that of the crystalline lenses found inside the eyes of numerous animals. Another example is provided by multilayered structures in the exoskeletons of beetles of many species to create color – which is mimicked by the widely used Bragg filters – without the use of pigments [4,5]. Such colors are called structural colors and their first description dates back to Isaac Newton [6], who tried to explain the brilliant plumage of the common Indian peafowl (Pavo cristatus) as rising from optical interference from the thin transparent part of the feathers. This research has now been extended to photonic crystals [7] and applied to the manufacture of unpigmented but colored fabrics [8]. Very recently, achromatic waveplates found in the eyes of crustaceans of a certain species inspired the design and fabrication of similarly performing waveplates [9].

**Given our seemingly insatiable appetite for energy and given the focus today on non-polluting sources of energy**, it was inevitable that the paths of engineered biomimicry and solar-energy harvesting would meet. Indeed, that is currently happening in three ways, one of which is bioinspired, the second is biomimetic, and the third can be classified as bioreplication.

Plants use sunlight in a chemical process called photosynthesis to convert carbon dioxide into sugars whose solutions act as liquid fuel. Any artificial route to harvest solar energy through a chemical process is bioinspired. Some biological structures such as the eyes of many species possess excellent anti-reflection coatings, and their implementation in conventional solar cells can enhance the light-harvesting efficiency, thereby providing an example of biomimetic methodology. Finally, compound eyes in many insects impart a huge angular field of view, which too can be exploited via bioreplication. All three applications of engineered biomimicry to harvesting solar energy are reviewed in the remainder of this paper.

2. Bioinspiration

Artificial photosynthesis is any chemical process whereby the energy of sunlight is converted into the energy stored in a material. This can be done in several ways. In a photoelectrochemical cell, an anode and a cathode are immersed in water [10]. Either both electrodes are made of a semiconductor or just one is semiconducting but the other is metallic. Water dissociates electrolytically into hydrogen and oxygen when a semiconducting electrode is exposed to light (which includes radiation of wavelengths smaller than 1000 nm). Hydrogen, which burns cleanly, can be used in a fuel cell. As a semiconducting electrode is also expected to function as a catalyst, a semiconductor may have to be alloyed with an efficient catalyst such as platinum to make that electrode. Clean fuels other than hydrogen may also become viable, and the major problem is the identification of the right materials to achieve efficient conversion.

A dye-sensitized solar cell, sometimes called a Grätzel cell, comprises (i) a transparent anode deposited on a glass with a porous semiconductor such as titanium dioxide that has been impregnated with a photosensitive dye, (ii) a metal sheet acting as the cathode, and (iii) a liquid electrolyte sealed between the two electrodes. Dye molecules excited by exposure to light lose an electron each which diffuses towards the anode, the electrolyte yields an electron to each positively charged dye molecule, and the electron-deficient electrolyte molecules physically move towards the cathode to replenish themselves from the cathode which receives additional electrons from the external circuit. Thus, rather than a fuel, the output of a dye-sensitized solar cell is electricity itself. This type of third-generation thin-film solar cell is quite inexpensive but its typical efficiency is not yet close to that of silicon solar cells.

Nanostructuring of materials which host a photochemical reaction is expected to improve performance. Recently, it has been proposed that arrays of hollow nanowires of zinc oxide can be sensitized to solar light and used as more efficient building blocks for different types of nanostructured solar cells, including organic, hybrid and dye-sensitized [11]. As may be inferred from Figure 1, looking like sea urchins (pentameric echinoderms of subclasses Perischoechinoidea and Euechinoidea), these nanowire arrays combine characteristics of three-dimensional and one-dimensional materials, are highly porous, and have a large specific surface area. These structures are fabricated as perfectly ordered arrays over large areas by an approach that combines colloidal patterning and electrochemistry. Exquisite control of dimensions and morphologies is possible by this hybrid approach.

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Figure 1. Top view and higher magnification (inset) images from a scanning electron microscope of an ordered hollow urchin-like structure of ZnO nanowires [11]. Courtesy of Dr. J. Elias (EMPA Materials Science and Technology).

Additionally, hollow structures of porous tin oxide have been fabricated by wet-chemical processing followed by annealing [12]. These coralline structures grow by assimilating smaller spherical structures. Dye-sensitized solar cells with photoanodes made of these structures have been reported to exhibit enhanced photovoltaic performance in comparison to photoanodes comprising spherical structures. The radial morphology of the coralline structures is believed to be responsible for providing larger effective surface area for dye sensitization and photon capture [12].

3. Biomimetics

Given that a significant fraction of light impinging the surface of most materials is reflected back, optical devices [13,14] including solar cells [15,16] incorporate surface texturing to reduce optical reflection resulting in enhanced light absorption. Sub-wavelength surface features are being increasingly used [14,17] to change the optical reflection characteristics of surfaces – instead of using multilayer antireflection coatings which usually require (i) the use of high-vacuum deposition techniques; (ii) accurate control of layer thicknesses; and (iii) selection of materials with suitable refractive index (appropriate real part and low imaginary part), appropriate mechanical properties (strength, adhesion, etc.) and coefficient of thermal expansion. Randomly sized and spaced pyramids [14,18,19], deep vertical-wall grooves [20], V grooves [21,22], and arrays of nanopillars [6–11 11,23] on the surface of silicon wafers have been widely utilized to reduce optical reflectance. Several surface-texturing techniques [24] including anodization [25] have also been used.

Nanopillars can be nanocylinders, nanocones, or nanonipples. Their arrays should function as graded-index materials in the visible and near-infrared spectral regimes [26,27]. An array of sub-wavelength nipples is commonly seen in moth eyes and fly eyes, as shown in Figure 2, which has led to many biomimetic efforts to improve solar-cell performance. Techniques employed to fabricate such nanopillar-array coatings comprise traditional bottom-up and top-down approaches [28].

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Figure 2. Scanning electron microscope image of the compound eye of a fly.

Closely packed arrays of nanonipples were recently patterned on silicon substrates using spin-coated silica colloidal monolayers as etching masks; see the scanning electron microscope image provided in Figure 3 [29]. The anti-reflection coatings made using this bottom-up non-lithographic technique were found to exhibit broadband antireflective performance superior to commercial coatings. Similar biomimetic anti-reflection coatings have also been used for GaAs substrates [30]. The nanonipple array also enhances hydrophobicity [31,32] so that the surface is self-cleaning [33].

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Figure 3. Tilted image on a scanning electron microscope of a templating array of 360-nm-diameter spheres of silica and the silicon nipples etched underneath. Courtesy of Prof. P. Jiang (University of Florida).

Similar low-reflection surfaces textured with arrays of nanopillars with different periods (pillar-to-pillar distance, from 150 nm to 350 nm), heights (from around 150 nm to 500 nm) and shapes (pillar width-to-period ratio from around 0.3 to 0.7) were fabricated by electron-beam lithography on silicon wafers [34]. In parallel, numerical simulations using the rigorous coupled-wave analysis (RCWA) indicated that as the height and shape of nanopillars as well as the array period affect reflectance, these parameters require optimization for best performance in the specific wavelength range over which the surface is required to function. Subsequently, RCWA was used to theoretically optimize the period of moth-eye arrays for low-reflection surfaces on silicon solar cells [35].

In another approach, moth-eye anti-reflection coatings were made of acrylic resin and deposited on polyethylene terephthalate substrates [36]. The geometry of closely packed arrays of nanonipples was optimized for operation in the 400–1170 nm wavelength range that almost completely covers the solar spectrum for using silicon solar cells. Optical simulations using RCWA indicated that the optimal nanonipples are 300 nm in height, 100 nm bottom width, and 30 nm top width, leading to reflectance lower than 0.87% in the 400–1170 nm wavelength range and a minimum of 0.1% at 400 nm for normally incident light. The same reflectance of a moth-eye coating (with nipples of approximately 200 nm height, 90 nm bottom width, and 50 nm top width) was experimentally determined to be lower than about 1% in the desired wavelength range, with a minimum of 0.55% at 700 nm wavelength.

A fabricated coating textured with nanonipples was placed on top of a crystalline silicon photovoltaic module and characterized indoors and outdoors for performance [37]. Typically, the optical-to-electrical efficiency of the module improved by 5%, which may turn out be cost-effective if the coating production becomes inexpensive.

4. Bioreplication

Bioreplication is the latest methodology in engineered biomimicry, having arrived on the scene just about a decade ago [3]. Its potential application for solar-energy harvesting is based on two observations [38]. The first observation is the wide angular field of view that many dipterans including house flies have. Each eye of a house fly is a compound eye, comprising numerous elementary eyes (ommatidia) arranged radially on a curved surface, as shown in Figure 2. The second observation is the almost halving of the reflectance, averaged over a huge angular sector and the 400–110 nm wavelength range, predicted through geometrical-optics simulations for a prismatic compound lens (with a surface inspired by the compound eyes of dipterans) adhering to a silicon solar cell [39].

A multistep experimental technique, now called the Nano4Bio technique, has been developed to replicate the corneal layer of a compound eye from an actual specimen. Industrial-scale replication being possible with the Nano4Bio technique [1], the idea is to cover the surface of a solar cell with numerous replicas of compound eyes in order to enhance the angular field of view of the solar cell.

Since the characteristic lengths of a compound eye range from about 200 nm to a few mm, direct fabrication of such a structure will require complex processing and most methods can produce just one replica per biotemplate (i.e. the compound eye). In contrast, the Nano4Bio technique can be used to fabricate multiple high-fidelity replicas of a single biotemplate. As depicted schematically in Figure 4, in the first step of this technique, a modified conformal-evaporated-film-by-rotation (CEFR) technique is deposit a 250 nm thick conformal coating of nickel on the biotemplate [40–42 42]. In the second step, a roughly 60-μm-thick structural layer of nickel is electroformed onto the thin layer to give it the structural integrity needed for casting or stamping. The biotemplate is then plucked off and plasma ashing is carried out to completely remove all organic material, in the third step. What is left behind is a master negative made of nickel. This can be used either as a die for stamping or a mold for casting multiple replicas, in the fourth step. Casting alone has been implemented thus far, with high fidelity obtained at the 2 μm length scale; stamping is expected to improve the reproduction fidelity at even lower length scales. The Nano4Bio technique can produce multiple replicas simultaneously of multiple biotemplates.

View larger version(45K)

Figure 4. Schematic of the Nano4Bio technique.

5. Concluding remarks

The most recent and significant research activities in the field of engineered biomimicry for harvesting solar energy have been reviewed here. The field can be said to be in its infancy as now, and bioinspired and biomimetic methodologies have seen the most intense activity. Engineered biomimicry could provide advantages over conventional engineering, as shown for example by a comparative simulation study of bioinspired texturing and V-grooved texturing of the front surface of silicon solar cells [39]. We expect that the next few years will witness increased activity with all three methodologies as well as industrial adoption.

#### Paradigm shifts packaged through alternative modes of technological production can serve as the impetus for relationships that recognize the ethical and aesthetic value of the world all around us.

**Johnson, 10** – received her PhD from the University of Minnesota for doctoral work that focused on the political and social implications of “biomimicry,” an emerging field within which scientists reverse engineer biological traits for technological production (Elizabeth R. Johnson, *Reinventing biological life, reinventing ‘the human’*, Ephemera Journal volume 10(2): 177-193)

**This is not animism, any more than it is mechanism; rather, it is universal machinism**. (Deleuze and Guattari, 1988: 283)

Biomimetic innovation is built on the detailed study of ‘existence proofs’ exhibited in animal physiology: an animal’s capacities are taken as evidence of an existing potential already designed and engineered to work in the world.4 It proceeds by ‘reverse engineering’ the observable behaviors expressed in biological life: without fully understanding an organism’s ‘design code’, biomimeticists attempt to engineer machinic organisms or synthetic materials capable of expressing that animal’s functions. An array of techniques and technologies – chemical engineering, robotic hardware, advanced computing technologies, and mathematical modeling software – are marshaled to enhance our own techno-abilities by remaking the capacities found in biological life.

Naturalists, ecologists, and evolutionary biologists historically presented an understanding of lobsters in relation to their ‘natural’ marine habitat, in connection to the organisms and the nonliving systems in which they live and to which they are related. In zoology textbooks, lobsters are situated next to their kin: pages on shrimp, crayfish, and other crustaceans surround those on the lobster (see, for example, Castro and Huber, 2005). Natural historians and ecologists place primacy on how lobster bodies emerged within an historical trajectory or how they relate to other bodies within a bounded ecological assemblage. Biomimicry, on the other hand, is unconcerned with the ‘place’ or the ‘natural’ order of the organism’s evolutionary development. Indeed, as a practice, it expresses little interest in where, when, and how lobsters emerged or in the crabs, clams, and shrimp related to them by networks of kinship or consumption. Instead, biomimetic scientists investigate lobster bodies for what they can do: how they orient themselves to the world and how such orientations are different from our own. Rather than being concerned with classification, **biomimeticists attend to the animal’s potential to connect with other forms of life, technologies, and social problems**, valuing lobsters for their capacity to move with agility and track chemicals underwater.

Biomimicry’s transformative potential is seductive; it is easy to fixate on how and where biomimetics shifts our conceptions of ‘life’. One may be (as I was) drawn to the ways in which biomimicry is Spinozan or Deleuzian in its attention to embodied capacities and its drive to appropriate them in bodies elsewhere. Machines that become lobsters or lobsters that become machines are not, as they say, associated by ‘mere metaphor’. These animals, their traits, and the products developed with knowledge of them are not valorized on account of animal symbolisms or the meanings attributed to their animality (as in Nicole Shukin’s work). Rather, these animals become valued because of their functionality, efficiency, and ‘natural’ talents. Biomimicry breaks down bodies the barriers: animal and machine become indistinguishable as the capacities of one are substituted for another. A lobster on a treadmill is a lobster defined by its ‘intensive’ functions – what its neuroethology can do and how it does it. Indeed, the animals that inspire biomimetic design may be best understood as ‘composition[s] of speeds and affects on the plane of consistency: a plan(e), a program, or rather a diagram, a problem, a question-machine’ (Deleuze and Guattari, 1988: 258). This biological apparatus thus can be read as a set of ‘intensive parts’: powerful and embodied capacities for action that are transferable from one body to another to solve any barrier to movement as the need – or question – arises. Read in this way, biomimetic practices are perhaps less ‘post-human’ than post-animal or post-species altogether.5

Supporters of the so-called biomimetic movement have billed it a ‘revolution’ in technoscientific innovation. But what kind of revolution is this? What are we to make of these rearrangements of biology and technology? Do lobsters and their robotic counterparts merely offer a vivid illustration of Deleuze and Guattari’s machinic assemblage of bodies and relations of moving parts? Or is there something more potent – politically, ethically, socially – to be expected from biomimicry’s techno-biologies? Advocates of biomimicry would have us think as much. So too would much of the existing literature in ‘post-humanism’ and animal studies.

Historical traditions founded on a purified category of ‘the human’ absorb the blame for many of the problems characteristic of our contemporary global situation. Giorgio Agamben’s figuration of ‘bare life’ encapsulates this argument in what are perhaps the starkest of terms. A life is rendered ‘bare’ when it subject to exclusion from the protections provided by law or social securities: the taking or neglect of ‘bare life’ requires no accountability. Agamben argues that such a state is predicated on the philosophical distinction between human and animal, a distinction that allows for the subsequent attribution of ‘animal’ qualities to the lives of humans. As inferior to but resident within ‘the human’, category of ‘the animal’ legitimizes the labeling of populations as ‘unfit’ for life in the polis, be they excluded on the basis of race, religion ethnicity, gender, class, or geographical origins (Agamben, 2004). In The Open, Agamben explores the history of science and philosophy that articulates this process of categorization as a legitimation of exclusion. He names this process the ‘anthropological machine’. Following this logic, Kelly Oliver notes that the human and animal, distinguished as such, serve as the founding concepts that ground acts of injustice and cruelty to humans as well all other species: ‘the anthropological machine… produces the monstrous category “animal” that not only effaces nearly infinite differences between species but also corrals them all into the same abject and inferior pen’ (Oliver, 2007: 11).

Similarly, but from within a more materialist tradition, Donna Haraway’s Cyborg Manifesto catalyzed a conversation that has located the negative qualities of science and politics in the ‘Western’ tradition – ‘racist, male-dominant capitalism; the tradition of progress; the tradition of the appropriation of nature as resource for the productions of culture; the tradition of reproduction of the self from the reflections of the other’ – within origin myths of purity and the maintenance of a ‘border war’ a between organisms and machines as well as humans and animals (Haraway, 1991: 150). The appointed ‘guru’ of the biomimetic movement and recent recipient of the UN’s ‘Champion of the Earth’ award in Science and Innovation, Janine Benyus, has composed a narrative of the our ecological crisis and its associated injustices that resonates with both Agamben and Haraway’s work. She locates our collective crisis on Earth in the ‘severed’ connection between humans and the Earth. As in Agamben’s narrative, this loss of connection is the result of an originary rupture, located in this instance with the agricultural revolution. We have lost, she laments, ‘cooking fires to storytell around [and] ceremonial dances to reenact the movement of the herds’ (Benyus, 1997: 183). But, for Benyus, historical progress has been one of a continual series of such ruptures, each inaugurated by technological development, and each leading humans further from what Benyus refers to as ‘our home’. The following is her version of the historical narrative:

Our journey began ten thousand years ago with the Agricultural Revolution, when we broke free from the vicissitudes of hunting and gathering and learned to stock our own pantries. It accelerated with the Scientific Revolution, when we learned, in Francis Bacon’s words, to ‘torture nature for her secrets.’ Finally when the afterburners of the Industrial Revolution kicked in, machines replaced muscles and we learned to rock the world. But these revolutions were only a warm-up for our real break from Earthy orbit – the Petro-chemical and Genetic Engineering Revolutions. Now that we can synthesize what we need and arrange the genetic alphabet to our liking, we have gained what we think of as autonomy. Strapped to our juggernaut of technology, we fancy ourselves as gods, very far from home indeed. (ibid)

Benyus’s history of our collective loss of connection to the earth is a story of compounding catastrophe that calls to mind Walter Benjamin’s Angelus Novus, who ‘sees one single catastrophe, which keeps piling wreckage upon wreckage and hurls it at his feet’ (Benjamin, 1996: 392).

3. Remaking life, remaking the human

Life creates the conditions conducive to life. (Benyus, 2002)

For Benyus as for Agamben, salvaging a saner life from the wreckage of history seems to require somehow absolving ourselves of ‘original’ catastrophe by rearticulating the human (and animal) differently. Indeed, like all of the aforementioned theorists, Benyus calls for dismantling conceptions of human exceptionalism that seems to have become increasingly sedimented throughout history as the ‘wreckage’ is piled higher and higher. For Agamben – as well as Kelly Oliver and Cary Wolfe – this requires the destabilization or even erasure of the categories of human and animal through **the recognition of shared limits, vulnerability, or an embrace of** Derrida’s ‘**nonpower at the heart of power’**. Haraway, along with Bruno Latour, Michel Serres, Sarah Whatmore, and Jane Bennett, attempts to rework the ‘human’ in practice, by writing of bodies-inrelation – bodies that have ‘never been human’ in spite of the centuries of philosophical and political writings that seem to assure the contrary. These writers enliven alternative histories, citing empirical evidence of our becomings with objects, animals, and bacteria and telling stories in which ‘the human’ is neither the protagonist nor even an active agent. Like the work of Deleuze and Guattari, these histories are meant to transform how we envision our own life activity. Together these authors all suggest that we not only recognize and acknowledge, but also actively practice ever-changing ‘strange kinships’ that ‘[allow] for an intimate relation based on shared embodiment without denying differences between life-styles or styles of being’ (Oliver, 2007: 18); **we are encouraged to reproduce life as if we were accountable for the entire ‘universal machine’ rather than the individuals and groups** (some, although not others) who we have selected out of it. For Haraway, this consists of ‘retying the knots of multi-specied living on earth’ (Haraway, 2008: 2) and **better attending to the ‘sym-bio-genesis’ of all beings by recognizing that they are “the fruit of ‘the co-opting of strangers, the involvement and infolding of others into ever more complex and miscegenous genome**”’ (Margulis and Sagen, quoted in Haraway, 2008: 31). Accordingly, such transformations in how we practice everyday life and how we imagine our own subjectivities offer the potential to enact ‘autre-mondializations’ – alternative global political arrangements divorced from neoliberalism and liberal humanism (Haraway, 2008).

Janine Benyus’s work and that of the biomimeticists with which she is associated seem to follow through on these recommendations in practice. While less Continental philosophy than New Age, Benyus’s 1997 book, Biomimicry: Innovation Inspired by Nature, describes a collection of projects that suture together the now existing pieces of our historical ‘wreckage’ with the products of biological histories. The ultimate aim is to remake how we make technologies by modeling them on biological structures and functions. Rather than blindly push forward with a vision of technological ‘progress’ whose outcomes are unknown, we can look to nature to identify how it creates the conditions for life’s expansion. As she explains:

Evolution itself is believed to have occurred in fits and starts, plateauing for millions of years and then **leaping to a whole new level of creativity after crises**… my hope is that we’ll have turned this juggernaut around, and instead of fleeing the Earth, we’ll be homeward bound, letting nature lead us to our landing, as the orchid leads the bee. (Benyus, 1997: 5)

This is not all, however, as according to Benyus, engineering a future that is both ‘calm’ and sustainable requires more than the technological fix that biomimicry promises. Rather, it also requires fixing what we broke in the Agricultural Revolution in her narrative: our connection to the earth. And this, she suggests, is the ultimate promise of biomimicry – that it will undermine the conceptions of human and nonhuman life upon which the traditions of technological production and progress were built.

Print and online news media outlets view biomimetic productions with a sense of profound irony: journalists approach the idea that scientists at elite institutions and engineers at multinational corporations are looking to ‘lowly creatures’ to teach them how to overcome technological and conceptual roadblocks with humor (Gaidos, 2010: 22; Stresing, 2003). Benyus, however, foregrounds the potential for biomimicry to unsettle our notions of human exceptionalism as its most profound contribution. Rejecting a human-environment relationship best characterized by extraction, exploitation, and domination, Benyus characterizes biomimicry as a means of production founded on mutual enhancement and education: it’s not ‘what we can extract from nature, but ... what we can learn from her’ (Benyus, 1997: 2, emphasis in original). For her, biomimetic production is not about using animal life (or using it up), but about exploring it as a source of enchantment and inspiration. And, for Benyus, this is the true hope of biomimicry: that they will engender a more respectful, responsible, and humble engagement with nonhuman as well as human life.

When we view nature as a source of ideas instead of goods, **the rationale for protecting wild species and their habitats becomes self-evident**. To have more people realize this is my fondest hope. In the end, I think biomimicry’s greatest legacy will be more than a stronger fiber or a new drug. It will be **gratitude, and** from this, **an ardent desire to protect the genius that surrounds us**. (Benyus, 2008)

By transforming how we make everything from plumbing pipes to robots, Benyus argues that biomimicry naturally stretches the categories of human and nonhuman beyond their limits, shaking the foundation of human exceptionalism and forging more collaborative engagements with nonhumans for a more democratic and sustainable future. If we accept these conclusions, such engagements not only promise to solve our ecological crisis, but also the problematic social and political conditions that have led to it. Just as biomimicry disintegrates what we know of ‘lobsters’, Benyus and other advocates promise that it will break apart the human, locating it elsewhere, outside of itself in such a way that it can no longer refer back to an essential identity or reproduce an idealized image of human nature. Read through this lens, biomimicry might suggest an end to the ‘lethal and bloody’ operation of the ‘anthropological machine’ through a re-making of production and the reconsideration of the how humans, animals, and other things come together to produce things and, subsequently, to produce the world. Its practice of transgressing traditions borders and its emphasis on inspiration over appropriation seem to offer a **foundation for modes of production that are more ethical**, more attentive to and responsible for the bodies with which we produce. In Benyus’s words, ‘We will have to climb down from our pedestal and begin to see ourselves as simply a species among species, as one vote in a parliament of 30 million. When we accept this fact, we start to realize that what is good for the living Earth is good for us as well’ (ibid).

#### Policy is in crisis --- our 1AC is a way to fix the reasons we have been making poor decisions.

**Moten and Harney, 10** – (Fred Moten and Stefano Harney, *Policy and Planning*, http://www.darkmatter101.org/site/2010/04/19/policy-and-planning/)

The hope that Cornel West wrote about in Social Text in 1984[1] was not destined to become policy in 2008. The ones who practiced it, within and against the grain of every imposed contingency, always had a plan. In and out of the depths of Reaganism, against the backdrop and by way of a resuscitory irruption into politics that Jesse Jackson could be said both to have symbolized and quelled, something West indexes as black radicalism, which “hopes against hope…in order to survive in the deplorable present” (p.10-11), asserts a metapolitical surrealism that sees and sees through the evidence of mass incapacity, cutting the despair it breeds. Exuberantly metacritical hope has always exceeded every immediate circumstance in its incalculably varied everyday enactments of the fugitive art of the impossible. This art is practiced on and over the edge of politics, beneath its ground, in animative and improvisatory decomposition of its inert body. It emerges as an ensemblic stand, a kinetic set of positions, but also takes the form of embodied notation, study, score. Its encoded noise is hidden in plain sight from the ones who refuse to see and hear—even while placing under constant surveillance—the thing whose repressive imitation they call for and are. Now, a quarter century after West’s analysis, after an intervening iteration that had the nerve to call hope home while serially disavowing it and helping to extend and prepare its almost total eclipse, the remains of American politics exudes hope once again. Having seemingly lost its redoubled edge while settling in and for the carceral techniques of the possible, having thereby unwittingly become the privileged mode of expression of a kind of despair, hope appears now simply to be a matter of policy. Policy, on the other hand, now comes into view as no simple matter.

By policy we mean not a particular policy, as in company policy or public policy, but rather policy as something in contradistinction to planning. By policy we mean **a resistance to the commons from above, arrayed in the exclusive and exclusionary uniform/ity of imposed consensus**, that both denies and at the very same time seeks to destroy the ongoing plans, the fugitive initiations, the black operations of the multitude.[2] As a resistance from above, policy is a class phenomenon because it is the means to advantage in the post-fordist economy, a means that takes on the character of politics in an economy dominated structurally by immaterial labour. This economy is powered by the constant insistence on a radical contingency producing a steady risk for all organic and non-organic forms, a risk that allows work against risk to be harvested indefinitely.

Policy is the form that opportunism takes in this environment. It is a demonstration of willingness to be made contingent and to make contingent all around you by demonstrating an embrace of the radically extra-economic, political character of command today.[3] It is a demonstration designed to separate you from others, in the interest of a universality reduced to private property that is not yours, for your own survival, for your own advantage in this environment. Opportunism sees no other way, has no alternative, but separates itself by its own vision, its ability to see the future of its own survival in this turmoil against those who cannot imagine surviving in this turmoil (even if they must all the time) and are thus said by policy to lack vision, and in the most extreme cases to be without interests, on the one hand, and in capable of disinterestedness, on the other.[4] Every utterance of policy, no matter its intention or content, is first and foremost a demonstration of one’s ability to be close to the top in the hierarchy of the post-fordist economy. (Thus every utterance of policy on the radical Left is immediately contradiction.)

As an operation from above designed to make the multitude productive for capital, policy must first deal with the fact that the multitude is already productive for itself. **This productive imagination is its genius, it’s impossible, and nevertheless material, collective head**. And this is a problem because plans are afoot, black operations are in effect, and in the undercommons, all the organizing is done. The multitude uses every quiet moment, every peace, every security, every front porch and sundown to plan, to launch, to improvise an operation. It is difficult for policy to deny these plans directly, to ignore these operations, to pretend that those already in motion need to stop and get a vision, to contend that base communities for escape need to believe in escape. And if this is difficult for policy then so too is the next and crucial step, teaching the value of radical contingency, teaching how to participate in change from above. Of course, some plans can be dismissed – plans hatched darker than blue, on the criminal side, out of love. But most will instead require another approach.

So what is left for those who want to dwell in policy? Obviously the most salient and consistent aspect of policy – help and correction. Policy will help. Policy will help with the plan, and even more policy will correct the planners. Policy will discover what is not yet theorized, what is not yet fully contingent, and most importantly what is not yet legible. Policy is correction. Policy distinguishes itself from planning by distinguishing those who dwell in policy and fix things, from those who dwell in planning and must be fixed. This is the first rule of policy. It fixes others. In an extension of Foucault we might say of this first rule that it remains concerned with how to be governed just right, how to fix others in a position of equilibrium, even if this today requires constant recalibration. But the objects of this constant adjustment provoke this attention because they just don’t want to govern at all.

And because such policy emerges materially from post-fordist opportunism, policy must optimally for each policy-maker fix others as others, as those who have not just made an error in planning (or indeed an error by planning) but who are themselves in error. And from the perspective of policy, of this post-fordist opportunism, there is indeed something wrong with the multitude. They are out of joint – instead of constantly positing their position in contingency, they seek solidity, a place from which to plan, some ground on which to imagine, some love on which to count. Nor is this just a political problem from the point of view of policy, but an ontological one. **Seeking fixity, finding a steady place from which to launch a plan, hatch an escape signals a problem of essentialism**, of beings who think and act like they are something in particular, like they are somebody, although at the same time that something is, from the perspective of policy, whatever you say I am.

To get these planners out of this problem of essentialism, this fixity and repose, this security and base, they have to come to imagine they can be more, they can do more, they can change, they can be changed. Because right now, there is something wrong with them. We know there is something wrong with them because they keep making plans. And plans fail. Plans fail because that is policy. Plans must fail because planners must fail. **Planners are static, essential, just surviving**. **They do not see clearly**. **They hear things.** **They lack perspective. They fail to see the complexity**. Planners have no vision, no real hope for the future, just a plan here and now, an actually existing plan.

They need hope. They need vision. They need to have their sights lifted above the furtive plans and night launches of their despairing lives. Vision. Because from the perspective of policy it is too dark in there to see, in the black heart of the multitude. You can hear something, you can feel something, feel people going about their own business in there, feel them present at their own making. But hope can lift them above ground into the light, out of the shadows, away from these dark senses.

Whether the hope is Fanonian redemption or Arendtian revaluation, policy will fix these humans. Whether they lack consciousness or politics, utopianism or common sense, hope has arrived. With new vision, planners will become participants. And participants will be taught to reject essence for contingency, as if planning and improvisation, flexibility and fixity, and complexity and simplicity were opposed within an imposed composition there is no choice but to inhabit, as some exilic home. All that could not be seen in the dark heart of the multitude will be supposed absent as policy checks its own imagination. But most of all they will participate. Policy is a mass effort. Left intellectuals will write articles in the newspapers. Philosophers will hold conferences on new utopias. Bloggers will debate. Politicians will surf. Change is the only constant here, the only constant of policy. Participating in change is the second rule of policy.

Now hope is an orientation toward this participation in change, this participation as change. This is the hope policy gives to the multitude, a chance to stop digging, and start circulating. Policy not only offers this hope, but enacts it. Those who dwell in policy do so not just by invoking contingency but riding it, by in a sense, proving it.

Those who dwell in policy are prepared. They are legible to change, liable to change, lendable to change. Policy is not so much a position as a disposition, a disposition toward display. This is why policy’s chief manifestation is governance.

Governance should not be confused with government or governmentality. Governance is the new form of expropriation. It is the provocation of a certain kind of display, a display of interests as disinterestedness, a display of convertibility, a display of legibility. Governance offers a forum for policy, for bidding oneself, auctioning oneself, to post-fordist production. Governance is harvesting of immaterial labour but a willing harvest, a death drive of labour. As capital cannot know directly affect, thought, sociality, imagination, it must instead prospect for these in order to extract and abstract them as labour. This is the real bio-prospecting. Governance, the voluntary but dissociative offering up of interests, willing participation in the general privacy and privation, grants capital this knowledge, this wealth-making capacity. Who is more keen on governance than the dweller in policy? On the new governance of universities, hospitals, corporations, governments and prisoners, on the governance of NGO’s, of Africa, of peace processes? Policy offers to help by offering its own interests, and if it really seeks to be valuable, provoking others to offer up their own interests too.

But governance despite its own hopes to universality, is for the initiated, for those who know how to articulate interests disinterestedly, who know why they vote (not because someone is black or female but because he or she is smart), who have opinions and want to be taken seriously by serious people. In the mean time, policy also orders the quotidian sphere of aborted plans. Policy posits curriculum against study, child development against play, careers against jobs. It posits voice against voices, and gregariousness against friendship. Policy posits the public sphere, and the counter-public sphere, and the black public sphere against the illegal occupation of the illegitimately privatized.

Policy is not the one against the many, the cynical against the romantic, or the pragmatic against the principled. It is simply baseless vision. It is against all conservation, all rest, all gathering, cooking, drinking and smoking if they lead to marronage. Policy’s vision is to break it up, move along, get ambition and give to your children. Policy’s hope is that there will be more policy, more participation, more change. However, there is also a danger in all this participation, a danger of crisis.

When the multitude participates in policy without first being fixed, this leads to crisis. Participation without fully entering the enlightenment, without fully functioning families, without financial responsibility, without respect for the rule of law, without distance and irony, participation that is too loud, too fat, too loving, too full, too flowing, too dread. This leads to crisis. People are in crisis. Economies are in crisis. We are facing an unprecedented crisis, a crisis of participation, a crisis of faith. Is there any hope? Yes, there is, if we can pull together, if we can share a vision of change. For policy, any crisis in the productivity of radical contingency is a crisis in participation, which is to say, a crisis provoked by the wrong participation of the multitude. This is the third rule of policy.

The crisis of the credit crunch cause by sub-prime debtors, the crisis of race in the U.S. elections produced by Reverend Wright and Bernie Mac, the crisis in the Middle East produced by Hamas, the crisis of obesity produced by unhealthy eaters, the crisis of the environment produced by Chinese and Indians, are all instances of uncorrected, unmanaged participation. If the multitude is to stop its sneaky plans only to participate in this way, crisis is inevitable. But policy diagnoses the problem: participation must be hopeful, it must have vision, it must embrace change. Participants must be fashioned who are hopeful, visionary, change agents. Those who dwell in policy will lead the way, toward concrete changes in the face of the crisis.

Be smart. Believe in change. This is what we have been waiting for. It’s time for the Left to offer solutions. Now’s the time, before its night again, and you start hearing D.O.C. They got a secret plan of their own and they won’t be corrected. Before you get stopped by KRS One and asked for your plan, before Storm says ‘holla if you understand my plan ladies.’ Before you start singing another half-illiterate fantasy. Before you are in the ongoing amplification at the dark heart of the multitude, the operations in its soft centre. Before someone says let’s get together and get some land, where we’ll still plan to be communist about communism, still plan to be unreconstructed about reconstruction and still plan to be absolute about abolition. Policy can’t see it, policy can’t read it, but it’s intelligible if you got a plan.

#### Shifting energy policy does nothing with shifts in communication. The aff creates the communication shift which is a pre-requisite to policy remediating the strategies of control which dominate the status quo

Rifkin 10 (Jeremy, masters degree in international affairs at the Fletcher School of Law and Diplomacy at Tufts University, January 2010, Huffington Post, “The Empathic Civilization': Rethinking Human Nature in the Biosphere Era”, http://www.huffingtonpost.com/jeremy-rifkin/the-empathic-civilization\_b\_416589.html)

What is required now is nothing less than a leap to global empathic consciousness and in less than a generation if we are to resurrect the global economy and revitalize the biosphere. The question becomes this: what is the mechanism that allows empathic sensitivity to mature and consciousness to expand through history? The pivotal turning points in human consciousness occur when new energy regimes converge with new communications revolutions, creating new economic eras. The new **communications revolutions become the command and control mechanisms for structuring**, organizing and managing more **complex civilizations that** the **new energy regimes make possible**. For example, in the early modern age, print communication became the means to organize and manage the technologies, organizations, and infrastructure of the coal, steam, and rail revolution. It would have been impossible to administer the first industrial revolution using script and codex. Communication revolutions not only manage new, more complex energy regimes, but also **change human consciousness in the process**. Forager/hunter societies relied on oral communications and their consciousness was mythologically constructed. The great hydraulic agricultural civilizations were, for the most part, organized around script communication and steeped in theological consciousness. The first industrial revolution of the 19th century was managed by print communication and ushered in ideological consciousness. Electronic communication became the command and control mechanism for arranging the second industrial revolution in the 20th century and spawned psychological consciousness. **Each more sophisticated communication revolution brings together** more **diverse people in** increasingly more **expansive and varied social networks**. Oral communication has only limited temporal and spatial reach while script, print and electronic communications each extend the range and depth of human social interaction. By extending the central nervous system of each individual and the society as a whole, communication revolutions provide an evermore inclusive playing field for empathy to mature and consciousness to expand. For example, during the period of the great hydraulic agricultural civilizations characterized by script and theological consciousness, empathic sensitivity broadened from tribal blood ties to associational ties based on common religious affiliation. Jews came to empathize with Jews, Christians with Christians, Muslims with Muslims, etc. In the first industrial revolution characterized by print and ideological consciousness, empathic sensibility extended to national borders, with Americans empathizing with Americans, Germans with Germans, Japanese with Japanese and so on. In the second industrial revolution, characterized by electronic communication and psychological consciousness, individuals began to identify with like-minded others. Today, we are on the cusp of another historic convergence of energy and communication--a third industrial revolution--that could extend empathic sensibility to the biosphere itself and all of life on Earth. The distributed Internet revolution is coming together with distributed renewable energies, making possible a sustainable, post-carbon economy that is both globally connected and locally managed. In the 21st century, hundreds of millions--and eventually billions--of human beings will transform their buildings into power plants to harvest renewable energies on site, store those energies in the form of hydrogen and share electricity, peer-to-peer, across local, regional, national and continental inter-grids that act much like the Internet. The open source sharing of energy, like open source sharing of information, will give rise to collaborative energy spaces--not unlike the collaborative social spaces that currently exist on the Internet. When every family and business comes to take responsibility for its own small swath of the biosphere by harnessing renewable energy and sharing it with millions of others on smart power grids that stretch across continents, we become intimately interconnected at the most basic level of earthly existence by jointly stewarding the energy that bathes the planet and sustains all of life. The new distributed communication revolution not only organizes distributed renewable energies, but also changes human consciousness. The information communication technologies (ICT) revolution is quickly extending the central nervous system of billions of human beings and connecting the human race across time and space, allowing empathy to flourish on a global scale, for the first time in history.

#### Command society is falling away, there is no one right answer about how to affirm the topic --- strategies that incorporate modes of questioning into modes of action are necessary in an increasingly uncertain future

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Whether it be in the realms of civics, work, or everyday cultural life, we are in the midst of enormous change. To remain apt, education must reflect these changes. Maybe, there are even times and places where educators can lead change.

Take civics. For better or worse, the key phenomenon in the realm of civics is that the nation-state is shrinking. Whatever the root causes—small government conservatism, globalisation, or the new dynamics of a post–Cold War world—the realities of this change are felt everywhere.

The society of self-regulating community—civil society—is becoming a more significant locus of action and decision. The Internet is governed, not by any state, but through the community of experts and interested parties that is the World Wide Web Consortium. Diasporic communities are governed, not by home governments, but by highly distributed community organisations whose points of connection are common cultural principles. In education, we are witnessing the rise of community and private schooling and the self-managing public school, as well as the need for teaching **to become an increasingly self-regulated profession**. As the state contracts, there is no alternative to creating governance structures within the communities of practice of civil society.

With the shrinking of the state, a certain kind of society disappears, too. Compare the relationship of state and civil society today with the command societies of the 20th century—the communism of Lenin and Mao, the fascism of Hitler and interwar Japan, and the paternalistic regimentation of the West’s welfare state. When a greater capacity to decide and act is devolved to civil society, a higher level of participation and reflexivity is required of citizens.

So deep is this change that it extends even to the nature of personality. The society of the strong state established relationships of command and compliance at every level, not just in the state itself but in workplaces (the bosses and supervisors whose orders were to be obeyed), in homes (the heads of households who made decisions and disciplined), in schools (the orders of headmasters and teachers, **mandated curricular content and tests of definitively correct answers**).

Take that archetypical command personality Howard Roark, modern architect and towering individual in Ayn Rand’s procapitalist novel The Fountainhead (1952/1996). At the vanguard of unadorned modernism, he stands alone against the world, unwilling to compromise his designs, and for his singularity of purpose, he triumphs. At almost the same moment, anticapitalist Mexican artist Diego Rivera was painting the heroes of modernity on the murals of the Rockefeller Centre in New York. Overlooking the mighty works of modern man—the cities, the bridges, the industrial landscapes whose horizons are punctured by smokestacks— were the heroic engineer, the heroic architect, the heroic intellectual, the heroic political leader, the heroic gang-supervisor, and (his Rockefeller patrons also hoped) the heroic capitalist. Rivera was removed from the job when it became obvious that among the faces of the heroes was a likeness of Lenin. Notwithstanding 20th-century sensitivities to their ideological differences, Roark and Lenin were equally command personalities and in that sense substitutable in the tableau of modernism. Both left and right, in their time, lionised command personalities.

For every command personality, there had to be a multitude of unquestioning functionaries, and upon their compliance the system depended. The ideal citizen of the strong state was compliant; the ideal worker of the capitalist or communist industrial enterprise was compliant; the ideal learner in the classroom of disciplined knowledge was compliant.

Today, the command personality is an anachronism. At work, for instance, crude command structures are replaced by a more sophisticated cultural co-option—the co-option of teamwork, vision and mission, and corporate culture, in which everyone is supposed to personify the enterprise, to think and will and act the enterprise. Roark’s aesthetic insistence has become an archaism—he would let his business fail before compromising on the rigorous modernism of his designs. “Any colour you like, so long as it’s black,” said another heroic command personality, Henry Ford. Today, there can be no entrepreneurial heroism because the customer is always right and products and services need to be customised to mesh with the multiple subjectivities of niche markets—the big SUVs, the smart sports cars, the spacious family cars, the microcars for crowded cities, cars of any hue and trim—so many permutations, in fact, that sometimes an individual order has to be placed before a vehicle is manufactured. Fordist mass production is displaced by today’s mass customisation.

In our lives as cultural beings as well, there has been a profound shift in the intersubjective balance of power. Take something as fundamental as narrative. In everyday family and community life, the narratives of gaming have become a bigger business than the narratives of Hollywood. From the most impressionable of ages, children of the Nintendo, PlayStation, and X-Box generation have become inured to the idea that they can be characters in narratives, capable of determining or at least influencing the story’s end. They are content with being no less than actors rather than audiences, players rather than spectators, agents rather than voyeurs, users rather than readers of narrative. Not content with programmed radio, they build their own playlists on their iPods. Not content with programmed television, they read the narratives of DVD and Internet-streamed video at varying depth (the movie, the documentary about the making of the movie) and dip into “chapters” at will. Not content with the singular vision of sports telecasting of mass television, they choose their own angles, replays, and statistical analyses on interactive digital television. Meanwhile, the autocreative potentials of the digital media and the “semantic web” have only begun, with phenomena such as blogging. These potentials create new economies of cultural scale, geographies of distribution, and balances of cultural power. The costs of owning the means of producing widely communicable meaning have been hugely reduced, and with this, the small and the different have become as viable as the large and the generic (Cope & Kalantzis, 2004).

Whether it be in the domains of governance, work, or cultural life, the command society is giving way to the society of reflexivity. Or so we might say in moments of strategic optimism. In moments of pessimism we might experience these same phenomena as fragmentation, egocentrism, randomness, ambiguity, and anarchy. And when this pessimism turns to fear, we might want to return to earlier, simpler command structures—in nations, workplaces, households, and schools.

Pessimists and optimists alike can agree that we are in the midst of a transformation that is creating new forms of subjectivity and new kinds of personality. These transformations can be viewed from within a systemic perspective and beyond it. From a systemic point of view, these are the kinds of governance structures, the kinds of organisations, and the kinds of people required today for the most conservative, small government, and proenterprise points of view. We hear these points of view ex pressed in the public rhetoric of innovation and creativity, the knowledge economy, and individual autonomy and responsibility. Notwithstanding the high-sounding rhetoric, these transformations when left to run their course may only legitimate and even exacerbate systemic inequities—iniquities, indeed.

History, however, is more open-ended than that. Inevitably, human systems are so complex that they allow possibilities outside the scope anticipated by their progenitors and apologists. For every moment when the ideologues of small government succeed in shrinking the state, there is another moment in which people learn the civilities of self-government in their various communities of practice; for every moment when command structures in workplaces are replaced by collaborationist structures, there is another moment in which people acquire the collaborative competencies of socially directed work; for every moment when compliant personalities are replaced by the egocentrism of individualism, there is another moment in which new relationships of codependence and mutual reliance are created and the bonds of sociability are extended and deepened. Whatever the domain, there is a shift in the balance of power and in the moral economy of agency that favours egalitarianism and liberty—and this, despite and beyond prevailing systems and structures of power. **From this, something genuinely new could emerge**.

Whether one’s agenda is to support today’s systems of governance, work, and culture or to create new and more equitable ones, subjectivity and agency loom larger than they did in the era of the command society. Yet, all too often, our institutions and practices of schooling reflect the epistemological frames of reference and personality types of the command society, in the communication patterns of classroom discourse, for instance, or the information architectures of curriculum, or the rigid expectations of “right” and “wrong” answers in testing regimes.

We educators have been struggling to develop a new dynamics of agency for a century now, starting with the progressivisms of John Dewey and Maria Montessori. One of the solutions to the problem of agency in learning has been a “constructivism” derived from a 20th-century psychological canon in which Piaget’s theories dominate. In the context of a command society, however, their emphasis was on the level and extent of receptivity at a particular age or at a particular cognitive stage. The raw materials of “intelligence” were biologised, and variations were accounted for **in terms of individualised “capability**” and the increments of what was supposed to be innate, universal development. Today, the cognitive sciences do a similar psychological job. Their agenda is to account for the mechanisms of receptivity more than for the mechanisms in which learned knowledge is genuinely made by conscious agency.

If, however, one follows and extends a line of thought begun by Vygotsky, other possibilities for pedagogy emerge. If knowledge is a psychological construct that is more social than individual, if learning is the stuff of active appropriation of the world in a social context, if educability amounts to more than equation of external transmission with individual receptivity, what then are the bases of a theory of pedagogy?

Building on Vygotsky, Bill Cope and I have been proposing a theory of learning that is grounded epistemologically rather than psychologically. By “epistemological,” we mean what we do to know (Kalantzis & Cope, 2004, 2005). As humans, we might be driven by the mystery of human consciousness, but the critical question is what we do with its drives. Here are some acts of knowing that we have been considering of late as a part of our Learning by Design research and development project: we experience (by immersion, making tacit connections in familiar or new contexts); we conceptualise (by abstracting, naming things, and developing explicit generalisations); we analyse (inferring and interpreting cause, effect, and human interest);we apply (by making an intervention in the world of use able things and meanings, be that intervention predictable and appropriate or innovative). In every one of these acts of knowing, we learn the world by doing something in the world.

The command society could never trust learners to be agents of knowing. Instead, they were the receptors of knowledge—although even this was a conceit of power, because now we understand the perennial role of the reader, the listener, or the viewer. We thought that they were receptors because this illusion also drove our politics, our workplaces, our public culture, and our pedagogy. In hindsight there was resistance as often as there was compliance, even if that resistance was branded subversion, laziness, or failure at school.

Today, we can remain under no such illusion. The increasingly critical self-governing structures of civil society, the tricks and tropes of the self-managing work team, the user-driven narratives of popular culture make any such illusions impossible. The children of Nintendo will simply walk away if the pedagogy served up to them by institutionalised schooling does not engage every fibre of their subjectivity. The workplace of the near future will simply be uncompetitive if its workers do not contribute their all, from their creative potential to their ability to maintain relationships of supple reflexivity across the myriad niche customers and affiliates. **The cultures of the near future will ossify if they fail to leave space for the “readers” to follow their own proclivities and shape their own cultural ends**.

The minute that one allows so much scope for agency, one finds oneself facing layers upon layers of difference. One discovers actually existing agencies in the massively plural and not the fabrications and falsifications of the command society with its one-people–one-state nationalism, of the regime of mass production and mass consumption, and of the pretensions to cultural homogeneity of the society of mass media and mass culture. The differences are material (class, locale), corporeal (race, gender, sexuality, ability/disability) and circumstantial (culture, life experience, interest, affinity). We can acknowledge these differences, perform neat demographic metrics, and, in the name of diversity, build programmes to suit group by group. Or we may think that we can, at least until we encounter a deeper difference that, in the interstices of these demographics or even solidly in the middle of each demographic, defies neat categorisation and prediction. These differences are manifest in the profoundly variable dispositions and sensibilities that one encounters from person to person. This is the stuff of the lifeworld, not individualised personality. Such difference is accountable in terms of the infinitely variable and therefore always uniquely complex range of sociocultural influences that come to bear on any one individual. The more we take agency for real, the more multifarious its manifestations become.

And to face all these agencies in one classroom! The solution of the command society was that of one teacher talking at the middle of the class, one textbook telling one narrative one chapter at a time, one test evaluating one way of knowing. **The result was assimilation** to the middle way **or failure**.

Constructivism blandly suggests that we bring agency into this picture. It is as if we can give all learners the same dose of agency, commensurate with their stage of the template of human developmentalism. But it is not just agency in the abstract that we have to harness. The complexity is such that the simple nostrums of constructivism serve us poorly indeed.

If it is to be at all relevant, the classroom of the reflexive society must allow alternative starting points for learning (what the learners perceive to be worth learning, what engages the particularities of their identities). It must allow for alternative forms of engagement (the varied experiences that need to be brought to bear on the learning; the different conceptual bents of learners; the different analytical perspectives that the learners may have on the nature of cause, effect, and human interest; and the different settings in which they may apply or enact their knowledge). It must allow for different learning styles (preferences, for instance, for particular emphases in knowledge making and patterns of engagement—experiential, conceptual, analytical, or applied). It must allow for different modalities in meaning making, embracing alternative expressive potentials for different learners. And it must allow for alternative pathways and destination points in learning.

## 2AC

### 2ac anthro

**Only adding plan can solve their alternative because it adds friction which results in mutual action, this embraces tension as a means of coalition building—even if they’re mutually exclusive that’s just solvency for the perm.**

**Adams, ’02** – Assistant Professor of English at University of Tulsa (Katherine, Hypatia, At the Table with Arendt: Toward a Self-Interested Practice of Coalition Discourse, Muse)

As Anzaldúa and Friedman both point out, the desire to move "beyond difference" is essential to coalition building. Yet it also threatens to pull us free from the materiality of bodies and their contexts and histories, and gestures toward a place where difference disappears altogether. Friedman's reminder of the "materialist and historicist" facts of life exerts a kind of counter pull against that utopian movement. I wonder, however, if such cautionaries recondition the utopian urges of discourse, or if they instead establish a polarity, so that the negotiation among political actors veers between the poles of materiality and discourse, difference and sameness, crisis and utopia, tracing a kind of frustrated dialectic that never generates its synthesis. Here I will argue that within "self-interested" discourse, difference and sameness can act mutually within one syntax, one grammar--not taking turns as the subjects of contradictory sentences that must displace each other in order to make meaning. Focus on the material bases of difference need not become deterministic, nor does it preclude an exploration of what Friedman calls "the contact zone." Rather, a "self-interested" engagement with materiality can provide the very basis of expressing and activating complex identity. It can disrupt the static binary logic of difference and sameness in the way Friedman describes, while keeping the two in tension with each other. It can engage material context without suppressing the flexibility, fluidity, and multiplicity of complex identity, thus allowing difference to be more fully considered but not hypostatized--the illusion of a priori difference disappearing along with that of a priori selfhood. Thus, it helps to center the areas of contact and commonality in order to effect alliance and transformation. To demonstrate how this can be, I will next outline a theoretical model of self-interest, drawing upon the notion of "inter-est" that Hannah Arendt outlines in her masterwork, *The Human Condition* (1958), and considering its application to coalition discourse. Following that, I offer a more concrete approach to what self-interested coalition discourse might actually sound like, by examining a widely known demonstration of complex identity, Minnie Bruce Pratt's essay "Identity: Skin Blood Heart" (1984). The first part of this discussion concerns how a more self-interested approach would provide what seems crucially missing in Pratt's effort to transform difference and privilege. I conclude, however, by looking within Pratt's essay for a glimpse of self-interested discourse at work.

### 2ac fw

**it un-necessarily debilitates the scope of discussion by trapping debate within the current constellation of politics --- we activate the power of imaginative problem solving**

**McGee and Romanelli 97** – Assistant Professor in Communication Studies at Texas Tech AND Director of Debate at Loyola University of Chicago

(Brian and David, “Policy Debate as Fiction: In Defense of Utopian Fiat”, Contemporary Argumentation and Debate 18 (1997) 23-35, dml)

Snider argued several years ago that a suitable paradigm should address “something we can ACTUALLY DO” as opposed to something we can MAKE BELIEVE ABOUT” (“Fantasy as Reality” 14). A utopian literature metaphor is beneficial precisely because it is within the power of debaters to perform the desired action suggested by the metaphor, if not always to demonstrate that the desired action is politically feasible.

Instead of debaters playing to an audience of those who make public policy, debaters should understand themselves as **budding social critics** in search of an optimal practical and cultural politics. While few of us will ever hold a formal policy-making position, nearly all of us grow up with the social and political criticism of the newspaper editorial page, the high school civics class, and, at least in homes that do not ban the juxtaposition of food and politics, the lively dinner table conversation. We complain about high income taxes, declining state subsidies for public education, and crumbling interstate highways. We worry about the rising cost of health care and wonder if we will have access to high-quality medical assistance when we need it. Finally, we bemoan the decline of moral consensus, rising rates of divorce, drug use among high school students, and disturbing numbers of pregnant teen-agers. From childhood on, we are told that good citizenship demands that we educate ourselves on political matters and vote to protect the polis; the success of democracy allegedly demands no less. For those who accept this challenge instead of embracing the political alienation of Generation X and becoming devotees of *Beavis and Butthead*, social criticism is what good citizens do.

Debate differs from other species of social criticism because debate is a game played by students who want to win. However, conceiving of debate as a kind of social criticism has considerable merit. Social criticism is not restricted to a technocratic elite or group of elected officials. Moreover, social criticism is not necessarily idle or wholly deconstructive. Instead, such criticism **necessarily is a prerequisite** to any effort to create policy change, whether that criticism is articulated by an elected official or by a mother of six whose primary workplace is the home. When one challenges the status quo, one normally implies that a better alternative course of action exists. Given that intercollegiate debate frequently involves exchanges over a proposition of policy by student advocates who are relatively unlikely ever to debate before Congress, envisioning intercollegiate debate as a specialized extension of ordinary citizen inquiry and advocacy in the public sphere seems attractive. Thinking of debate as a variety of social criticism gives debate an added dimension of public relevance.

One way to understand the distinction between debate as policy-making and debate as social criticism is to examine Roger W. Cobb and Charles D. Elder’s agenda-building theory.5 Cobb and Elder are well known for their analytic split of the formal agenda for policy change, which includes legislation or other action proposed by policy makers with formal power (e.g., government bureaucrats, U.S. Senators), from the public agenda for policy change, which is composed of all those who work outside formal policy-making circles to exert influence on the formal agenda. Social movements, lobbyists, political action committees, mass media outlets, and public opinion polls all constitute the public agenda, which, in turn, has an effect on what issues come to the forefront on the formal agenda. From the agenda-building perspective, one cannot understand the making of public policy in the United States without comprehending the confluence of the formal and public agenda.

In intercollegiate debate, the policy-making metaphor has given primacy to formal agenda functions at the expense of the public agenda. Debaters are encouraged to bypass thinking about the public agenda in outlining policy alternatives; appeals for policy change frequently are made by debaters under the strange pretense that they and/or their judges are members of the formal agenda elite. Even arguments about the role of the public in framing public policy are typically issued by debaters as if those debaters were working within the confines of the formal agenda for their own, instrumental advantage. (For example, one thinks of various social movement “backlash” disadvantage arguments, which advocate a temporary policy paralysis in order to stir up public outrage and mobilize social movements whose leaders will demand the formal adoption of a presumably superior policy alternative.) The policy-making metaphor concentrates on the formal agenda to the near exclusion of the public agenda, as the focus of a Katsulas or a Dempsey on the “real-world” limitations for making policy indicates.

Debate as social criticism does not entail exclusion of formal agenda concerns from intercollegiate debate. The specified agent of action in typical policy resolutions makes ignoring the formal agenda of the United States government an impossibility. However, one need not be able to influence the formal agenda directly in order to discuss what it is that the United States government should do. Undergraduate debaters and their judges usually are **far removed**—both physically and functionally—from the arena of formal-agenda deliberation. What the disputation of student debaters most closely resembles, to the extent that it resembles any real-world analog, is **public-agenda social criticism**. What students are doing is something they really CAN do as students and ordinary citizens; they are working in their own modest way to shape the public agenda.

While “social criticism” is the best explanation for what debaters do, this essay goes a step further. The mode of criticism in which debaters operate is the production of utopian literature. Strictly speaking, debaters engage in the creation of fictions and the comparison of fictions to one another. How else does one explain the affirmative advocacy of a plan, a counterfactual world that, by definition, **does not exist?** Indeed, **traditional inherency burdens** demand that such plans be utopian, in the sense that current attitudes or structures make the immediate enactments of such plans unlikely in the “real world” of the formal agenda. Intercollegiate debate is utopian because plan and/or counterplan enactment is improbable. While one can distinguish between incremental and radical policy change proposals, the distinction makes no difference in the utopian practice of intercollegiate debate.

More importantly, intercollegiate debate is utopian in another sense. Policy change is considered because such change, it is hoped, will facilitate the pursuit of the good life. For decades, intercollegiate debaters have used fiat or the authority of the word “should” to propose radical changes in the social order, in addition to advocacy of the incremental policy changes typical of the U.S. formal agenda. This wide range of policy alternatives discussed in contemporary intercollegiate debate is the sign of a healthy public sphere, where thorough consideration of all policy alternatives is a possibility. Utopian fiction, in which the good place that is no place is envisioned, makes possible the instantiation of a rhetorical vision prerequisite to building that good place in our tiny corner of the universe. Even Lewis Mumford, a critic of utopian thought, concedes that we “can never reach the points of the compass; and so no doubt we shall never live in utopia; but without the magnetic needle we should not be able to travel intelligently at all” (Mumford 24-25).

An objection to this guiding metaphor is that it encourages debaters to do precisely that to which Snider would object, which is to “make believe” that utopia is possible. This objection misunderstands the argument. These students **already are writers of utopian fiction** from the moment they construct their first plan or counterplan text. Debaters who advocate policy change announce their commitment to changing the organization of society in pursuit of the good life, even though they have no formal power to call this counterfactual world into being. Any proposed change, no matter how small, is a repudiation of policy paralysis and the maintenance of the status quo. As already practiced, debate revolves around utopian proposals, at least in the sense that debaters and judges lack the formal authority to enact their proposals. Even those negatives who defend the current social order frequently do so by pointing to the potential dystopic consequences of accepting such proposals for change.

**Even if they win some link to fairness --- it is because the topics we choose are non-controversial and designed to cater to debate like politics and the states cp --- this is why we are debating energy for the 5th time even though almost everyone in the community would agree on the importance of renewables and haven’t debated education since the 80s --- vote aff to disrupt the smooth functioning of a community oriented around exclusion**

**Wise, 08** (Tim Wise, *White Like Me: Reflections on Race from a Privileged Son*, 2008, p kindle)

When we were on the negative side, I would argue, among other things, that poverty should be allowed to continue because it would eventually trigger a glorious socialist revolution (which isn't even good Marxist theory, let alone a morally acceptable position to put forward) , or that civil liberties should be eradicated so the United States could transition to a society in which resource use was limited by force, family size was strictly controlled, and thus planeta ry destruction was averted. The reason I call this process a white one is because whites (and especially affluent ones), much more so than folks of color, **have the luxury of looking at life or death issues** **of war, peace , famine, unemployment, or criminal justice as a game, as a mere exercise in intellectual and rhetorical banter**. For me to get up and debate, for example, whether or not full employment is a good idea, presupposes that my folks are not likely out of work as I go about the task. To debate whether racial profiling IS legitimate likewise presupposes that I, the Senator, am not likely to be someone who was confronted by the practice as my team drove to the Debate] tournament that day, or as we passed through security at the airport. In this way, competitive Debate reinforces whiteness and affluence as normative conditions , and makes the process far more attractive to affluent white students. Kids of color and working-class youth of all colors are simply not as likely to gravitate to an activity where pretty much half the time they'll be forced to take positions that, if implemented in the real world , might devastate their families and communities. Because Senators are encouraged to think about life or death matters as if they had little consequence beyond a given Debate round, the fact that those who have come through the activity go on to hold a disproportionate share of powerful political and legal positions-something about which the National Forensics League has long bragged- is a matter that should concern us all. Being primed to think of serious issues as abstractions increases the risk that the person who has been so primed will reduce everything to a brutal cost-benefit analysis, which rarely prioritizes the needs and interests of society's less powerful. Rather, it becomes easier at that point to support policies that benefit the haves at the expense of the have-nots, because the damage will be felt by others whom the ex-debaters never met and never had to take seriously. Unless debate is fundamentally transformed- and at this point the only forces for real change are the squads from Urban Debate Leagues who are clamoring for different styles of argumentation and different evidentiary standards- it will continue to serve as a staging ground for those whose interests are mostly the interests of the powerful. Until the voices of economically and racially marginalized persons are given equal weight in Debate rounds with those of affluent white experts (whose expertise is only presumed because other whites published what they had to say in the first place), the ideas that shape our world will continue to be those of the elite, no matter how destructive these ideas have proven to be for the vast majority of the planet's inhabitants. Until Debate is substantially diversified, so that previously ignored voices will have a chance to be heard on their own terms, and in their own styles, little will change. What Debate needs most IS an infusion of persons who because of their life experiences are almost guaranteed to be less naive; people who know full well that the system is anything but fair. Such persons have a right to be heard, and white, upper-middle-class, and affluent debaters need to hear them. They need to know how power works, and they will never gain an understanding of that by listening over and over to the voices of others like themselves. But Debate will never change in this way unless the gatekeepers of the activity are prepared to step up and demand it, not just with their words but with their actions, their money, their judging criteria, and even their ballots. Folks of color and working-class folks won't join an activity if they feel their wisdom isn't going to be taken seriously. If they wanted to be ignored, they would hardly need to get dressed up and travel to Debate tournaments in a hot van to do it. They could stay home and be ignored, because the powerful ignore them every day anyway. Understand, this is no mere ethical plea for inclusion. Continuing to ignore the v01ces of the marginalized carries great risks for us all, because it is precisely such persons who so often view the world differently and far more accurately than the privileged . As a case in point, the polls taken right before the U.S. invasion of Iraq in March 2003 indicated broad white support for going to war, but almost nonexistent support among blacks. Most white folks were convinced not only of the war's moral legitimacy, but were sure that everything would go swimmingly, because other white people like Rumsfeld and Cheney said so. But black folks knew better. Those with privilege had the luxury of thinking they would be greeted as liberators. But black folks know that invaders rarely bring true freedom-they've been there, done that. For the sake of us all, and to slow down the rate at which blood 1S spilled across the globe, we desperately need to listen to those who live without the luxury of blinders.