THE TECHNOLOGICAL SHROUD: SUSTAINABLE DESIGN AND THE NECESSITY OF THE PHILOSOPHICAL FRAME

So, amidst all the heated fervor what exactly does sustainability refer to? (Adrian Parr — Hijacking Sustainability)

Only the faulty assumption that any change is unnatural makes us conclude that the greenhouse effect will be bad for the planet. Thus, the idea of "sustainability" and general homeostasis is a profoundly unnatural goal. The universe does not, except in certain temporary periods and places, sustain or maintain: it changes, improves, complexifies, sometimes destroys…it is a system to subvert and disrupt sustainability and maintainability. (Frederick Turner – "The Invented Landscape")

ABSTRACT/PURPOSE:

In recent years, a wealth of research and dialogue has emerged underscoring the need for disciplines involved in the built environment to transform normative practices and better utilize technology to curb global resource consumption. This is necessary to alleviate some of the pressure on an already overburdened environment due to global forces. To date the idea of sustainability has been overly focused on energy efficiency rather than ideas instigating any substantial change in the attitudes founding our overly consumptive western lifestyle. Our responses have been largely reactionary, long on short-term tactical efforts, short on long range strategic planning.

Though the emergence of these "green" practices and techniques overall is positive, a foundational dialogue for the design professions has yet to emerge that focuses on a central issue contributing to our current global environmental crisis: modern society's unquestioning faith in technology's ability to overcome all obstacles by creating more technology. This willful obliviousness involving the collateral effects of technology needs interrogation as it is at the root of many excessive and wasteful behaviors today. Until this this type of critical reflection occurs, sustainable practices will remain largely surface endeavors unable to transform either the societal conventions or predominant social conceptions necessary to stem the tide of the current environmental crisis. Our engagement with technology must be re envisioned as a revelatory process for gaining authentic insight, one more akin to the ancient Greek concept of *techne* than the present method of blind application.

Before sustainability can truly reframe our worldview, the prevailing perception that any solution to the current crisis will necessarily be technological must be examined in light of statements by intellectuals like the philosopher of science Michael Strevens who asserts that: " We might learn the practical function of the quest for understanding…" because "…to understand a phenomenon is to grasp how the phenomenon is caused." By this, to truly address the necessity of sustainability in the construction of the built environment, technology must be seen as a tool or means towards comprehending, interpreting, and in the end fundamentally understanding the natural environment to the extent that one could ultimately decide whether a specific type of technology is appropriate or not in a given circumstance. In other words, can our modern global society begin moving from its current unsustainable view of Nature — merely as a storehouse of utilizable resources to further advance technology — to one that values the healthy existence of the natural environment as essential to human existence where our true needs and mere desires are kept in balance.

In short, this text is concerned with the issues involving the philosophical nature of "sustainability", but as filtered through the mindset of design. The purpose here is not to make philosophers out of designers, but to underscore the importance of contemplation in developing sound strategies that are multifaceted in their ability to address complex social, political and ecological systems. A theoretical byproduct of this will be to dispel many of the underlying myths and propaganda surrounding "green" to redefine its role in an age where technology has radically transformed our relationship to the environment. The positive consequence of this conceptual move will be to expose designers, architects, and urban theorists to the broader philosophical issues of "sustainability" and the magnitude of the global problems relating to it. The topics explored here will be seen as means towards creating more broadly informed agendas where design aptitudes are honed that truly embrace the sensitive complexity of the environment in ways that begin to temper an over exuberant appetite for technological advancement. The critically reflective process proposed here can then serve as a guide in the creation of design strategies that range from initial concepts of resource usage throughout the entire life cycle of our human constructs in ways that align them better to natural cycles.

Towards this end, the focus of the first part of this book will explore how philosophical contemplation must play a central role in the development of a more comprehensive understanding the relationship of Humans and the environment. Its middle sections will investigate how our skewed perception of technology's power and societal role has kept our global society from directly confronting many of the causes of our current environmental crisis. As much as any other aspect, sustainability is primarily an ethical choice that should focus on humanity's relationship to Nature in ways that better align our technological agendas with natural processes. The final sections of the text will explore the benefit that contemplation brings to all the disciplines — from design to construction — directly engaged in the built environment. Our greatest chance for success at any substantial change is to begin our design processes from the contemplative sphere in an effort to understand the real underlying causes for the current predicament. Only then can we formulate environmentally responsible strategies integrating technology, ethics, and ecology capable of engaging the magnitude, fluidity, and complexity of the environmental issues facing the global community today.

01 WELCOME TO THE ANTHROPOCENE: THE SEDUCTIVE NATURE OF THE TECHNOLOGICAL SHROUD

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what is philosophy and its speculative methods?/how can philosophy inform designers?/the power and humility of uncertainty/the philosophical issues of sustainability/ radical gardening": better integrating the built and natural environments/ three frames of critical reflection: ethics/ecology/technology

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06 LIFTING THE TECHNOLOGICAL SHROUD

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INTRODUCTION:

The idea for this text came when lecturing to undergraduate architectural students in a sustainable development and human behavior course. The course was inherited at the 11th hour when the instructor that normally taught this section decided to teach in another department for the semester. Since the design of the course was, "on the fly", I had no preconceptions concerning what it was "supposed" to be. As a first move, I decided to try to understand the students' expectations that had signed up for the class. After speaking ten minutes on my background, the potential structure of the course, subject matter, and evaluation, I turned and asked a student why they thought sustainability was important. The response was a blank stare. Upon moving to the next student with questions like *"why do you think we need to have sustainable practices? Why are they important and what problems can be solved through their definition and wide spread adoptance within the design professions?"* Another blank stare surrounded by many other blank stares. Over the next half hour through a sustain effort of questioning and cajoling, the consensus was reached that they felt "green" was good and they should took this course because it was the "right" thing to do. The media, their peers, and other courses reinforced this idea. At that moment I realized that my intuitive discomfort over the last several years with the whole sustainable movement—in the design disciplines especially— was that there was too much action and not enough questioning of how our modern society had gotten to the brink of an environmental crisis. The power of the foundational skill set of design comes from its ability to envision strategies that address complex problems, issues and situations. Its weakness emerges from an overly narrow focus on the immediacy of site context and the "problem-at-hand." Underlying this focus seems to be the intuition that answers addressing the larger questions of an issue like the environment and our relation to it are best left to others more ethically or philosophically prepared to interrogate the larger context of our actions. The problem with this attitude is that charging into "battle" without an understanding of the underlying goal and larger context of the "war" is rarely an assured avenue to victory.

This situation frequently arises within the design disciplines, where the "how" of the situation or the determination of the immediate action necessary to address problems or issues contained within its boundaries supplants the need to question larger causal chain of events underlying these issues. In other words, the "why" of the circumstance is often considered secondary. In recent years, a wealth of discourse and research has emerged underscoring the need for disciplines involved in the built environment to utilize technologies and define practices that better integrate global resource consumption without further taxing an already overburdened environment, but to date the common definition of sustainability seems overly reliant on policies involving energy efficiency. This focus has kept the discourse and research surrounding sustainability from instigating any substantial change in our overly consumptive western lifestyle. In essence, recent responses to climate change and the impending environmental crisis have been largely reactionary, long on short-term tactical efforts, but short on long range strategic planning.

Though this emergence of "green" practices and techniques has had positive effect, their foundational dialogues have yet to focus one of the most serious issues that has led us to the brink of a global environmental crisis: our unquestioning faith in modern technology's ability to overcome all obstacles with more technology. This naïve and often willfully ignorant attitude lies at the root of many of our societal excesses today. Until this attitude is critically reflected upon, sustainable practices will remain largely surface endeavors unable to truly transform the necessary societal conventions and perceptions that must change if there is to be any hope of averting this crisis. Technology must be re envisioned as a revelatory process for gaining authentic insight, akin to the ancient Greek concept of *techne*. Only by re examining Technology, our dependence upon its manifestations, and its influence on our perception of the environment, can the attitude shift necessary for our modern global society to begin moving from envisioning the environment only as raw material for our current rampant overconsumption and further technological advancement to envisioning Nature as having inherent value to our existence through its survival and sustained health.

To truly reframe our worldview, we must move away from the perception that the "solution" to the current crisis will necessarily be technologically based and its magnitude reconsidered as more than a series of short term obstacles needing technological "fixes". In reality, sustainability's central issues are ethical and revolve around how the Human/Nature relationship manifests and is maintained. This relationship and technologies role within it is the emphasis of this text. In the first instance, it will explore how philosophical reflection must play a central role in the development of a truly sustainable relationship to the environment. In the second, the role architects, landscape architects, and planners, engineers —constructors of the built environment in general can play in this redefinition will guide the dialogue. Only then can there be hope that the formulation of environmentally responsible strategies integrating technology, ethics, and ecology capable of engaging the magnitude, fluidity, and complexity of the environmental issues facing the global community today is possible.

Such a move demands a hard look at the philosophical nature of "sustainability" with the aim of laying bare how larger issues can more directly translate into the agendas and mindset of designers and constructors of the built environment. A positive consequence of this conceptual move will be to expose designers, architects, and urban theorists to the broader philosophical issues of "sustainability" and the magnitude of the global problems relating to it. The dialogues that emerge will be seen as means towards creating more widely informed design agendas where a philosophical frame will guide the entire design strategy from initial concept to determining the appropriate life cycle of constructs. It is time to move beyond conceptualizing the promise of the immediate "how" we become "green" though attempts to only build more efficiently and begin asking larger questions surrounding "why" we are in this current circumstance, the values and actions that brought us to this point, and their larger implications as human population continues to rise in the face of the earth's resources continuing to dwindle.

That stated, this is not another text demanding that immediate action be taken because we have reached a crisis point in the earth's history. It is not another demonizing of humans for our frailties, faults, and shortsightedness nor is it an impassioned plea for an understanding of the necessity of embarking on educating ourselves on the best practices of green building or the dangers of overconsumption or vacuous materialism. Many authors have undertaken this necessary task and more will continue to follow this lead. Actually, it is a call to "pause" — to suspend our frantic activity of exasperating our environmental issues by creating even more efficient versions of the technologies that lead us to this point — to contemplate where we have been and where we are headed as a global society. The stakes could not be higher as the world population will surpass the mark of ten billion within in the next decades while inhabiting a planet without the capacity to support this mass of humanity. Why pause, why demand contemplation when immediate action is so necessary? As Bertrand Russell reminds us: *"….contemplation enlarges not only the objects of our thoughts, but also the objects of our actions and our affections: it makes us citizens of the universe, not only of one walled city at war with all the rest. In this citizenship of the universe consists man's true freedom, and his liberation from the thralldom of narrow hopes and fears."*

Embracing the power of contemplation will be the basis for the "call to action" of this text. It will be buttressed by the insistence that designers, engineers, and others with abilities to "remake' our world must understand the larger context of their activities. Capitulation of the ethical and philosophical aspects of these issues is no longer an option. The environmental problems facing society today must be questioned philosophically to not only understand the immediacy of the crisis before us, but to coordinate our efforts and best practices towards changing culture norms that develop radically new possibilities for meeting the demands of our global culture. The idea is not to make professional philosophers or ethicists out of designers, engineers or constructors — for then the practical power of the mentality to "remake" is lost — but to cultivate the questioning of the true implications of ones actions at all scales while defining the immediacy of the agenda within which one operates. In other words, the goal is to harness the power of the philosophical frame and merge it with the pragmatic intellect so necessary in successful design to shake us from our preconceptions and prejudices. Russell indicates the potential power of such a move:

> *…Philosophy is to be studied, not for the sake of any definite answers to questions, since no definite answers can, as a rule, be known to be true, but rather for the sake of the questions themselves; because these questions enlarge our conception of what is possible, enrich our intellectual imagination and diminish the dogmatic assurance which closes the*

mind against speculation; but above all because, through the greatness of the universe which philosophy contemplates, the mind is rendered great, and becomes capable of that union with the universe which constitutes its highest good.

The greatest chance of success for sustainability is to transform the prevalent global culture of overconsumption and mass consumerism. To achieve this, we need a methodology that can uncover the central causes and issues we now face in connection with our present globalized context. In breaking this complexity down, the text will move from exploring the value of philosophical thought to defining sustainability in "game changing" ways involving our relationship with the environment. This revaluation will be undertaken through three frames: ETHICS/ECOLOGY/TECHNOLOGY. It will focus specifically on how ethical reflection must play a central role in the development of a truly sustainable design process and will be undertaken in three parts: 1) The necessity of developing a critically reflective process towards technology utilizing a philosophical frame, 2) how this must lead to a revelatory process of reflection akin to techne and ecofeminism's valuing of difference, and 3) how a critical ethically reflective design agenda can revalue architecture and design's focus regarding the environment (agency verses product). Only then, can truly transformative environmentally responsible strategies integrating technology and ecology be formulated. At the conclusion of the text, a proposal for the foundation of redefining the HUMAN/NATURE/TECHNOLOGY relationship will be presented and explored as a potential example of what a "reframing" of this type could bring to the dialogue involving our conception of sustainable design and its true power to influence the construction of the built environment.

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According to a broad ranging group including many geologists, intellectuals and mainstream media outlets, we have entered a new geological period in the Earth's history where humanity has become a global force, affecting its sensitive ecosystems at a scale previously unimaginable. These changes are not only bringing huge climate shifts, challenges to diversity in animal and plant species, but also impending national security risks as well. They are so broadly influencing our biosphere that in several decades they could foster climatic conditions the earth has not seen in millions of years. If some predictions actually manifest, such extensive changes would come about that humans would have to fundamentally reconsider our current conceptions of human existence. The magnitude and collateral damage that is being done to the environment and will continue — unless we shift our present course — will increase exponentially and radically alter the earth as it exists now. Part of these alterations will be real "new" changes while some will be directly related to our increasing ability to comprehend the extensive nature of our past actions and the challenges they create. As our information gathering technology is becoming more sophisticated it allows for a greater understanding of the overall consequences of our past, present, and future actions. Though positive, these technologies also contribute to a "shroud" that seems in many ways to cloak our willingness to face these challenges directly as we bask in the warm glow of the "progress" they bring to our lives. We are often lulled into thinking that some how this sophistication will allow the "kicking of the can" down the road or that some section of society whose language is incomprehensible to the average individual will magically solve the problem. This view supports and even propagates a sense that present models and dialogues for "sustainable design" are sufficient to stem the environmental onslaught that has instigated the Anthropocene.

For instance, the Leeds system in the United States of valuing buildings through a supposedly relevant "check list" of operations or best practices seems impotent in the context of the challenges currently faced environmentally. Since the construction of the built environment contributes to at least two thirds of global resources usage yearly and contributes greatly to the creation of greenhouse gases, such measures are woefully inadequate in bringing about the sustained change necessary to develop critically reflective design cultures with the ability of operating locally, while simultaneously speculating on how their operations effect larger environmental and political contexts. To operate on a necessary multi-scalar design paradigm that changes present damaging societal perceptions and appetites, contemplative acts focusing on a variety of scales and connections must become an integral part of the design process so interdisciplinary teams of constructors can develop radically new modes of operations that can begin to stem the tide of climate. The definition of "project" will have to increase in the conception of its context and its timeframe to incorporate larger life cycle ideas and the exploration of new modes of construction and recycling. The act of contemplation that attempts to determine the appropriate philosophical frame is a key first step in questioning prevailing assumptions concerning our ethical attitude towards, and use of technology regarding the environment. The power of the philosophical frame and its potential to transform present design and construction convention to (at least) begin to realistically address our present and future environmental challenges will be explored to lift the technological shroud currently impeding our realistic consideration of possible avenues defining more sustainable means of meeting the needs of a growing global culture.

02 GLOBAL SUSTAINABILITY AND THE CONSTRUCTED ENVIRONMENT

What is Sustainability, is it possible, and why is it important?/ Scale : global problems of the environmental crisis/garbage/overpopulation/mass consumption/consumerism/global warming/density/pollution

When surveying any skyline, the ecological impact it represents is overwhelming. Its gleaming forms exemplify a questionable choice made over the last several decades: advancing technologies reliant on fossil fuels at the expense of a healthy environment. The ramifications of this expenditure may be argued, but the need to address its consequences is without question. As David Orr points out: *" We have good reason to believe that humankind will build more buildings in the next fifty years than in the past 5000. Done by prevailing design standards, we will cast a long shadow on subsequent generations."* This "boom" may bode well economically, but will be delivered at the expense of the ecosystems that sustain human life. As Jared Diamond asserts in his book *Collapse*, two choices must be made to stabilize our future:

> *"As we continue to convert large natural habitats to human habitats such as cities, farms, or recreational landscapes at an accelerated rate, we are faced with the prospect of two choices that will dictate our success or failure in coming to terms with the relationship between our goals and their impact on the environment. "…. Long-term planning and a willingness to reconsider "core values" are crucial in tipping the scale either towards success or away from it in regards to the alleviation of the current state of extreme environmental degradation that many of our current agendas induce."*

In regards to design and its allied fields, this core revaluing must be directed towards our fascination with technology's potential to transform life benevolently as well as the unquestioning faith in the technical expertise founding its advancement. Though the recent spread of "green" practices and technology is positive, our continued faith that technology can overcome any obstacle with more technology has yet to be adequately interrogated. Thus, a new frame of reference needs to be determined that can embrace the complexity and magnitude of the challenges that lay before us and to do this an intellectually sound investigative methodology needs to be defining. The founding question of this new frame is philosophical: Is "sustainability" possible or even desirable?

03 SUSTAINABILITY AND THE PHILOSOPHICAL FRAME

what is philosophy and its speculative methods?/how can philosophy inform designers?/the power and humility of uncertainty/the philosophical issues of sustainability/ radical gardening": better integrating the built and natural environments/ three frames of critical reflection: ethics/ecology/technology

In attempting to ask and then answer the question: *What is philosophy*? certain common preconceptions must be overcome. To many outside the discipline the philosophical mode of enquiry is often considered as naïve in its attempts to find answers to questions outside the capacity of the human mind to understand completely. As Bertrand Russell states in *The Problems of Philosophy*, this misconception stems not only from a misunderstanding of the goals of life in general, but also in the actual ends that philosophy seeks to achieve. Often these misinterpretations stem from individuals who are self described as "practical" or "pragmatic". Designers and engineers often define themselves in this way. This mindset attempts only to address material needs leaving spiritual ones aside, somehow superfluous to the true aim of life, *survival.*

The value of philosophical discourse resides within the welfare of the mind and aims at knowledge through the critical examination of our intrinsic beliefs, prejudices, and convictions. Given the nearness of such examinations to our fundamental state of existence, definitive answers are exceedingly difficult to attain. Hence, the perception that the utility of philosophy is somehow questionable within the world of the everyday emerges because its answers often cannot be verified scientifically. This is not the case in the Sciences that provide definitive answers in fields such as physics or mathematics through demonstrable data. Philosophical enquiry can provide no such results and is fraught with uncertainty and speculation.

However, it is this attribute of uncertainty that is philosophy's greatest strength. The individual who goes through life avoiding the acknowledgement of philosophical uncertainties is imprisoned by the habits of the everyday. Customs, norms, the media, prejudice, and intuitive convictions found a belief system that is neither systematic nor entirely rational. The World becomes definite as well as finite and all encounters with new objects, ideas, or possibilities, are met with some aspect of suspicion. Serious contemplation on even the most banal of everyday occurrences leads to questions that cannot be answered completely.

Such topics enlarge the scope of our thoughts and sever the tethers binding us to the tyranny of custom or habit. It allows one to quit reacting to events and circumstances haphazardly and begin to make connections founded upon more coherent and reasonable value systems. Hence, while philosophy may greatly diminish our perception of certainty to encounters in our lives, it can also lessen our reliance on poorly informed perceptions. A sound philosophical attitude cultivates a sense of *wonder* or as Heidegger describes it, continuous astonishment, that takes the common and displays it in an uncommon light. The ability to constantly envision ones surroundings anew is the mark of a great philosophical mind and the same could be said for designers as well. This endeavor also enlarges our interests and aligns them with those of the outside world. It provides an alternative avenue of viewing the world purely as a vehicle for the expression of self-interests. One starts from the *not-self* and only then considers the appropriate role of the self. As Russell so eloquently describes it, *"In contemplation, on the contrary, we start from the not-self, and through its greatness the boundaries of Self are enlarged; through the infinity of the universe the mind which contemplates it achieves some share in infinity."*

It is this connection of the self to the greater not self that is missing intellectual component to a majority of the dialogues surround sustainability, especially in regards to Humanity's relationship to the environment. In this section, we will explore the strength of

the philosophical endeavor, which poses questions embracing the uncertainty of both humanity and the world allowing us to look at this relationship anew to surpass our current prejudices and preconceptions. It is through this method of enquiry that an understanding of potential opportunities of larger systematic engagement can be uncovered and cultivated. And with this, an overarching question can be broached: How can a new philosophical frame changing our current societal goals in ways that better align them with Nature as well as meeting the (reasonable) needs of our global society that supports healthy and sustainable ecological systems?.

04 THE POTENTIAL OF A SUSTAINABLE ETHIC

what is ethics?/the role of ethics in understanding the environment/the ethical potential of sustainable practices/ethical intentions/ethics, integration, and the environmental crisis/towards a sustainable ethical stance

As noted previously, the reassessment of core values that Orr deems imperative demands the creation of a more environmentally realistic ethic towards Nature. As stated earlier, sustainability is not technological — though many attempt to address it through this frame — it is essentially about ethical choice. Determining an ethical stance on issues of this magnitude and then understanding their implications is a difficult, yet necessary endeavor. Within the history of philosophy, morality and ethics has been a much-discussed subject, but within other disciplines its ambiguity and complexity has reinforced a historical avoidance of some of its centrally important issues. Upon delving into the subject within philosophy, it quickly becomes apparent that no prescribed set of solutions to ethical issues can be attained, however, it is important in dealing with issues that contain larger societal implications to comprehend the complexity of these issues and to develop a coherent strategy for encountering them. This section will briefly introduce several classic ethical theories such as egoism, utilitarianism, and eco feminism before discussing a theory that could be useful to designers seeking to reconnect to the environment, known as *responsive cohesion.* Thus, the goal of this chapter is to discuss the importance of the ethical issues faced in the Nature/Human/Technology relationship and then to indicate a potential theory that could be useful in envisioning ways of productively encountering the global environmental issues designers face today with a necessary flexible and nuanced analytical framework.

A foundational argument will be introduced here asserting that all of our ways of interacting and conceptualizing our relationship to the environment must based on an iterate process of reflection. One example of this mindset ethically is proposed by the philosopher Warwick Fox in a theory based on ethical analysis similar to the *reflective equilibrium* theory described by John Rawls. Though Fox describes it by a different name, *responsive cohesion,* its reflective nature is essentially the same. According to philosopher:

> *"The term cohere literally means to cling, hold, stick or adhere together (from the Latin cohaerere, from co, together and haetere, to cling, adhere). The adjectival term, responsive (from Latin respondsum, answer) suggests that the way that we should strive to reach a state in which theory and personal evaluations cohere or 'cling together' is through a process in which each side is responsive to, or answers to, the challenges thrown up by the other side…The upshot of the process is that cohesion between the two sides is ultimately brought about, assuming this goal is reached through a process of mutual accommodation, adjustment, adaptation or reconciliation between theory and evaluation."*

The strength of this paradigm is that individuals are free to pursue their goals and desires, but must respond to the goals and desires of others (including the environment). Ample freedom is entertained for individual expression and self-fulfillment, but not so much that it infringes upon or impedes another's pursuits. The moral community then is the social arrangement emerging by the "clinging together" of individuals in a loosely defined order that strikes a balance between a rigidly designated ethical community (major infringement or no freedom at all) and one that is too loosely defined (no sense of community.) This theory goes a good distance in addressing the relationship between thinking about all life (the environment) and the development of a position in design and construction sensitive to those needs. By this, and in the terminology of Leopold's, *"Land ethic": "a thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise."*

Though achieving an internally cohesive logic underlying an activity like architecture or design is important, reaching a responsive cohesion with a surrounding context is seen as paramount. It follows that the largest context to address in reaching a cohesive state is the natural environment. The well being of the largest context (earth) is hierarchically more important than regional or specific urban contexts. This is not to say that internal cohesion in the intellectual structure of the design process is not important — for to not achieve this is a failure on many levels — but protection of this larger context must be the primary basis for all decisions, technological, aesthetic, economic, or otherwise.

If an ethic of responsive cohesion underlies a design process, the core set of skills moves from being purely the invention of beautiful forms through a spatial/material language to a core aptitude involving the connection of all natural, social, and material contexts surrounding a construct. According to architectural theorists Anthony Radford, "the core skill of the architect [or designers in general] is the ability to give effect to a *general* foundational value within the *specific* domain of architecture. This skill distinguishes architects from other members of society". Though this statement is speaking directly to the architectural endeavor, this general value should be made to directly influence a multitude of disciplines involved in the construction of the built environment.

05 ECOLOGICAL FOUNDATIONS FOR SUSTAINABILITY

definitions of Nature and the environment/prevailing attitudes: the Human/Nature relationship/envisioning a new balance: ecofeminism and other "integrative" natural philosophies.

This chapter builds on the "responsive cohesion" ethic as described by Warwick Fox as the discussion moves into exploring the implications of the second frame, ecology. The chapter will begin by introducing several prevailing ecological theories such as deep ecology as the background to an argument for a better integration between human activities, its technologies, and the environment.

This re conceptualization of ethics and technology as a critically reflective process dissolving attempts at environmental colonization by Universalist rationalistic desires is akin to ecofeminist calls for an end to the domination of women and the environment by patriarchal structures. As Karen J. Warren describes, "Ecological Feminism", is a theoretical umbrella "which captures a variety of multicultural perspectives on the nature within social systems of domination between those humans in subdominant or subordinate positions, particularly women, and the domination of nonhuman nature." It is a philosophy demanding the understanding and commitment to the valuing and preservation of ecosystems through a "plurality of positions". It rejects universalized or essentialist approaches to social/ecological issues and favors searching for appropriate answers to particular problems by reflecting upon the implications of the immediate historical, political, and material implications of a given situation, at a given moment. In other words, ecofeminist "reads" can vary culturally, temporally, or even geographically as the analysis moves from one circumstance to another and consistently acknowledges the world's active agency in discourses that are "not of universal truth but of local truth, bioregional truth or an ethical vernacular." So, ecofeminism is concerned with the "trans valuation" of societal values to cultivate the nurturing side of human culture.

With this trans valuation, the core social values that Jared Diamond spoke of are now considered. What form would this type of questioning take and what kind of platform would it serve to create for potentially integrative design agendas? How can ecofeminism and its anti-universalist and rationalistic arguments found an attitude that can overcome an obstacle Russell as " …the dogmatic assurance which closes the mind against speculation" and encourages a world-view that values all the systems and attributes—Human or otherwise—that constitutes our natural environment

06 LIFTING THE TECHNOLOGICAL SHROUD

technology: definitions and relationships/the concept of techne and its relation to technology/towards globally sustainable practices: re envisioning our relationship to technology/technology as critical reflection and understanding

Technology is so ingrained in the collective consciousness of contemporary society that its renders contemporary individuals thoroughly dependent on its instruments. This dependency runs so deep it frequently prevents any objective assessment regarding its usage because our conceptual understanding of it is clouded by the preconception that technology will necessarily self-correct. Continued reliance on its "fixes" creates a chronic situation where society is unable/unwilling to question the continued use of problem technologies. There is frequently misleading "evidence" produced asserting that certain social or ecological problems are being repaired by the technologies that created them, thereby reinforcing problematic behavior, and thwarting any truly corrective action from being taken.

This over-reliance on technological fixes rests on what Marshall McLuhan feels involves a "subliminal and docile acceptance" brought on by an unawareness of the real and overarching effects of our technological activities. The result is that "a man is not free if he cannot see where he is going". Attempting to maintain an intensive self-consciously aware attitude continuously is likely to fail in creating any meaningful avenue for reflection because it is the mundane nature of our technology that dulls our awareness of its adverse effects. Simply maintaining awareness of bad habits is the most difficult part in overcoming them. As a result, a majority of the underlying conditions of our present environmental crisis rest on destructive, yet routine habits involving polluting technologies that fuel our contemporary lifestyle,

Techne, as the ancient Greeks envisioned it, was a continually transforming, transient knowledge that was contextually situated, making it a type of critical practice allowing the investigation of a problem at hand, its solution, and contextual appropriateness to be assessed sensitively within the nuanced ecologies surrounding it. In our quest to work with Nature, technology then is more than a "fix"; it is a type of knowledge needing continuous questioning. As Ihde reminds us: "You need to have a series of multiple perspectives, to recognize the shape, structure, and complexity of the phenomena you are investigating".

This chapter will undertake two explorations: the first will explore how technology has detached us from the environment and contributed greatly to the current crisis. The second will examine the ancient Greek concept of techne as a ground for an attitude towards technology that encourages a more contextual and critical view of the technological enterprise to better integrate human activity with the environment. This critically reflexive platform can align the ends of technology with the ethical and environmental (responsive cohesion & ecofeminism) dialogues discussed in the two previous chapters. It lays bare a relationship that at first seems mutually exclusive—contemplation and technological advancement—but on further examination, and when coupled with a contemplative groundwork, can enlarge the scope of what constitutes the purview of technology that includes the ethical and environmental considerations explored in the previous chapters.

07 RE FRAMING SUSTAINABILITY AND DESIGN: A PRIMER

the power of uncertainty in design/grappling with unintended consequences/changing priorities: redefining the nature, human, and technology relationship in design/radical gardening: cultivation, integration, and speculation/sustainability, design, and the influence of the philosophical frame

For sustainability to truly transform our conventions, it must demand an understanding involving *all* "contexts" surrounding a project. These might span from the ramifications of resource extraction globally (affecting material choices) through to the affects of specific planning codes as well as a broader conception of efficiency involving the technologies incorporated into the logic of the design process. In other words, individuals must first comprehend, and then frame the appropriate elements that can cohere in a particular circumstance as well as understand the implications that this frame brings to the system. This is a complex, demanding, but necessary expectation of every discipline, especially those involved in the constitution of the built environment. For instance, to be authentically architecturally sustainable, our conception of it must move from its being a more technologically sophisticated arsenal founding an environmentally ambivalent "universal" design logic to an outwardly focused means of analysis that appropriately addresses the general needs of the environment and the specific needs of the project simultaneously. It must become a logic that utilizes design to adequately comprehend the relationship between our needs, the needs of the ecosystem, and the balance that must be struck for each to thrive. As Fox asserts: "*achieving a sustainable way of living is not just a technical issue (although it is often discussed as if it were), but also (and fundamentally) an ethical one."*

The final chapter of the text will conclude with an exploration of the conceptual implications of Fox's statement. It will outline what a contemplative agenda and philosophical frame can bring to the discussion involving sustainability and design. It is asserted here that the power of uncertainty forces us to realize the necessity of Ihde's insistence that multiple perspectives are needed to understand the complexity of the subject being studied. For when one mistakenly feels a subject is truly understood one quits considering it and loses touch as its manifestations transform. Therefore, our environmental crisis will not be fixed once and for all with a grand sustainable scheme built on the blind application of technology. It is a greater problem and one that is and will be always emergent and in flux. It will always need to have its foundations and relationships critically assessed for our history and global conditions are inherently temporal. The critically reflective process being explored here proposes that this myriad of views might be arranged and rearranged continuously as necessary to continuously labor towards our integration into the environment. The aptitude of designers carries with it this ability to continuously to create "check" agendas that more seamlessly integrate our needs and those of the surrounding eco system.

A metaphor will be introduced in this concluding chapter of the "constant gardener". A individual who carefully cultivates the land, continuously watching it and then introducing slightly differing techniques related to the specific season—yet also understands—that this season is in a larger cycle constituting a larger system. It is a system that can never be understood in its entirety, making it a subject of constant contemplation, of searching for connections, of redefining relationships. Now that humanity is a global force, it must assume this role of cultivator and those involved in the construction of the built environment are key players. Design and other human activities must be based on seeking to integrate with the environment, not overpower or subsume it. Like any relationship lasting an extended period of time, it will change, thus demanding constant care and vigilance. It is this need to contemplate the consequences at every scale, of as many implications of our actions as possible that is the first step, not the last. Only then can the most appropriate path, at the opportune time from a multitude of potential paths, be chosen. This path will continuously unfold as different paths are uncovered. The uncertainty of the journey can make one uneasy, but it also can provide unexpected experiences enlarging the possibility of unforeseen events. It is the quest for new possibilities and discoveries that inherently connect all human activities, from philosophy to science, ethics to religion. This attitude must be incorporated into our design endeavors to transform their underlying creative mindset from only dealing with the world that is directly at hand to connecting to the larger whole of the global environment.

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- Environmental Design Research Association
  Advancing environmental design methods to understand relation between people and environment
  www.telepath.com/~edra

- US Green Building Council (USBGC)
  Nonprofit consensus coalition promoting the understanding, development, and accelerated implementation of green buildings
  www.usgbc.org
- California Institute of Earth Art and Architecture
  CalEarth is an educational program of the Geltaftan Foundation dedicated to research and educating the public on environmentally oriented arts and architecture.
  www.calearth.org
- Development Center for Appropriate Technology (DCAT)
  Supporting the development and use of sustainable approaches to meeting human and ecological needs through the appropriate use of technology.
  www.dcat.net
- Northwest EcoBuilding Guild
  Association of builders, designers, homeowners, tradespeople, manufacturers, suppliers, and others interested in ecologically sustainable building.
  www.ecobuilding.org
- Natural Building Resources
  Umbrella organization created to disseminate and coordinate information and activities regarding natural building, sustainable architecture, and ecological living.
  www.strawbalecentral.com
- Builders Without Borders
  International nonprofit organization working around the world to create affordable, sustainable housing from local materials.
  www.builderswithoutborders.org

  Earth Building Foundation, Inc
  www.earthbuilding.com

- Building Materials Reuse Association
  Nonprofit educational organization whose mission is to facilitate building deconstruction and the reuse and recycling of recovered building materials.
  www.ubma.org
- Ecodesign Resource Page
  Nonprofit group providing product and literature resource material and search services for ecological design projects.
  www.ecodesign.bc.ca
- Eco-Home Network
  Provides information on how to build an eco-home. Extensive bookstore with info on sustainable living.
  ecohome.org
- Building Industry Professionals for Environmental Responsibility (BIPER)
  Formed in 1995 to develop solutions to environmental problems related to the construction industry.
  www.biperusa.biz
- Community Eco-Design Network (CEN)
  Committed to the research and implementation of sustainable technology for the built environment.
  www.cedn.org
- Center for Resourceful Building Technology
  Dedicated to promoting environmentally responsible practices in construction.
  www.crbt.org

3. THE MARKET

In answering these questions, consider the market in the UK, Europe, America and the rest of the world and indicate whether any particular countries will be especially strong (or weak) markets for the book.

Will the book be used by professional, industrial or local government readership? Please list likely job titles of readers and the type of firm or institution in which in which they will be found.

The market for this book would be largely an academic (strong/philosophy and theorists of globalization in particular), scholarly audience, with some professional interest (weaker market) from Architects, landscape architects, and planners.

Will the book be used as a textbook? If so, which courses, at what level, will use it? Please specify likely course titles. Will it be required reading (i.e. an adopted course text) or will it be a recommended text?

Would any societies, associations, companies or other special interest groups be interested in purchasing bulk copies of the book; are there any other special markets?

The Yale Center for the Study of Globalization (YCSG)
The Yale Center for the Study of Globalization (YCSG) was launched in the fall of 2001 to enrich the debate about globalization on campus and to promote the flow of ideas between Yale and the policy world.

The programs and activities of the Center share a common purpose and aim toward one or more goals, all serving to stimulate discussion and examination of the core issues and to connect individuals and institutions whose work contributes to the debate on globalization. Central to YCSG's goals is to link academia and the policy world.

A range of international projects and collaborations allow us to increase our impact outside the University, while within the Yale community YCSG serves to connect people and ideas and seeks to invigorate academic interchange. Our efforts are motivated by a desire to understand globalization and the institutions and policies needed to enhance it as a force for good.

The Center's multimedia flagship publication, YaleGlobal Online, multiplies the effects of the internal and external dimensions of our program. It is through YaleGlobal that we disseminate information to an audience much wider than that of the specialist and contribute to the general intellectual enterprise of understanding globalization.

All of the Center's programs focus on and are driven by our core mission. Our ideal is that in the course of our work we would encourage the generation of ideas and concrete proposals that will result in enabling the poorest and weakest peoples to participate in the opportunities presented by globalization.

The Association of Collegiate Schools of Architecture
is a 501(c)(3) nonprofit, membership association founded in 1912 to advance the quality of architectural education.

The school membership in ACSA has grown from 10 charter members to over 250 schools in several membership categories. These include full membership for all accredited programs in the United States and government-sanctioned schools in Canada, candidate membership for schools seeking accreditation, and affiliate membership for schools for two-year and international programs. Through these schools, over 5,000 architecture faculty are represented. In addition, over 500 supporting members composed of architecture firms, product associations and individuals add to the breadth of interest and support of ACSA goals.

ACSA, unique in its representative role for schools of architecture, provides a forum for ideas on the leading edge of architectural thought. Issues that will affect the architectural profession in the future are being examined today in ACSA members schools.

The association maintains a variety of activities that influence, communicate, and record important issues. Such endeavors include scholarly meetings, workshops, publications, awards and competition programs, support for architectural research, policy development, and liaison with allied organizations.

ACSA MISSION STATEMENT
To advance architectural education through support of member schools, their faculty, and students. This support involves:
Serving by encouraging dialogue among the diverse areas of discipline;

Facilitating teaching, research, scholarly and creative works, through intra/interdisciplinary activity;
Articulating the critical issues forming the context of architectural education;
Fostering public awareness of architectural education and issues of importance
This advancement shall be implemented through five primary means: advocacy, annual program activities, liaison with collateral organizations, dissemination of information and response to the needs of member schools in order to enhance the quality of life in a global society.

The EAAE is an international non-profit association committed to the exchange of ideas and people within the field of architectural education and research. The EAAE aims at improving the knowledge base and the quality of architectural and urban design education. It is a bi-lingual English/French association.

Founded in 1975, the EAAE has grown in stature to become an institution fulfilling an increasingly essential role in providing a European perspective for the work of architectural educationalists as well as concerned governmental agencies.

The EAAE counts more than 140 Active Member Schools in Europe from the Canary Islands to the Urals, representing almost 5.000 tenured faculty members and more than 120.000 students of architecture from the undergraduate to the doctoral level. The association is building up associate membership worldwide.

The EAAE provides the framework whereby its members can find information on other schools and addresses a variety of important issues in conferences, workshops and summer schools for young teachers. The Association publishes and distributes proceedings. It also grants awards and prizes. It provides its Data Bank information to its members.

American Architectural Foundation
The American Architectural Foundation (AAF) is a nonprofit educational organization dedicated to cultivating the public's understanding of architecture and the human experience. Headquartered at the historic Octagon, America's oldest museum devoted to architecture, the AAF initiates education and outreach efforts which foster public participation in the design process, encourage public stewardship of America's architectural heritage, and promotes alliances between architects and the communities in which they live and practice.

The American Association of Architectural Students
AIAS, Inc., is an independent, nonprofit student-run organization, founded in 1956. Located in Washington, D.C., the AIAS is headquartered in the AIA building. The National Office represents student opinions on the Boards of Directors of The American Institute of Architects (AIA), Association of Collegiate Schools of Architecture (ACSA), National Architectural Accrediting Board (NAAB), and the boards of various organizations involved with the discipline and profession of architecture.

American Institute of Architects
American Institute of Architects - Connection to the AIAOnline Network, a comprehensive family of online services designed especially for architects - including e-architect web site of the AIA with employment information, project leads, conferences and special events, Institute and industry news, iTalk, research resources and more...

Center for the Understanding of the Built Environment
Center for the Understanding of the Built Environment; a grass-roots, community organization. CUBE brings together educators with community partners to effect change which will lead to a quality built and natural environment, one and interdependent.

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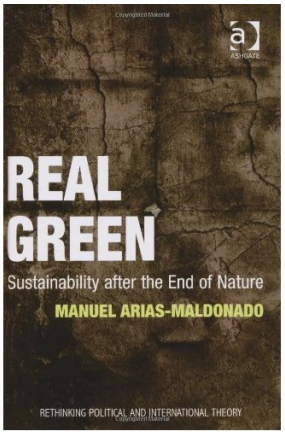
The Architectural Research Centers Consortium
The Architectural Research Centers Consortium, Inc. (ARCC) is an international consortium of architectural research centers committed to the expansion of research culture and infrastructure in architecture and related design disciplines. Since its founding as a non-profit corporation in 1976, ARCC has exerted a concerted commitment to the improvement of the physical environment and the quality of life.

Our vision of a modern architect's education is based on confronting contemporary social and cultural conditions while taking full advantage of new technologies included in foundations of Society of Knowledge.

ASK reflects architectural evolution from 20th century space design towards 21st century information processing design. It anticipates the shift in paradigm in the nature of architectural practice and theory. It provides an interdisciplinary curriculum designed to reinforce student competence in answering crucial questions ushered in with the crisis of globalization. Can local context present new opportunities for non–uniform global trends? Can new conditions of situated design and problem solving reveal the opportunities of previously marginalized societies while maintaining richness of diverse? Can we aspire towards vision of architecture derived from the diverse richness of the emerging society of knowledge? The ASK Program aims to equip young practicing architects with the formative experience required for:

- Active participation in the global architectural knowledge society, and critical interpretation of the creative aspects of design and design collaboration.
- Collaborative and interdisciplinary practice of architecture.
- Architectural research exploring new design technology and theory.

Real Green: Sustainability After the End of Nature (Rethinking Political and International Theory)
Manuel Arias-maldonado



What would a sustainable society look like? How could it be achieved? By challenging conventional wisdom about the ecological crisis and reframing the traditional
values of green politics "Real Green; Sustainability after the End of Nature" offers new answers to the key questions of the environmental debate. In this groundbreaking
and challenging work Manuel Arias-Maldonado convincingly argues that, since nature has now been transformed into a part of the human environment, it
can be seen to no longer exist. Ecological problems thus become an inevitable and normal feature of our relationship with nature. Hence a post-natural environmentalism, realistic and liberal while remaining green, is advocated. In this framework, sustainability, democracy and liberalism become mutually reinforcing elements rather than conflicting ones. Only by combining them can a green society be realised.

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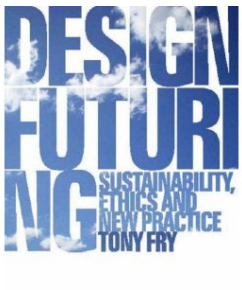
Design Futuring: Sustainability, Ethics and New Practice
Tony Fry



Sustainability is now a buzzword both among professionals and scholars. However, though climate change and resource depletion are now widely recognized by business as major challenges, and while new practices like 'green design' have emerged, efforts towards change remain weak and fragmented. Exposing these limitations, Design Futuring systematically presents ideas and methods for Design as an expanded ethical and professional practice. Design Futuring argues that responding to ethical, political, social and ecological concerns now requires a new type of practice that recognizes design's importance in overcoming a world made unsustainable. Illustrated throughout with international case material, Design Futuring presents the author's ground-breaking ideas in a coherent framework, focusing specifically on the ways in which concerns for ethics and sustainability can change the practice of Design for the twenty-first century. Design Futuring - a pathfinding text for the new era - extends far beyond Design courses and professional practice, and will also be invaluable to students and practitioners of Architecture, the Creative Arts, Business and Management.

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Hijacking Sustainability
Adrian Parr

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6 x 9, 224 pp., 2 illus.
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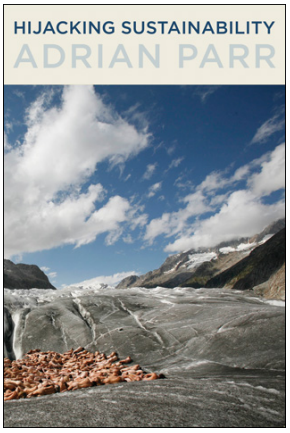

The idea of "sustainability" has gone mainstream. Thanks to Prius-driving movie stars, it's even hip. What began as a grassroots movement to promote responsible development has become a bullet point in corporate ecobranding strategies. In *Hijacking Sustainability,* Adrian Parr describes how this has happened: how the goals of an environmental movement came to be mediated by corporate interests, government, and the military. Parr argues that the more popular sustainable development becomes, the more commodified it becomes; the more mainstream culture embraces the sustainability movement's concern over global warming and poverty, the more "sustainability culture" advances the profit-maximizing values of corporate capitalism. And the more issues of sustainability are aligned with those of national security, the more military values are conflated with the goals of sustainable development.

Parr looks closely at five examples of the hijacking of sustainability: corporate image-greening by such companies as British Petroleum (BP) and Wal-Mart; Hollywood activism by Leonardo DiCaprio and other movie industry figures; the autonomy of communal ecovillages vs. the military-like security of gated communities; the greening of the White House (and its de-greening: Ronald Reagan famously removed solar panels installed by Jimmy Carter); and the incongruous efforts to achieve a "sustainable" army. Parr then examines key challenges to sustainability— waste disposal, disaster relief and environmental refugees, slum development, and poverty.

Sustainability, Parr says, has captured our imagination at a time when we are discouraged and demoralized by a failed war and general governmental incompetence; it offers an alternative narrative of the collective good—an idea now compromised and endangered by corporate, military, and government interests.

Sustainability Ethics and Sustainability Research
Becker, Christian U.
2012, 2012, XIII, 139 p. 116 illus.

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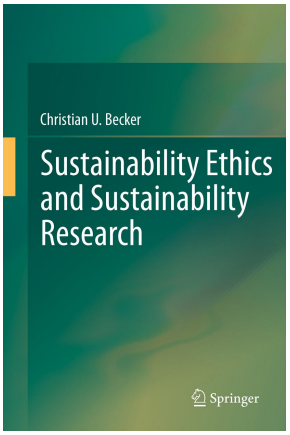

- Adopts a philosophical perspective on sustainability
- Systematically develops sustainability ethics as a distinct field of applied ethics
- Suggests a new type of sustainability research that integrates ethical analysis
- Provides a framework for an inclusive academic approach to sustainability

This philosophical contribution to the discussion of sustainability develops a distinct approach to sustainability ethics and suggests a new avenue for sustainability research.

Referring to the inherent ethical meaning of the modern concept of sustainability, the author argues that without an adequate recognition and analysis of this ethical meaning, the concept of sustainability is misunderstood and sustainability issues cannot be adequately approached.

The book identifies the specific ethical aspects of sustainability and develops ethical tools to analyze them. It also provides a methodological framework to integrate ethical and scientific analyses of sustainability issues, and explores the notion of a new type of self-reflective inter- and transdisciplinary sustainability research. With this, the book aims to strengthen the overall ability of academics to contribute to the analysis and solution of sustainability issues in an inclusive and integrated way.
Content Level » Research
Keywords » meta-structures - relational ethics - sustainability ethics - sustainability research - sustainable person
Related subjects » Applied Ethics & Social Responsibility - Environmental Sciences - Epistemology & Philosophy of Science - Sustainable Development