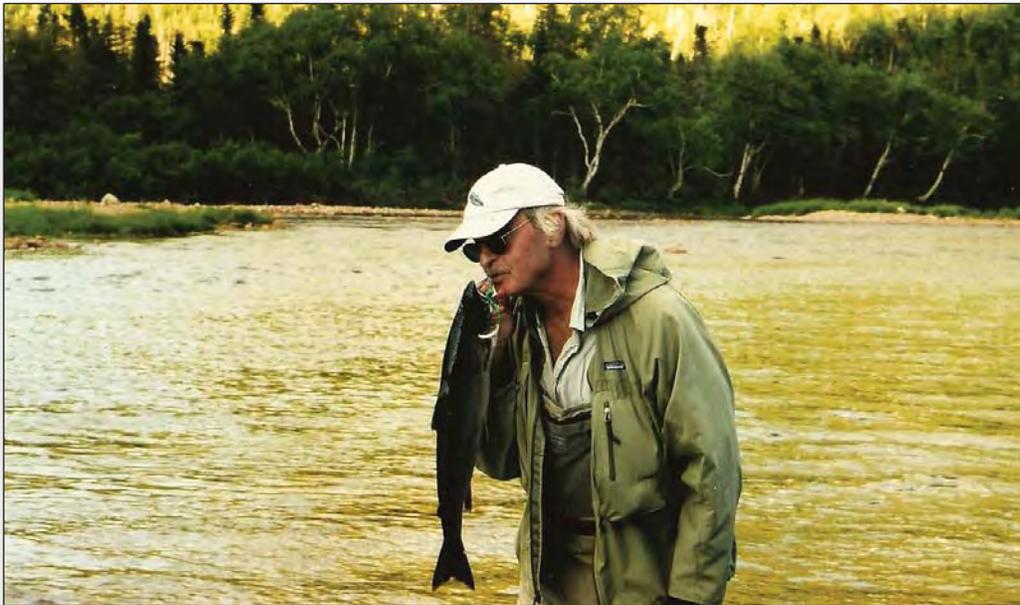


# *Minding Nature*

*expanding our natural & civic imagination*

December 2008 | Vol. 1 No. 1



**Strachan Donnelley, Ph.D. (1942-2008)**  
Founder of the Center for Humans and Nature

A JOURNAL OF THE CENTER FOR HUMANS AND NATURE

# Minding Nature

*expanding our natural & civic imagination*

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## Welcome to Minding Nature

BROOKE HECHT

The Center for Humans and Nature operates under the premise that humans can achieve a sustainable relationship with nature only by aligning their values and consciousness with earthly realities. It sounds simple, even logical, but then again, what are those earthly realities? This fundamental question was what sparked our Founding President, Strachan Donnelley, to embark on a journey to explore “the many values and moral obligations pertaining to humans and nature, and to take nature seriously as a moral and civic ... concern.”<sup>1</sup>

The Center brings a multidisciplinary perspective to this work. Our board, staff, and collaborators include evolutionary biologists, ecologists, lawyers, economists, historians, philosophers, and theologians. *Minding Nature* is the Center’s latest reflection of our commitment to bring an “all-things considered” approach to one of the most pressing questions of our time: How do we live responsibly and sustainably with the Earth? The title of our new journal is intended to convey some of the complexity of this task. One can “mind” nature in the sense of using our minds to think creatively about nature and our place within it. We can also “mind” nature in the sense of looking after it and taking responsibility for our actions within nature. Finally, one can “mind” nature in the sense that we *mind*; we object when we observe harm to human and natural communities.

One of our central goals is to share the best thinking that the Center has generated and encountered in our work. It is these ideas—and their relevance to public policy, economic reform, cultural innovation, and ultimately the well-being of our human and natural communities—that we hope to convey in the pages of *Minding Nature*.

We are exploring these ideas in the “marginalist,” non-dogmatic, free spirit of our founder, by which we hope to honor him and carry on his legacy. Please join us.

“Moreover, we are convinced that ideas crucially matter in regional, civic, everyday life – that how we think and feel about ourselves and nature importantly determines human action and what [a] region will become, for better or for worse.”

—Strachan Donnelley



### Notes

1. “Civic Responsibility and the Future of the Chicago Region,” in *Nature, Polis, and Ethics: Chicago Regional Planning, a Hastings Center Report Special Supplement*, (November-December 1998), p. S-3.

Brooke Hecht, Ph.D. is Acting President of the Center for Humans and Nature

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# Wake Up Call: The Editorial Purpose of Minding Nature

BRUCE JENNINGS

**A**ldo Leopold said that a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. When I was a young teacher in the 1970s, I thought that we were beginning to take seriously this notion of a “biotic community”—nature alive, not simply matter in motion; a community of life and living of which human beings are not outsiders, but dependent insiders. I remember the first Earth Day; I remember talking with my students and colleagues about the limits of growth, steady state, sustainability, the ecological conscience. And I remember exploring the argument that we could not relate properly to the biotic community without at the same time relating rightly to the social and political community. Living rightly in a biotic landscape, as Leopold would have us do, and living rightly in a moral commonwealth were inseparable. Ecological sanity and social justice go hand in hand.

Then, in approximately 1980, we as a people went to sleep morally, politically, imaginatively. We are just now waking up. It is time to get back to work; it is time to rejoin the conversation. The natural realities, constraints, and limits we were beginning to grasp thirty years ago have not gone away. No, on the contrary, they have become more pressing, and we have even less justification now for ignoring them, thanks to the scientific work that has been done in the interval. To be sure, many social and legal reformers have worked hard and successfully to ameliorate some of the worst pollution and degradation that assaults the integrity and stability of nature alive. Yet it has not been enough. What our reawakened conversation must be about is a redistribution of power and a transformation in the priority of our values.

In his recent book, *The Bridge at the Edge of the World*, Gus Speth speaks of “a new consciousness that gives priority to nonmaterialistic lives and to our relationships to one another and to the natural world.” The question of consciousness is moral and spiritual, to be sure, but it is also very practical and action-oriented. It goes in tandem with what Speth calls “the search for a new and vital democratic politics” and the question “whether a popular movement that can drive real change is being born.”

With similar discernment, in a new book to be published soon, *Right Relationship: Building a Whole Earth Economy*, Peter G. Brown and Geoffrey Garver argue that “The global economy today is overwhelming the ability of the earth to maintain life’s abundance. We are getting something terribly wrong. At this critical time in history, we need to reorient ourselves in how we relate to each other and to the earth’s wonders through the economy. We need a new mass movement that bears witness to a right way of living on our finite, life-giving planet.”

The Center for Humans and Nature was founded by Strachan Donnelley in 2002-3 to rekindle and to contribute a substantive philosophical dimension to this kind of transformative,

change-nurturing conversation. We need new ways of seeing, feeling, and thinking if we are to achieve right relationships with the conditions that make living and life possible, and if we are to reclaim our not yet fully realized democratic heritage as citizens rather than as “subjects” or, the contemporary equivalent, “consumers.” Today we begin *Minding Nature* as one additional forum for this conversation.

I use the term “forum” advisedly. It is a space of civic imagination and reasoned, deliberative argument. *Minding Nature* will be an articulation of ecological democratic citizenship and of the way such citizens should engage with one another. The voice of democratic citizenship is not dogmatic. It is a voice inspired by seriousness of purpose and openness to other perspectives and to new facts. It is a voice that speaks with urgency, yet is mindful of the complexity we face and of the fallibility to which we are prone.

Erasmus Darwin, grandfather of Charles and no intellectual slouch in his own right, formed a circle of some of the most outstanding thinkers of his day, who referred to themselves as “the Lunar Men.” In their discussions and in the forum they created for themselves, they engaged in what the elder Darwin referred to as “philosophical laughter.” This is exacting thought applied to the most serious and crucial of problems, but done in the spirit of camaraderie, mutual respect, care, and joy.

In the pages of *Minding Nature* over the coming months and years, we hope to see Lunar men and women at work, and we hope to achieve, at least from time to time, true philosophical laughter. Strachan Donnelley, who is memorialized at the conclusion of this issue, would have liked that phrase. It is to his memory and his legacy that *Minding Nature* is dedicated.



*Bruce Jennings, M.A. is Editor of Minding Nature  
and Director of the Center for Humans and Nature in New York.*

“Man has survived hitherto because he was too ignorant to know how to realize his wishes. Now that he can realize them, he must either change them or perish.”

—William Carlos Williams,  
“The Orchestra,” in *Pictures from  
Brueghel and other poems*

## Keeping Nature Alive at the World Conservation Congress

KATHRYN KINTZELE

9 represented the Center for Humans and Nature (CHN) at the Fourth World Conservation Congress, of the International Union for the Conservation of Nature (IUCN) on October 5-14th in Barcelona, Spain. IUCN is the world's oldest and largest global environmental network. It is a democratic member organization, with a membership of over 1000 government and non-government organizations. Although CHN has been a close partner with IUCN for many years, CHN became a formal member in 2008.

IUCN holds the Congress once every four years. The first half of the Congress is the Participants Forum and the final half is the Members Assembly. The Forum gives the space for participants to share knowledge and build alliances. The Assembly allows the members to review the prior quadrennial Programme and adopt a new quadrennial Programme; this includes voting on new resolutions as well as voting on executive offices. This year, the Congress brought in over 8,000 participants and held over 800 workshops. These workshops were further divided into 12 Journeys to better align interest with talent. The presence and influence of the work and ideas of the Center for Humans and Nature throughout the Congress was extraordinary.

The CHN North American Global Responsibilities Program has been working on a project called "The Ethics of Biodiversity Conservation," sometimes referred to as the "Biosphere Ethics Project" (BEP), since 2005. We are working with local, regional and international partners to create a code of ethics for biodiversity conservation. The alliances for this project include over 50 organizations and 100 individuals, coming from government and non-gov-

ernment sectors, across disciplines and including theorists and practitioners. (Background information and meeting documents can be found at [www.humansandnature.org](http://www.humansandnature.org).)

At the Barcelona Congress, the Center for Humans and Nature and the Ethics Specialist Group of the IUCN Commission on Environmental Law co-sponsored a workshop on "Keeping Nature Alive: the ethical foundations for nature conservation in the 21st century." This was selected as the opening workshop for both the Law and Governance Journey and the Rights and Conservation Journey. The Biosphere Ethics Project was also highlighted as a key project of the Commission on Environmental Law and the Environmental Law Programme. Due to this attention, we had standing room only and were able to receive much feedback on the project's current process and outcomes.

The workshop included presentations by Brendan Mackey, Patrick Blandin, Klaus Bosselmann, Mirian Vilela and myself. The session was facilitated by Amelia Arthur, an independent consultant in social development from Ghana.

A great deal of interest and attention was focused on the Eight Key Themes that have been developed by our pre-

vious work in the Biosphere Ethics Project. These themes are: (1) keeping nature alive; (2) truth and reconciliation ecology; (3) the primacy of native species; (4) cross-sectoral regional and local alliances; (5) accountability; (6) biocultural diversity; (7) conservation is about managing change; and (8) the commodification of life. The audience noted that these eight concepts had never been brought together before in this way, and they clearly saw the value of doing so.

It was amazing and inspiring to see how much resonance this theme [“Nature Alive”] had at this very large international meeting.

Prior to the Congress, we had been contacted by people in the IUCN Communications Director’s office. They loved the theme, “Keeping Nature Alive,” and asked us if they could use it on several of the formal IUCN publications for the Congress. This theme and wording were first identified in our project by Strachan Donnelley.

It was amazing and inspiring to see how much resonance this theme had at this very large international meeting. It appeared everywhere, from the multi-language IUCN publications titled “Keeping Nature Alive;” to the accepting words of the incoming President, Dr. Ashok Khosla; to the final words of the entire IUCN Congress, “IUCN: Keeping Nature Alive since 1948.”

Through our networks, contacts, and collaborations, the Center was able to insert ethics into many key dialogues at the Congress. Brendan Mackey (an environmental scientist at the Australian National University who had been a Visiting Scholar with the Center in 2008) was one of eight panelists asked to introduce and explain a critical question to the entire Congress in the opening ceremony. As the final panelist, Brendan asked, “What must we do to keep nature alive in the 21st century?” and expounded upon morality, spirituality, ethics and economics. Jeff McNeely, IUCN Chief Scientist and active participant in our project, closed the opening ceremony stating that “This question of ethics is a tremendous and appropriate way to open the Forum.” Brendan was later elected as a representative of Oceania on the IUCN Council, a great triumph for our colleague and our project.

The Center was also asked to co-sponsor the first Presidential Debate in IUCN history. Alongside three other sponsors, including the University of Peace in Costa Rica and the Wilderness Society of Australia, we saw to it that one of the four questions asked was specific to ethics. It was precedent-setting and crucial that all three candidates gave

attention to this critical issue. Dr. Khosla, the candidate who won the incoming Presidency, spoke of the need for ethics in every role of IUCN, including in the terms of engagement when speaking with the private sector. This was a key point made at several of our project meetings. He repeated this point once again in his acceptance speech.

In addition, I was asked by the Senior Counsel of the Environmental Law Programme to give my input into the overall themes that came from the Forum, which would

be part of the dialogue of the closing ceremony. Prevalent themes included “ethics,” or the lack there-of in certain conversations; how “business as usual” is not working; how solutions must be sought in a multi-disciplinary fashion; the growing need to show the environment and human health connections; the lack of will; the availability of fresh water; and also how the issue of “trust/distrust” was mentioned at nearly every workshop that I attended. The link between ethics and trust is a crucial one that has yet to be explored by our project, but was made evident at this Congress.

I also represented CHN at several side meetings, including the Task Force on Cultural and Spiritual Values. I was asked to introduce our project on the ethics of biodiversity, as well as provide input on a Resolution that several of their members were preparing for the Congress, “Mot 121: Recognition of the diversity of concepts and values of nature.” I ensured that valuable terms such as “ethics” and the “community of life” were included in the final document. This motion was later adopted by the IUCN Members for the 2009-2012 Programme.

A report of the Workshop is currently in process and will be published by the IUCN Environmental Law Programme. Once published, it will be made available on the CHN website.



*Kathryn Kintzele, J.D. is a Post-Doctoral Fellow in Environment, Ethics and Law at the Center for Humans and Nature*

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# CHN at Work:

## Bringing Perspective to the Biofuels Debate

CURT MEINE

uring the growing season of 2006, large financial and political forces lined up in a manner that made it plain, to promoters and critics alike, that corn-based ethanol was becoming a transformative force in the agricultural landscapes of North America.

A juggernaut was beginning to move—with few ethical “rules of the road” to guide it, and all too little appreciation of the need for such rules. The debate over ethanol and its discontents has

evolved so quickly that it is difficult now to recall the feverish headlines of 2006: “Ethanol’s Promise Isn’t False” (Washington Post)... “New Fuel Source Grows on the Prairie: With Oil Prices Up, Biomass Looks More Feasible” (Washington Post)... “The Energy Challenge: Ethanol Bonanza Is Reshaping Sleepy Cow Towns in Heartland” (New York Times)... “The Great Corn Rush” (Minneapolis Star-Tribune)... “Midwest Farmers Reap Benefits of Ethanol Boom” (USA Today).

During the last two years, CHN has organized or participated in a series of critical discussions that have both deepened and broadened our understanding of the perils and promise of biofuels development—even as the speculative bubble in corn-based ethanol production in the United States has been punctured by economic, environmental, and technical realities.

In October 2006 I was invited to speak in a lecture series jointly organized by the University of Wisconsin-Madison’s Agroecology Program and College of Engineering. The title of the series was “What Would Aldo Leopold Think About Corn Ethanol?” Others in the series had addressed issues of corn ethanol production from the perspectives of physics and energetics, the potential social and economic benefits, and the environmental impacts (especially on soil and water conservation and air quality). In my presentation, “Ethics, Economics, Ecology, Engineering, Ethanol, and... Aldo,” I argued that it is always risky to presume what Aldo Leopold might have thought about any given issue involving natural resources, conservation,

economics, and the public good.

However, Leopold’s own life and work—especially his commitment to conservation in the agricultural landscapes of the Midwest—provide ample evidence of how he would have thought about corn ethanol (and biofuels in general). He would have required us to think about these issues in a manner commensurate with their complexity. He would have had us regard land not as a mere source of this latest commodity, but “as a community to which we belong.” He would have us think hard about the ways in which our actions affect the health of the land. He would push us to cross artificial disciplinary boundaries in the field, the laboratory, the classroom, and the policy arena. He would have demanded rigorous research and monitoring of results. He would have had us look not only at the means of energy production, but the realities of energy consumption. He would have insisted that this question, like all resource management questions, inherently involved ethical consideration of the common good, of future generations, of other species, and of the land as an integrated whole.

Yet, it had to be admitted that in the heat of the ethanol boom this land ethic perspective was all but absent in the statements emanating from the policy salons, the partisan think tanks, and the corporate publicity mills.

That was soon to change. Countervailing headlines soon began to grace newspaper pages and internet blogs: “Will the End of Oil be the End of Food?”; “An End Run on Ethanol”; “Most of Nebraska Corn Crop Will Go to Ethanol by 2011: Some Wonder If It’s Worth It.”

Recognizing the need for deeper, more critical discussion of the issue, the CHN in November 2006 convened a meeting in Chicago entitled “Biofuels: Creating a Humans and Nature Perspective.” The meeting brought together representatives from several universities and NGOs to share background information and compare positions. Wes Jackson and Wendell Berry contributed their deep agroecological perspectives. (Berry’s comments at the meeting would appear in Harper’s magazine as “Faustian Economics: Hell Hath No Limits,” May 2008.)

In the meantime, scientific discussion of the complex trade-offs, risks, and externalities involved in ethanol production, and of alternative ways of thinking about biofuels generally, was beginning to filter through the professional and public media. A key transition point came in early December 2006 with publication in the journal *Science* of an article by David Tilman and colleagues at the University of Minnesota, “Carbon-Negative Biofuels from Low-Input High-Diversity Grassland Biomass.” Their study pointed to the potential to derive broader environmental benefits through biofuels that utilized native grassland perennials as feedstock (vs. corn-based ethanol or soy-based biodiesel).

The article was a portent of things rapidly to come. In the months that followed, a series of scientific, economic, and policy papers called into question any simple conclusion that large-scale corn ethanol production provided net gains in environmental quality, energy efficiency and reduced greenhouse gas emissions, and raised troubling

grassland biodiversity. The ethanol boom has put pressure on policy makers to remove lands enrolled in CRP and to put them back into production.

In September 2007, as part of its Biosphere Ethics Project, CHN hosted an international meeting that involved colleagues from the World Conservation Union (IUCN). Among the attendees was Jeff McNeely, IUCN Chief Scientist, who also serves on the Steering Board of the Roundtable on Sustainable Biofuels, an international initiative organized by the École Polytechnique Fédérale de Lausanne in Switzerland to establish standards for sustainable biofuel production. McNeely agreed to participate in a symposium that I and several colleagues had begun to plan on biofuels and biodiversity conservation for the July 2008 annual meeting of the Society for Conservation Biology (SCB) in Chattanooga, Tennessee. That symposium, “Biofuels and Biodiversity: An Assessment of Potential Effects on Species and Ecosystems,” was among the best attended at the SCB meeting, and featured research reports and policy proposals involving the intertwined topics of biodiversity conservation and biofuels development.

Sadly, as the SCB meeting in Tennessee was taking place, I learned of the loss of my friend Strachan Donnelly. I like to think that the SCB symposium served, in its own way, as a tribute and memorial to Strachan. It exemplified the interdisciplinary inquiry that he so greatly appreciated. It connected science and ethics, philosophical concepts and pragmatic realities, local concerns and global

The policy debate about biofuels goes on, but corn ethanol is not the juggernaut it once seemed destined to be.

questions involving the impacts on food security, land conservation, water quality, and other matters that had too often been regarded as “side issues” (if at all).

The Center’s involvement in the biofuels debate continued in May 2007, when the Center partnered with the Chicago Botanical Garden to present a public symposium, “Biofuels: Distilling Fact from Friction.” The symposium provided an opportunity to elaborate on themes from the previous fall’s meeting, and to share them with a larger audience of interested citizens and organizations. The following day, a smaller follow-up meeting was convened at the Center’s conference facility, “Windblown Hill” in Libertyville, IL to consider the impact of the rapid development of the U.S. biofuels industry on the federal government’s Conservation Reserve Program (CRP). This program encourages farmers to keep some land out of agricultural production, thereby protecting marginal soils and encouraging

trends. It reached an audience that has continued to expand as the attendees have dispersed again to their classrooms, study sites, policy offices, and home landscapes. It was a productive example of what Strachan referred to as “orchestral causation,” the complex conjunction of many forces and influences that have effects one cannot always anticipate.

The policy debate about biofuels goes on, but corn ethanol is not the juggernaut it once seemed destined to be. As one thing leads to another, it is sometimes easy to overlook the role that CHN plays in catalyzing thought in circles far from our own—and in providing a place to make fortuitous connections.



*Curt Meine, Ph.D. is Director for Conservation Biology and History at the Center for Humans and Nature*

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# Alternative Futures for Chicago

PAUL HELTNE

**e** complex environmental processes like global climate change pose intricate and challenging adaptation, mitigation, and regional planning issues. Like all cities and regions, Chicago is vulnerable to the effects of climate change and faces its own specific risks and challenges. It must engage in appropriate planning now to be prepared for the changes and lie ahead.

The development of various planning scenarios is one tool of preparedness, public engagement, and community response to these challenges. The following analysis has been developed as a proposed foundation for the Chicago Regional Planning Agency's *Go to 2040 Plan*.

## A Future with Appropriate Planning

Trajectory One. Three decades of coordinated trajectories<sup>1</sup> of action generate a vibrant region poised for serious challenges and new opportunities.<sup>2</sup> In 2040, the Chicago Region is busy responding to the coincident challenges of global warming and the end of oil. The region has been thoughtfully positioned for meeting these challenges by a succession of regional plans during the preceding decades.

In 2008, while preparing their *Go To 2040 Plan* the regional planning agency took the implications of climate change seriously for food supply and land use. They also recognized the inevitability of a dramatically different energy mix in response to global warming. The need for this change would only be accentuated by the diminution of oil supplies and resulting increases in costs.

The regional planning authority in 2008 concluded that, even though they could not achieve full regional sustainability overnight, they must set in place policies now that would lead to carbon neutrality and sustainability in food, water, and energy by 2040. They also concluded that this would provide a broader range of support for regional biodiversity and ecosystems (including endangered species and globally important biological communities) than a very aggressive land acquisition campaign. (Although they also concluded that some acquisition should continue for other reasons). Human health for all ages and cultural vibrancy would be protected and indeed enhanced by pursuing decisive trajectories toward sustainability beginning with the implementation of the *Go to 2040 Plan*. Finally, this plan recognized the need to convince officials at the local, state, and national levels of the need to begin a march toward sustainability through decisive, proactive leadership now.

## Food and Water Trajectories

The regional planning authority realized in 2008 that food supply, for the first time, would have to be considered when thinking about the future of the region. This was because transportation of foods over long distances will be

prohibitively expensive except by rail. Even local distribution would produce considerable quantities of carbon dioxide unless provided by hybrid fuel cell vehicles.

Consequently, the agency determined to secure food supply in the same way that many metro regions must secure their water supply, that is, locally. The planning agency determined that unbuilt land between 50 to 100 miles from the center of Chicago would be recognized as the region's food and water production zone. Preservation of farm land for food production would be done in a variety of ways: by outright purchase, by purchasing conservation or development easements, and/or by securing an option to buy. This land would be used for food crops including garden crops, grains, orchards, dairy, poultry, and some food processing operations.<sup>3</sup> Spaces for food production would also be preserved in some of the interstices of the built up areas closer to the center of the region as well. The food lands would provide vast spaces in which rain water might slowly infiltrate into the ground.

The farms and gardens would be owned or managed by small farmers and community gardeners with an intimate knowledge of the nuances of the capacities of the land they husbanded. Continuous but rotating and mixed cropping will dramatically diminish the need for pesticides. Much of the farming will be done in perennial polycultures. Herbicides are banned entirely. Since most of the ground is covered most of the time with a variety of no-till procedures, the need for irrigation would be dramatically reduced. Any irrigation practiced will be carefully monitored and controlled. Highly efficient drip irrigation is the only kind allowed. Fertilizer from animal and human waste as well as from the separated waste streams of the built areas would build the fertility of the farmable land. Proper composting and frequent testing would assure that all harmful bacteria, parasites, and pharmaceuticals had been destroyed before application of the natural fertilizer to the land. Factory farms were not part of the picture because of their energy costs and the other threats they pose to environmental and human health.

Because of the warmer climate, a longer growing season permits multiple crops on the same field often grown at the same time. Peas and beans of many varieties are widely dispersed because of their ability to add nitrogen to the soil. Collapsible green house structures are installed so that in the fall they could quickly be extended permitting some fresh vegetables to be grown year round. The green

houses would be heated by the sun during the day and be kept at 55 degrees (at least) at night by geothermal circulation. In the spring the green house structures would be collapsed again.

The non-food uses of the land would also be remunerated to farmers. The regional agency recognized that the same land used for growing food crops or grazing would be available for wind generators. The same acres would also be a protected site for water infiltration into the aquifers of the region. Farmers would be paid for these benefits to the community and to nature itself. Indeed, drained wetlands would be restored and hillsides would be retired from some inappropriate uses, such as row cropping. These sites could be managed to benefit wildlife and might (or might not) be formally added to the protected green infrastructure.

### Energy Trajectories

In addition, the regional planning agency initiated programs to encourage carbon free or carbon neutral energy resources. They identified the need for a massive solar, wind, and geothermal power program along with efforts to incentivize conservation by all energy users.

Working actively with the City of Chicago, counties and municipalities, the regional planning authority successfully adopts policies that provided energy equity. For example, carbon credits equal to travel to and from work are issued. These credits could purchase fuel for cars tax free. Additional credits are given to everyone for a reasonable number of trips for personal use and these credits can be sold or traded. At the same time, a policy determination was made to make public transportation free by the time of the Olympic Games. These costs would be covered by a tax on any gasoline use that was over and above the individual allotment. This would raise the cost of non-allotment gasoline to the neighborhood of \$12 per gallon well before 2040.

In order to achieve air quality compliance, the municipal and county jurisdictions are mandated to become first adapters of hybrid fuel-cell vehicles to spur the drop in prices of these vehicles and encourage next generation development. Sales taxes and registration fees on hybrid fuel cell cars are dropped to zero and taxes and fees on standard engines were closely correlated to mileage ratings, also dropping to zero when they reached the emission levels of hybrid fuel-cell vehicles.

The regional planning authority realized in 2008 that food supply, for the first time, would have to be considered when thinking about the future of the region.

All new building construction is constrained to incorporate solar and geothermal power. The solar panels generate both electricity and heat. The geothermal power dramatically reduce the costs of air conditioning. These costs are further reduced by having windows that opened and once again constructing atrium buildings for air exchange. All new buildings are required to meet LEEDS certification and adopt the full range of Architecture2030 standards. All new building is required to have a minimum 100 year life span. Older buildings are to be placed on a retrofit schedule for installation of solar panels, and geothermal capability was also installed during any major remodeling. New or retrofit, the construction must be century-rated.

A massive program is initiated to get local power companies to install and maintain solar panels. The square miles of flat roofs in the region quickly become major sources of energy. The utilities harvest the energy and charge for the electrical power at a level required to recoup the costs of installation and maintenance over the life time of the installation. Alternatively, buildings could install and maintain and sell any excess to the power utility.

workers would have their homes in those towns. These towns could be expected to grow slightly and they would become the models of the neighborhoods which are now, in 2040, re-established throughout the region. People can walk to shops which provide all the basic daily needs including primary medical care, food, dry cleaning, barbers and hairdressers. Many shopping, service, and recreational functions would be available on a 24 hour basis. Children walk to schools. The walkability criteria would also be used for infill building in the jurisdictions. Height restrictions would be reconsidered, especially within a 30 minute walking distance of commuter train hubs. These areas would also be the point of concentration of many of the shopping facilities and services of the area which did not need to be more localized. No further conversions of farmland would be permitted for uses such as built space, golf courses, country clubs, or hunt clubs. No further farmland, forested land, wetlands, flood plains, or water infiltration areas would be converted to housing. Only in rare instances would it be necessary to engage in building outside of already built up perimeters, because decrepit build-

Throughout the 30-year period, shopping malls become town centers and vibrant communities with transportation hubs.

Multiple uses of steam used to generate electricity are also mandated. Steam from power plants was circulated through adjacent neighborhoods on the model used by Manhattan for decades. No generated calorie is to be wasted. The plan calls for a total phase out of carbon for heating and electricity generation by 2040. Trains, designated lane vehicles, and bus service would be greatly expanded. Buses would be required to be clean burning, use fuel cells, and be upgraded at each new round of replacements.

### Major Industry

Some major heavy industry continues to be located in the heartland, near Chicago. The raw materials, energy, and transport needs of such industry would have been recognized and planned for. While minimizing the environmental effects of such industry, attention is also be given to making the sites readily accessible to public transportation of the workforce.

### Cultural and Economic Trajectories

The towns and villages within the Chicago Food Belt would be the sites of food processing and many of the

ing stock would be replaced with higher density housing and services.

Throughout the 30-year period, shopping malls become town centers and vibrant communities with transportation hubs. Housing of several stories is required over much of the parking space; the remaining parking needs are constrained to multi-story parking ramps; and significant outdoor spaces are retained for active and passive recreational activities. No additional malls are permitted except by referendum.

Forested areas are purchased or established to assure that replacement lumber would be available for the continuing rounds of renewal. These areas also contribute to recreational, biodiversity, and water infiltration functions. Some forested areas also contain wind mills.

### Infrastructure Trajectories

The Go To 2040 regional plan also recognized the extensive amount of very aged infrastructure in the region and the limitations of many portions of the infrastructure systems. Looking into the increasing costs of energy to produce machinery, steel, and other hard goods for infrastructure, the regional planners and jurisdictions determined to

make all new and replacement installations of the quality to serve for at least a 100 year life expectancy.

All sewers are separated and the whole system was re-designed so that by 2040 human waste treatment resulted in a high quality fertilizer which is devoid of any harmful bacteria or pharmaceuticals. This fertilizer, returned to the land from which most of the human food had originated, requires only minor adjustments for special field or crop needs.

Road work is largely limited to repair of existing roadways but installations, whether new or refurbished, are required to meet 100 year design criteria. Asphalt is available only from recycled materials and that on a diminishing basis except for roads that were being abandoned. These roads would be reduced in size as suburban scatter housing became unaffordable due to fuel costs and the lots were sold to municipalities for conversion to park land or farms. Some of the abandoned roadways could add to the increasing network of bike trails.

### Integration of Trajectories into Fabrics

Since all of these measures are set in motion by 2010 (because citizens and leadership agreed that it was prudent and led to exciting, secure neighborhoods, vibrant cultural opportunities, and sustainable economic trajectories), these necessary modifications are in place well ahead of the end of oil and were ready to face the accelerating need to respond to the exigencies of global climate change. This became ever more apparent as each year storms in the southeast, droughts in the southwest, and sea level rise around the world began to generate climate refugees. The displaced persons sought places to settle that had a vibrant culture and ample water and food.

One of those places was the Chicago region. The regional planning authority in 2010 determined that a straight line projection of population growth of 2.8 million more people by 2040 is not adequate. Indeed, they think that this could rather easily be as much as three times that number based on studies of possible flight from areas no longer habitable. Thus, both emergency and long-term housing plans are developed. Many of those arriving in the early years after the *Go To 2040 Plan* are employed to create new housing in already urbanized areas. Many others are employed in the food industry. Schools, medical care, and senior housing are also planned to absorb the ingress.

Together the foregoing trajectories of actions would serve to safeguard all protected landscapes and keep much of the adjacent landscape open through food or woodlot production. Groundwater recharge areas would thus be fully protected. Run-off storm water would be captured for drinking water through infiltration. Natural open space

would be available within easy walking distance or by public transportation. Additional purchase of public lands would secure the opportunities of access for all and for the adaptation or migration of wild species in the face of climate change. Youth and senior corps could be established to work at the preservation and restoration of protected lands. The Chicago metropolitan region is prepared for the challenges and opportunities of 2040.

### A Future without Appropriate Planning

Trajectory Two. Three decades of reaction to conditions which can no longer be ignored generates a region with haphazard and conflicting policies, shortages of basic needs, and few reserves to meet intensifying challenges.<sup>4</sup> In 2040, the Chicago Region is struggling with the accumulating effects of the challenges of global warming and the end of oil. The region has taken a wait-and-see approach to these coincident challenges, responding to conditions after they become acute and sometimes massive. Regional planning has, in fact, taken rather little notice of the growing effects and has tended to see worsening economic and ecological conditions as unpleasant but perhaps temporary challenges to business as usual, though by now, no activity resembles what it was in 2010.

In 2008 while preparing their *Go To 2040 Plan* the regional planning agency began to sense that climate change might have an impact sometime in the future on food supply and land use. They saw that other regions of the country were actively creating new mixes of energy supply in response to the need to reduce carbon emissions and stabilize global warming, but they chose not to view these challenges as requiring a clear and compelling response in regional planning. The rapid rise in the price of oil in 2008 did not challenge them to examine closely the implications of continually higher petroleum costs for the future of the region. While successive plans made imperative adjustments, the region fell further and further below its repeatedly stated goal of sustainability.

### Food and Water Trajectories

The regional planning authority failed to realize in 2008 that food supply and water supply were central to a serious vision of the future of the region. They did not recognize that increasing transportation and refrigeration costs would make the cost of food prohibitive, unless it came by bulk on rails. Even the potential for local food production would, however, continue to be diminished as hands-off policies permitted sprawl to continue. Local distribution of food to retailers added substantially to air

pollution levels because there was no move toward incentives for hybrid fuel cell vehicles. Fundamentally, the *Go To 2040 Plan* failed to recognize the need to actively confront laissez-faire development on the part of municipalities and developers who sought only short term windfalls which created huge debts for the future inhabitants of the region.

No effort is made to make the distribution of energy resources equitable across income groups. Since sprawl remains the order of the day, transportation becomes ever more costly.

Consequently, the region continues to depend on distant sources of food while ignoring its diminishing potential for local production. No food production zone is outlined in the periphery of the region nor are any provisions made for securing the status of lands which might grow food for the region. Some municipalities permit small scale gardening in their vacant interstices. If anything, farms in the region grow in size and are used for factory farming until they collapse because of energy costs, epidemic disease within or threats to environmental or human health without. Eventually farmers are forced to sell family farmland for yet more dispersed developments and more astronomical infrastructure costs. No land or easements are acquired as potential CMAP authority went unused. Opportunities for food security and sustainability dwindle over the intervening 30 years to almost zero.

With no production scenarios other than maximizing short term returns just to stay out of bankruptcy, farmers emphasize the use of herbicides, pesticides and fertilizers creating additional challenges for local streams and ground water. As weather becomes hotter, even low-till with standard crops increased the need for irrigation. While regional planning optimizes water resources for humans and for power generation, farmers continue to be empowered to pump down the aquifers underlying their lands, sometimes challenging the water supplies of adjacent municipalities. Since there was no concerted water or waste policy or planning for the region, neither human nor animal waste is separated and used as a fertilizer stream for fields. Fertility decreases and soil erodes continually. Empty store shelves are common by 2040; indeed, a significant number of people are malnourished.

None of the potential advantages of the warmer climate and longer growing season were foreseen and thus neither utilized nor incentivized. By 2040, the farmland is nearly all gone "for higher and better uses." Legume crops are abandoned. No one recognized the potential of green houses with passive solar and active geothermal heating

for food production in the winter. As a consequence, food costs began to rise in 2008 and have continued on a steep upward trend demanding more than 50% of average family income in 2040. Non-food uses of the landscape such as wind power installations, water infiltration zones, and open spaces for wildlife and the psychological well-being of humans have been largely ignored. Thus for humans the

mental landscape became more homogenous and for wild creatures the physical landscape became more and more limited; wild animals became nuisances. Green infrastructure grew little and became more impoverished in terms of diversity; it was ever more in need of restoration which seemed ever more futile. Indeed, the pressure of a growing population has led to the conversion of forest preserves into land for food production, and squatter settlements have sprung up within the preserves.

### Energy Trajectories

The regional planning authority and most jurisdictions ignore programs that actively sought to establish carbon free and carbon neutral energy sources. It is easy to leave energy policy to market forces because powerful stakeholder groups support that approach. Planners have not sought opportunities to collaborate with the jurisdictions to identify needs or to mandate and incentivize solar, wind, and geothermal programs. These installations have become ever more costly and distant as land was converted into housing developments. Conservation efforts are largely delegated by default to energy suppliers and the influence of ever increasing costs of energy from coal, natural gas, and petroleum. No effort is made to make the distribution of energy resources equitable across income groups. Since sprawl remains the order of the day, transportation becomes ever more costly. The cost of transportation rose rapidly to the equivalent of \$12 per gallon by 2020 and continued rising thereafter. The public transit system can operate efficiently only when rider density is at some breakeven level; when that is not the case, even more massive subsidies are necessary. Fixed income people cannot always afford to leave their homes, and wage earners can hardly afford to go to work. (this problem was already on the horizon in 2008.) Congestion on the roads exacerbates the energy, climate, and air quality problems of the region.

Because locally the jurisdictions have not become first adapters of hybrid fuel cell vehicles, these still remain out-

side the price range of many. No incentives could encourage driving fewer miles because land use patterns actually demanded driving more miles. For want of concerted pressure by urban regions like this one, mileage for standard engines hardly reached 40 mpg.

Because of high energy costs, new construction is now very expensive: building operational costs were high and rising because there was little installation of solar or geothermal even as supplemental sources of energy. Air conditioning cannot be afforded by most, even as the summers become longer and hotter (with many days over ninety degrees and often clumped together). No incentives mandated climate upgrades for renovation projects. None of the Architecture 2030 proposals have been demanded as BPM's. Indeed, BMP's had the status of suggestions to be considered.

Only after several decades have serious efforts been initiated to require local power utilities to install and manage solar panel installations. By this time utilities were operating on such a low margin that they could only agree to do this very gradually. There are no incentives in place for individual building owners to install solar panels and sell electricity to local utilities, which in any case are only beginning to learn how to make use of a diverse and widely distributed electrical supply system. Thus, power brown outs and black outs are becoming more frequent and longer, especially during summer heat waves. Deaths from heat and associated violence were rising.

Only halfway through the 30 year span under discussion had a move been established to require up-to-date LEEDS certification on all new construction. Very few officials had even heard of the Architecture2030 proposals for energy savings. Additional decades of wasted energy and unnecessary emissions ensue. Multiple uses of steam have begun but are widely scattered with little integration.

While it is obvious that further electrical power is needed, very little wind power is available. It would be necessary to condemn large tracts of housing in the suburbs in order to install wind power generators. With acquisition of land, condemnation and litigation costs are increasing and adding to the cost of the wind power. Sabotage of wind systems had occurred, and lives have been lost in these incidents. The region is no where near phasing out carbon for heating, electricity or transportation. This situation, multiplied many times around the nation, is still driving an increase in carbon in the atmosphere, temperature on the ground, and rising sea levels globally. The Arctic ice cap is gone, and all oil and natural gas from the accessible fields in Alaska and Siberia have been used up by 2040.

By 2030 some buses and trains have been converted to electrical power. There is some progress in upgrading

emissions standards with each replacement vehicle. Some areas have designated lane vehicles, but these have minimal effects because settlement patterns are far too dispersed.

### Major Industry

As with other areas of activity, there was no planning for industry, especially major industry: which industry should best be located here, under what stipulations, and what were its needs in water, fuel, raw materials. When occasionally some new plant determined to move into the region, it was so welcome that some slight mitigation of environmental damage was the only recourse.

### Cultural and Economic Trajectories

The towns at the periphery of the region have grown but have almost no source of income locally. There is no field or processing work in the agriculture of a Chicago food belt. Houses are being abandoned as people move in search of jobs accessible without heavy transportation costs. The towns themselves provide most basic needs but in a haphazard fashion. Energy prices restrict the hours of service.

The quick private profits of sprawl rapidly lead to deep cultural and civic deficits. Schools burst at the seams. A largely sedentary student body moved toward adulthood overweight, uneducated, and unskilled. It was unclear how they would be able to move the region forward.

Infill is as haphazard as peripheral development but sometimes have the advantage of nearby transportation and business infrastructure. Conversions of farmland continue usually for benefits which are available only for the very wealthy. High density housing is only beginning to be generally recognized as a positive force, especially in the vicinity of transit hubs – this despite the availability of highly successful examples in full operation in 2008. Flooding is still a danger because building has continued in flood plains. Ground water and wetlands are jeopardized everywhere because development interferes with infiltration. Native landscapes which slowed run-off have been largely destroyed outside of protected areas. Commercial and housing stock in the centers of cities and towns have become decrepit and there is no concerted plan to replace them with more sustainable structures in denser patterns of building.

Most shopping malls were shuttered and abandoned. They were the centers of illegal activity and gangs. No new malls had even been proposed for some time. Most strip malls were also in derelict condition. No one knew how to care for these abandoned properties which could not even be sold for taxes.

Forested areas outside of Forest Preserves and some private lots have disappeared almost entirely. There is no local replacement lumber or firewood. Local forests for relaxation, recreation, biodiversity preservation, or water infiltration are largely a thing of the past. Indeed, few people remember a leisurely walk in a woodland.

### Infrastructure Trajectories

The region was faced with decrepit infrastructure in 2010. Though successive regional plans acknowledged this fact, no plan has come to grips with this massive and ongoing problem. Replacements and repairs are not constrained by the 100 year life-time rule and sometimes fail more rapidly than the structures they had patched. Common sewers remain common in many parts of the area. Human waste is not seen as something that should go back onto the fields as fertilizer.

Transportation infrastructure is constantly in need of repair. It is one of the few expanding industries. However, the absence of asphalt supplies make repair slow and expensive and often ineffective. New roads are still being planned and constructed at great cost into the distant suburbs which resulted in intense traffic congestion on all major roadways. Bicyclists are much more numerous and accidents have become frequent.

New Orleans, Mobile, Miami, Charleston, Boston, Lower Manhattan are flood nearly every year). Consequently, the Chicago region (and others) is receiving tens of thousands of climate refugees a year for which it is unprepared, since it had made simplistic straight line projections of population growth in each of its successive regional plans. Indeed, because inadequate planning for the influx of refugees (note that at this point we are only talking about people coming from catastrophically affected areas of this country) has been done, most of them are crammed into a few neighborhoods or now permanent emergency shelters (two of the three McCormick exhibitions centers were converted to such shelters). The population has risen to double or triple the projected 2040 increase. The unplanned for refugees create an intense burden on all public and private services, further depressing the economy. Schools and hospitals are continually swamped. In the absence of planning for food, water, food lands, and solar and wind power, and concentrated land use, Chicago began to look like Cleveland or Pittsburgh in the 1970s and 80s, but flooded with elderly and poor refugees.

In the absence of serious proposals (and necessary lobbying for legislation, funding, and implementation) the region has little resilience for the challenges of 2030 and 2040. Chicago has failed to protect public and private open spaces. Storm water, much needed for drinking wa-

...by 2040 nearly all neighborhoods are gated and patrolled, cultural opportunities are limited and often very expensive, and the region is mired in an economic malaise...

### Integration of Trajectories into Fabrics

Since the plan promulgated in 2010 won awards for its process of development but had avoided any significant departures from business as usual, by 2040 nearly all neighborhoods are gated and patrolled, cultural opportunities are limited and often very expensive, and the region is mired in an economic malaise tied to severe shortages of energy and food and tight rationing of water. Failure to recognize the implications of the end of the extraordinary flexibility provided in the oil era, and the concomitant challenges of a warming planet, have left Chicago on the periphery of nearly everything except an influx of climate-change refugees. Many of these are senior citizens, poor families, or and people with special needs.

Each year has brought an increased number of intense storms in the southeastern part of the US (Hilton Head was no longer rebuilding), prolonged severe droughts in the southwest (Phoenix and Tucson had returned to being mainly college towns), and sea level rise (Galveston,

ter, has been allowed to sluice away. Natural open spaces have become less and less accessible to public transportation and diminished on an area per capita basis, especially in poorer parts of the region. Youth and senior corps might have provided very useful public service achieving agreed public aims, but have not. Deteriorating public lands no longer supported the much needed corridors of range adjustment for wildlife facing changing habitats from global warming. In 2040, the region is in chaos with only draconian exit scenarios.



### Notes

1. A trajectory is defined as several interwoven courses of action seen as integral parts of a long term scenario or series of scenarios. These interwoven action agendas create a regional fabric prepared strong enough to be vibrant in the present and to be

promising even in the face of a future full of unprecedented challenges.

2. This might be called the Stern trajectory after the British analysis of global climate change which recognized the impending [all but inevitable] human and environmental calamity. The Stern Report urged that national governments do everything in their power to avoid these calamities or minimize their disruptive impacts by acting decisively and immediately with a commitment to economic equity and, in so doing, to sustainability. To this might be added a call to applying energy and will to take advantage of emerging opportunities in a much altered world.

3. This secure food land would provide the rich mix of over forty kinds of grown foods available from the region as recently as the 1940s.

4. This might be designated the Nordhaus trajectory after the economist who believed that Stern's pre-emptive approach to global climate change was contrary to good economic theory. Nordhaus advocated that both theory and humankind was much better served by mounting mitigative responses only after the threat had become undeniable or after catastrophe had occurred.

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# Making the Earth Covenant at Chicago

J. RONALD ENGEL

**W**e are in the midst of a massive renegotiation of moral relationships and boundaries. Everywhere we turn we hear reports of agreements made and agreements broken; trust and betrayal; new promises that give us hope countered by conspiracies that send us into despair. We are struggling to set more ethically justified and enduring terms for human relationships, from the most intimate to the most public—from marriage vows to

international law. Complementing these struggles, and in many cases precipitating them, are our attempts to renegotiate the relationships between humans and nature—humans and animals, humans and agriculture and sustainable use of natural resources, humans and soil, water, forests and the atmosphere, humans and ourselves, right down to our genes.

It is within this broad understanding of our present situation that I would ask us to consider the revolutionary transformation signaled by recent calls for an Earth Covenant. Such calls have come from across the spectrum of opinion, and from virtually all quarters of the globe—sometimes couched in terms of a “global compact,” as Kofi Annan has framed it; at other times as a “natural contract,” from the title of an influential book by the French philosopher, Michel Serres; but most perceptively, I believe, as a “new covenant with Earth,” as proposed, for example, by Brazilian liberation theologian Leonardo Boff and British political theorist David Held.

Covenant-making is one of a handful of metaphors large enough to comprehend the history now in the making and the ethical responsibilities required of us. In the course of the 1990s, as I became engaged in international

consultations on the Earth Charter,<sup>1</sup> “covenanting” was the idea that seemed to make most sense of what was happening. People were debating what principles should set the terms for our life together on the planet—to guide the renegotiation of human relationships toward greater justice, respect for human rights, and peace, yes; but also to preserve and restore ecological integrity. Consensus was reached on “Respect and care for the community of life” as our over-arching moral aim, and since 2000, when the Charter was launched in The Hague, thousands of individuals and organizations have pledged to live out its principles in their communities and personal lives.

Current debates on climate change illustrate the power of covenant-making even if it is not named as such in contemporary public discourse. The recent finding by the Supreme Court that the EPA distorted scientific evidence is being rightfully interpreted as a restoration of our covenantal commitment to the search for truth, a *sine qua non* for the exercise of public reason in a democratic society. The fact that we will not reach effective international agreement on climate change without addressing the responsibility the United States bears for its consequences in other parts of the world raises issues of equity and fairness

Covenant-making is one of a handful of metaphors large enough to comprehend the history now in the making and the ethical responsibilities required of us.

across national borders, and makes apparent the global covenantal principles that need to be honored. Finally, can we have any realistic expectation that the most daunting challenge of climate change, our need to restore biodiversity and ecosystemic integrity to the biosphere, can be met without an ultimate commitment to, as well as for, nature? And that such a commitment must be made, not only by our political and business leaders, but by all of us?

The term “Earth Covenant” thus involves three levels of meaning: a holistic vision of planetary fulfillment; a universal ethic of justice, human rights, and peace; and a widening of the circle of the moral community to include nature. As the Earth Charter affirms, “all beings are interdependent and every form of life has value regardless of its worth to human beings.” Given the anthropocentric prison in which our society is held captive, this third level of meaning, our universal responsibility to and for nature, is the most radical, and the one that I want to concentrate upon today.

I was first introduced to the idea of covenant by James Luther Adams, who was my predecessor in the field of religious social ethics at Meadville Lombard 1936–1956, and who founded the field of Ethics and Society in the Federated Theological Faculty (including the Divinity School, Meadville Theological School, Disciples House, and Chicago Theological Seminary) in the early 1940s. Adams discovered the importance of covenant as a determining factor in history as a result of his visits to pre-war Germany. Germany lost its Constitution, in his judgment, because of the failure of the churches and cultural elites to exercise covenantally grounded prophetic criticism of public life.

For Adams, history is nothing so much as a making, breaking and renewal of covenants, a struggle between inclusive democratic covenants and oppressive, exclusionary—even demonic—covenants, and between enduring covenantal modes of relationship and more limited, utility-driven contractual ones. As a normative Christian ideal, covenants are defined by the open-ended, unconditional responsibilities each member assumes to and for the well-being of each of the other members and the common good of the life they share. Liberating covenants arise out of gratitude for the life-giving relationships that are the creative matrix of our being; they move between remembrance and

promise, with the present always under judgment, as well as pregnant with creative possibilities for the future. They flourish with the practice of the covenantal virtues—justice, steadfast love, forgiveness, truthfulness, peace.

For Adams, God is the covenant-making, covenant-keeping reality upon which we ultimately depend, but Adams also believed that the power of covenant transcended any particular theological formulation and may be interpreted nontheistically, even humanistically. It was therefore possible for persons of diverse religious backgrounds and persuasions to give their ultimate commitment to life-fulfilling covenantal relationships.

Although Adams kept referring me to a little essay by an obscure philosopher, Fritz Kaufman, entitled “The covenant of being,” my first and most memorable glimpse of what covenant might mean for our relationships to nature came several years before I encountered Adams and his work, indeed, the day after my arrival in Chicago in September of 1960.

My wife and I, with our two-year-old son, drove from a summer job on Isle Royale National Park in northern Michigan straight into Chicago. The next night we found ourselves participating in a rally at Orchestra Hall sponsored by a Committee for a SANE Nuclear Policy. One of the speakers was introduced as a professor at the University of Chicago Divinity School, Joseph Sittler. I will never forget looking down at the stage from the upper balcony and seeing this tall, solitary figure standing alone in the spotlight. Sittler’s speech consisted almost entirely of a poem, “Advice to a Prophet,” by Richard Wilbur.

Sittler read Wilbur’s poem again the next year at the World Council of Churches assembly in New Delhi when he placed the “care of the Earth” on the agenda of the ecumenical movement. The point of the poem, he later wrote, is “single, simple, and absolute: human selfhood hangs upon the persistence of the earth, her dear known and remembered factualness is the matrix of the self.”

It is only now, with the aid of historical perspective, that I can appreciate how extraordinary was this sensibility at the time.

And how deeply covenantal! I owe this insight to Bernard Meland, whose richly empirical and naturalistic theism I also encountered at the outset of my education at

the Divinity School. In early works such as *Modern Man's Worship* (1934) Meland avowed a position of "mystical naturalism" that became more muted in his later works, but never left him. Meland maintained that "once man has discerned that he is a real child of Earth, he will find himself falling naturally into a feeling of at-homeness in the universe" and that this transformation in worldview can lead to an understanding of God as the sustaining matrix of the cosmic process and occasion the "rebirth" that will recover the "lost transcendence in modern religion." In his 1962 *Realities of Faith* Meland argued that the doctrine of creativity, which characterized the theologies of many of the Chicago faculty, presupposed the covenant relationship in which the redemptive concern is primordially intended. We are constituted by our "internal" relationships, covenantal partners with a creative universe, responsible, so far as we are capable, for the flourishing of the entire community of life.

Adams was unique among his colleagues in speaking as forthrightly as he did about the contemporary relevance of biblical covenant, but as Meland saw, the covenantal mythos was never totally lost and was coming increasingly to the fore in an array of new scientific and philosophical movements.

Although Sittler seldom treated "covenant" in his writings, he does suggest in his book, *Essays in Nature and Grace*, that the Hebrew term "chesed," which he defines as God's faithfulness in covenants and relationships, is one of the closest equivalents in the Hebrew scriptures to the English term "grace." This is why categories such as "life-as-nature" and "life-as-history" are useless for grasping the structure of biblical faith. Sittler often said that reality is known only in relations, what he called an "ontology of community, communion, ecology." Moreover, "Being itself," understood as a relation, not an entity, required humans to spiritually honor—"behold" was his word—the "immaculate integrity of things which are not (ourselves)." Sittler's special gift was his poetic capacity to evoke the way grace is a goodness built into the constitution of nature and how it comes leaping forth when humans respond with joy and fidelity to the variety of life. But what he and Meland were expressing in their reflections on nature and grace and their shared insistence on humanity's fundamental embeddedness in the natural world was not very distant from what others among their colleagues were also saying through their distinctive disciplinary and religious vocabularies.

It is time for a roll call of these colleagues. Acknowledging that this is a very incomplete list, I would name the following faculty of the Divinity School and the Federated Theological Faculty in the several decades following the Second World War as prophetic of a new covenantal relationship with nature.

Charles Hartshorne, whose Whiteheadian pantheism and panpsychism provided the metaphysical grounds for a new natural theology, rigorously argued in a series of works beginning with *Beyond Humanism* in 1937, and whose book *Born to Sing* is a classic in ornithology.

Daniel Day Williams, whose 1949 essay "The Good Earth and the Good Society" was the opening salvo in the reformation we are discussing, and who joined Sittler and Meland in the first organized effort to respond theologically to the environmental crisis in the 1960s, the Faith/Man/Nature Group.

Sidney Mead, who in his last essays in American religious history argued that we moderns "can find a stable identity only . . . as (we) sense a mystical unity with all of life on its 'immense journey,'" and that "the ultimate and absolute evil [is] the refusal to take the oath of loyalty to life."

Bernard Loomer, who toward the end of his life moved in radically pantheistic directions, his controversial essay, "The size of God," identifying God with nature in the widest range of its creative power.

John Hayward, student of Hartshorne and passionate field naturalist, who tried to establish the field of religion and art at the Divinity School in the 1950s, and who like Sittler drew upon poetry, and biblical and modern myth, to make visible the grace of God in nature.

Mircea Eliade, whose phenomenology of the sacred erupting in nature through the camouflage of the secular inspired numerous studies of sacred place and time, as well as a renewed appreciation for the ontological dimensions of human being.

Charles Long, who in dialogue with Eliade and Mead, exposed the horrors in American attitudes toward nature, while also taking issue with historicist admonitions to move beyond nature, arguing that "such a movement fails to take account of the evil inflicted on nature . . . the basic problems that confront us as a nation today, the exploitation of our natural resources and of blacks and other racial minorities, stems from the fact . . . that we have not taken the integrity of nature seriously."

Langdon Gilkey, who argued for nature as an "image of God," which we must respect as we do in the case of another person, and who cast his thought on nature in forthrightly covenantal terms, writing at one point that "the theme of creative being, betrayal, judgment, and the promise of rescue runs throughout our common Scriptures

and illumines . . . our present situation vis-a-vis nature.”

Gibson Winter, chair of the Ethics and Society field while I was a student, author of works such as *Liberating Creation*, who elaborated the implications of the artistic process for what he called an “ethic of dwelling” that could recover the original fabric of belonging between humans and nature.

James Gustafson, with long-standing concerns for bioethics, who drew upon his theocentric ethical perspective and the “relational” value theory of H. Richard Niebuhr to develop a moral theory of our participation in the interdependent processes of nature.

Alvin Pitcher, a leader in the Chicago freedom movement, who after a sabbatical at Holden Village in the Cascade Mountains, wrote *Listening to and Caring for the Creation*, a guide to the transformation of the churches into creation communities—eschatological anticipations of what the future could be, a book that concludes with his personal draft of what a covenant with creation might entail.

To this list we must add the graduates of the Divinity School who studied under these generative figures, and who carried forward their trajectories of work, most especially:

John Cobb. No theologian has had a greater impact on the religion and environment movement than John B. Cobb, Jr. His “conversion” in 1969 to the view that the ecological crisis is the most overwhelming problem facing humankind led him to make a fresh appraisal of the naturalistic outlook of his teachers, Hartshorne and Meland. Cobb has devoted his formidable powers as a process theologian to challenging the reigning “economism” and preparing for a transition to a “just, participatory, and sustainable” society. The works he coauthored with evolutionary biologist Charles Birch and steady-state economist Herman Daly are classics in the field.

Philip Hefner, student of Sittler, editor of the journal *Zygon*, and convenor of the long-running symposium at the Lutheran School of Theology at Chicago on “The Epic of Creation,” who has led the dialogue between religion and science in the Hyde Park community and addressed issues of ecology in his own constructive theology.

and law. In his keynote address, “A New Axial Age,” delivered at the Divinity School 2000 symposium on World Theology, Sturm argued that because of its underlying ontology of internal relations the Earth Charter marked the beginning of a new historical epoch. (We should note in passing that the symposium honored the work of Steven Rockefeller, chair of the Earth Charter drafting committee, who has written extensively on the religious philosophy of John Dewey, and whose advisor at Union Seminary was Daniel Day Williams.)

We should also highlight the work of Jerome Stone, who has proposed a non-theistic interpretation of American religious naturalism and process thought; Catherine Albanese, the preeminent authority on the history of “nature religion” in America; and John Opie, a founder of the field of environmental history; as well as Peter Bakken, Steven Bouma-Prediger, William French, Dana Horrell, Michael Hogue, Robert Keller, and Stephen Rowe.

A full account of the legacy we are celebrating would need to take note of the contributions of many others—including recent faculty and graduates of the Divinity School and the larger Hyde Park theological community. William Schweiker, new head of the Marty Center, has a strong theoretical and practical interest in environmental ethics. New Testament scholar David Rhoads at LSTC is leading a “green reformation” in Christian ministry and church-life, and bearing powerful witness to the legacy of Joseph Sittler. Meadville-Lombard graduate Clare Butterfield, inspired by process theology, directs “Faith in Place” in Chicago.

No wonder Peter Raven, eminent alumnus of the University of Chicago and Director of the Missouri Botanical Gardens, called last fall at our conference “Without Nature?” for the Divinity School to mount a major response to the crisis of species extinction and collapse of ecosystems now engulfing the world.

Why should this understanding of a new covenantal relationship with nature have happened here?

The adoption of an evolutionary perspective by the

We are constituted by our “internal” relationships, covenantal partners with a creative universe, responsible, so far as we are capable, for the flourishing of the entire community of life.

Douglas Sturm, student of Meland, who has made ecological responsibility central to his work on religion, ethics

early “Chicago School” no doubt prepared the ground for these mid-century developments. But most members

of the early faculty assumed a human-centered model of evolutionary “progress.” Meland’s mentor, G. B. Smith, was unique in his “cosmic” orientation. Without question, process thought, from James and Bergson through Whitehead (“organismic thinking” as Meland preferred) was an important influence. But I doubt if any particular systematic rendition of this general form of thought can account for such a profound religious response. There have been scholars at Chicago influenced by Whiteheadian metaphysics, such as Henry Nelson Wieman, who did not stress the value of nonhuman life; and there are others on our list who were outright critical of what is variously characterized as “process theology.”

Other factors were at work as well—the shock of World War II with its mass destruction of human and other life, rising consciousness of threats to the survival of the planet from the nuclear arms race, the environmental effects of the post-war industrial economy, and the vigorous reaction of citizens, United Nations agencies, academic leaders, and some churches, especially the World Council of Churches, determined to set a new course for world civilization. We so easily forget that appreciation of our dependence upon, and disregard for, the natural world and our common humanity has come again and again in the course of our history only to be set aside, and virtually forgotten, because its moral implications are so challenging to our most operative covenants—to make the world over in our own image.

In *Seeds of Redemption* (1947) Meland was uncompromising in his condemnation of the “crushing effects” of the post-war American lust for power and affluence. Convinced that “the creative event of our time, the event that is now in process of emergence, and which takes precedence over every other event because of its importance to every other event of our time, is the shaping of a world community,” and his call for a repentance “so great that the elemental reverence for life, to use Schweitzer’s phrase, will well up in our being to repudiate all acts, decisions, and organizations that seek to prostitute life for what is less than life.” As he told the Divinity School Student Faculty Conference in 1954, “What this means to me theologically is that we are a generation that has been thrust back on the most elemental level of spiritual need.”

The nuclear threat in particular galvanized the Divinity School faculty in these years. In the spirit of the University’s missionizing founder, Jim Adams worked with Chicago nuclear physicist Leo Szilard and Charles Hartshorne in 1945 to build bridges between religion and science, and prepare a statement of conscience on nuclear power that was signed by sixty-nine faculty and published in the *New York Times*. Two years later, dean Loomer proposed

(unsuccessfully) to the Federated Theological Faculty that they urge the University to stipulate political and moral conditions for the continuance of its atomic energy research—conditions such as the requirement that the U.S. government commit to a constitutional convention for a world government! Thirteen years later, shortly after I heard him speak at a SANE rally, Sittler wrote, “When atoms are disposed to the ultimate hurt then the very atoms must be reclaimed for God and his will.”

We also must give due respect to personal experience, for many of these persons were intensely devoted to a particular place, of birth or adoption, that meant the “world” to them—Hartshorne, Loomer, Meland, Pitcher and Opie in their cabins on the Lake Michigan Dunes, Cobb up in the mountains near Claremont, Gilkey sailing off the coast of Maine, Gustafson returning to his hometown of Niagara and the great white pines on the Upper Peninsula of Michigan.

If Sittler were here to answer our question, he would likely reply that it was an unsolvable “mystery of the mind’s attention.” But I think we can go further. What happened in Chicago in the mid-20th century was a prophetic response to the demands of the time by a community of sensitive and deeply concerned scholars of religion. Adams, Sittler, Meland and their colleagues and students showed the enduring power of the covenantal mythos to unfold in new and creative directions. They rediscovered and re-framed the lost connections between covenant, cosmology, and politics. And they made clear, if it was not sufficiently clear before, that our relations to nature, as well as to one another, are a matter of ultimate significance, involving both our creation and our redemption.



## Notes

1. For further information: The text of the Earth Charter, and updates on the Earth Charter Initiative, may be found at [www.earthcharter.org](http://www.earthcharter.org). Professor Engel’s essay, “The Earth Charter as a New Covenant for Democracy” may be found in the February archive for the Martin Marty Center Religion and Culture Web Forum at <http://marty-center.uchicago.edu>.

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## A World on the Way

PAUL HELTNE

James Gustave Speth pulls no punches. In his latest book he takes us to the dangerous, cold heart of our environmental crisis. Like a good doctor, he knows that we must diagnose what ails us before we can undertake an effective treatment.

It is truly difficult to stop underlining passages in *The Bridge at the Edge of the World*. Like this one, for example (Preface, p. x):

How serious is the threat to the environment? Here is one measure of the problem: all we have to do to destroy the planet's climate and biota and leave a ruined world to our children and grandchildren is to keep doing what we are doing today, with no growth in the human population or the world economy. Just continue to release greenhouse gases at the current rates, just continue to impoverish ecosystems and release toxic chemicals at current rates, and the world in the latter part of this century won't be fit to live in. But, of course, human activities are

not holding at current levels—they are accelerating, dramatically. It took all of history to build the seven-trillion-dollar world economy of 1950; today economic activity grows by that amount every decade. At current rates of growth the world economy will double in size in a mere fourteen years. We are thus facing the possibility of an enormous increase in environmental deterioration, just when we need to move strongly in the opposite direction.

James Gustave Speth,  
*The Bridge at the Edge of the World: Capitalism, the Environment, and Crossing from Crisis to Sustainability*

Yale University Press, 2008,  
293 pages. \$28 hardcover; \$18 paperback.

Speth offers no quick technological fixes as are often promoted, for example, by Lester Brown. Nor does Speth suggest, like Jeffrey Sachs does, that a tweak and a tug here and there on the capitalist economic fabric so that it could provide enough growth to cover all the poor and their needs.

Indeed, for Speth, our current economic dogma and technological

worship are themselves the foundation of the current environmental crisis. Writing presciently, well before the current economic implosion, he says (p. 54):

When prices reflect environmental values as poorly as today's prices do, the system is running without essential controls. .... Today's market is a strange place indeed. At the core of the economy is a mechanism that does not recognize the most fundamental thing of all, the living, evolving, sustaining natural world in which the economy is operating. Unaided, the market lacks the sensory organs that would allow it to understand and adjust to this natural world. It's flying blind.

Our political systems instead subsidize environmentally damaging activities.

Speth sums up his initial indictments as follows (p. 57):

we live in a world where economic growth is generally seen as both beneficent and necessary—the more the better; where past growth has brought us to a perilous state environmentally; where we are poised for unprecedented increments in growth; where this growth is proceeding with wildly wrong market signals ... where there is no hidden hand or inherent mechanism

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adequate to correct the destructive tendencies. So, right now, one can only conclude that growth is the enemy of the environment. Economy and environment remain in collision.

But the slightest deviation from growth, indeed from exponential growth, plunges the capitalist economic system into disarray. To be fair, socialist and communist systems have

“Another world is not only possible. She is on her way. On a quiet day, I can hear her breathing.”

—Arundhati Roy, ‘Come September,’ in Paul Rogat Loeb, *The Impossible Will Take a Little While: A Citizen’s Guide to Hope in a Time of Fear*

also proven highly effective in destroying the bountiful ecosystems of the Earth.

Even though times are dire, there are no new ideas on the table for discussion. Consumption is the only thing leadership can imagine to restoke the economic furnaces. See, for an especially egregious example, the November 15, 2008, weekend supplement to the Financial Times blithely titled “how to spend it special christmas edition” (no capitals for this version of capitalism). The huge infrastructure restoration project being suggested by the Obama transition team is merely another version of consumption and, unless done in ways not currently being reported in the media, “stimulus” could conceivably accentuate our environmental problem. It would be simply a subsidy

for the whole out-of-date economic industry—like subsidizing chariot makers. Thus, whether democrat or despot, neither is inclined or equipped to confront Speth’s terrible dilemma.

Speth diagnoses our troubles for us but he does not pretend to have a cure. He knows that we must restructure our economics and fashion an economic system that sees itself as responsible to earthly realities.<sup>1</sup> And here are a few pointers that suggest a direction for our efforts (p. 236-7):

In our journey down the path between two worlds, we are fast approaching a place where the path forks. .... we succeeded in subduing nature and creating wealth far beyond our ancestors’ imaginings. .... There were warning signs along the way but ... we paid them no heed. The signs said things like:  
being, not having  
giving, not getting  
need, not wants  
better not richer  
part of nature, not apart from nature  
dependent, not transcendent

Speth concludes: “Beyond the fork, down either path is the end of the world as we have known it. One path beyond the fork continues us on our current trajectory .... into the abyss. But there is the other path, and it leads to a bridge across the abyss. ...Of course, where the path forks will be the site of another struggle... we are carried forward by a radical hope, that a better world is possible and that we can build it.” (p. 237).

Listen, walk, work.



## Notes

1. See Peter G. Brown, Geoffrey Garver, with Keith Helmuth, Robert Howell, and Steve Szeghi, *Right Relationship: Building a Whole Earth Economy* (San Francisco: Berrett-Koehler Publishers, 2009) and Peter G. Brown, *The Commonwealth of Life: Economics for a Flourishing Earth*, 2nd ed. (Montreal: Black Rose Books, 2008).

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## In Memoriam

### STRACHAN DONNELLEY (1942-2008)

The Board and Staff of the Center for Humans and Nature are deeply saddened by the death of the Center's Founder and President, Strachan Donnelley, PhD (1942-2008). Strachan combined several vocations as a writer, an educator, and a builder and supporter of organizations in service to the common good. He was at once a conservationist, philanthropist, and philosopher; and he was also a man of remarkable love, dedication, and care for his family, friends, and colleagues. Fly fishing and music were Strachan's passions and Verdi's Requiem, his anthem. He spent his life ardently pursuing an understanding of the appropriate relationships between humans and nature. He came to see humans as utterly dependent on nature and argued forcefully against setting human beings apart from the natural world. He drew many of his own insights not only from the life sciences but also from the study of the history of philosophy, and in particular his work with his mentor, Hans Jonas, at the Graduate Faculty of the New School for Social Research.

After working for many years at The Hastings Center and serving as its second President from 1996-1999, Strachan founded the Center for Humans and Nature in 2003. He gave that organization the vision and financial support necessary to extend the work of collaboration and open intellectual exploration of fundamental ideas and values. We are grateful to him, have been graced by our association with him, and stand ready to carry on and extend the work he began.

As a philanthropist Strachan supported numerous civic and educational organizations. He served on several boards of trustees, including those of the New School University, the University of Chicago, the American Museum of Natural History's Center for Biodiversity and Conservation, the Rehabilitation Institute of Chicago, the Yale Institute for Biospheric Studies, and the Land Institute. He also served on the Board of the foundation created by his parents, the Gaylord and Dorothy Donnelley Foundation, and was Chairman of the Board from 1992 to 2003.

We extend our condolences to Strachan's wife Vivian; his five daughters, Inanna Donnelley, Naomi Donnelley, Aidan Donnelley Rowley, Ceara Donnelley Berry, and Tegan Donnelley, and five grandchildren; his brother, Elliott; sister Laura; and the rest of his family. A public memorial gathering will be held at the Art Institute of Chicago at 10:00 a.m. on Saturday July 19 and a second memorial gathering will be held in New York City in the fall.

Gerald Adelman, Chairman  
Brooke Hecht, Acting President  
Center for Humans and Nature

*This obituary appeared in the New York Times on July 17, 2008 -- Ed.*

## *About the Center for Humans and Nature*

The Center for Humans and Nature promotes greater conservation, biological and cultural diversity, health, and social justice in the interactions between natural systems and human communities. It aims to define and express a new vision of ethical responsibility and ecological citizenship. It pursues its mission through a three-pronged strategy of (1) philosophical and historical research, (2) ethics, scientific, and civic education, and (3) policy analysis, regional planning, and regional civic action.

The Center for Humans and Nature is an independent, non-partisan, and non-profit organization with offices in New York City, Chicago, Columbia, South Carolina and Baraboo, WI. As a private operating foundation, CHN financially supports its own programs and provides shared funding for collaborative work with other organizations and individuals.

The Center for Humans and Nature is open to many approaches to understanding the relationships between our species and the rest of the ecosphere. We are particularly interested in a critical exploration of the history of philosophy, ethics, and civic responsibility (including the history of conservation and public policy) in the light of the key concepts and findings of evolutionary biology and ecology.