



Environmental & Architectural Phenomenology Newsletter

Vol. 3, No. 2

Spring 1992

We are grateful to all *EAP* readers who have renewed their subscriptions or forwarded financial contributions. The response has been most gratifying. Our 1992 financial situation has now stabilized, and we can continue to publish.

This issue of *EAP* focuses on the theme of nature, environmental ethics, and environmental design. We highlight articles and books by physicist Arthur Zajonc and naturalists Tom Jay and Paul Krapfel. We also include essays by philosophers Joe Grange, Ralph Acampora, and Ingrid Leman Stefanovic.

All of these discussions ask how we might better live in a world that is, in part, *of nature*. How might we understand more accurately the natural world, which can only tell us what it is if we listen closely and find new ways to see and understand?

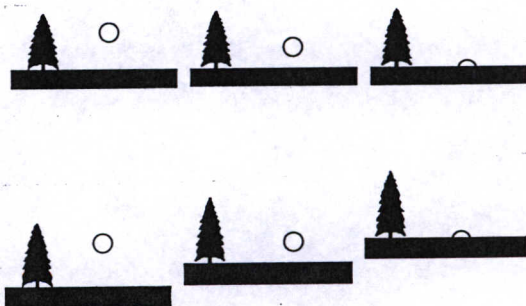
As our cover illustration, we provide one simple but striking answer to this question taken from Paul Krapfel's innovative *Shifting*, a book that points implicitly toward a phenomenology of the laws of thermodynamics. One of Krapfel's aims is to see the natural world in new ways by *shifting* perspectives--in this case, his perception of the earth-sun relationship. He writes, in regard to the drawing, right:

One evening I saw the Earth turning. Before that night, I had always seen the Sun *setting* toward a stationary horizon [upper drawing, right]. But when I saw the Sun, instead, as stationary then I saw my horizon *rising* toward the Sun [lower drawing]. In the first view, the Sun moves. In the second view, my world moves. My eyes see the same thing--the gap between Sun and horizon closing. But what is moving? My brain must make an assumption. Shifting that assumption changes the world I see (p. 12).

PHENOMENOLOGICAL CONFERENCES

The 11th Human Science Research Conference will be held at Oakland University, Rochester, Michigan, 9-13 June 1992. The conference theme is "The Hermeneutic Circle of Understanding: Voice, Narrative and Meaning in the Lifeworlds of Children and Adults." Presentation deadlines have passed, but information on attending the conference can be had from Prof. Marc Briod/HSR, Institute for Action Research, Oakland University, Rochester, Michigan 48309 (313-370-4233).

The annual meetings of the Society for Phenomenology and the Human Sciences will be held, October 8-10, 1992, in Boston, in conjunction with the annual meetings of the Society for Phenomenology and Existential Philosophy. Deadline for submissions has past, but SPHS conference information can be had from Prof. F. C. Waksler/SPHS, Wheelock College, 200 The Riverway, Boston, MA 02215 (617-491-3697).



See page 6 for a review.

PUBLICATIONS AND ORGANIZATIONS

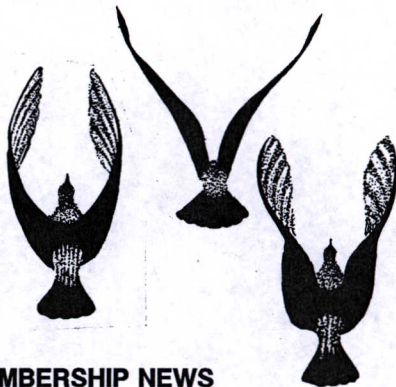
The Egg: An Eco-Justice Quarterly is a journal that "regards ecological wholeness and social/economic justice as necessary and inseparable components of a desirable future." The publication is sponsored by the Eco-Justice Project and Network, and the Eco-Justice Working Group of the National Council of Churches. Featuring articles, reviews, and news items, this journal is an important effort at uniting economic, political, ecological, and spiritual concerns. A subscription is \$10/year. Write to: Eco-Justice Project, Anabel Taylor Hall, Cornell University, Ithaca, NY 14853 (607-255-4225).

The **Center for Reflection on the Second Law** seeks to foster environmental education and policy through better understanding the laws of thermodynamics. The statement of purpose reads: "It is necessary for humans to use earthstuff sparingly; to make things last; to consume as little as possible; to recycle..." CFRSL publishes a monthly update and sponsors annual conferences. Write: CFRSL, 8420 Camellia Drive, Raleigh, NC 27613 (919-847-5819).

The quarterly **Trumpeter** is a "journal of ecosophy" and seeks to "provide a diversity of perspectives on environmental relationships and Nature." The journal is dedicated to "a new ecological consciousness and sensibilities, and the practice of forms of life imbued with ecosophy (ecological harmony and wisdom)." The fall 1991 issue provides a special section on "phenomenology and ecology" and includes essays by Robert Burch, David Seamon, and Ingrid Leman Stefanovic (a portion of whose essay we include in this issue of *EAP*). Subscriptions are \$20/year. Write: PO Box 5853 Stn B, Victoria, B.C. Canada V8R 6S8.

The **North American Conference on Christianity and Ecology** (NACCE) is a coalition of some 70 Christian organizations and denominations that seek to "draw out" the ecological dimension inherent in Christianity." NACCE publishes *Firmament*, a quarterly magazine that emphasizes "the growing concern in churches for earth stewardship and environmental restoration." One admirable project is the

effort to establish an International Green Cross that would focus on ecological restoration throughout the world. Address: P. O. Box 14305, San Francisco, CA 94114 (415-626-6064).



MEMBERSHIP NEWS

Ken Hillis is a graduate student in environmental studies at York University: "My interests involve how architecture, sense of place, and cultural pluralism are influenced by modern telematics and communication technologies. As telematics distort our 'image' of the body, our ability to know would appear to suffer equivalent disembodiment." Box 65, McDonalds Corners, Ontario K0G 1M0, Canada.

Andrew Cohill is a doctoral student in the College of Architecture at Virginia Polytechnic Institute and State University: "For me, the newsletter has been a godsend. I am an oddball—I switched to architecture in my mid-thirties, after a career in software development and human factors. I've become interested in phenomenology, so the articles [in *EAP*] describing the work of others in this area have helped me shape my own efforts. I hope to complete my doctoral research this spring... I've been studying the information and work environment of architects, using a phenomenological approach." Address: Andrew Cohill, Route 1, Box 297L, Newport, VA 24128.

Warren A. Potas, Box 97000, Kirkland, WA 98083, writes that he "appreciates the window *EAP* offers into an area of discourse with which I would other-

wise have no on-going connection." He continues: "While reading the winter 1992 *EAP* issue, I felt called to share with you an aphorism that recently came to me in regard to a Bureau of Land Management press release outlining planned 'resource management' of the Gila Box National Conservation Riparian Area in Arizona. A friend of mine has spent 17 years trying to preserve this site as a wilderness area, which it finally became as part of the Arizona Wilderness Bill passed into law last year. The press release 'promised' dissection of this area into identifiable 'resources', each to be assigned an 'acceptable' level of degradation.

"In regard to this press release, I was struck by the *EAP* article by J. Douglas Porteous that chronicles the systematic destruction of the English village of Howdendyke by 'planners' representing corporate and governmental interests *clearly* not held by the villagers. My aphorism neatly condenses such processes:

Take the whole,
Discard the soul,
and Divide the rest
into 'resources'."

NOTEWORTHY READINGS

Eugene C. Hargrove, 1989. *Foundations of Environmental Ethics*. Englewood Cliffs, NJ: Prentice Hall.

This book is a valuable overview of the complicated history of environmental ethics, which this philosopher emphasizes has frequently been characterized as being contrary to Western philosophy, science and political theory. Hargrove uses negative and positive positions toward environmental ethics to organize his book: Part I considers the philosophical, scientific, and land-use attitudes that have inhibited environmental thought, while Part II illustrates the importance of aesthetic and natural-history traditions for providing traditional support for environmental ethics in Western culture. Part III seeks to reconcile the conflicts of Parts I and II by developing what Hargrove calls an "ontological argument for the preservation of nature," which includes the following points: (1) fostering goodness in the world is a human duty; (2) beauty, both artistic and natural, is part of that goodness; (3)

natural beauty is as valuable as artistic beauty and worthy of preservation (p. 198).

For phenomenologists, this conclusion may seem obvious, and they will be more interested in the experiential foundation for this goodness and how it might be more readily fostered, whether through education, design, policy, or other means. Puzzlingly, Hargrove gives no attention to phenomenological work on environmental ethics—especially, what the practical results of Martin Heidegger's contribution might be. Further, Hargrove does not examine the experiential wish and aesthetic sense that, ultimately, spark any enduring duty to goodness and nature.

In spite of these shortcomings, Hargrove's book is clearly written and provides a useful history and philosophy of environmental ethics. It should work well as an introduction for graduate students and upper-level undergraduates, though, at least in qualitative courses, the book will need the balance provided by phenomenologically-inspired environmental scholars like Michael Zimmerman, Neil Evernden, Ted Relph, David Levin, and Joe Grange.

Arthur G. Zajonc, 1991. Light and Cognition, pp. 111-131 in W. I. Thompson, ed., *Gaia 2*. Hudson, NY: Lindesfarne Press. ISBN 0-940262-40-1.

This physicist's article is part of an edited collection that examines the philosophical and ecological implications of scientist James Lovelock's *Gaia hypothesis*—a theory that, in his own words, "views the evolution of the biota and their material environment as a single tight-coupled process, with the self-regulation of climate and chemistry as an emergent property" (p. 30).

Zajonc, one of the foremost explicators of Goethean science (see *EAP*, 2, 2:4), considers the Gaian relationship between life and world as it might be considered in regard to understanding: when we see a rainbow, for example, do we locate it "in the rain, in the sunlight, in the eye, in the mind?" (p. 111). He continues:

Phenomena emerge, they fill the mind with sights and sounds, yet how do they arise? What is our part in their production and what is the part played by an external world? More important,...is the pattern of emergence immutable, myopic, single-minded; or can it, like Proteus, assume

myriad forms calling forth worlds whose emergent properties reflect connections hidden to other forms of ourselves...? (p. 112).

Zajonc argues that our Western intellectual heritage in regard to nature involves two contrasting world views. On one hand, there is a long sacred Christian tradition expressed, for example, by Saint Francis' *Canticle to the Sun*, in which nature is understood as alive, ensouled, and sacred. On the other hand is the modern scientific vision of nature as a great measurable mechanism without intentionality or essential meaning:

Our cognitive inheritance is twofold. Our aspirations to be good stewards of the earth, to dress creation with the beautiful work of our own hands and to recognize within nature the goddess Natura, all echo the song of St. Francis. They are born of a participation in cosmos and experience and an experience of self that reaches to a distant past, one in which the divine was everywhere immanent and open to us. The strains of a different song, brilliant and strong, rings out from the technological offspring of the scientific revolution. A clockwork universe excludes human participation except as another component of its vast mechanism. It seems without inherent value or meaning. This dimension of our cognitive inheritance is more recent and more pressing. Both voices still resound, but too often the discord between them leads to misunderstandings and tragedies: Chernobyl or Bhopal (p. 116).

Zajonc's major aim in the essay is to examine how recent experiments in quantum physics call into question the one-track mechanistic vision of nature and many of the strictures of classical forms of thought on which that vision is based. These experiments focus on the nature of *light*, which Zajonc claims is one of the phenomena of the natural world that is "so radically non-mechanical" that it defies "all honest attempts" to be included "in the categories of machines" (p. 117).

As an expert in quantum optics, Zajonc describes in detail one of these experiments in which he collaborated at the Max Planck Institute in Garching, Germany. The key question that the experiment seeks to address is whether light is a wave or a particle. The results of the experiment are confounding to conventional physics in that the results demonstrate that light appears to be a wave and particle *at the same time!* Zajonc explains:

If we think classically (by which in this instance I mean mechanically), we confront a situation that requires an indivisible particle of light to travel a single path to a single detector, and simultaneously requires it to travel two distinct paths to two detectors. This is a logical impossibility. An entity, whatever it is, cannot travel along a single trajectory and a pair of trajectories at the same time (p. 120).

The great danger here, says Zajonc, is that because classical science has no language for dealing with this seeming impossible phenomenon, the phenomenon is said not to exist: "what cannot be imagined mechanically cannot be imagined at all" (p. 121). And Zajonc points out that the example of light is not singular in terms of natural phenomena that seem to defy the good sense of science. In fact, recent scientific discoveries point to other phenomena that fall outside the mechanical paradigm:

...these phenomena are multiplying and, like the few resistant phenomena that ultimately led to the development of quantum mechanics, these too will ultimately require of us serious and responsible attention. Many of the solid-state electronic devices common today, from television to calculator, operate because the mechanical paradigm fails, and perhaps the most spectacular failure will be high-temperature superconductivity (p. 121).

Zajonc believes that we must look toward a new model of understanding freed from the mechanistic model of nature that emphasizes measurement and exactitude. His prototype is the artist's way of seeing, especially as it has been given intellectual rigor through Goethe's phenomenological way of science. He concludes:

If we would create the capacities for understanding our future, then we must dwell precisely in the tensions, the paradoxes, the annoying anomalies of our time. Only thus will we develop the faculties suited to understand the nature of light and, I believe, see the way through our perilous times. We may think with Goethe that such "mental powers belong to a highly evolved age," but I believe that ours is the dawn of that age. The prerequisites are there: the mandate of orthodox science to develop our imaginative capacities, and the dictates of our conscience if we would avoid the technical calamities that threaten our well-being and survival. On nearly every front we are being called on to re-imagine the world we inhabit. It simply awaits an act of courage for us to begin, and patient perseverance for us to succeed in the self-conscious education now in our hands (p. 126).

Tom Jay, 1986. Salmon of the Heart, in *Working the Woods Working the Sea: An Anthology of Northwest Writings*, pp. 106-124. Port Townsend, WA: Empty Bowl Press. ISBN 0-912887-16-8.

This sensitive essay, published in a collection of poems and stories dealing with forestry and fishing in the Pacific Northwest, is a wonderful example of seeing and understanding that seek to foster a heartfelt regard for the natural world. Drawing on etymology, Northwest Indian lore, science, and personal experiences as a fisherman, Jay describes the world of the North Pacific salmon. He lucidly demonstrates how the fish both symbolizes and sustains the region of which it is a part.

The essay is a superb example of writing that evokes both intellectual and emotional sensibilities. Jay masterly takes traditional wisdoms and sets them in place for our modern situation. Here, with the permission of Jay and the Empty Bowl Press, we reprint several passages.



In current usage, *resource* means raw material or potential energy. We have resource planning, resource development and resource allocation. In our day "resource" denotes an energized plastic something we practice our clumsy cleverness on. But beneath current usage lies a deeper, religious information. Etymology reveals that *resource* derives from *surge* and *re*. *Re* means back, return, refund. *Surge* is a contraction of Latin *subregere*, to rule or direct from below. In its root sense, its heart sense, *resource* is a recurring directed energy sent by powers hidden from view. A *resource* surges back, sent by a hidden power. What the word knows in its heart is that *resources* are *sacred powers*, deities. A *resource* is the unseen river. The roots of the word tell us that they are attendable, venerable. *Resources* require our prayer and poise, not our machinations. The spear light above the numinous salmon, not estuarine fish factories where managed hatchery cannibal clones, hungry ghosts of our cleverness, homeless seagoing spam, return for "processing." Part of this essay's intent is to re-awaken the religious sense nascent in language; to coax words and their objects back into the sacred realm where the *resource* is what we listen to and for; where our "tongues" are tasting sacramental food, and our speech is "soul food."

Mircea Eliade said in his work, *The Sacred and the Profane*, "To settle territory is in the last analysis equivalent to consecrating it." We are nowhere near consecrating this place. We have destroyed the original human vision of this place, and now we are busy pillaging the *resources* that inspired it. Our

culture here is prophylactic and profane, a kind of battle armor rather than careful turning and returning of the soil that the etymology of *culture* reveals. We see the world through the glass of a speeding machine whose servants we are. The locale, the *resource*, is just another road kill to quarrel over. This essay cannot stop the machine or consecrate the landscape; no one person can do that. But we can roll down a window, the *windeye*, and look into the local vision, let it see us, re-awaken our longing for connection, witness the vanity of our speed. I want to praise the sacred salmon, the salmon of the heart, shuttle of Gaia's loom, swift silver thread... (pp. 101-02).



I once saw a rain cloak made of an enormous king salmon. The head was made into a kind of cap and the body draped over the shoulders. It was worn in the river drizzle while spearing salmon. I imagine it moving the wearer into salmon time, making the swift salmon walk. I imagine it decoding the rain. In Babylonian mythology there was a figure, Oannes, who came from the sea dressed as a fish to teach the people wisdom. Fish are symbols of wisdom throughout the world. What we fail to realize in our culture of alienated self-conscious rationalism is that fish, salmon in our case, are literal *embodiments* of the wisdom of the *locale*, the resource. The salmon is the wisdom of the northwest biome. They are the old

souls, worshipful children of the land. *Psychology without ecology* is lonely and vice versa. The salmon is not merely a projection, a symbol of some inner process, it is rather the embodiment of the soul that nourishes us all.

We love salmon; it is the northwest *food*. But to the original peoples of the Pacific Northwest, salmon were not merely food. To them, salmon were people who lived in houses far away under the sea. Each year they undertook to visit the human people because the Indian peoples always treated them as honored guests. When the salmon people traveled, they donned their salmon disguises and these they left behind perhaps in the way we leave flowers or food when visiting friends. To the Indians the salmon were a resource in the deep sense, great generous beings whose gifts gave life. The salmon were energy: not "raw" energy, but intelligent perceptive energy. The Indians understood that salmon's gift involved them in an ethical system that resounded in every corner of their locale. The aboriginal landscape was a democracy of spirits where everyone listened, careful not to offend the *resource* they were a working part of (p. 112).

BOOK REVIEW

Paul Krapfel, 1989. *Shifting*. Privately printed. \$12.00, soft cover.

Written by a naturalist, this book is a valuable contribution to environmental ethics. Through stories and perceptive observation and thinking, Krapfel tells how he gradually became aware of the experiential and ethical implications of the two laws of thermodynamics, the first of which says that energy is neither created nor destroyed; the second of which says that all activities, left to their own devices, tend toward greater disorder and fewer possibilities.

As Krapfel comes to understand the second law of thermodynamics more deeply, he also comes to wonder whether human beings can do nothing but consume and destroy the earth: "I despair at not being able to do more than live at the expense of the world" (p. 107). His book depicts his personal efforts to find ways whereby is is more attuned to the second law so that he less often consumes possibilities faster than they are created, especially in regard

The salmon is a kind of current between forest and sea. One study shows that salmon may accumulate rare trace minerals (boron?) that, passed on through the forest food chain, provide chemical materials for green plants that are unavailable to them through local geological and hydrological processes. In other words, the trees nurture salmon and salmon nurture trees (alchemical salmon turning sea into soil, salmon eyes in the treetops). The salmon is the archetypal resource--meaningful energy directed by unseen powers. It is the *incarnation* of the forest-sea connection, silver needles sewing the ties that bind, religious fish... The salmon travels in our hearts as well, swims in our blood, feeds and eats the dreaming tree of truth. The deep resonance between the salmon of the heart and the salmon of the world is the *note* of our dwelling here (p. 111).

to the natural environment.

Krapfel describes this style of conduct by contrasting it with its opposite--a style of excess and entropy that dominates environmental action today and divides the landscape into incompatible and conflicting "zones":

It is easy to start on the path of taking too much [from nature] because the rewards are immediate and can be spectacular.... The more we harvest the more we think we will have. But this is true only in the short run. the living things we harvest are more than just resources for us.... They maintain balances which sustain the environment. If we harvest too much, relative balances shift and the environment begins to shift. Possibilities diminish....

As resources diminish, more areas must be sacrificed. The sacrificed areas must expand and draw closer to the areas of benefit. As the discrepancy between the two areas increases, maintaining the border between them requires



more energy. Neighborhoods are built with walls and gates. People begin thinking in terms of "us" versus "them" to rationalize the sacrifice that permits one's own luxury (p. 172, pp. 173-174).

As expressed by the book's title, Krapfel's aim is a shifting whereby human beings increase, rather than decrease, the possibilities of the world through intentional, caring actions grounded in firsthand awareness and understanding. Much of his book describes ways to facilitate this understanding, which begins, he claims, with efforts to see in new ways. Most generally, these "tools for seeing" involve ways whereby there are shifts in one's taken-for-granted assumptions and perceptions.

Chapter by chapter, Krapfel relates different ways whereby he has taught himself to shift his sense of the world—for example, seeing through the eyes of animals, recognizing edges as indicators of gradients, or understanding flows as a relationship between inflow and outflow and between individual parts and the parts as a whole. Krapfel illustrates each principle with firsthand life experiences—for example, the technique of finding commonality between near and distant patterns by alternating attention:

Shifting back and forth between a distant view and the immediate world around me becomes a technique for seeing more. While gazing into the distance one day, I noticed that the distant clouds had flat bottoms. This was easy to see because I was seeing the distant clouds from the side. I tried seeing if the closer clouds overhead had flattened bottoms but the shape of a cloud's bottom is not obvious from below; it is best seen from the side. However, as I studied a cloud's mosaics of greys and whites I realized that the greys were shaded portions lying within the cloud's own shadow while the bright white surfaces caught the full sunlight. When I considered the Sun's position and the direction it cast shadows, the clouds ceased to be fluffy shapes against the blue sky. They took on their true shapes within the sky and I could see the flattened bottoms of clouds overhead.

....The more flat bottoms I could see, the more easily I could see this layer extending through the atmosphere. As my eyes followed the layer toward more distant clouds, I saw this layer curving over the horizon. Rarely can I see the curve of the solid Earth itself because the Earth curves out of sight to form a horizon. But the cloud-marked layer in the transparent air revealed the curve of the atmosphere embracing our planet (pp. 75-76).

"The Flock Flows over the Land"

Mid-September. Late Autumn in the foothills of the Alaskan Range. Red and brown leaves on the low tundra plants. Freezing nights. I am sitting quietly in geological thought. I grow vaguely aware of bird calls downslope. A snow bunting lands near me. Then another and another. I look around. Downslope the tundra is covered with hundreds of foraging snow buntings. Other buntings are flying over them and landing all around me. Soon I am surrounded by chirping snow buntings busily foraging. Birds from somewhere downslope fly just over my head in a small but steady flow and land at the head of the foraging flock so that more and more birds hop about upslope of me.

Eventually, the downslope end of the flock comes into sight. I can see that the birds flying overhead to the front of the flock are coming from the back edge of the flock. When they fly up from the back, the birds that are foraging ahead of them become the new back edge of the flock. They in turn then fly. This behavior creates a steady stream of birds flying from the back of the flock to the front which is now far upslope of me.



The flock flows over the land. By shifting my focus between the two different levels of flow, I see two different but equally wonderful behaviors. When I focus on the individual level of snow buntings... I see each bird able to devote five minutes to foraging securely in the middle of a thousand chirping birds....

When I focus on the group level of the flow, I see the flock as a great wheel rolling south over the tundra... This flow guarantees that each bird won't land on an area already harvested by another member of the flock.... The flock is not moving as fast as individual birds could fly but it remains in motion even as each bird is given the opportunity and protection to rest and feed on the sparse harvest of the late-Autumn tundra.

The end of the flock reaches me. A few stragglers, intent on foraging, hop about. One looks up, sees it is no longer in the protection of the flock, gives a startled call, and flies upslope toward the front of the flock. The other stragglers hear the call and fly away (83-85).

Perhaps the most powerful part of the book, a portion of which we reprint right and next page, is Krapfel's efforts to transform his understanding into action by struggling to heal an overgrazed field badly eroded by six-foot gullies near a school where he taught in suburban Los Angeles. Krapfel seeks to create a series of dams that will split the large torrents of rain-fed water and weaken their erosive power.

How he slowly learns to work with the water and, eventually, to transform the field into stretches of green teeming with plant and animal life is an inspirational lesson in firsthand doing and understanding.

Especially, his depiction of a "spiral of learning" between person and environment appears to be a central starting point for any phenomenological environmental ethics that would somehow find practical ways whereby environmental awareness and concern could be transfigured into practical, effective ecological action like Krapfel's.

This book is the author's first and it has its share of stylistic and conceptual awkwardnesses. On the other hand, the book is written from a deep love for nature and an informed hope for the future of the earth and humankind. The book asks each reader to consider *personally* how *he or she* relates to the environment and how *he or she* might find ways to contribute order, rather than disorder, to the world.

In this sense, the book says much about a phenomenology of the laws of thermodynamics—a topic that must be a foundation for any environmental ethics that would *really* seek to shift human attitudes and actions toward nature, place, and environment.

Out of principle, the author publishes *Shifting* himself. To order a copy, send \$12 to Paul Krapfel, 18080 Brincat Manor Drive, Cottonwood, CA 96022.

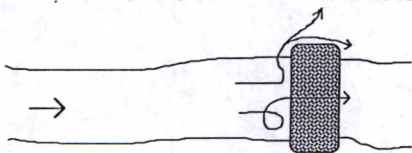
D. Seamon

"Where Raindrops First Touched the Earth..."

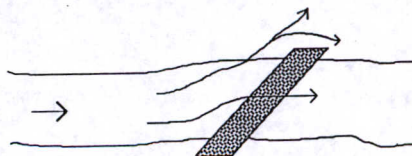
When the storms came, I went up into the fields with my shovel, searching for places to create divergences. My technique consisted of shovelling enough sod into a channel to form a dam. This dam had to be tall enough to force the water to flow around it onto a new path rather than over it. The dam had to be thick enough to hold back the torrent that it opposed. Building these dams required lots of sod. I felt badly about the pockmarked field that I created when I dug out hunks of sod.

...as I practiced, things began to happen.

My divergences grew more efficient. My first dams had lain straight across the channel, forcing the water to stop, pool up, and turn to the side. These sudden stops and sharp turns created turbulent energy which wore away dams so the dams had to be massive.

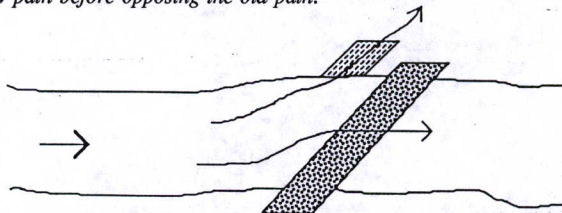


But eventually I realized that all I was trying to do with these dams was turn some of the runoff onto a new path. I did not have to stop the entire flow of water to do that. Water flows more smoothly around gradual curves. I changed my dams so that they angled down across the channel instead of going straight across.

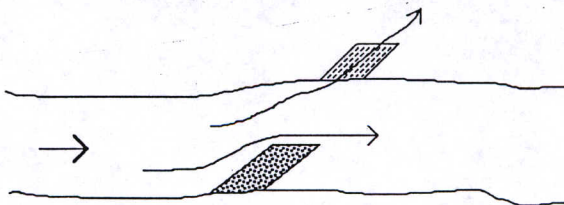


The momentum that previously carried water over my dams now carried some of the water over the bank onto a new path. This new design used the water's momentum instead of trying to oppose it.

This change in design led to another change. Previously, my only strategy had been to raise a dam. But if I used my shovel to lower the bank where the turning water overflowed, then more runoff would flow onto the new path.... Leading the water with a channel was easier than forcing the water with a dam. In fact, if I built the channel before starting the dam, my dam did not have to be as large because the turning water did not push against the dam as much. This discovery felt profound and rich with allegory. Offer a new path before opposing the old path.



I [also] learned that my dams did not have to extend across the main channel. All I needed in order to turn the water's momentum toward the new channel was a partial dam angling out from the opposite bank upstream of the new channel. This structure could be built using just the sod excavated from the new channel. Such a structure did not lead all the water onto the new path but all I wanted was to split the stream. My structures simply offered the water's momentum a second path to follow....



Now only a few pieces of sod were being moved upstream a few feet from one bank to the other side of the channel. No unsightly holes pockmarked the surrounding fields.... No massive dams loomed within a stream channel. The gentle curve of low sod structures turning water smoothly toward new paths looked natural. My efforts became invisible to the casual eye (pp. 147-150).

Krapfel's success with the field does not end here. Eventually, he discovers a way to channel even larger amounts of water from the deep gullies and thereby shrink their erosive power. In four years, the dusty, clay-baked field begins to heal, and "mini-marshes" of wild radish and mustard appear where earlier there was nothing but bare, hard earth. He concludes:

When I began my work in the fields, I assumed I had to work in the eroded gullies and confront the torrents directly. But I learned that helping the soil absorb the rain was more effective than opposing the concentrated power of runoff. If the soil absorbed the rain, the power of erosion never formed in the first place. The most powerful place for healing was not in the gullies but where raindrops first touched the Earth (p. 162).

HUMAN AND NONHUMAN LIFEWORLDS

Ralph R. Acampora

EAP readers may recall "A Place in the Wild," a recent essay in which the authors attempted to overcome anthropocentric architecture by creating a design and research method that would arise from ecological respect for wilderness (Bennett et al., 2, 2, 5-7). One guideline suggested for building and living in a natural setting was "animals as advisors." This essay sketches a philosophical picture of organic lifeworlds in terms of which such a relationship with nonhuman beings makes eco-phenomenological sense.

My conceptual picture is ontological. To begin with, what exists most inclusively is being. This observation can be conceived either cosmocentrically or ecocentrically, depending on whether one takes a universal or planetary point-of-view.

Among all beings that exist, some have the special mode of existence we call *life*. A necessary and sufficient condition of life is the possession of worldhood—that is, having an orientation with regard to being-at-large. This condition points to a biocentric definition of the phenomenological concept of world—a definition that broadens significantly the interpretation of "world" beyond its original meaning in the work of such phenomenologists and hermeneuticists as Husserl, Heidegger, and Gadamer, for whom world or *Welt* was coextensive only with people.

One kind of minimal worldhood is plant life. For example, consider the sunflower's display of diurnal vectorality. The sunflower can be said to dwell in its surroundings, since it has an environment, or *Umwelt*, in a living, orientational sense unavailable to inorganic things such as stones.

There is an intensification of worldhood in an animal's mode of living. Kenneth Shapiro (1989) identifies this worldhood as habitat, in the sense of incorporating one's environmental niche through an active awareness. One example of this zoocentric conception of ontologically constitutive habitat is territoriality, whereby an animal ranges within its territory so intimately that it is no longer just spatially in or on the land but, rather, a conscious part of it.

With the self-consciousness of human beings, there

arrives ontologically a cultural world. Humans, more so than any other animal, can change their environments and habitats, both in the sense of relocating and redefining.

Cultural processes take two directions: one whereby we inhabit some place with ever-intensifying degrees of domestication, and another whereby we "dehabit" our usual domicile by means of various ecstatic techniques (some forms of art, religion, meditation, psychoactive drugs, and so forth). The positive functions of the latter mode of culture are, first, to encourage exploration of other human and nonhuman lifeworlds; and, second, to continually revitalize our own cultural home by transgressing and reshaping its boundaries.

Relating my ontological schema to the notion of animals as architectural advisors, we can appreciate this relationship as an attempt to deconstruct our usual homo-exclusive building techniques to reconstruct a new, more inclusive means of dwelling—one which reaches out to the lifeworlds of other creatures. Because an animal's activities absorb the landscape into its habitat-world, any endeavor to imaginatively or practically inhabit the animal's ecotone should increase one's sensitivity to, and consciousness of, the natural environment at hand.

Finally, it is important to realize that the phenomenology of biotic worldhood suggested here demonstrates an important link between ontology and architecture. The types of world considered—environmental dwelling, conscious habitation, cultural domesticity—all revolve around some sort of residential relation to being-at-large. In this sense, philosophizing about trans-human *Lebenswelten* can help support and guide the ecocentric architect's task of biome-benign building.

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**A NORMATIVE ENVIRONMENTAL ETHICS AND
CHRISTOPHER ALEXANDER'S WORK AS AN EXAMPLE**

Joseph Grange

An ethics for nature must do justice to the depth and variety of value found in the environment. Any ethics identifies importance by locating the origin and place of value and its ways of functioning in the world. Our first task, therefore, is to establish a categorical scheme for environmental value, which I seek to do in the first part of this essay.¹

In addition, any such scheme should be logical, coherent and consistent as well as workable in real experience. There should arise a mutual adjustment between speculation and experience when the scheme is employed to decide issues of importance.

In the second part of this essay, I seek to demonstrate that my scheme offers such mutual adjustment. I use, as my example, the design theory of Christopher Alexander. His "pattern language," I argue, provides one powerful real-world example of the kind of environmental ethics I advocate here.

A CATEGORICAL SCHEME

Any successful scheme for an environmental ethics must exhibit four qualities. First, the scheme should encompass a quality that can be called *trivial* in the sense that anything whatsoever can enter into the domain of the scheme. In other words, there is an openness to experience. Second, the scheme should be *vague* in the sense that certain generic ideas can substitute for all items to be dealt with by the scheme. This quality allows for systematic thinking.

Third, the scheme should be *narrow* in that it can provide for great specificity. This quality relates to the way that the empirical side of the scheme can be embellished. Finally, the scheme should be *broad* in the sense that things can show both their depth and immense variety—in short, their breadth.

Vagueness and triviality are qualities of the many, while narrowness and breadth are aspects of the one. In this sense, the scheme aspires to a Platonic vision of *The Good* applicable in a realistic way.

The best hypothesis we can frame about this world is that it comprises a patterned intertwining of events.

Each event is best understood as an attainment of value. And each such value is actualized through the power of *harmony*, defined as a *contrast of opposites that creates a unique and fit way of being*.

Always at the base of this scheme, therefore, is the normative question, "What is a good way to be?" The answer is also always the same: "A good way to be is to be in harmony."

Harmonies are a good way to be because they involve the contrast of *complexity* and *simplicity*. In a vague way, complexity represents the realm of the many. In a narrow way, simplicity represents the realm of the one. When complexity and simplicity are present together, there is also *intensity*, since contrast always grants increased breadth. And this relationship is true even in the most undifferentiated categories of being. In this sense, the trivial also finds its appropriate place.

World and Individual

If, however, the world is made up of entwined harmonies of existence, how can unique individuality be achieved? This possibility can be understood in terms of *composite individuals*—the process whereby reality is seen to be comprised of units of experience that form themselves by relating to the conditions of their environment through essential features that exhibit levels of self-sustaining wholeness. The complexity of the environment is simplified through the self-creative actions of its creatures. Every drop of experience marks a contribution to the ongoing drama of universal process. Harmonies of the many and the one are the metaphysical generalities that anchor the process cosmology I suggest here.

My scheme must also allow for an *axiological* dimension if it is to be testable in environmental experience. Given that harmonies produce intensity by reason of complexity and simplicity, the value of each individual can be estimated by reason of its internal being as well as by its environmental contributions. Both essential and conditional features of

The work of philosopher Joseph Grange is central to a phenomenology of environmental ethics. Grange is particularly well known for his 1977 article, "On the Road to Foundational Ecology," which was one of the first scholarly efforts to examine the relation between Martin Heidegger's philosophy and a more heartfelt ecological awareness. Here, we provide a list of his work that might especially appeal to EAP readers.

- As Technology Advances, Language Decays, 1989. *International Philosophical Quarterly*, 8.
- Being, Feeling and Environment, 1985. *Environmental Ethics*, 7.
- Place, Body and Situation, 1985. In D. Seamon & R. Mugerauer, eds. *Dwelling, Place and Environment*, NY: Columbia University Press.
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entities enter the normative sphere.

This normative dimension is *natural* in the sense that to be anything at all requires the appropriate blending of the essential and the conditional features of existence. *Appropriate* means the right measure of simplified complexity so that uniqueness shows itself.

On Platonic grounds, we can say that the very act of being a structure entails a necessary reference to a value which, in turn, is a norm by which the goodness of the structured thing is measured. Since every entity is *a way to be*, the relevant question is not "What is it being?" but, rather, "How is it being?" The answer to this question always appeals to the value that the entity seeks to embody in its way to be. Norms are built into the fabric of nature.

There are six categories that govern the activities of natural entities: (1) *complexity of organization*, (2) *simplicity of subjective functioning*, (3) *experiential intensity*, (4) *significant novelty*, (5) *balanced harmony*, and (6) *contribution to others and the whole*. Each category denotes a mode of the one/many relationship.

The norms governing each category are derived from the contrastive power of harmony itself. Complexity under the guidance of simplicity unifies essential features so that strong, intense, and novel experience contributes in a balanced way to the environmental situation. The key to my environmental ethic, therefore, is the power of *contrast*, which is not contrast or the assertion of unique, self-sufficient personhood. Rather, to contrast is to *put into a unity with*.

An environment is more than the aggregate sum of its parts. Rather, an environment constitutes an order of wholeness in its own right and can also be said to have essential and conditional features. To gain a true sense of what is important, the above categories must be matched to environmental norms.

An environment announces its presence through *stability*. Somehow or other, sufficient continuity is gained so that a thread of regular temporality registers its effect on those things within its boundaries. By itself, however, stability self-destructs, since a simplistic uniformity lacks the resilience necessary to react harmonically to change.

There emerges the great paradox of environmental studies: *Variety creates endurance*. In fact, this idea is only a paradox to those ignorant of the law of harmony—namely, that strength is derived from being in a unity with that which is greater than the sum of its parts. The backbone of massive endurance is not weak individuals but individual intensity held under contrast. Harmony resolves the conflict between change and order, since harmony refuses to compare. Rather, harmony contrasts these opposites under the norm of difference as contributing to wholeness.

In short, the six categories governing a good way for anything to be do not contradict the environmental norms of stability and variety. A good environment requires for its very being the intense individuality of its members.

CHRISTOPHER ALEXANDER'S THINKING

My approach to environmental ethics argues that the name of Being is the Good and that harmony is its measure. Though his work employs a different conceptual expression, Christopher Alexander's pattern language can be interpreted as a sustained application of my scheme's central tenets (e.g., Alexander 1979; Alexander et al. 1977).

Though he does not use the term in any systematic fashion, I believe that it is precisely the *normative dimension of Alexander's work* that makes it so compelling, not only for many architects and other environmental designers but also for the lay public interested in environmental and design issues.

Recall Alexander's major themes. Space is not an empty container filled with extended things but, rather, an organic series of interconnected events that form shifting and intricate patterns of wholeness, which becomes, therefore, the measure of a good way for a space and place to be. Further, all modes of wholeness share the same structure.

Alexander's wholeness is a centering pattern that brings about two effects simultaneously: first, the pattern develops outward toward a more encompassing unity; at the same time, the pattern specifies itself through the inward differentiation of detail.

Good space reconciles opposites. The growing wholeness is the simplicity of the space; the tendency toward detail is the complexity of the space. The centering process at the heart of this fitting unity is the harmony of the space. These spaces heal because they refuse separation and move toward connections. The basic spatial quality becomes the solidarity of a whole expressing itself through its parts.

In terms of my scheme for an environmental ethics, good space solves the problem of the One and the Many by forging a healthy harmony of vagueness and narrowness. In other words, vagueness is the drive toward a more general wholeness, while narrowness is the movement toward specific detail.

In recent work, Alexander (1987) formulates a theory of urban design around a "growing whole" involving four qualities: this whole is *piecemeal*, *unpredictable*, *coherent*, and *full of feeling*.

I submit that Alexander's urban vision is a specific application of my ethical scheme above. Piecemeal growth meets the requirement of diverse complexity.

Without real difference, there is only stale uniformity. Unpredictable growth measures the degree of creative advance achieved by the vivid immediacy of novel detail. Coherent growth speaks to wholeness in terms of piecemeal and unpredictable parts—a sign of nascent simplicity. Fullness of feeling incorporates intense depth attained by the harmonic contrast of triviality, vagueness, narrowness and breadth.

A DOCTRINE OF NORMATIVE MEASURE

What is central to Alexander's work and my own is the doctrine of normative measure, which involves three allied ideas. First, that to be is to be a harmony. Second, that every harmony is a structure that participates in a value. Third, that the normative measure for each structure is the degree to which it realizes and expresses the value it upholds.

I take Alexander's pattern language and real-world designs to express, implicitly, the same ethical point of view I delineated above: that there really is a quality called "livability," which exists to the degree that environments measure up to the norms identified for them. Alexander's great accomplishment is to have identified an environmental language of that normative pattern and to have built environments that—more or less successfully—express that language existentially through architectural and place experience.

NOTE

1. In developing the ideas of this essay, I draw on philosopher Alfred North Whitehead's "Philosophy of Organism." His *Process and Reality* (Whitehead, 1929) is primarily a cosmology but is grounded in a metaphysics that secures the necessary universality and specificity for an ethics of nature. Used in conjunction with Robert Neville's *Reconstruction of Thinking* (Neville, 1981), the philosophy of organism provides a conceptual scheme that can explicate the normative dimensions of the natural world.

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In 1987, The United Nation's World Commission on Environment and Development (1987) produced a "global agenda for change." Better known as the Brundtland Report, this document emphasized a set of global aims most succinctly described by the concept of "sustainable development." Sustainability, says the report, can meet "the needs of the present without compromising the ability of future generations to meet their own needs" (p. 43)....

In this article, I have suggested that, if genuine sustainability is to evolve, we must rethink the ontological foundations of the human-environment relation in a much more radical way than that represented by the Brundtland Commission. I have pointed to the need to intervene in the natural and built environments in such a way as to do more than "juggle things around" in meeting present requirements. Rather, the need is to preserve a sense of unity and holistic intervention. While the concept of a holistic view of human settlements may suggest an accumulation of as many different perspectives as possible, I now intend to show that viewing human settlements *as a whole* means something essentially different than viewing human settlements from the perspective of the *totality* of its elements and functions.

AUTHENTIC WHOLE

What is wholeness? Henri Bortoft (1985) raises this very question in his immensely relevant and thoughtful "Counterfeit and Authentic Wholes: Finding a Means for Dwelling in Nature," an article that presents illuminating discoveries about the essence of human environmental understanding. Noting the unique properties of holograms that provide an optical reconstruction of a photographed object as opposed to the reproduction of flat images as in standard photographs, Bortoft explains that:

[i]f the hologram plate is broken into fragments and one fragment is illuminated, it is found that the same three-dimensional optical reconstruction of the original object is produced. There is nothing missing; the only difference is that the reconstruction is less well defined. The entire original object can be optically reconstructed from any fragment of the original hologram, but as the fragments get smaller..., the resolution deteriorates until the reconstruction becomes so blotchy and ill-defined as to become unrecognizable... This property of the hologram is in striking contrast to the ordinary...photographic plate. If this type of plate is broken and a fragment illuminated, the image reproduced will be that recorded on the particular fragment and no more (p. 282).

This striking example has crucial meaning in regard to the relation of whole to parts. It may seem self-evident that the whole is comprised of parts, but the example of the hologram suggests not only that the whole is something other than the sum of its parts, but that the whole can, in some sense, *be seen to be present in the parts*. Moreover, "because the whole is in some way reflected in the parts, it is to be encountered by going further into the parts, instead of by standing back from them" (p. 284).

The hologram is far from an isolated example of such a relation of whole to parts, however. When we read a text, we do much more than repeat the individual words as they appear sequentially before our eyes: the meaning of the *whole* text is something other than the *totality* of the particular words.

This is clear when we realize that we do not require the totality of the text to understand its meaning. In reading, we do not possess the totality of the text but only one part after another; nor must we "store up" what has been read until the totality of the text is completed, at which point it is suddenly made meaningful. On the contrary, the meaning of the text is progressively revealed throughout the reading. As in the hologram, while the whole is present most clearly in the totality, the whole is also present as

meaningful, throughout any part of the text.

Thus, Bortoft concludes, "meaning is hologrammatical. The whole is present throughout all of the text, so that it is present in any region of the text. It is the presence of the whole in any region of the text that constitutes the meaning of that region. Indeed, we sometimes find that it is just the understanding of a single passage that suddenly illumines for us the whole meaning of the text" (p. 285).

Bortoft's conclusion points to the central significance of the hermeneutic circle: to read a text, we first have to understand it—that is, we must have some comprehension of the whole to provide a meaningful context for the progression of the words. At the same time, however, it is necessary to read the text to understand. Reading, in short, goes beyond a Cartesian logic that requires that we must progress linearly either from part to whole, or from whole to part. Reading is not sequential, analytical, or additive. As meaningful, reading is holistic and requires interpretation of both whole and parts rather than only the cumulative significance of individual words. As Bortoft writes in regard to the hologram:

If we break the hologram plate into fractions, we do not break the whole. The whole is present in each fraction, but its presence diminishes as the fractioning proceeds... The whole is already present, present in the fractions, coming fully into presence in the totality....The ordering of the parts with respect to the emergent whole...is nested and not linear... The whole is nowhere to be encountered except in the midst of its parts (p. 288).

By standing back to obtain an overview, as if the whole were a superior entity above the parts, one only obtains a generalization—a "counterfeit whole"—whereas in fact, the authentic whole is to be grasped by "stepping right into the parts."

In contradistinction to the process of interpreting a text, positivist-scientific methodologies "can only approach the whole as if it were a thing among things. Thus the scientist tries to grasp the whole as an object for interrogations. So it is that science today, by virtue of the method that is its hallmark, is left with a fragmented world of things that it must then try to reassemble" (p. 292).

SUSTAINABILITY AND WHOLENESS

In his article, Bortoft present an illuminating set of insights regarding our understanding of sustainability. If, As Christopher Alexander (1987) suggests, human settlements are to be designed in terms of a "search for wholeness" and organic unity, then the above discussion makes clear that built environments consist of much more than an accumulation of things, entities, objects—be they physical structures, economic functions, or social processes.

Consequently, building sustainable environments means more than "moving things around," and requires a new ability among planners to *dwell in the phenomenon as a whole* , that is, to comprehend each act of intervention in a human settlement as a reflection on the Whole. Neither the "environment," the "economy", nor "essential human needs" are disparate elements to be managed as distinct entities. Rather, evolving authentic sustainability asks for a way of thinking that understands such issues within a holistic, balanced context and the essential belonging of humans to the lived world of which they are a part.

"Dwelling in the phenomenon as a whole," as a condition of evolving authentic sustainability, may sound esoteric to some. But a comprehension of the holistic environmental context is no less mysterious than the pre-reflective awareness that we all possess of the meaning of the entire sentence as a context for understanding the individual words.

If, in the pursuit of sustainability, individual actions are not evaluated within the taken-for-granted awareness of holistic context, then an integrated, balanced vision of sustainable programs of action remains at risk. Perhaps we may keep in mind that originative, holistic thinking is more a receiving than a willful grasping. Rather than a thinking that seeks to "manage resources," this style of understanding requires an attitude of genuine care and openness to the mystery of nature, dwelling, and human life.

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