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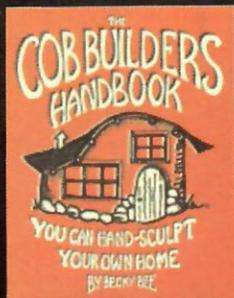
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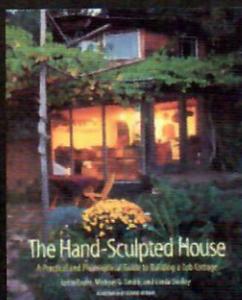


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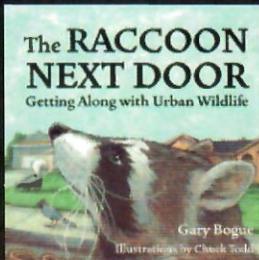


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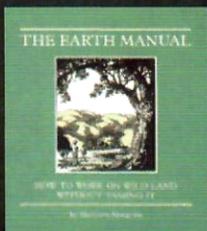
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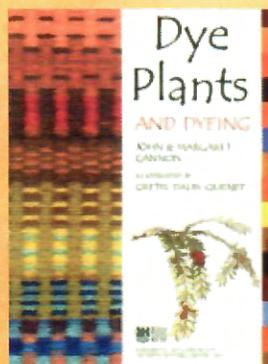
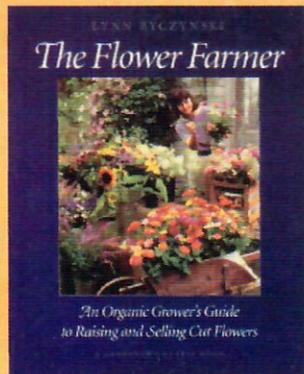


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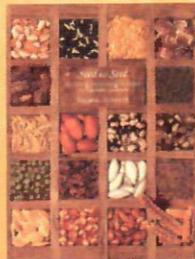
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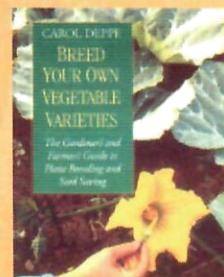
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Permaculture is a holistic system of DESIGN, based on direct observation of nature, learning from traditional knowledge, and the findings of modern science. Embodying a philosophy of positive action and grassroots education, Permaculture aims to restructure society by returning control of resources for living: food, water, shelter, and the means of livelihood, to ordinary people in their communities, as the only antidote to centralized power. For 25 years Pc has combined top-down thinking with bottom-up action to make a world of difference in over 60 countries. We are everywhere.

The Art of the Possible

Peter Bane

ART IS MORE IMPORTANT TO OUR FUTURE than most of us would credit. As the stories in this issue make evident, art enables us to bring together body, mind, and heart. By any reasonable assessment of where we are headed, we're going to need a big dose of heart to keep body and mind together over the next few years.

The facts of global warming and energy descent are not encouraging. Major worldwide desertification is underway, sea levels will rise and many coastal dwellers will be displaced. With temperatures climbing in lock step with atmospheric CO₂ levels—now at 385 ppm and bumping up 2ppm each May—we may have only a few years before irreversible feedback loops set the climate spinning into realms not seen in geologic ages.

What to do?

Thinking on a response follows three broad lines, with a fourth, taboo scenario pushed to the margins. Call them A, B, C, and D. Plan A is in place. It has been unfolding to the growing horror of the world since 11 September 2001 when the Bush junta launched "the war that will not end in our time." Those Alpha types, you know, just won't take a back seat. By the time these words reach print, the U.S. and NATO naval build-up in the Persian Gulf and eastern Mediterranean may have morphed into a full-scale attack on Iran, announcing the next phase of the Oil Wars. This is not a popular option and so the constitutional liberties and political control of the American people over their government have been suspended for the duration of the fight. Mere citizens cannot be allowed to interfere with the vital work of Wall Street in securing the last plums of energy on the planet. Get ready for a return of the nuclear genie and his friend, 'Clean' Coal. ('Clean' fell onto some bad times a few decades ago, but don't worry, ma'am, he's got religion now...)

More tender hearts, liberal and Democratic, but still committed to the American Way and its lavish energy underpinnings, advocate an alternative. Plan B is a Big Tent, and under it you may find all manner of hopeful suggestions, from biodiesel and ethanol production to hypercars, solar panels, and wind farms. Even though the big top is held aloft by the FeelGood blimp (full of hydrogen and going nowhere), not everyone under it is tilting at windmills. A few good things may come from the meeting: Efficiency improvements will be very important, though not enough to meet the demand for a 10-fold reduction in fossil fuel use over the next generation. Windmills are a great crop to be growing in South Dakota. And while grease cars are fun, the future of fast food (and used fryer oil) is not long. Cheap beef, cheap gas, and with them disposable income for the masses (to eat out) look set to go the way of the dodo. (The buggy whip, on the other hand, may be making a comeback.) Nothing like a good revival to lift your spirits!

Now Plan C over here, as befits a third-rate student, is rather non-descript—no glitz, no pizzazz. Not someone you'd put at the top of your dance card. Gonna be a hard sell. Looks a little better

than that creepy guy in the corner, however, with the tattoos, nose ring, and scythe over his shoulder. Black eye shadow and over-long canines on Dmitri Dyov there make our C student look well, kinda comfortable. Maybe we get 'im in a little conversation?

The plain-faced plan with ordinary shoes might be the one to take home, after all, the real keeper.

Plan C starts with Community: that's "Love the ones you're with," or at least get to know 'em. All manner of get together. Turns out Art (and music and dance and theater and storytelling and sharing food and what have you...) are all great ways to come together, meet your neighbors, make new friends. So that's the second part, Creativity. We can put that pedal to the metal from here on out and feel great about it. No need to skimp, there's more where that comes from. And once you get it flowing, well, the impossible just takes a little longer. So now that we're feeling pretty good, we're ready for the real work. And I know this won't be easy for some of you liberals out there, but just keep breathing: we're gonna get Conservative. Yes friends, we've got to conserve as if our lives depended on it (because they do). Now this could be pretty noble, as in the first law of Thermodynamics: Conservation of matter and energy. Hey, if God says it's true, then who are we to quibble? Could be a hoot, turning politics inside out...and it's also kind of ordinary, like turning off the lights when you don't need 'em and not standing around with the drool running down your jaw staring into the fridge.

We're gonna have to conserve energy and materials like there really will be a tomorrow for most of us. Your goofy uncle with the big ball of string on the shelf, never threw anything away? Time to look at that again. Lots of little things to do. You know what they are: plug the leaks, turn down the thermostat, insulate the ceiling, park the SUV (they make great solar food dryers), and take the bus. Have you planted a garden yet? And some big things too: car-sharing, ride-sharing, smart jitneys, no more plane flights, mulch your lawn and can the mower. Gotta talk to your public officials too: edible landscapes around the schools and in the parks, city-run nurseries, farmland preservation, green roofs and water tanks for every building. Don't forget the chamber of commerce. They've got to get into the act too. (Note to self: Set up greenhouse...)

Could be a lot of fun, all this creative re-thinking, but there'll be some hard moments for sure. When they happen, and you're feeling a little down, just remember Dmitri over in the corner there. He's really your ally.

See you at the farmer's market!

△

New Book Titles from Permaculture Activist
on page 20.

Reviews on-line at

www.PermacultureActivist.net

Is Beauty the Forgotten Permaculture Principle?

Scott Horton

BEAUTY SEEMS TO HAVE A BAD RAP these days, and aesthetics often appear to be the last thing on the minds of designers. Literally the last thing. Often the final step in contemporary commercial design is “the look.” The same can be said of some permaculture designers. Beauty, if acknowledged at all, is often a plaster sculpture on a cob wall or a mosaic on a garden bench. I’m not saying this is a bad thing, but we need to do more for a number of reasons.

Beauty has been relegated to the status of afterthought in our culture, a final brushing on of color and line, of sleekness and sparkle that serves both to seduce and mask. Beauty has become an exploited servant of marketing and commerce, trotted out to catch the eye and then sent away while the deal is closed. Art has been summarily commodified, kidnapped from the commonplace and common practice, and nailed to the gallery wall with price tag dangling.

It’s no wonder some permaculturists frown upon aesthetics. The idea of the purely decorative or the purely material—or the purely anything for that matter—is clearly counter to our ethics and principles. We understand that diversity, abundance, and health come from connections. But the idea that beauty is somehow disconnected from, and contrary to, sound ecological design denies the true nature of beauty. When we turn our backs on the virtues of beauty in design, we are accepting and embodying the co-option of aesthetics by Madison Avenue.

The late William Copperthwaite, a sort of 20th century Henry David Thoreau, said “When I was a child, the word ‘design’ meant to me something far off in a world where artists lived. Growing older, the word slipped a notch in my regard, as I came to think of design as a surface treatment—superficial, often cosmetic—cheap and gaudy, the dazzle aimed at conning a buyer. I was no longer in awe of the word, but disdained it.”

“Then, observing the world more closely, I began to feel that this sense of the word was a misuse of the term by the commercial world. Design gradually came to mean to me that certain quality whereby a well-shaped spoon works. I began to find good design in quality work everywhere—in Finnish log houses, Dutch windmills, Eskimo fish-hooks, Indian moccasins, Swampscot dories.

“Here was a joyous discovery. One of the most important qualities of life, that conscious shaping toward perfection, now had a name: design.” (From *A Handmade Life: In Search of Simplicity*, Chelsea Green Publishing)

The presence of beauty is innate and abundant in nature. It is a sign of connection, function, health, spirit, and efficiency.

Beyond ornament, beauty in nature—and in nature-based design—is a clue that all is well and working, and its presence or lack can be key in creating and evaluating permaculture designs.

It’s no wonder some permaculturists frown upon aesthetics.

Of course beauty and art can serve important seductive and educational functions in permaculture, their intrinsic values aside. As Josho Somine points out, art helps make permaculture designs legible to the uninitiated and provides powerful tools to teach the world about the need for permaculture. It is, perhaps, a conundrum that the “brushstrokes” of the work that go into a



The author uses honey, earth pigments, and smoke to create large-scale, single-line labyrinth drawings like this one, in progress. The 16-foot drawings were used as stage sets for performance artist Brenda Wong Aoki and members of Hiroshima in 2003.

good permaculture design should, in time, disappear as the design becomes harmoniously integrated into the landscape. But if there are no brushstrokes, no accessible sensory evidence that human design is at work, how do we effectively communicate permaculture's processes and importance?

Common heart

When, sometime in the past couple centuries of industrialization, art was taken from us and "elevated" to the realm of specialists—both practitioners and consumers—we were deprived of beauty as community glue, social succor, and mirror reflecting back to us who we are in the natural and human world. Vandana Shiva points out that the literal translation of one Sanskrit word for aesthetics is "common heart." It is interesting and important to note these connotations in a root language and to contrast how far we've come from that understanding.

Worship and the wash house

I want to give a few examples of how aesthetics is central to holistic, integrated design. More than a decorative afterthought slapped on solely to seduce and sell, beauty comes from ground up and inside out. It lives at the intersection of our ethics of care for the earth and care for people. The examples that follow are taken from long-enduring cultures who have developed collective aesthetic sensibilities based on the needs of nature and of people. They demonstrate the central role of beauty in function.

In traditional Japanese culture there is no significant history of portraiture in art, with the exception of royal and dynastic documentation. But there is a millennia-old cultural and spiritual connection to nature that manifests itself in a profound reverence for patterns and materials in even the most mundane items. The

Hinoki wood is traditionally used for both Shinto temple interiors and household bathtubs. Pictured are (below) Rev. Barrish at the Tsubaki Grand Shrine of America in Seattle, and (at right) an ofuro by Sea Otter Woodworks in Haines, AK.



everyday acknowledgement—often tacit—of the universal divine in useful things drives an aesthetic based in the belief that everything about nature is alive, inter-related, and sacred. There is a common understanding that tools, kitchen utensils, clothing, furniture, and other material things are to be made and maintained with intention and a reverence for the spirits they contain and the service they provide. Neglecting to do so would be an offense to nature.

... an aesthetic based in the belief that everything about nature is alive, inter-related, and sacred.

We've all seen Japanese tools, and some of us may even be privileged to work with them. Finely wrought steel hatchet, hoe, and knife blades are often paired with carefully selected wooden handles crafted to fit the hand. Japanese master craftspeople carry on ancestral traditions of ergonomic design; they understand that true beauty is a revelation of the essential qualities and characteristics of natural materials, expressed with simplicity and form, all encompassing what William McDonough today calls the "cradle-to-cradle" approach to design. To me this sounds like what good permaculture design embodies as well.

A favorite example of the qualities I just described is the use of hinoki wood in Japanese craft and culture. Hinoki is an extremely aromatic cypress prized for its fresh citrus-like smell and light blond coloring. It has some very specific uses in the Japanese arts. Hinoki wood is used to panel the interiors of Shinto temples, where it appeals to multiple senses, reminding



worshippers of the sacredness of Nature and of our indelible connection to her. Likewise, hinoki is the material of choice for traditional wooden bathtubs, providing a multi-sensual experience that purifies bathers inside and out. What a beautiful statement about nature, connections, and humanity that the same material is used to construct temples as well as the vessels in which we cleanse and care for our own bodies as temples.

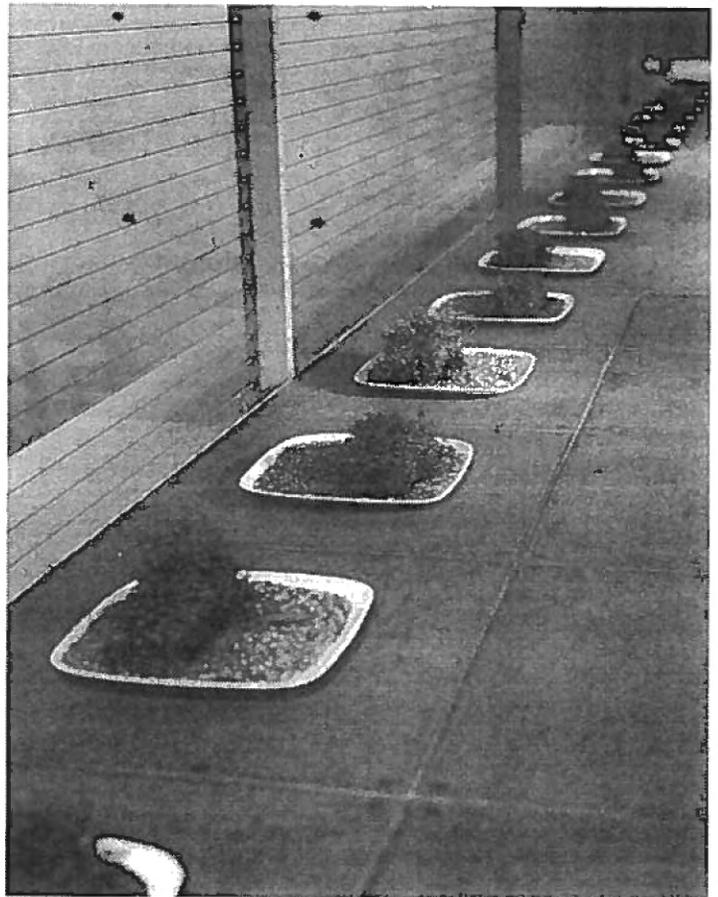
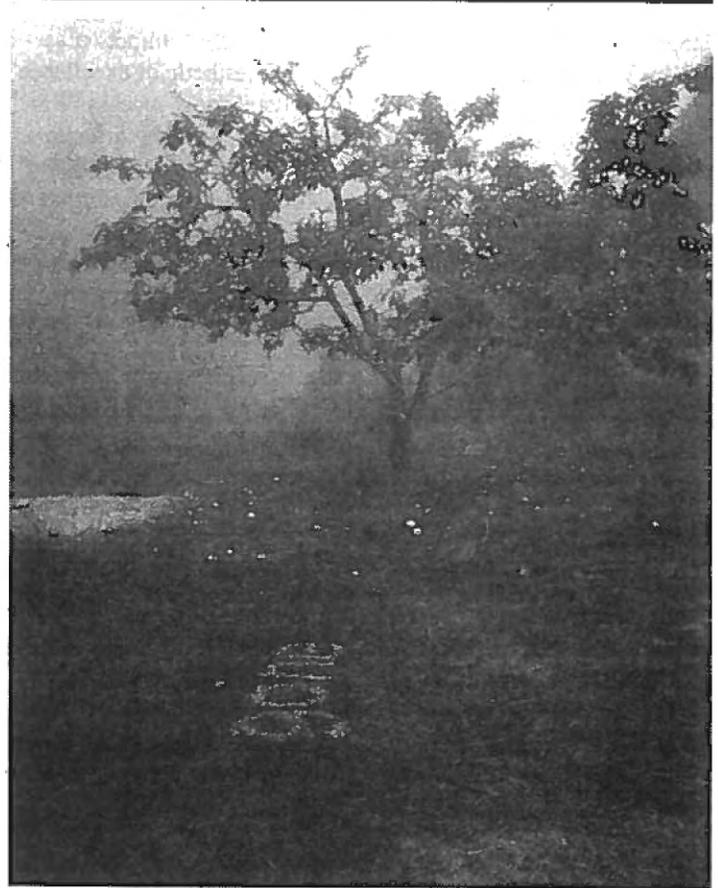
A similar connection is made at Northern New Mexico's Lama Foundation. One of the spiritual community's common buildings houses at its center a soaring dome used for community practice, public meetings, yoga, dance, weekly shabbat celebrations, and other activities. Projecting from the dome on two sides are small wings. One houses a simple yet spacious and luxurious community bathhouse with blue-tiled sunken shower-cum-greenhouse, and bathtub with a spectacular view of the San Juan Mountains across the Rio Grande Valley. Giving off the common locker and dressing room is a small music studio that opens onto the dome. On the other side is a second wing that

What a beautiful statement about nature, connections, and humanity . . .

houses a library and a small earthen meditation room accessible from a separate entrance outside. There is a striking, profound, and comfortable juxtaposition of elements in the design here that encompasses many of the essentials of physical, emotional, spiritual, and community needs. Its beauty comes directly from this integration.

In Islamic art portraiture is a scarce as it is in Japan. Much Islamic art spins outward from the manifestation of the word of Allah in the forms of geometry and calligraphy. The modern world owes Islam a debt of gratitude for the gift of mathematics as we know it. What permaculture designer hasn't been fascinated with the science and beauty of the golden mean or the edge-enhancing magic of curvature? Islamic arts have been based on the divine language of numbers, the power of π (π) and the fractals of ϕ (ϕ), for thousands of years. Beyond the visual, Islamic geometry—in tiles, floors, frescoes, and ceramics—reveals to the observant viewer a dizzying lesson in the pure

The author's art works bring attention to patterns in nature while restoring land and enhancing habitat. Top: Home (2004), native and covercrop seeds, an installation at OceanSong preserve in Occidental, CA. Right: Running Succession (2003), wildflower seeds, clay, and compost, installed at Wieden + Kennedy in Portland, OR.



language of mathematics; a language that nature trumpets ceaselessly. The art of Islamic calligraphy is an aesthetic of excellence within strict formal conventions. The artist is most successful in accomplishing linguistic communication and worship through transforming the written word into visual allegory.

Good permaculture design can be described in ways similar to the Japanese and Islamic examples given above. A successful permaculture designer pays attention to systems and patterns in nature, using the distilled data to create designs that honor the Earth, serve our needs and hers, create abundance, and, ideally, result in regeneration, beauty, and comfort. Australian teachers and designer Max Lindegger has been quoted as saying that whenever we achieve the permaculture principle of multiple functions with at least three yields from any element in our design, a fourth yield is automatically revealed: beauty.

When vernacular goes vulgar

Important permaculture lessons can be learned from historic vernacular architecture and design. Structures, systems, and cultural practices that spring from their bioregional contexts encode functional relationships with nature gleaned from a continuum of collective observation over time. It sounds kind of like permaculture, doesn't it? Our disconnection from bioregional context in design and embracing false concepts of beauty as

solely material, has led to oddities like New England fishing village-style housing developments in Atlanta and "faux-dobe" Southwestern strip malls in Florida. Freud might have observed that sometimes a fishing village is just a fishing village—good design looks, feels, and works the way it does because it relates deeply and directly to context, use, and time. Succession happens in design as in nature.

“... the lack of beauty is a sign of great danger.”

Egyptian architect Hassan Fathy said, “We must find a solution to the hitherto insoluble problem of the clash between products of industry and the demands of nature and of society. It would be useful to subject technology to the economy and materials of a particular region. In this way the quality and values inherent in the traditional human response to the environment might be preserved without a loss of the advances of science. Science can be applied to various aspects of our work, while it is at the same time subordinated to philosophy, faith, and spirituality.” (From James Steele’s *An Architecture for People*, Whitney Library of Design).

Answering the question

Lest I forget to answer the question I posed as the title of this essay: No, beauty is not the forgotten permaculture principle. It, like nature, has been with us all along, and it is embodied in our ethics and principles. We need to remember this and use aesthetics as an important, nay indispensable tool, letting go of any preconceptions of beauty as merely singular and superficial. “Beauty is a birthright,” said William Copperthwaite, “and the lack of beauty is a sign of great danger.” Let’s challenge ourselves to go deeper, making our design work beautiful in the true sense, integrating aesthetics as a birthright and common heart in our practice and communication. Δ

Scott Horton is Editor of Permaculture Activist. In his artworks he uses natural materials and processes—seeds, soil, honey, smoke, fibers, weather, and the intervention of animals and time—to bring human attention to the landscape in unusual ways while creating and restoring land and habitat. He was a 2003–2004 artist in residence at Caldera Arts and Ecology Center near Sisters, OR, and lives in the San Jacinto Mountains of southern California.

please join us in making the Post-Petroleum transition

Global production of petroleum per capita reached a peak two decades ago, and yet world consumption patterns are still expanding, still straining the web of nature. From here on, we need to learn to live with less. This workshop combines the Permaculture Design Course with an introduction to strawbale, bamboo, fieldstone, cob, and other natural building materials. Participants will learn ecology, energy and enterprise, growing and making biofuels, primitive skills, and the practical aspects of ecovillage sustainability. Field trips will include visits to local permaculture sites. Presenters include Andy Langford, Liorn Adler, Diana Leafe Christian, Albert Bates, Valerie Seitz, A.Goodheart Brown, Matthew English, Scott Horton, Greg Ramsey, and special guests.

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Learning to See

Painting and Permaculture

Adam Wolpert

I'M PAINTING IN THE GARDEN, under golden leaves. The familiar process unfolds again as it has countless times before, always new, exciting, and unexpected. I put down a brushstroke, stand back, and observe. How does the mark change the whole? How do the new relationships that emerge give me a sign of where to go next?

I often paint directly from nature, guided by observation and a sense of connection to a place that I have grown to love. For the past 12 years, I have practiced art and permaculture at the Occidental Arts and Ecology Center (OAEC) in Sonoma County, California (www.oaec.org). I have painted there, in the forests

and gardens, ever since a group of friends and I founded the project. We have endeavored to create a model of integrated living, bringing together life and work and honoring our relationship with the land. In addition to working on many levels simultaneously—preparing the soil, planting and harvesting, teaching and engaging in activism, toward influencing practice and policy, locally and nationally—we try to weave a thread of artistic awareness and concern for aesthetics through all of our activities.

When I first moved to OAEC, the relationship between art and ecology was unclear to me even though the two words appear

As in permaculture design, observation in the act of making art leads to revelation of form, relationships, and the dynamic nature of processes as seen in Adam Wolpert's Oak and Pear (2004), oil on linen, 32"x 24".



together in the name of our organization. My formal university education had never connected the two disciplines. But over time, as my understanding of my own creative process grew alongside my deepening understanding of ecology and permaculture, I came to see how much they share. A life devoted to creative exploration can lead one toward holistic ecological consciousness and in turn, the study of ecology or permaculture can foster deep insights into fundamental truths about the creative process. In fact, during certain stages of the practices, painting and permaculture are indistinguishable. Both are based in the same fundamental concepts, and many of the experiences the practitioner has along the way are shared between the disciplines. I see that ultimately this relationship between art and permaculture is rooted in their common source of inspiration, wisdom, and guidance—nature herself.

connections that I write these reflections on how some of the core principles of painting from nature are shared with the practice of permaculture.

To begin to see

When I begin a painting, I sit and observe. As I look at something and my breathing relaxes, the scene begins to open up before me. As I begin to work on a painting, it seems like every hour there is more and more out there to see. Seeing is itself a practice and our vision works together with our knowledge to give us information about the world and our place in it.



The OAEC gardens are both subject and plein air studio for Wolpert and his students. Photo (above): Jim Coleman. Below: Adam Wolpert: Mullein and Roses (2003), oil on linen, 22"x 30".



The first level of seeing is distinguishing structures, what the ancient practitioners of visual arts called *désigno*, or contour, the boundaries between things. I study the structure of an oak tree and see that to paint its true character, I must draw all the relationships just right. It is impossible to fake it. Why? At first

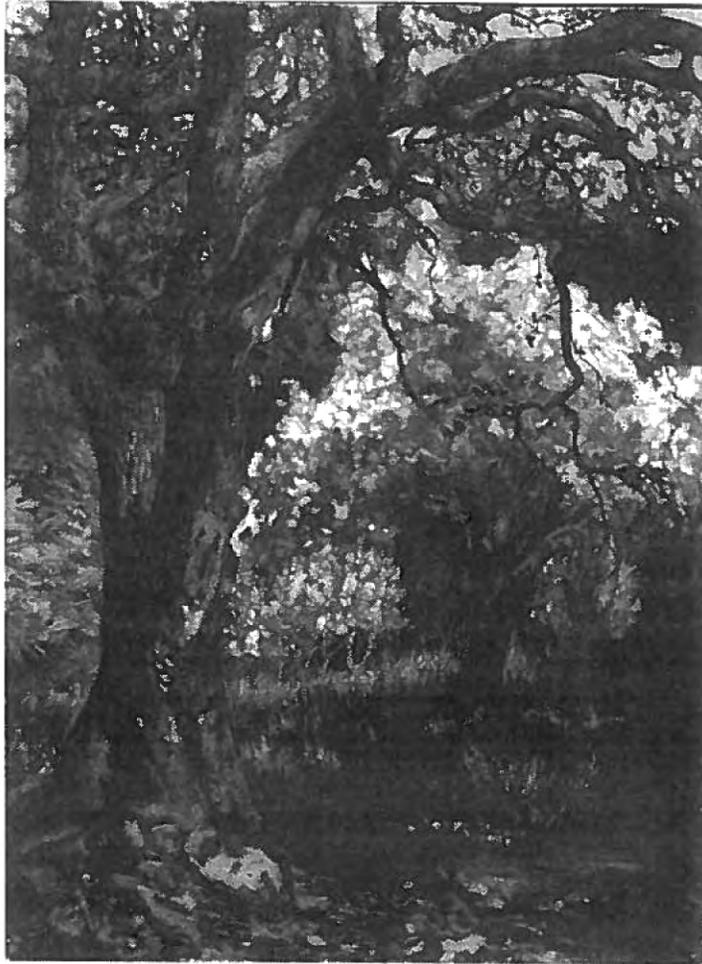
... the study of ecology or permaculture can foster deep insights into fundamental truths about the creative process.

Science vs. Art: A false dichotomy

At the beginning of the last century, art and science were often presented as opposing disciplines. The painter Braque is quoted at the time saying, "Art disturbs, science reassures." This opposition is also sometimes described as a rift between the right and left brain or in terms of the rational vs. the emotional or spiritual. I believe that these distinctions are the misconceptions of a hyper-specialized, fragmented society and that we need to bring these fragments back together. The many reasons that this fragmentation has occurred are beyond the scope of this discussion, but the dangers are clear. Describing the world in terms of objects and not processes, looking only at the parts while ignoring the whole, thinking in the short term while ignoring the longer view, and believing that people, creatures, and places are separate and disconnected instead of interdependent and connected has led us to the verge of global catastrophe. We need to reintegrate our consciousness.

Permaculture is part of a vision of holistic science, which does just that. It integrates qualities along with quantities, values sensitive observation, participation, and collaboration, and sees the scientist as a part of, not apart from, nature. Part of embracing a truly integrated way of thinking is seeing the connections between areas of human endeavor that are not often seen or acknowledged. It is in the spirit of shining light on those obscured

the shapes of the branches seem so arbitrary. But in time I notice that the structure has intelligence. The form is related to the needs and nature of that tree. Every form tells a story. The tall thin reeds at the edge of the pond which crowd together holding each other up focus their energy on height not thickness of stem. The willow develops strong flexible branches to reach far out over the pond into the light. From the diaphanous poppy petal to the sturdy thorny woodrose, forms offer us volumes of information.



Adam Wolpert: Totem Oak (2005), oil on linen, 24" x 36".

From the particular to the general and back...

Each organism and each place has a unique structure. Once we begin to understand the structure of these individuals, we begin to see how certain characteristics are repeated throughout whole communities. I move from being able to paint an oak tree to recognizing a whole oak forest, and a painting of that forest will only capture its true character if that painting acknowledges both the uniqueness of the individual trees and the general character of the whole community. So, beginning with observations of forms and moving from the particular to the general and back again, a painter's understanding begins to dawn. I imagine that this process is no different for the permaculture designer beginning to awaken to a certain place or deepening knowledge of the world in general.

I call seeing structures the "first level" of seeing because I think it leads us to a deeper kind of vision. Both painters and permaculturists must grapple with form as it appears in the individual and in the community. But as we observe individuals and communities, we see that everything is nested within some greater whole and that all things partake of each other to some degree. Slowly forms move to the background and what come forward are the relationships between them and their functions, at every scale. Wherever we look, we see relationships, and the relationships are being expressed by the forms. The form of the fish speaks of the movement of the water, the size of the pond, and so on. A landscape becomes a shimmering constellation of interconnection and relationship rather than just a collection of objects. This new vision of relationships is accompanied by visions of a new kind of form: the web or network. Everything is related and those relationships form webs which can be seen everywhere, between creatures and their environments and each other at every scale. So what begins as a study of structure—essentially of individuals and communities—leads us into a study of relationships. This, in turn, leads us to a more holistic way of seeing.

The concept of holistic seeing is very important in art. When a painter makes a painting, it's easy to get lost in the details, to pay too much attention to one small part of the painting. This is called "piecemeal seeing" and can be a painter's downfall. As I work, I am always challenged to see the painting as a whole. Every part is connected and any change I make to one part of the painting affects the whole. The question I must ask myself as I work is not "Is that tree or sky or field working?" but "Is the whole painting working?" This kind of holistic thinking and seeing can be applied to the practice of observing and understanding any particular place, as a painter or a permaculturist. You do not assess the health of a forest by looking at one tree but try to see the forest as a whole system. When we see the world as webs of relationship, we change the way we paint or practice permaculture, never making a move without the whole system in mind, never making conclusions about the whole based only on knowledge of one specific part.

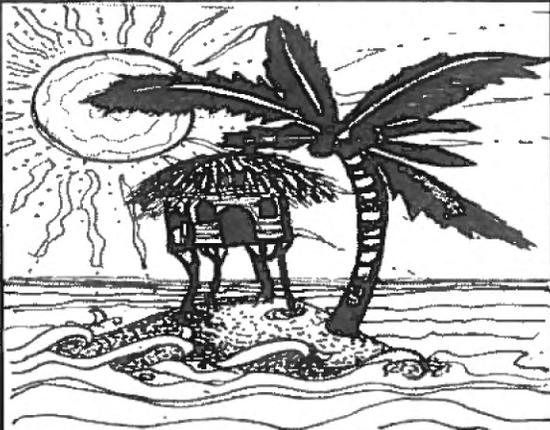
Seeing systems in motion

When you start to see in terms of whole systems, a new and awesome dimension is added to your vision: you see that the systems are in motion. I am out engaging in my practice of painting, looking across the meadow at the forest and the bay beyond. I finally begin to grasp the landscape, seeing a web of relationships, infinitely nested wholes within wholes, all part of some greater whole that extends beyond the reach of my vision and even consciousness. But that word, grasp, betrays my still considerable limitations of vision: the webs are not static, they cannot be grasped as such, they are dynamic, they are flowing. The more still I become as I observe, the more I see that everything I'm looking at is moving. There is the obvious movement of the wind, the subtler creeping of the shadows, and then the greater movements, more subtle still, of the tides and seasons and even the forest as I notice the fir trees marching down the hill

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into the meadow. As a painter this presents problems: I am trying to depict a scene, a place in time, and to do so by observing that scene. Yet it is not fixed; nothing is. It becomes more and more clear that I am not painting a fixed scene but a moving system. How do I express a moving system visually?

Moving systems express themselves visually in patterns. When an observer gets to the point that (s)he is seeing in dynamic, holistic terms, then patterns of movement appear everywhere. The white oak and the black oak express particular energy flows in distinct dynamic patterns of branch growth, water's movement across land is expressed in patterns on sand and stone and those patterns speak of rate and volume and frequency of floods and flows. These patterns tell stories of dynamic relationships, which have cycles and seasons of their own, and are subject to the great cycle of seasons that affects our whole planet each year; patterns tell stories we may not understand. As I paint flow patterns in the landscape or in the bark of trees, I see the very same patterns in the clouds above me and reflected in the

Both painters and permaculturists must grapple with form as it appears in the individual and in the community.

waters. The truth of universal connectedness is again confirmed, as in that famous Van Gogh painting *Starry Night*, where the same energy flows move through the old-tree, the forest, the hills, and the whole universe represented by the sky above the town. The truth of the balance between the particular and the general is also spoken as I see that each-cloud is unique and variations are infinite yet they still conform to a certain pattern of cloud. Everyone can recognize a snowflake even though the one we hold in our hand is unique and new. Of course, one of the primary components of permaculture education is the study of patterns, a study that a serious painter of nature also cannot help but undertake in the field. Both lead to the same truths.

This journey teaches us a process orientation. As a practitioner of painting for over twenty years, I see that each painting is just another step on a long path which goes far beyond any particular piece. Even seeing a particular landscape is a process: as my capacity to see expands, my vision of place is refreshed and made new. Painting is just one of many processes that shape the world. Permaculture designers too are engaged in a process. They neither create nor control places but rather participate in the process of a place or a system, a process which continues on its dynamic way long after the designer ceases to work. Just as paintings that really describe nature show it in process, with everything alive and changing (a fine portrait of a person depicts that person breathing not holding the breath) good permaculture

design takes the changes that come with the flow of time into consideration. Holistic thinkers can never be Machiavellian since

Everything is always in process and there is no end, thus the ends can never justify the means.

everything is always in process and there is no end, thus the ends can never justify the means.

The last common ground between painters and permaculturists that I want to touch on is the experience of mystery. Part of the deeper understanding I have been trying to describe is this fact that we are part of the great whole of life. Since we are part of the whole that we're observing, we can never see the system entirely, as if from the outside. There is no

Adam Wolpert: October Afternoon (2002), oil on linen, 30" x 45".



true objectivity. This is very humbling because it means that our knowledge is always partial, the universe will always exceed our scope. We need to acknowledge that we are limited. All designers and artists see that in spite of all of our understanding that comes from observation and practice, we still can't predict outcomes. Unpredictable properties continue to emerge and surprise us. That is one of the signs that our knowledge is partial. We can never completely know anything. Part of our practice has to be coming into right relationship with this mystery. Our work challenges us to set aside the arrogance of someone who thinks they know how it's all going to work out, and embrace the unknown. Perhaps this is the greatest shared aspect of these two practices. Both the painter of nature and practitioner of permaculture sit in wonder before this vast, ever-changing, miraculous world. Our fascination with our work motivates us to seek more and more knowledge and understanding and yet the more we know the more we see how small we are and how much is yet unrevealed. △

Adam Wolpert is a painter, teacher, and one of the founders of the Occidental Arts and Ecology Center. He has exhibited extensively in California and beyond, and has been a guest instructor in permaculture design courses for more than nine years. His work may be viewed at www.adamwolpert.com.

Observation in Writing and Permaculture

Tami Brunk

FROM AS EARLY AS I COULD HOLD A PENCIL in my hand, writing has been my daily partner, my path. As a heady kid tuned more to my inner world than to the noisy outer human one, I found poetry, in particular, a fabulous discovery—I could scatter my most tangled feelings and perceptions onto the page, then finally, once the poem had fully sprouted—feel I'd cultivated something beautiful, and real. To me, writing is the practice of paying attention to, then integrating, the inner and outer worlds—giving both their due.

My draw to the natural world came early as well. I grew up on a small farm, helping to raise goats, chickens, and a substantial organic garden. I was able to explore a stream, field, and forest on our 26 acres and learned to identify and prepare wild edibles, name the birds, wildlife, and plants of the area, and to anticipate the daily and seasonal cycles of the land. This experience created the foundation for my contributions as an adult—for the past 15 years I've worked as a naturalist, biologist, and environmental educator.

Two years ago, I was introduced to the concept of permaculture, and it has helped me to adopt sustainable living strategies. I understand this as a form of respect for the natural world, of which I have always tried to be a steward. From my first permaculture course, where our instructor told us to find a spot in the woods and simply OBSERVE with all our senses, I knew this would be my favorite part of the process. Of course it was. Just as in my writing, this practice is a habit of paying attention.

I moved into a new home in central New Mexico this past June, too late to plant a summer garden. I was, admittedly, a bit relieved to have more time to observe my surroundings—I've

lived in the Northwest, Rocky Mountains, Midwest, and Southeast, but never before have I lived in a xeric environment, at 6500 feet, where prickly pear grow alongside piñon and juniper trees. I have plenty of time to observe my site—a fenced in front and backyard of about 5000 square feet in the center of downtown Mountainair, a dusty little village of 1,070—with a small but

thriving artists' community recently tossed into the older mix of Mexican, Spanish, and Anglo families.

Backyard receives plenty of sunlight, front yard gets more wind, shade. Backyard gets less wind, fence offers no protection from the East. Siberian elms to south, Margarita's house to the North...

In Gaia's Garden, Toby Hemenway emphasizes the importance of resisting analysis or visioning at the observation stage of site design.

Song sparrow, yellow rumped warbler? In the backyard, swallow nesting in

eaves. Globe mallow and horse nettle dominate backyard; fescue also prolific. Several large bare patches of soil in the front and back yard...

Here my analytical mind starts ticking—why, when this soil is depressed, and absorbing rain, do plants not grow in it? Is the sponge effect created by mycorrhizal fungi totally depleted from wind and sun? What nutrients do I need? Should I get a load of rabbit manure and throw it on? Where should my compost go?

But I'm not ready for this stage yet, so I get scattered and unfocused. I need a solid footing in the whole picture, the lay of the land, before I jump off into prescriptions—this happens, too, in my writing.

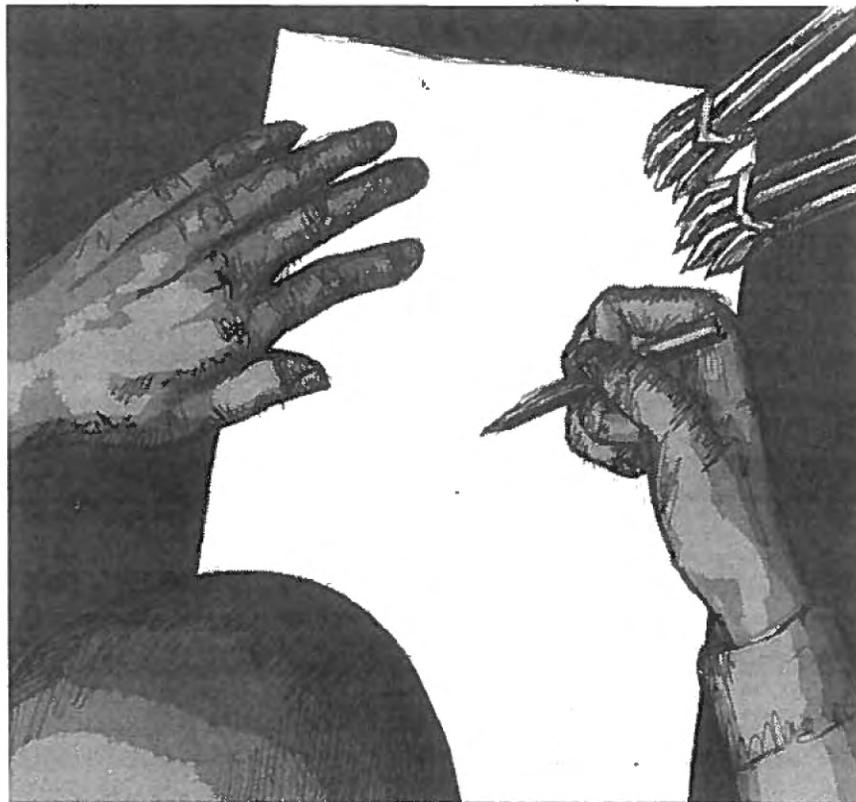


Illustration from Anafas, courtesy Monica Richards.

In my writing life, I've learned that if I am to write from the gut, from my most present, whole self, I must first detach from what Buddhists refer to as the "monkey mind"—the part of me that immediately draws conclusions, endlessly processes in circles, avoiding, at all cost, the present moment. My first task, as an awake writer, is to start with what is, and tend to that. That's what journaling, or juicy free-writing first involves for me. Too much premature analysis and the act of writing begins to feel empty, frightened, just another exercise in running away.

Tuesday, August 15, 7:15 am. Clock's ticking. Quinoa cooking on the stove, coffee's brewing. Muggins is batting my CD around on the floor. I feel drugged, calves sore from seven-mile hike yesterday. Woke at 4:00 am again, that creepy feeling in my belly, monsters in my head. Something is amiss... What is it? Am I on my true path? Should I break it off with...? Am I giving enough focus to my work?

Here my writing becomes obsessive and frantic, like my buzzing 4:00-in-the-morning mind. I am trying to draw conclusions before first gently exploring the terrain, lifting a leaf here, stopping to listen to birdsong there. At this point it's helpful to resist the urge to explain things. The analysis, when it arises at the correct time and from a fully experienced landscape, tends to produce the most fruitful outcome—whether that be a healthy food forest, a brilliant essay, or simply a more conscious perception of immediate life circumstances.

I moved to New Mexico to take a position as Program Director of a non-profit that works with homeowners in several conservation communities—the largest of which is located just south of Mountainair. I offer on-site consultations to homeowners soon after they have purchased land, helping them to integrate ecological design into the building of their homes—if I meet with them before they build, or otherwise in the landscaping, gardening, and remediation work throughout the rest of the property.

To do this, I first create a topographic map of the lot, which in most cases covers 20 acres, and together we walk the property, observing and documenting flow patterns of water, nutrients, sun, wind, animals, and vegetation communities across the landscape.

It seems so basic—and I or the homeowners often want to jump ahead, to imagine what we can do to make it better. We have to relax into noticing the most elemental character and dynamic being enacted on the landscape. If we shortcut the observation mode, the design will suffer. If we are too impatient to note where a wildlife trail extends across the property, for example, the homeowners may end up disrupting the wildlife, when they could have moved the trail slightly and had much less impact. If we become fixated on remediating the arroyo down below the house and neglect to notice that there is a much more severely eroding stream down by the driveway which should be given priority, then we could end up doubling the amount of work they will need to do in order to restore the land.

David Holmgren pairs "careful observation" with "thoughtful interaction." This second half of the equation is where I have to re-train my hands-off inner poet and naturalist, which would be perfectly happy to end the process at observation, convinced that

anything I, a faulty human being, do would harm the environment.

I recently consulted with a gentle couple who spoke to these fears when I asked them about their goals for the land. "We don't want to change anything," said the woman, a worried look crossing her face when I suggested remediation strategies such as thinning trees or building rock check dams in the arroyo to slow the flow of water and build sediment. "We want to keep things as close to natural as possible."

The fact was that their landscape was no longer pristine and natural—arroyos on the land were eroding rapidly, due in part to the construction of their home as well as to historic abuse of the land through overgrazing and fire suppression. Now they needed to practice "thoughtful interaction," overcome their fear of making mistakes, and learn to trust their ability to interact positively with the land.

...the most important step comes in moving from observation to partnership

In my writing, too, this more active, *yang* step in the process requires trust and confidence in my ability to make choices, answer hard questions, and carry a thought process to its full conclusion. It requires, in short, the willingness to risk making mistakes and the confidence that I can self-correct along the way. If I'm writing an essay, I have to be willing to take a firm stand on an issue, after exploring it in depth. In my journaling, after having felt out all the perceptions and various angles of my daily experience, I must ask the hard questions—and trust that I will find a way through to the very best answer.

In permaculture as in writing, the practice of observation, of paying attention, becomes even more important once we've envisioned our goals, begun to design the pathway, and are ready to take the first steps forward. This continued presence of mind, and a well-honed familiarity with the intricacies of the terrain, enable us to self-correct. As a writer, this may mean that I must remove a line that doesn't ring true to the intent of the whole poem, or change something about my life that journaling has revealed to be a repeating, destructive pattern.

Working as permaculture designers, we may have to make large changes, like choosing to shift the location of a house to avoid a deer trail, or small ones, like integrating more legumes into a food forest to build the soil. In either case, the most important step comes in moving from observation to partnership. We had better understand our partner, the land; and trust ourselves enough to act thoughtfully in regards to it. △

Tami Brunk lives and writes in the small town of Mountainair, NM. An itinerant traveler for the past 15 years, she is now learning to be at home—in her body, mind, and place.

Healing People and Places

Ecoartists Open Eyes and Hearts to Nature

Patricia Watts

FOR HUMANS TO SURVIVE ON THIS PLANET over the next century and beyond—with limited resources and no population control mechanisms in place—we need a radical shift in the understanding of our intricate interdependence with nature. As an art curator interested in artists who address the natural world, I am committed to understanding how they can participate within existing social and political structures, in communities, helping to invent a conceptual language that is essential for understanding ecological principles.

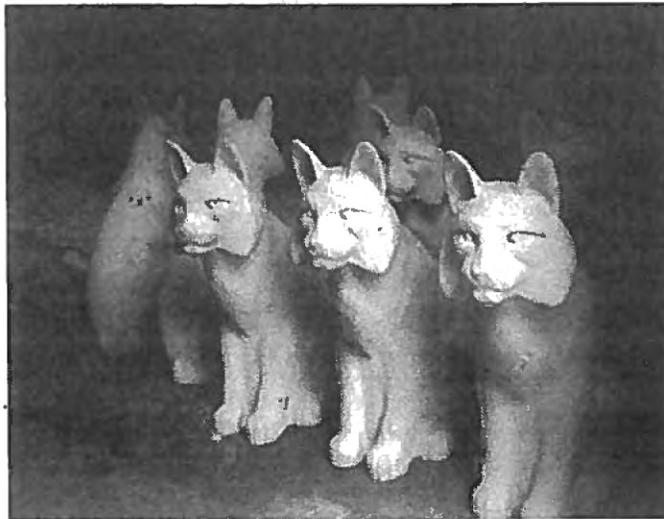
Recently, I worked as a watershed education coordinator, developing workshops and festivals in a small mountain community outside Los Angeles. Through this work it has become clear to me that art, metaphor, and visual experiences, when engaged in our daily environments, can offer a framework that supports our very survival. Who better than artists—thinking outside the box, employing their creativity, resourcefulness, and a love of beauty—to envision a more sustainable world? It is my vision that environmental restoration could become the essential art of our time.

Since the 1960s, artists have pioneered diverse strategies for working outside the “white cube” in both urban spaces and at sites in nature. What began as an experimental exploration of aesthetic and spatial boundaries, exposing the creative process in the public sphere at happenings and environments outside the confines of traditional art establishments, has dramatically and forever redefined what is art. In this blurring of art and life artist Allan Kaprow identified the potential for art to have a broader, deeper, interdisciplinary, and participatory purpose.

Environmental art or ecological art (a.k.a. eco-art) has evolved from the earth-art and land-art movements of the 1960s and early 1970s, and has been greatly influenced by the work of Joseph Beuys and his environmental actions “in defense of nature,” defined by him as “social sculpture.” Ecological art now provides a context for environmental education, and is achieved hand-in-hand with communities. Ecoartists seek access to communities in order to become advocates for them, working as

both co-learners and co-creators. The work is collaborative and supports both natural and social ecosystems. Ecoartists can be thought of as midwives for the earth, facilitators of environmental education, consultants for environmental restoration, and visionaries transforming ecological communities.

Eco-art projects offer inspiration and practical examples that engage communities in environmental issues through art. I describe a few of these below.



Gregg Schlanger's Smith Hill Visions, Concrete Dreams in process in a neighborhood of Providence, RI.

Collaborator: Metaphors for survival

In the summer of 2002, Tennessee artist Gregg Schlanger (www.sockeye.org) was commissioned by the Providence (RI) Office of Cultural Affairs to work in the city's low-income Smith Hill neighborhood on a community-based public art project entitled Smith Hill Visions, Concrete Dreams. Schlanger, who has created several environmental education projects involving children nationwide, set up shop across the street from a crack

house in a run-down five-car garage. He then offered to pay kids off the street (14 years and older) minimum wage to assist him in casting concrete lawn statues of various threatened and endangered animal species that are listed by the Rhode Island Dept. of Environmental Management.

Ecoartists can be thought of as midwives for the earth . . .

Ten kids signed onto the payroll, and together, in one month, they made approximately 200 endangered-species lawn sculptures. Schlanger put notices around the neighborhood letting

area residents know that the sculptures were being offered for free. He asked recipients of these uncommon lawn statues to place them in their front yards. Local residents were a bit suspicious that Schlanger was offering them anything free—after all, what was the catch? Many recipients were hesitant to have them in their front yards, suspecting that they would be stolen in the night.

A tag was attached to each sculpture with the name of each species represented and information about it. Many of these species were not native to Providence, yet Schlanger felt there was an underlying link with the endangered status of the neighborhood itself. He felt that because people in poor communities engage in a constant struggle to survive, those who participated in this project might identify with the animals as metaphors for their own survival in the game or habitat of life.

Schlanger believes this project was a huge success, even though he was an outsider bringing the subject of endangered species to a neighborhood where nature is not a priority. One young girl who worked alongside him every day was found at the Smith Hill Library down the street talking up the project to the head librarian, who later told Schlanger that this girl rarely ever speaks to anyone. On the final day, as the artist was packing up his tools, looking around to make sure he didn't leave anything behind, a boy on his bike came up to thank Schlanger and told him, "You made the neighborhood different."

Collaborators in successful public art projects always include funders and organizational partners. Smith Hill Visions, Concrete Dreams was a collaboration among the artist, the City of Providence Parks Department, the Office of Cultural Affairs, CapitolArts, and the Smith Hill Community Development Corporation; the project was included in the Convergence 2002 International Arts Festival. Digital images of the actual endangered species were displayed as an art installation at the Smith Hill Library, down the street from Schlanger's temporary garage, some of the concrete sculptures were placed in the library as well as outdoors in the library garden. A map of each residence that received a sculpture was created. A grant from Youth RAP (Resident Activities Program) of Rhode Island paid the kids in the neighborhood an hourly wage for assisting Schlanger in casting the pieces.

Facilitator: What is a watershed?

In 2003 in Mendocino County, California, artist Erica Fielder (www.birdfeederhat.org), a naturalist and environmental educator who has for many years created interpretive artworks out in public natural spaces, created an interactive community experience in her own watershed. Fielder presented *The Birdfeeder Hat: Seeding Watershed Awareness* at the local

Mendocino Coast Botanical Gardens and the Mendocino Art Center. At each location, for six consecutive weekend engagements, Fielder sat quietly demonstrating to visitors how to interface with wild birds, and then she invited others to share in the experience by offering an array of various birdfeeder hats to wear on their own heads.



Erica Fielder observes birds by becoming habitat in her Bird Feeder Hats at the Mendocino Coast Botanical Gardens in California.

This experience offered the opportunity to "begin experiencing a deeper kinship with a wild creature up close," says Fielder. Although on the surface Fielder is engaging people in the beauty and curiosity of birds, she is really offering a much larger vision. After setting visitors up with a hat and asking them to sit still for at least a half-hour, she then begins her educational "bird song" on the interdependence of all species within all watersheds. Talk about a captive audience! Several of the visitors were from out of town and even from other continents. Fielder felt that the project was a success, since she was able to engage people in a personal conversation about linking watersheds

"You made the neighborhood different."

throughout the world.

The Birdfeeder Hat project and Web site were funded entirely by the San Francisco-based Threshold Foundation, from its Visionary Social Change funds for which Fielder wrote a grant proposal. Other support was given by the Friends of the Ten Mile, a chapter of the Redwood Coast Watershed Alliance, a group of people who live in the Ten Mile River watershed. A

total of 500 people were estimated either to have watched or participated in the Birdfeeder Hat experience. Fielder says she hopes to continue the project in the future and is planning to develop a lesson plan with instructions on hat construction for teachers and parents. She also provided a topographical map of the Americas and the world and asked participants to put a red dot on the watershed in which they live. They then added their

images. Students and seniors took these tours from the museum site. Local elementary schools and high schools, as well as the local Queens College Environmental Club, which also organized trips to visit the fish markets.

Ballengee sees this work as "a scientific survey that became a community performance art project." When he began his research, the workers in the fish markets, who thought he might be a health inspector, initially feared him. For months he returned to talk with them about the wide variety of fish that is flown in from all over the world. He found that over time they became more and more receptive to his environmental concerns. The Hong Kong Market, one of the largest fish markets in Flushing, still has his panel up for customers to read.

Funding for this project came from the Queens Museum and the Queens Council for the Arts. Workshops on conservation of marine species emerged from the project, and to this day Ballengee refers to his preserved specimens and photo scans for ongoing education programs with conservation students.

Visionaries: Art and Community Landscapes

In 2002, the National Park Service (NPS) awarded environmental artists Jackie Brookner (www.jackiebrookner.net) and Susan Leibovitz Steinman (www.steinmanstudio.com) a one-

year arts residency through the Art & Community Landscapes program (www.nefa.org) to address the environmental concerns of three communities in the Pacific Northwest. This program was a unique collaboration that included the National Endowment for the Arts, the New England Foundation for the Arts, and the NPS Rivers and Trails Conservation Assistance (RTCA). For this residency, Brookner and Steinman acted as visionaries, aiding the conceptual planning process for trail and stream projects, designing and facilitating community meetings, festivals, and participatory public art projects that forged new coalitions among local groups.

In Caldwell, Idaho, Brookner and Steinman met with civic, federal, and local organizations strategizing to daylight and restore a 900-foot stretch of Indian Creek as a downtown revitalization project. Although they had been invited, they were strangers in a small town looking for ways to collaborate with the locals. Presenting their ideas to as many groups as possible, they created a network among people who had never worked together before. First, they brokered a new partnership between Caldwell Fine Arts (the established town arts group) and the under-recognized Hispanic Cultural Center of Idaho (HCCI), resulting in an Idaho Arts Council grant for local professional Hispanic artists to work with youth groups to create Caldwell's first public artwork. A creekside ceramic mural by Ignacio Ramos and college art students, and sculptural arches on a walking bridge by



Brandon Ballengee's text and images installed at New York's Flushing Fish Market.

names to a list of watershed-aware citizens collected during the project.

Interventionist: Scientific survey as public information

New York environmental artist Brandon Ballengee's (www.disk-o.com/fishsmart) *The Ever Changing Tide* is a community artistic investigation inspired by the work of Mark Dion, who in 1992 created "The Report of the Department of Marine Animal Inventory of the City of New York China Town Division." Like Dion, Ballengee performed his art as a traditional scientific survey, photographically documenting—or, in Ballengee's case, processing—scans of the fishes he found for sale at several Chinatown markets in Flushing, Queens. Ballengee then bottled fish samples given to him by the fish-market owners—some 400 species—of which many were endangered or in severe decline, conditions that Dion also noted in his work.

After several months of research, working with translators and biologists to identify the fish, Ballengee invited 20 fish markets to post bilingual panels with information on and images of the endangered fish available at the markets. The Queens Museum worked with Ballengee to coordinate tours from the museum, where he installed stacks of bottled fish specimens and scanned

Juan Martinez and at-risk high-school students brought renewed visibility to Indian Creek, which flows through and under the downtown business district. The artworks have become a source of local pride. At the same time, Brookner and Steinman



Artists Brookner and Steinman and community members plan a four-mile trail that will connect the town of Tillamook, OR, with its bay.

encouraged the environmental studies program at Caldwell's Albertson College to produce a book of student essays and art on the natural and cultural history of Indian Creek. And, they initiated a plan for two creekside restoration parks that were further developed in a charette of state landscape architects. Finally, the artists initiated the first-ever Indian Creek Festival, supported by a diverse spectrum of groups to spur economic vitality and to create a more environmentally conscious community.

In Tillamook, Oregon, Brookner and Steinman collaborated with the Tillamook Bay Estuary Commission, a consortium of local civic and environmental groups working to construct a four-mile trail along the banks of the Hoquarten Slough. The trail would connect the city to the bay and provide pedestrian and bike paths while creating economic opportunities for the town. With a nascent Tillamook Art Committee, Brookner and Steinman envisioned plans to restore a derelict historic house sited between

the slough and the civic center as a trailhead meeting place for eco-art exhibitions and "bulletin space" (to be named the Hoquarten Interpretive Center), and they helped design the conceptual plans for the trail. Armed with Brookner and Steinman's concepts, local teachers and the art committee published postcards and banners of children's artworks for a fundraising campaign. For Tillamook's first Annual Trail Festival, local volunteers pulled out invasive plants to carve a temporary trail system. The entire community came together to celebrate their hard work and to envision a future trail system.

In Puyallup, Washington, working with the local watershed council and district schoolteachers, Brookner and Steinman designed and facilitated an art/science book project with fourth- and fifth-grade schoolchildren who live on or near Clark's Creek entitled *I Am the Creek*. This creek guide combined student stories written from the perspective of the creek with creek-friendly tips on lawn, garden, and car care. The information was collected by the students from direct creekside observations and published by the Washington State Department of Ecology. At the Puyallup State Fair, 3500 booklets were distributed to creekside residents and hundreds of visitors. Brookner and

The artworks have become a source of local pride.

Steinman also proposed plans for a greenway corridor to provide public access to the creek for water-quality and flood-control education opportunities.

These locations were selected by NPS through applications that were submitted to its Rivers and Trails (RTCA) technical consultancy program. Brookner and Steinman made six to seven visits to each of the communities in approximately 15 months. In seeking local input and ideas, Brookner and Steinman stressed

Caldwell, Idaho's Indian Creek was daylighted and celebrated with the first Indian Creek Festival.



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that it was essential for them to invite contact with as many people and organizations in each community as

possible. Beyond the three towns' common goals of economically revitalized downtowns paired with environmentally revitalized waterways, Steinman and Brookner found each to have unique assets and liabilities with dramatically different levels of citizen participation, and bureaucratic hurdles or support. This demanded that the artists conceive specific strategies and designs based for each community, based on locally stated desires.

At the end of the residency, the artists felt that they had been able to envision a new relationship with the environment for these communities that would develop a life of its own after they had gone. In essence, they provided the foundation and gave the communities the tools to develop their own programs.

These projects all offered the participating communities information about their environment that might otherwise have been filed away in a report and put on a bookshelf in a biologist's office or the local library. Such essential information, when delivered in engaging, interactive, and aesthetic ways allows eco-art to awaken our senses and offers rich inspiration for change. These artists care about all aspects of our ability to live sustainably on this planet, and feel it is their responsibility to create a dialogue about environmental issues in their art. They have affected how communities think and act and have sown the seeds for lifelong learning to understand the natural world of which we are a part. △

Patricia Watts is Chief Curator of the Sonoma County Museum of Art in Santa Rosa, CA. She founded ecoartspace in 1997. Watts has been researching and working with artists who address environmental issues for over a decade. She curates exhibitions, writes curricula, speaks on panels, and advises on public art projects. Her current book project is Ecoart: Environmental Education. It is a guide for teachers, parents and communities, and will provide curriculum and resources for using art as a tool to address environmental issues. Visit the Web for more information on ecoartspace (www.ecoartspace.org). This article was originally published by the Community Arts Network, www.communityarts.net.

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A Life in Art, Activism, and Community

Heather Gaudet

ALTHOUGH THE PERMACULTURE MOVEMENT has not often explicitly addressed the need for art as a form of cultural expression, flowing creativity is an implied aspect of any healthy, functional system. Good designers know that a design project has reached a sort of completion when it begins to create and renew itself without human intervention. It is the will to control and predict every conceivable outcome that often undermines good creative design and keeps a project from achieving the natural beauty that is so nourishing to the spirit.

Since its inception in 2001, the Earth Based Vocations (ABV) program at EcoVersity in Santa Fe, NM, has been an evolving exploration of how permaculture can be integrated into all walks of life and ways of being. The founder of EcoVersity, Fiz Harwood, brought together instructors, whom she felt were at the cutting edge of sustainable development and asked them to put together a program that would integrate and cross-reference the many branches of permaculture design. Side by side with curricula for Renewable Energies, Natural Building, and Land and Garden, Land Art and Community Activism was recognized as an important part of this synthesis from the very beginning.

Recently I interviewed Chrissie Orr, the instructor for Land Art & Community Activism at EcoVersity. When asked how art informs permaculture, she spoke of the importance of understanding a site and creating from a grounded context. She also spoke of the need for an artist to work at the permacultural edge, where diversity is greatest and predictability least, for in this place of richness and perceived chaos, creativity is most abundant. Finally, she spoke of the importance of building

community via cultural creativity: what brings communities together in celebration and revolution is often an artistic spark.

When Chrissie graduated from art school in Edinburgh, Scotland, she was already struggling with the concept of art as

something to be produced and then sold. As a young artist, she felt alienated from her own work, watching it leave her studio for unknown destinations and buyers. She wanted to know the people for whom her work would have meaning, and to have a relationship to the places where her work would appear. "When you mention art, most people think of a commodity, a product that has no relevance to where it is going," she says. "As a young artist, I felt I needed a site, a relationship to where my work would end up. It made more sense to me that it would be integrated, that it would be brought forth by the muses of the place."

"My work became site-based, like permaculture. The site determines the piece, as do the people around it, the invisible structures of the site. What is

hidden underneath, how do people walk across it?" She tells a story of another artist, Richard Serra, who is famous for his sculptural work. He was commissioned to create a piece for a NY City plaza and made a large steel sculpture that was placed in the middle of a number of intersecting walkways. People were outraged that he'd blocked their thoroughfares, causing them to walk a greater distance to reach their destinations. She pointed



Artist/activist Chrissie Orr (center) discusses a collaborative installation with Earth-Based Vocations students at EcoVersity.

out that in this case, it didn't matter whether his piece was beautiful or interesting, it had to be removed. "The essence of permaculture is to work with the site. You don't impose structures on environments, you let them tell you what is going to be present or it simply doesn't work," says Chrissie, throwing her hands in the air.

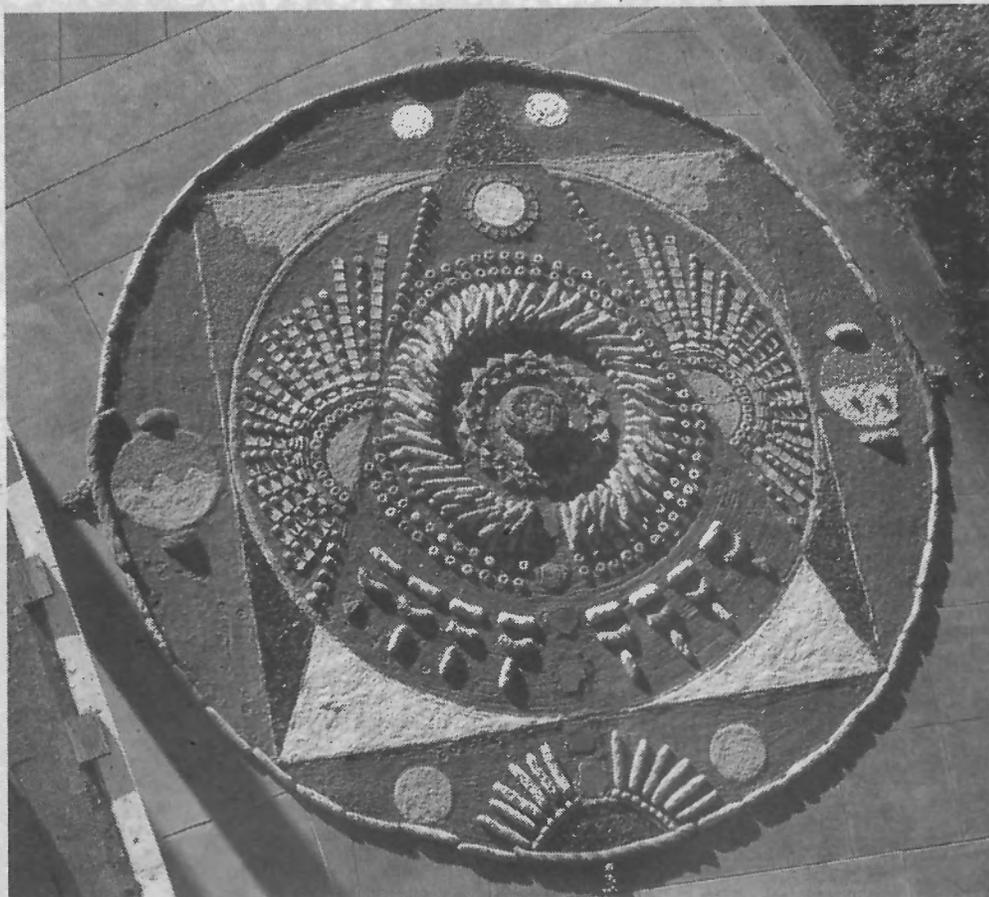
After deciding that she would never be a production artist, Chrissie joined a burgeoning community art movement in Scotland that brought together musicians, visual artists, performers, and writers all working for social change. Chrissie became very involved in their collective work. "A community would call us and say that all the roofs in the tenements were leaking on the whole block and the council wouldn't listen! We'd come in and do murals, make newspapers, do performances, and the roofs would get fixed! It didn't always work, but often it did," she says with obvious excitement over her memories of that time. "We were the animators, the translators for the people."

This began a thirty-year long career for Chrissie in art and community activism. She has since worked in many communities across Europe and the US. Much of her recent work has been along the border with Mexico, drawing attention to issues of social and racial injustice. When I interviewed her, she was designing a bridge walkway for the city of Santa Fe, NM, with a team of local artists, as well as working with incarcerated youths to create a photo-documentary of their lives to be shown at the state capitol. In between art projects, she teaches students how to find their creativity, how to mine it out of a dark tunnel of indoctrination.

Learning to look again

When asked about the focus of her teaching, Chrissie says she helps students learn to look again, and then again, until they actually see. She draws an analogy between the permaculture designer who has to examine a site in order to determine the proper location for each element of a design. It isn't good enough simply to skim the surface of a location, one must move into a deeper relationship with the site, spending time there, watching for patterns, understanding the spirit of the place. She assigns each student a site, and has him or her return to it each day, watching for intimate changes, recording data, referencing them into a larger context of understanding. This process culminates in a land mandala designed for the location.

Going beyond looking toward real seeing is the first step in getting students to immerse themselves in their sensual, artistic selves. Often they start out fearful of their own creativity, or they want to do things perfectly, to "make the grade." She observes



Chrissie Orr: The Surplus Bread Drawing. 40-ft. diameter, unsold bread from local bakeries, corn, beans, rice, salt, clay, turmeric, pigments, and Santa Fe River sand, Alchemical in nature—as is the making of bread—the piece addresses waste and distribution of food. It slowly evolves with the interaction of animals, birds, and weather. Created in collaboration with Ana MacArthur, State Capital Security, a local baker, and nature.

that once the students have gotten beyond their tendency to remove themselves from direct experience via intellectual or theoretical perspectives, the creative process can actually begin. Chrissie believes that her role as a teacher is not to teach students how to be artists, but to encourage them to keep their creative spirit flowing in all their endeavors, to keep their eyes open and look beyond the obvious, beyond what the dominant culture would have them see.

"Art shouldn't be selected out. It is part of the structural system, part of politics; it is part of life. You make something beautiful and you offer it," Chrissie says. She points out that in Bali there is no word for art, as it isn't considered an object in the consciousness of the people. It is everywhere and in everything as a joyful expression of life. She encourages her students to think of all their actions in this light, whether they are painting a mural or designing a solar system. She also teaches them that art is also about craft, putting a skill into practice for years and

pushing the limits of that craft and experimenting with its boundaries.

When asked how art and activism combine to create community art, Chrissie said, "Being in the community, not in a studio, is activism in and of itself. In this age of computers and technology, watching someone work with their hands and body to create something is intriguing to people, and they are pulled into that." When working in small rural villages in Mexico, Chrissie recalls that painting murals brings everyone into the street, from kids to grandparents. Often students will come into Chrissie's classroom having grown up with TV and video games and will be very unfamiliar with using their whole body in any activity. After a week of journaling, visiting their site and engaging in a design process with fellow students, they are ready to find themselves with a paint brush in hand, or gathering feathers or juniper berries to "paint" into their land mandala.

Having worked in inner cities with people in poor, depressed communities, Chrissie is familiar with the impact that just a small amount of color can have on a community defined by and confined within the grey walls of industrialization. "Just painting a streak of pink into a grey landscape can be a major form of art activism. Creating something beautiful can make a huge difference." She points out that much of our culture exists within a largely framed perspective in which things are defined for us, leaving very little room for hope or creativity. The life in inner cities can magnify this feeling of hopelessness, giving art a special place in the healing process. It opens doors, stretches boundaries and helps people to imagine new ways of being.

Over time, Chrissie began to move more and more towards environmental art. She began to dedicate more time to thinking about the

materials she was using and how to address issues of waste and the environmental costs of her artwork. She worked from the tradition of Diego Rivera, a Mexican muralist who depicted the life of the peasant worker. He believed in the rights of the underprivileged and used his work to highlight issues of social injustice. Chrissie's move towards environmental art was born of her awareness of the ravages of environmental degradation on the lower classes of society. She began to think more about where her paint water would end up and who would bear the burden of

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its pollution. Living in a high desert environment where drought is an ever-present concern, Chrissie has worked on a number of projects that draw attention to water harvesting.

Earth-Based Arts

In the Earth Based Vocations program at EcoVersity, Chrissie focuses on leading the students into an exploration of the site beyond what can be seen and touched. As guest speakers, she brings in a couple descended from the first family ever to have settled in the Agua Fria village, where the EcoVersity campus is located. Hazel Romero works in the town archives and shows slides of Agua Fria when it was still an agricultural community. She speaks of the transformation of the Santa Fe watershed and how the dam affected the farmers who used to inhabit the land around EcoVersity. Many of those farmers' descendants still live in Agua Fria village, and there are still many old orchards tucked away behind industrial buildings and vacant lots.

Chrissie asked the EBV students to design an art project that would have a positive and interactive influence on the people living in the community, a project that would be sensitive to the issues that concern them. She teaches them that activism can be achieved through art in a much more subtle way than many other forms of action. "Art transcends political, cultural and economic boundaries. It isn't about propaganda, there are no obvious statements being made. If the process is rooted deep enough, it will remain with people," she says thoughtfully. "I've worked this way for thirty years and have seen huge changes in communities. Art empowers people to feel as though they can make

Minna Jain (below) creates one of several permaculture street banners to be placed in the neighborhood, as seen at right. The banners are among many projects Earth-Based Vocations students participate in to create awareness—in the public and in themselves—about how we can interact positively with the environment and each other. The EBV program teaches art as an indispensable and integral tool of permaculture and activism.

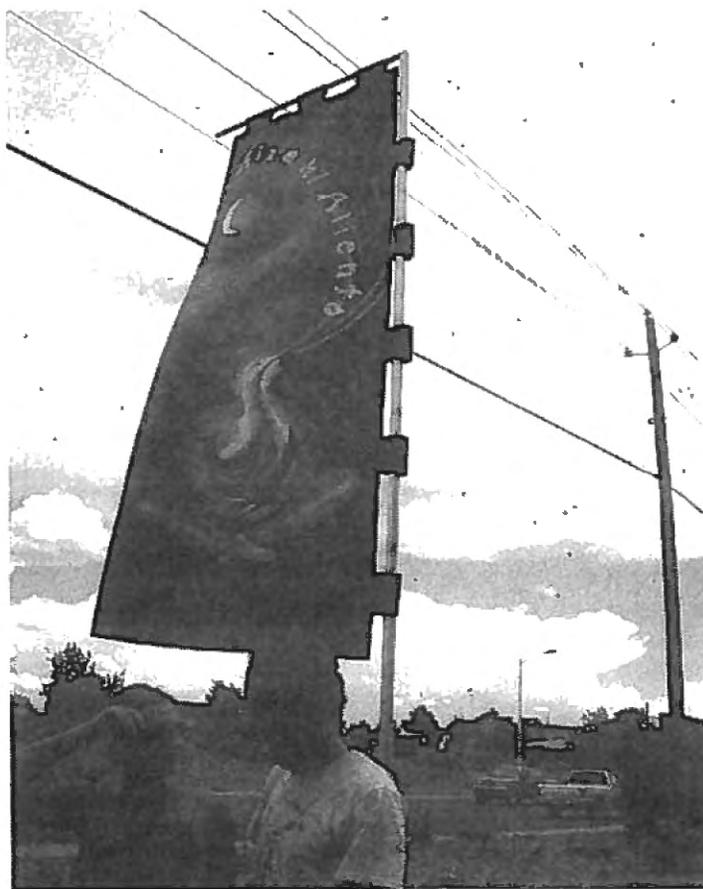


changes in their own lives, especially young people."

The effect of this process is obvious as the students in the EBV program collectively design and create a series of banners that will hang from flag poles along the street in front of the EcoVersity campus. One student bangs a drum while the others carry the first banner to the street and lift it up into the air. Cars honk and people wave as the students cheer the culmination of their work. As the first banner rises, we read, *AGUA MI SANGRE* (Water my blood) on one side and *TIERRA MI CUERPO* (Earth my body) on the other. As the second banner rises we read, *AIRE*

Community art is the antithesis of ego-driven art.

MI ALIENTO (Air my breath) and *FUEGO MI ESPIRITU* (Fire my spirit). The final banner depicts San Isidro bent in prayer on one side and *POR FAVOR ORA POR LA LLUVIA* (please pray for rain) on the other. The banners are beautiful, each side depicting an image summoning the sentiment carried in the words. The students are visibly proud of their accomplishment and the feeling in the air is one of festivity and celebration.



Chrissie's face lights up as she speaks of the festivals and ritual celebrations she has participated in throughout the years. "If you think about how few activities there are that bring communities together, they mostly have the arts at the center of them." Chrissie's work has been to mobilize communities towards positive change, and her enthusiasm is infectious. When asked how she gets people interested, she speaks about the difference between ego-driven art and community art. "Community art is the antithesis of ego-driven art. You go in and listen to people's stories; you hang out there and become a part of the community. You don't go in and plunk something down and tell them they need this," she says this with obvious frustration for what she sees happening to indigenous communities all over the world via globalization and its accompanying ills.

I had begun my conversation with Chrissie by asking how art informs permaculture. As she got into her car to leave our interview, she grinned at me with a twinkle in her eye and said, "Perhaps you ought to ask yourself how permaculture informs art?" We laughed and as she drove away I resolved to bring beauty deeper into my consciousness. I learned from Chrissie that if we are not allowing our creative spirit to inform our daily life, then we are missing a vital part of being alive. More importantly I learned that it is this creative spark that fuels our love of community and helps us to come together and keep it alive. Permaculture design at its best is a highly creative endeavor, and the culture that it strives to create is bound to be beautiful if we keep at it together. △

... activism can be achieved through art in a much more subtle way than many other forms of action.

Heather Gaudet is an organic farmer, poet and beekeeper. She lives with her family at One Straw Farm in the mountains of northern New Mexico. With her partner, Ric, she raises goats, garlic, turkeys, and greens and is working on finishing their strawbale solar home. To find out more about EcoVersity's Earth-Based Vocations, visit www.ecoversity.org or call 505-424-9797.

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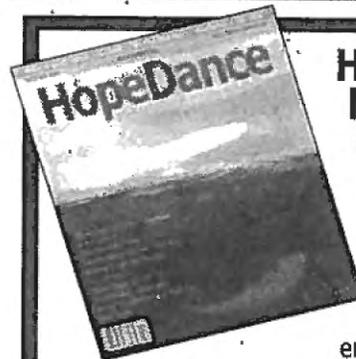


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Catching Water, Making Magic

Chrissie Orr

"If there is magic on the planet, it is contained in the water."

—Loren Easley

"Thousands have lived without love, not one without water."

—W. H. Auden

"Humanity has not only lost touch with the spiritual nature of water, but is now in danger of losing its very physical substance."

—Theodor Schwenk

IT ALL STARTED with a message on the kitchen answering machine; it was John's voice. "How would you like to do another water catchment project, but this time build it. I have money for you." I stood and listened to it twice. How often does this happen to an artist? I had not hustled this, I had not spent hours struggling over a proposal, I had just mentioned to my friend John that I would like to expand a project we had worked on together the previous summer.

John McLeod is one of those renaissance human beings with a visionary mind and incredible energy who loves to get his hands in the mud. He is, among many other wonders, the coordinator of "Bridging to the Arts" (<http://www.bridgingtothearts.org/>) an innovative arts program developed for youth summer projects in New Mexico.

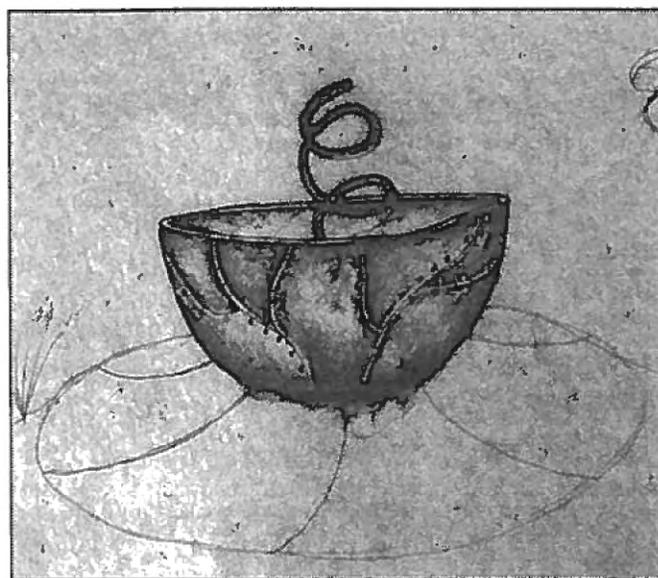
In the summer of 2003 John hired me to drive to 17 sites around New Mexico from Shiprock in the Navajo Nation to Sunland Park, on the American/Mexican border, to the "war zone" in Albuquerque. I ran workshops on the intrigues and mystery of catching water in the arid Southwest. The kids became inventors, and we designed hundreds of different catchment systems, many of which Rube Goldberg would have been proud. At the end of the summer, as John and I worked together to produce a book of the designs, we both came to the conclusion that some of the concepts should have been built!

Hence the message on my answering machine.

A year later I would work with another group of kids, design a water catchment system, and actually build it. Of course as all of you out there in the field know, nothing is as easy as it appears.

The project, or rather the funding, was directed to an organization in Albuquerque. They picked a site called Los Padillas, in the South Valley. This meant an hour-and-a-half drive for me. It is hotter than hell there in the summer, and near the Rio Grande,

swarming with mosquitoes. And I did not hear from anyone until a week before they wanted the project to start. Then I had to get fingerprinted for a background check before they would let me work with the kids. I passed.



One of Orr's preliminary drawings.

I cobbled a budget together, worked out a schedule and put out the word that I was looking for an intern/assistant. I contacted Ann Nelson, a landscape designer who specializes in designing for kids, and Richard Jennings, a water engineer cum visionary inventor, and convinced them that they could fit a few hours into their busy schedules to come and work with me. I ran in circles, panicked a few a times, designed workshops, bought materials, and eventually all the pieces began to fall into place.

About four days before the start of the project I met Rose for the first time. I had interviewed her by telephone and we had arranged to meet in the local underground coffeehouse. Rose had just turned 20, is part Santa Clara Pueblo and part Anglo, grew up on the pueblo learning to grow food, look after animals, and make pots. Not easy in this dry land. She understood the importance of water and respected it. She demanded and was taught the traditions and the language of her ancestors and now she was living in the big city of Albuquerque making a success as a hip-hop spoken-word artist. She was perfect for the position of assistant. We drank coffee and laughed and worked out a schedule around preparations she was making with the Pueblo to dance at the feast day.

It was one of those incredibly hot, dry days when Rose and I first met the kids in Los Padillas. We spread a tarp out under a tree, gathered the kids, introduced ourselves, talked about the water cycle and started playing with plastic drain pipes, connectors, buckets, and water. The kids ranged from the ages of five to twelve and were all from different backgrounds: Anglo, Hispanic, Mexican, Native American, and Japanese. Some could not speak English. By the end of the day all were soaking wet, one had fallen headfirst into a garbage can, two had slipped and were covered in mud, but all were smiling.

Los Padillas Elementary School is set in the South Valley of Albuquerque, the largest city in New Mexico. It is a small rural area near the Rio Grande, where farmers grow, in fertile land, chile, corn, and vegetables for their families. There are old-growth *bosque*, ancient cottonwood trees, and tamarisk. In between the farms are tire shops, feed stores that sell pigs and peacocks, back hoe services, *panaderias*, and an ice cream shop selling *aqua de melon*. It is like little Mexico. There are still families that live up on the mesa who haul water and have no electricity. The school is small and gentle and is staffed by concerned, innovative teachers. Ten years ago a group of them set about to form a wildlife sanctuary behind the school. They built a wetlands area and redirected the greywater from the school, where it is cleaned biologically and pumped by solar pump to a pond which is now filled with lotus, burrshes (*Scirpus*), exquisite dragonflies, and frogs. It was in this wildlife area that the principal and teachers decided they wanted the water catchment project. It was problematic—no roof to catch water, difficult access, apart from narrow walkways, and it was hotter than hell and full of mosquitoes—but when has that ever stopped anything?

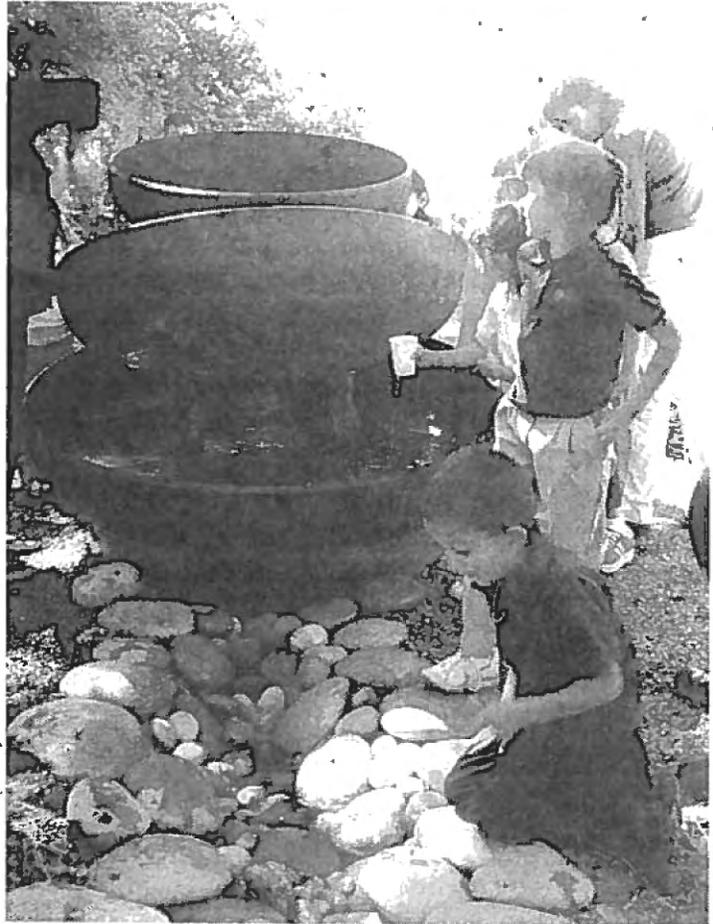
... two had slipped and were covered in mud, but all were smiling.

Drawing from Nature, drawing on Nature

Rose and I walked the sanctuary many times, found a suitable site, and continued working with the kids. We had them drawing from nature, looking at the way plants and leaves catch water. The lotus leaves were perfect examples. They learned about berms and swales, filters, pumps, siphons, gravity, flowforms, and the delight and magic of playing in water. We used all this information in the designs. The kids were given huge pieces of paper, oil pastels, and watercolor pastels and directed to play at being inventors. The designs came intuitively. Kids connectively use their bodies and their minds. They wiggled as they drew, they poked their neighbors as they drew, and they squealed and stood on their heads and rolled and felt the flow of water as they drew.

The designs were innovative, fresh, and fun.

It was at this time that we realized that another person on the project would really help. I was to be out of town for a few days for a project in Seattle. So I talked with a friend's son, Gabe. I had run into him at an opening and he told me that he was working at getting his permaculture design certificate and was still studying in the art department in the University of New Mexico. It turned out that he knew Rose and had time to commit to the project. He immediately became part of the team.



Students of Las Padillas Elementary School participated in the design process and installation.

Gabe and Rose found some amazing white clay, and with small, clear plastic tubing, toothpicks, and sticks, we turned the drawings into models. We played with the models to see how the water would flow into the structures, and where it would be stored.

Suddenly it was the end of the summer program, the kids were whisked away by happy parents, and we promised that when they came back to school in September we would have a structure built to install in the sanctuary. Kids are so trusting.

Now it was really time for me to get down to work. I took all the designs and models, and played with them in the studio. I used what I saw to make my own drawings, experimented, changed ideas, and had ongoing discussions with Rose and Gabe. The design had to use ideas from the kids, function, work with the site visually, and be within the budget, which was small. I

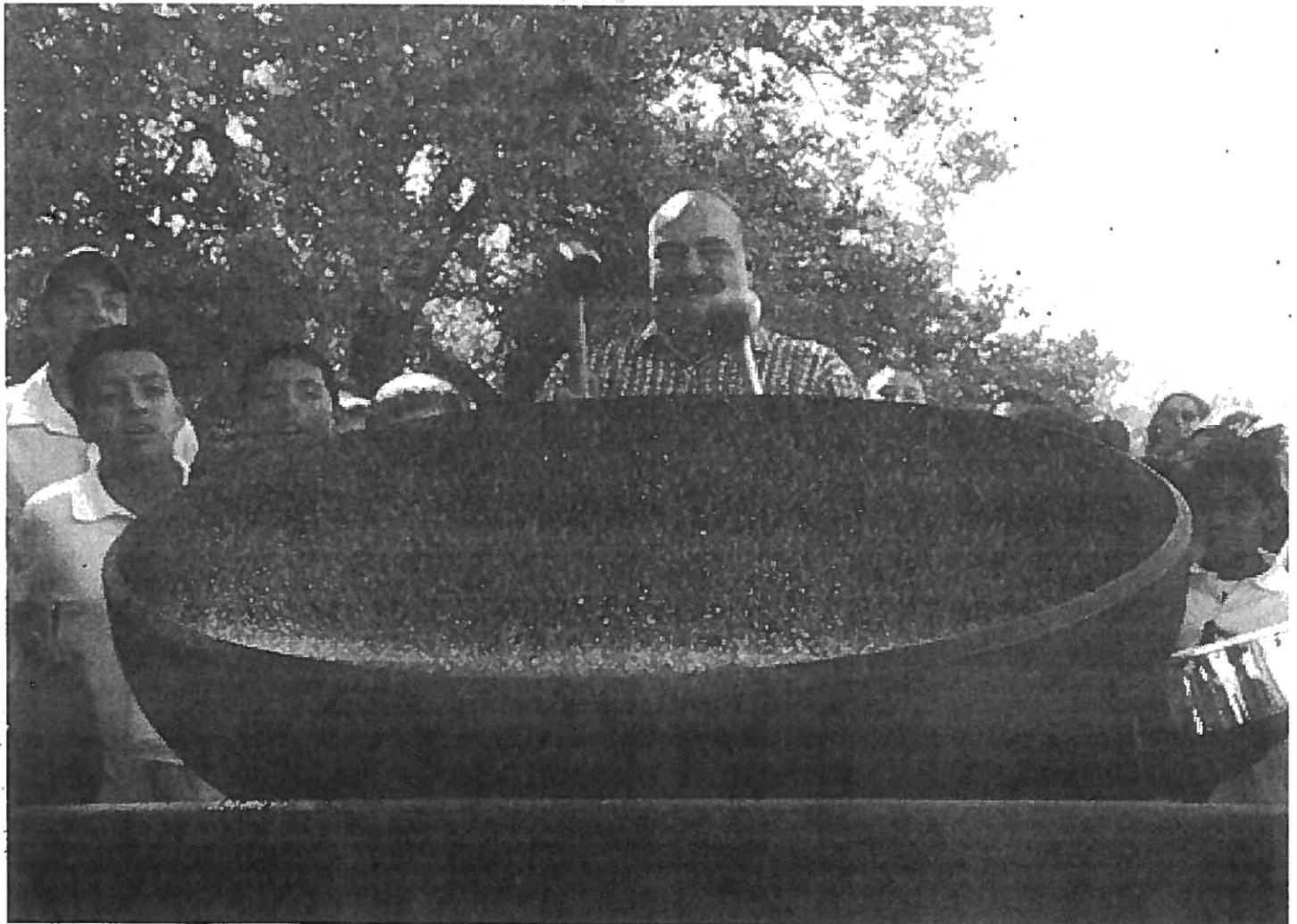
showed my drawings to a friend who is a master metalworker and prayed that he would say that it could be built. Unfortunately, it could not be done in the budget range. I thought that I would have to go back to the drawing board until he told me that there was a possibility we could use the ends of propane tanks for the bowl shapes. He called a friend in Phoenix and the next day we were in the truck heading south. The bowls were perfect: one was three feet in diameter, one four, and one five. Just what we needed. The world was working for me. It took a fork lift, a crane, two heavy-duty men, sweat, money, a lot of faith, and a dog, to fit the bowls in the back of the truck. I held my breath as the springs on the truck sank. It was a long journey home and of course we had not thought about how to get the damn things back out of the truck.

We did. It was a struggle, with a lot of pushing and shoving and my friend Rico's ingenuity. We moved the heavy bowls into various positions, poured water into the structure, watched it flow and eventually came up with technical solutions. The building process took a few weeks of change and discovery until we all agreed. During this time we explored the joy of using the

structure not only as a water catchment device but also as a musical instrument. The bowls worked like bells and depending how much water was in each bowl we could produce different sounds. The water would allow the vibrational patterns to flow through it, alchemically forming droplets that flew out of the confines of the bowl into the air. As we made many interesting discoveries I understood that we had designed not only a water catchment but also an incredible educational structure to show the magical properties of water.

As Rico was building the structure, Gabe, Rose, and I designed the landscaping and started to prepare the site. As we were doing, this I realized I had not taken into account how we were going to transport the structure into the wildlife area. The only paths were narrow walkways. The principal assured me there was a secret way through the deep weeds. I went ahead and ordered tons of rock and stone and gravel to be delivered to the site, and thought that the gravel truck would create the path for us to go in later with the smaller pickup. Little did I know that the gravel truck driver would arrive in a brand new shiny white truck and refuse to drive through the weeds because he might scratch

Composer/performer Frank Leto wrote a piece for the sculpture and performed it at the public dedication. Front row spectators experienced the refreshing power of vibrations in water as droplets on their faces (facing page).



his new paint job! So the tons of rock and stone were dumped at the edge of the sanctuary. Luckily we had a lot of kid energy to help us move the rocks laboriously one by one to the site. A wheelbarrow full of gravel was a challenge to the older boys, and we could not stop them, even at lunchtime.

After the site had been leveled and prepared, Rico and I loaded cranes and hoists and winches onto the back of a trailer, hauled it all down the highway to the site and prayed that we would not get stuck in the weeds. It took a long day of blind faith mixed with expertise, patience, and trust, to move the structure. We laughed and shouted and worked hard in the hot sun. Eventually it was placed solidly in position and we stood back knowing that we'd better like it, as there was no way to move it again.

Gabe and I spent time to finish the landscaping and organize the first group of kids to come and play. I knew we had created something special. The kids loved it, they were engaged, asked questions, and began to understand what they had been experiencing all summer in our workshops.

The dedication took place shortly after. The whole school came out carrying containers full of water. Frank Leto, a steel drum player, made a special composition to play on the structure, kids talked about their experiences working on the project, Rose

performed a water poem, the kids filled the structure with water, causing beautiful chaos and many smiles. The kids, teachers, parents, neighbors, two television crews, a newspaper photographer, two foals, a duck, a goose, and a rooster attended the event. It was a wild success.

I put a small book together with photographs, writings, and poetry from the kids. We found a little extra funding for Rose and Gabe to run workshops after school to create some poetry stones that will get placed in the walkway and we plan to keep adding to the project slowly. It could—and should be—one of those things that grows organically from the seeds we have sown. I hope that it will.

The mysteries of water continue. It has rained here in the desert and the water catchment structure has begun its process, singing and vibrating the patterns of nature. The cycle is running. The alchemy spreads. △

Chrissie Orr is an artist, anthropologist, activist, and animator. She has been a circus performer throughout Europe, a muralist in Corsica, and has been the creator of community-based art projects in Europe, Australia, Iran, Turkey, Mexico, and the US. She teaches in the Earth-Based Vocations course at EcoVersity.



Street Theatre in Bolivia Takes on Privatization

A Meeting of the Water Gods

Eve Tulbert

AS A COMMUNITY-BASED ARTIST in the US, I haven't thought too much about water. I don't have to. Every day I can turn on a tap, and fill up a glass with clean, fresh drinking water. All that changed when I came to work with Teatro Trono of Bolivia. I have found that for millions of people all over the world, water is both an everyday dilemma and a political struggle. Private multinational corporations are buying up water contracts all over the Global South. They invest in "blue gold" to turn a profit—at the expense of those who just want a bit of clean water.

So, is water a source of income or a human right? Who has a right to the control the water? Is it people, or profit, or perhaps *la Pacha Mama*, the Mother Earth spirit that gave us water in the first place? This is the dramatic question that sparks *La Asamblea de Los Dioses de Agua* (The Meeting of the Water Gods), a community-based performance piece by Teatro Trono.

Art of the excluded

Teatro Trono is more than a community theater group. It's a movement. "We want to break the myth that art and beauty are privileges of the rich only," explains Ivan Nogales, the theater's artistic director. Trono was founded ten years ago in the El Alto area of La Paz. The members began their work with street kids in the city's detention centers. Their style is physical, vibrant, and funny. It comes from a collective directing process in which all of the youth add their ideas to the final product. Their work focuses on the stories of everyday life in one of the poorest areas of Bolivia. Ivan always reminds the youth in his workshops: "Our everyday stories are as amazing as those of great works of literature!" With this philosophy, Trono founded a community arts center in El Alto that teaches theater, circus, dance, and visual arts to the children of the *barrio*. They use play as a way to speak on the social questions that surround them—gender equity, globalization, life in poverty, government corruption, and, now, water rights.

Like art, "water is not something to gain from. It's a necessity of life," says Nogales. This is the spirit that drives Teatro Trono to question the water policy that surrounds them. As artists confronted by the daily dilemma of water privatization, the group decided to create a mythology of water—a tale in which "water for profit" and "water as spirit of life" come face to face.

At the Miner's Plaza

All around the district of El Alto are lively public plazas. On a sunny Sunday morning, people congregate to shop, chat, and flirt.



Ancestral cultural traditions including public ritual and spectacle meet modern recycled materials and socio-political issues in Teatro Trono's work.

But the cast of the *Water Gods* is all business. From the theater's big truck, bicycles, drums, and masks are handed down to the ground below. The youth are busy readying their puppets. Curious children stand in awe. They watch giant colorful figures come to life before them. Luis Vasquez, a 16-year-old actor with Trono, shouts, "Hey where's the bag of nuts and bolts?" "Has anyone seen Saldumi's other arm?" It's hard to keep track of all of the body parts for seven giant Water Gods—especially when the cast includes 30 actors from eight to 25 years old! Half an hour later, the crowd gathers. Stray dogs settle down in the sun.

Women in indigenous dress sell *helados* and *pipocas* to the spectators. The crowd hushes as the music begins. Over a loudspeaker we hear the birdlike trill of a single *quena*, or traditional Bolivian flute. At first we see just a long blue sheet carried in by four young actors. The fabric lofts in the wind as they set it down onto the pavement below. There is a crash of drums and cymbals, and the actors begin to dance and sing. They mime washing clothes, brushing teeth, splashing one another, and taking a long cool drink. The actors transform the scene. We are now on the shore of a playful, rushing river. With another

drumbeat enters a very comic *empresario*. Vladimir, a young man of 20 years, transforms his body into a hunched and sinister businessman. He points at the river and asks the villagers, "How much is it?" Each one holds out a hand to accept a bit of money from this sinister businessman.

The *empresario* bunches up the river; it is now his own. The crowd of villagers enters again, now to ask him one by one for a drink of water. A girl takes off her golden earrings and hands them over to the *empresario*. He takes The World's Tiniest Cup out of his pocket and dips it into the river. All of the thirsty actors must share this little drop of water.

Selling the rain

Water is the stuff of life. Like air, sunlight, and sustenance, it is one of our most basic human needs. These days, water is also one of the world's greatest business opportunities. According to a recent report in *Fortune* magazine, "Water promises to be to the 21st century what oil was to the 20th." "Blue Gold" is a lucrative investment—everybody needs it, and it's impossible to refuse the seller. Fifty-six countries around the globe now have contracts with private, for-profit corporations to run municipal water systems. This growth has been largely due to the policies of the World Bank. The Bank gives developing countries special loans if they privatize more of their national industries. Contracts to run water systems are noncompetitive—they go to just six multinational companies worldwide.

This means that for billions of people in the developing world, every time we flush the toilet, brush our teeth, or drink a glass of water, a profit goes overseas to Britain, France, or the US. In some cases, water privatization leads to devastating effects. In South Africa, when a metered

water problems—not just access to drinking water, but sophisticated access to drinking water," says Oliver Barbaroux, chief operating officer for Vivendi Water Corp. But can a profit motive ever meet a basic human need?

He's a *maldito empresario*," says Vladimir, talking about the water salesman that he plays in the piece. He hunches his shoulders and sneers as he explains his artistic inspiration. "When I act this role, I think about an old boss that I had when I worked at a restaurant. He would dock our pay; he poured cold water on your head if you weren't working hard enough. This guy only cared about money—that's what made him so mean." Do the multinational corporations do much better?

What do the Gods say?

Fourteen-year-old Ximena Flores Vargas is sitting on top of a giant bicycle seat that's been mounted on top of a fruit cart. She's playing Lydia, Goddess of Amniotic Fluid. She's a character like Mother Earth, or *Pacha Mama* in Bolivian terms. "The first time I got up here, I felt terrified. I thought that I would fall. But now I can concentrate on my role—to be a good Goddess who protects the Earth!" She waves her arms, and the contraption sways

The oily empresario counts both the small change he doles out to buy water from the people and the precious drops he then controls.



... is water a source of income or a human right?

water system broke down, people gathered their water from polluted Lake Emshulatuzi. This led to one of the worst cholera outbreaks in African history. In Argentina, a private company dumps millions of tons of untreated raw sewage into the ocean each year—they're allowed to do so in their government contract.

The private companies argue that they can bring better technology and system improvements to Third-World water. "We are in the business of being professionals in water and in solving the problems of the electoral bodies who have the responsibility for the water. ... We bring new technologies to sophisticated demands in terms of

precarioously to one side. I ask her what she thinks of the play. "It's about the fight over water," she tells me. "We always get the water dirty. We see it as something to buy."

In the world of the play, the villagers and the empresario must face the consequences of polluting and selling the waters. They are transported to a magical place where the Gods of Water tower over them, deciding what to do. They meet an assortment of giant characters: Are, the Goddess of Reflections; Granizo, the God of

... it is easy to believe that flood and drought might be an intentional punishment from a higher power.

Ice and Hail; Negrón, the God of Pollution; and Botellón, the God of Trapped and Bottled Water. Different aspects of the nature of water take on different forms with bright costumes, artful masks, and towering puppets. The Gods decide that humans must face a flood and a drought. "It happens that way," explains Ximena. "Like sometimes it doesn't rain for a long time, and then it floods." Vladimir chimes in: "Just last February, there was a big hail storm in La Paz. There was over a meter of hail. There were deaths, and problems with the water system. It was terrible." In the countryside, the same torrential rains caused the worst crop devastation in years. With not enough to eat, many *campesinos* of the Andean highlands deserted their farms and moved to the city of El Alto.

The cities of El Alto and La Paz are built on the Choqueyapu—a convergence of 300 rivers. But you wouldn't know it from walking around here. Ivan's partner Ana tells me, "The rivers are covered over with cement. They run under the city, and they're polluted with garbage, chemicals, and dead dogs. These are the same waters that people have to use for their crops and animals downriver in the countryside. It's a shame."

With this kind of treatment of water resources, it is easy to believe that flood and drought might be an intentional punishment from a higher power. "Our experience with the water here in Bolivia—it's in our collective consciousness," says Ivan. "There's the privatization issue, but also the droughts, floods, pollution. We've learned that we can't abuse the water without repercussions." This is the driving force behind the Water Gods. The play connects the political and environmental struggle over water to the deeper, underlying forces in the natural world and in Bolivian mythology. Teatro Trono looked deep into its own culture and environment to collectively design the characters. "We were inspired by the indigenous beliefs of Latin America. We did research, we read tales, we visited the Lake (Titicaca). We wanted to know how our ancestors before us thought about this natural resource," explains Doris Mamani, company manager.

Members of the company developed puppets to reflect the different forms water can take—ice, rain, polluted waters, and the fluids of the human body. Together, and with the help of director Berith Danse and staff from Embassy Theater (based in Holland), they sewed, hammered, and welded these Gods of Water into life. As a spectator, one wouldn't guess that the Gods were made out of just nuts and bolts, scrap metal, old bicycle parts, and fabric found at a local market. They are, in a word, divine! Luis, an actor and puppeteer, talks about the process. "I constructed Saldumi; it's the tallest one. He's the God of All Waters—salt, mineral, and sweet." His friend Caleb adds, "It was a hard process. It took us two months to make the Gods. They started to break, and we thought we'd only make it through a few shows, but we learned how to fix them. The rehearsals cost us sweat, and the puppets cost us time and money."

For Caleb and Luis, 16- and 17-year-olds, the process of making the Gods was both spiritual and educational. "We've forgotten our traditions. We're alienated from our culture. But our Gods exist—every year there's a time of rain and a time of sun. This is where our Gods come from. We have to learn to honor them again," says Caleb. So, if there truly were spirits of earth and water, then, what would they say to the multinational corporations that are selling the world's water? From her high-up roost, Ximena tells me this: "If *Pacha Mama* could talk, she would tell us, 'Stop polluting, and stop selling the water,' but she can't talk, so we have to speak for her. That's why we made the play!"

Water wars fought in the streets

Out of the hundreds of water-system privatizations across the world, there was just one that didn't go as planned. This was in the Bolivian city of Cochabamba. Just six years ago, people took to the streets to protest the takeover of their local water system by

The violence in Cochabamba, just like violence in the play, reflects a deeper truth.

Bechtel, a US-based multinational corporation. In November of 1999, Bechtel signed a 40-year government contract to deliver water to the people of Cochabamba. Three months later, bills had skyrocketed so high that many families could no longer afford the water that they needed. So, they took over the town. "For a month, we lived in the street. We ate in the street. We slept in the street," recalls Felipe Mamani Callejas, a Cochabamba resident. Businesses, schools, and offices were all shut down. "The military tried to break our blockade, but we just made it again. I

wasn't afraid, because there were so many people behind me." For weeks, the Bolivian military used gas and rubber bullets to try to end the blockades. Many Cochabambinos were killed in the confrontation. Protesters played traditional protest music to keep the spirit alive. "We just kept blowing on our instruments so that we wouldn't breathe in the gases. As long as we were playing music, the tear gas didn't affect us," says Lenny Olivera of the Coordinadora de la Defensa de Agua. Several weeks later, the government gave in. They cancelled their contract with Bechtel, and turned the control of the water over to the Coordinadora and locally run citizen councils.

Back on the plaza, the huge Water Gods spin in circles, confronting one another and retreating. Their meeting has turned into a war. Loud clashes of cymbals, drums, and *rece rece* come from the musicians. The God of Pollution begins to rain acid upon the battlefield. Fire-jugglers and fire-spitters walk among the warring Gods, just missing the spectators with their flames. The *empresario* enters the scene, followed by a woman with the blue river wrapped around her shoulders. She shows the river to the audience in the style of Vanna White, and carries a "For Sale" sign. Suddenly, there is a din from the other side of the stage. It is the villagers who enter marching and waving imaginary signs. The *empresario* waves at them, and they fall to the ground with a crash. They rise again, and now the *empresario* lights an imaginary bomb and throws it to the crowd. They fall once again. But in the end, they rise and march. They are determined to take back their river.

The violence in Cochabamba, just like violence in the play, reflects a deeper truth. There is an inherent violence in taking a life-giving resource from those who need it. To deprive people of water is to deprive them of life. Perhaps that is why people were willing to risk their lives over the Bechtel water contract.

The Ending?

In the world of the play, the villagers are victorious. The river is spread out again across the plaza. The *empresario* returns to clean it up and then everyone takes a good, long drink. The crowd cheers. For many in El Alto, the story of the greedy *empresario* is all too true. After the performance, children gather to play with the huge puppets, and adults are heard engaging in conversation about water bills and government corruption. But what would it mean if this fantasy ending were the real life ending, too? "The Western model of privatization is wrong development. It's the wrong model. We've bought into some crazy ideas about progress, but there are ways to do it right," Enrique Hidalgo Clares explains his philosophy of right development to me as he shows me his work at El Poncho EcoCenter in Bolivia. "We're experimenting with other models. Like here, we collect our rain water from the roofs. We make a simple filter out of carbon to clean the water. For our raw sewage, we send that to this field that's a bamboo crop. It treats the sewage naturally." At El Poncho, they live in adobe houses, take showers heated by solar power, and drink clean water for free. And they do it all with natural materials, no pollution, and no profit for a multinational corporation.

Youth members of Teatro Trono are the playwrights, actors, dancers, musicians, set and costume designers in Meeting of the Water Gods.



This kind of right development is perhaps what the Water Gods are trying to tell us about. Luis looks up at his towering puppet Saldumi as he talks to me about the play. "Nature is the earth, it's Pacha Mama, it's the whole world. The Gods are very old. People saw their reflections in the water and the rain. They believed that they were in the presence of something magical. The stories of the Gods, they can show us the right way to live."

The stories of the Gods— they can show us the right way to live.

Epilogue

The Meeting of the Water Gods speaks to a larger question for environmental arts activism. In Bolivia, and in so many places around the world, it is clear to see what happens when multinational corporations and government corruption run rampant. The logic of capitalism measures and prices things that weren't for sale before—trees are felled, water is bottled, elements are mined from deep within mountains. More than that, human lives are measured in hours and wages—here in Bolivia, many people are just earning enough to live. Corporations tell the stories of "efficiency, technology, and development" when they describe their work.

Arts groups like Teatro Trono remind us of the spiritual value of the natural world that surrounds us. They remind us that some things must not be bought and sold. They teach us that, as artists, we can develop counter-mythologies. We can tell the stories that celebrate the gifts of the natural world, and the pricelessness of human life. △

Learn more about water privatization worldwide at Public Citizen, <http://www.citizen.org> Learn more about Teatro Trono by contacting the author: evetulbert@msn.com. Eve Tulbert is a Chicago-based theater artist and teacher. She will soon be an MFA student at University of Texas, Austin.

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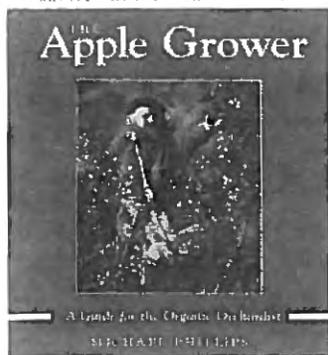
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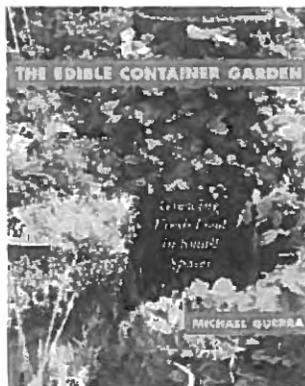


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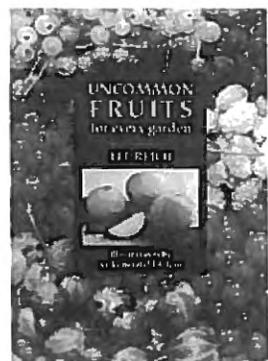
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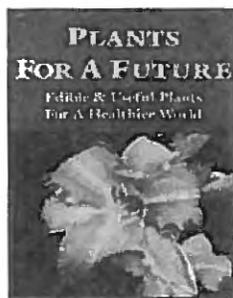
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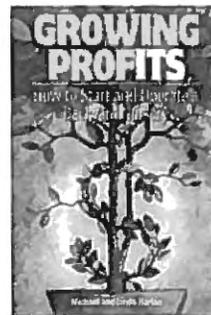
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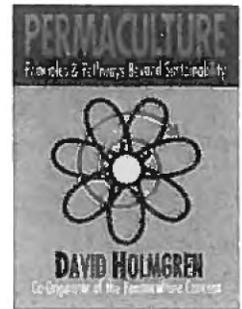
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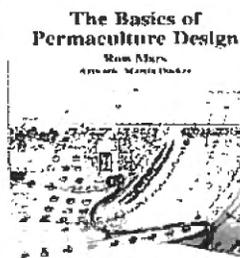
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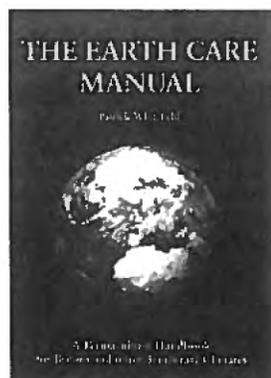
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T. Allan Comp, Ph.D.

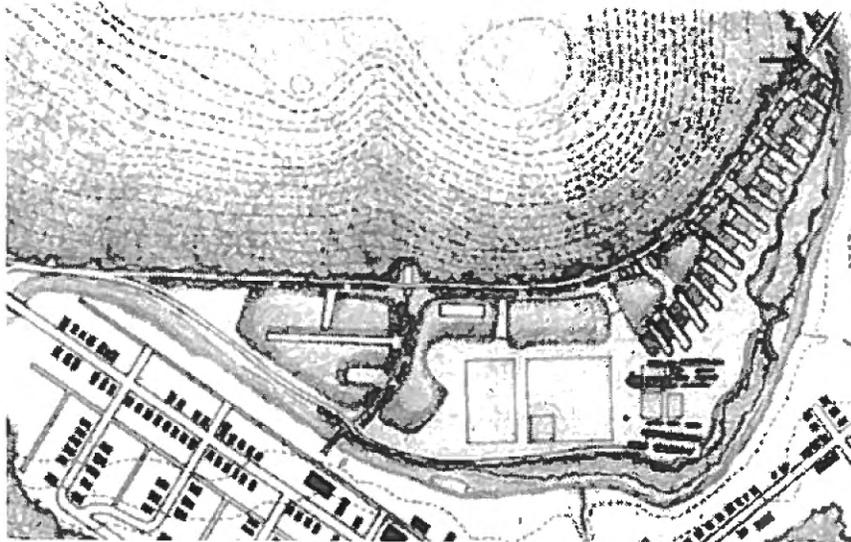
SOUTHWESTERN PENNSYLVANIA, like the entire Appalachian region, is an area of remarkable beauty. Unfortunately, residents and visitors alike can easily miss this natural splendor, blinded as they may be by the devastated environments, crippled economies, and abandoned peoples that are the overshadowing legacy of unregulated coal mining. In towns throughout Appalachia, mining prior to the adoption of federal legislation in 1977 created a huge environmental problem called Acid Mine Drainage (AMD). It is the most widespread water quality problem of the region, as well as a significant economic and social constraint.

Inside abandoned mines, ground water reacts with pyrite and oxygen, creating sulfuric acid that dissolves metals in the surrounding earth, mostly iron and aluminum. These metal-laden waters cause further problems as AMD reacts with air to create iron oxide. The familiar mineral coats stream beds, kills organisms at the bottom of the food chain,

abandonment that still exists in coal country, the silent orange signature of dying communities.

AMD&ART is one effort to confront this legacy in a way that honors a past of hard work and significant accomplishment while opening windows to community participation healing. We

worked brought together many disciplines to transform the typical negative expectations of this region through the creation of a large-scale, artful public place that directly addresses the problems of AMD and much more. Beginning our work in Vintondale, Pennsylvania, in 1994, we've established a model of holistic renewal that brings the perspective of history to mix with the discipline of science, the delight of innovative design, and the energy of community engagement. For me as Founding Director, each of these perspec-



The community of Vintondale, PA, where scientists, artists, and historic preservationists helped reclaim the devastated site of a former coal mine to purify water, re-generate soil, enhance wildlife habitat, and create commons.

tives or disciplines is necessary, but none is sufficient. Our strength lies in our interdisciplinary approach and in our determination to give artful form to community aspirations.

The deeper problem

While AMD is one of the more visible reminders of the legacy of "King Coal," it is hardly the only one. The physical remnants of old coal towns and the scars of pre-regulatory mining can be seen throughout Appalachia, but invisible to the eye is the disorientation created by the rapid closure of many coal companies in the years following WWII. For decades, in towns like Vintondale, the company was not just the employer of the miners; it was the de facto government and the center of the town's existence. When these companies went out of business, miners were left without work and communities were left abandoned, surrounded by environmental devastation and economic depression. When a mining company left town, the company store, the only store permitted to do business in the

The colliery's history and town's heart were buried under a wasteland . . .

and destroys the base for a healthy stream ecosystem. Often desolating entire watersheds, these rust-colored streams are the consequence of a proud past filled with hard work and dedication in an era that paid little attention to environmental consequences. Today, AMD is a painful reminder of the poverty and economic

town, also closed. The railroads stopped transporting passengers and cargo, leaving hotels empty and commerce at a standstill. Seeing this challenge reverberate through the hills and hollows of coal country, I resolved to do something about it, and brought together the team that started the AMD&ART project.

Sciences + Arts + Humanities = The Solution

Vintondale Mine No. 3 opened in 1899. It was one of six in the area operated by the Vinton Colliery Company, and one of the first in the country to use the newly developed "long-wall" method of mining. All are now abandoned. Long ago, Mine No. 3 filled with water, and the resulting Acid Mine Discharge, with high levels of iron and aluminum, had been polluting surface waters for decades when our team first visited Vintondale in 1994.

Worse than the toxic AMD, however, the spirit of the community itself had been ravished. In Vintondale, the colliery's history and the town's once busy industrial heart were buried under a wasteland. The colliery buildings had been demolished and the site was a dump. To add further injury, a Rural Abandoned Mineland Project in the early 80s covered seven acres with raw bony, leaving a large expanse of the waste coal four-to-eight feet thick in the center of town.

When we visited Vintondale, Jeanne Gleason and I realized that AMD is more than a purely scientific problem, and that its solution would require thinking from many disciplines. We assembled what the lead scientist humorously named Team SPLASH (Sustainable Partnership of Landscape Architects, Scientists, and Historians)—to explore with Vintondale area residents some new opportunities for innovative AMD treatment.

Out of these discussions we conceived of a park that would restore the town's heart and history while purifying its polluted waters.

The photos on this and the facing page show (from left to right) The Vinton Colliery and Washery in 1906, an overlay of the old Colliery on the reclaimed land, and how the site looks today.



Vintondale's AMD&ART Park is about more than just treating water, however. It is about restoring the whole community, preserving the past, and building towards the future. Throughout the creative process, from conception to design



In addition to pollution caused by the mines, after their closure the site became a default garbage dump, compounding the challenges of cleanup. Active springs and creeks spread the devastation far downstream.

development to the present day, the community has been deeply involved. This generates a communal feeling, and has helped the AMD&ART Park enjoy broad public support. Through the years, many residents have contributed their time and energy. Without this assistance from the town and local community groups, AMD&ART would never have been possible. It is only through continued community support and the involvement of each generation that the park, with its living history, will endure. We see this already as the old tell stories inspired by images found in art on the site, while the young listen, learning from the past.

The story of renewal can be told many ways, but it rests on remediation of the poisoned waters. We wanted to clean up the Acid Mine Drainage using a biological treatment system, relying on natural processes to raise the pH and remove the metals. This



type of system has several benefits, including low overhead and maintenance costs. Passive treatment systems, where polluted waters flow through constructed wetlands and other organic filters, provide more opportunities for creative design as well as for historical, natural, and scientific understanding.

To help tell the story of life returning to the streams and the hills, we designed the treatment system, indeed the entire site, as a piece of art—a place and a process that could give form to community aspirations. More specifically, public art pieces throughout the park provide historical perspective and an art—full celebration of sustainable community development in Vintondale. We hope AMD&ART will serve others as a catalogue of ideas and a source of inspiration that will stimulate projects like AMD&ART in other coal towns of Appalachia and beyond.

A Park that Purifies

The AMD&ART Park occupies 35 acres of mine-scarred land, once the Vinton Colliery. Apart from the Ghost Town Trail and its 80,000 annual visitors, the site, from the 1980s on had been a vacant plain of black bony (toxic waste coal) and scrub growth. Today, the eastern section is comprised of the AMD treatment system and Litmus Garden, easily distinguished by the series of treatment cells or ponds. The western portion of the site contains the History Wetlands, once the site of the colliery—whose foundations still remain—and now a rich wetlands habitat. The lower section of the site, nearest the town, is an active recreation area still under development by the Borough of Vintondale. There, AMD&ART has completed the access road, the fields, and a pavilion, but the Borough Council hopes to bring electricity and much more to this new community asset. Our Education Center, occupying an old building that was once the Hungarian Reformed Church, is the closest structure to the western entrance of the Park.

The entire site, from the creation of its plan onward, has been a work of collaboration between the arts and the sciences. The Park also includes three individual art installations, also created by collaborative effort. The Mine No. 6 Portal addresses the underground labor of generations, the Great Map, just across the

Trail from the Portal, addresses more of the community's history, and the Clean Slate Project celebrates the return of clean water to the river.

The treatment system

The Acid Mine Drainage we treat is piped from the opening of Mine No. 3, across the old railroad bridge at the west end of the site and into the first pond or cell, which we call the Acid Pool.



The Acid Pool is a collection point, the beginning of the AMD treatment system. The discharge flowing from the mine is slowed down as it enters the pool. There, the limestone lining of the pond is coated with iron oxide, the red-orange AMD sediment serving as the reference or datum point for the beginning of our treatment system. Really just a holding pond for the AMD entering the treatment system, the Acid Pool gives us the chance to explain how AMD is formed and what can be done to remediate it. Once the AMD leaves the Acid Pool, the actual treatment begins.

Ponds Two through Four are wetland treatment cells. Plants and compost in the ponds slow the water and promote biological activity, making the water less acidic, and allowing the metals to settle out. There are three wetland treatment cells here to assist in the removal of metals, especially aluminum.

Within a very few years these three ponds will fill with cattails and other aquatic herbs that grow in summer, die in winter, and thus provide the decaying material needed to help change acidity and allow suspended metals to settle out of the AMD. While many sites with higher pH levels in the AMD find it possible to use wetland treatment cells alone, here the pH is so low (acidic) that additional treatment is needed to clean the water.

The fifth pond in the treatment system is a Vertical Flow Pond, also called a Sequential Alkalinity Producing System, or SAPS. Below about two feet of water are a thick layer of organic material and then about four feet of limestone. The bottom of the pond is lined with numerous drainage pipes. AMD flows through the layer of compost where it is stripped of oxygen by the





An aerial photo of the site and perilously close community during the mine's active days.

decaying organic material, then through the thick limestone layer, significantly raising its pH without depositing any metals, and finally out through the bottom discharge pipes into the next pond. This vertical flow process helps to prevent iron and other metals from coating the limestone, making the AMD treatment system more efficient and long-lasting.

As it exits Pond Five, the water flows through an aerator and thence into the sixth and final settling pond. Exposed again to oxygen, the remaining dissolved iron oxide precipitates out of the water leaving it free of metals and at a neutral pH. The water exiting this pond is clean. It enters the system at a pH of approximately 2.8, laden with toxic levels of iron and aluminum; it exits at a pH of about 6.5.

The Wetlands

Constructed on what was once the site of all the major Vinton Colliery buildings, the History Wetlands covers over seven acres. To build the wetlands, AMD&ART had first to remove hundreds of tons of waste coal that had been dumped over the entire area several feet thick. It took a complex partnership with multiple agencies to bring our History Wetlands into existence.

After the AMD leaves the final treatment pond, the now-clean or "legal" water is used to create the seven acres of new wetlands. Here, where black bony once barely supported scrubby grasses and stunted trees, the new wetland environment is attracting a variety of birds and wildlife, as well as human visitors. Here the past is most tangible, as the footprints of the old colliery buildings rise from the wetlands, ghostly reminders of a doomed industrial landscape. Our intention was to bring Vintondale's history back to the surface, to celebrate both its proud past and at the same time affirm its future commitment to environmental repair. All three of the site-specific installations—the Mine Portal, the Great Map, and the Clean Slate—are located in this area.

With the treatment system and wetlands completed, AMD&ART has in recent years turned its full attention to the proposed recreation area. Today, the Vintondale AMD&ART Park sports a new multi-purpose, four-acre recreational area that

is capable of hosting soccer, baseball, football, and many other outdoor games. Closely reflecting the aspirations of the very first design meetings with the community, the park is rapidly becoming the new social center of Vintondale, bringing new pride and new activity to the community. The recreation area has given the community a new/old place to gather and host outdoor events for people of all ages.

Once a locus of destruction and neglect, AMD&ART has become a valued commons in Vintondale. We hope that it stands as an example of the power of community, the arts, and the sciences to transform the environment and ourselves, leaving a positive legacy for the future. △

T. Allan Comp, Ph.D., worked for many years in cultural resources with the National Park Service before pursuing a career in historic preservation. While working for a regional Heritage Area in Western Pennsylvania, he invented AMD&ART. In addition to AMD&ART, he leads the OSM/VISTA Team and Brownfields Initiatives at the Office of Surface Mining in the U.S. Department of the Interior. For more information about AMD&ART, visit www.amdandart.info.

VISTA Volunteers Support Watershed Health

AMD&ART staff has always included AmeriCorps and VISTA volunteers, and Allan Comp directs an OSM/VISTA team called the Appalachian Coal Country Watershed Team. Today there are 30 OSM/VISTA Volunteers serving Alabama, Maryland, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia, supplying fresh energy, inspiration, and leadership to the local watershed organizations they serve. The work they do is as varied as it is impressive. It includes monitoring AMD treatment systems, collecting and analyzing water samples, enhancing wildlife habitat, conducting experiments, writing reports, preparing grant proposals, producing educational materials and school curricula, planning public events, fostering public awareness and participation, and occasionally starting other AMD&ART-inspired projects. The OSM/VISTA volunteers are often new college graduates who become powerful advocates for environmental issues and community redevelopment in their regions, bringing renewed optimism and strength to Coal Country. The results of their work are profound and reverberate deeply throughout Appalachia. For more information about the Appalachian Coal Country Watershed Team, visit www.accwt.org.

Art Rooted in the Land

Living Willow Placemaking

Josho Somine

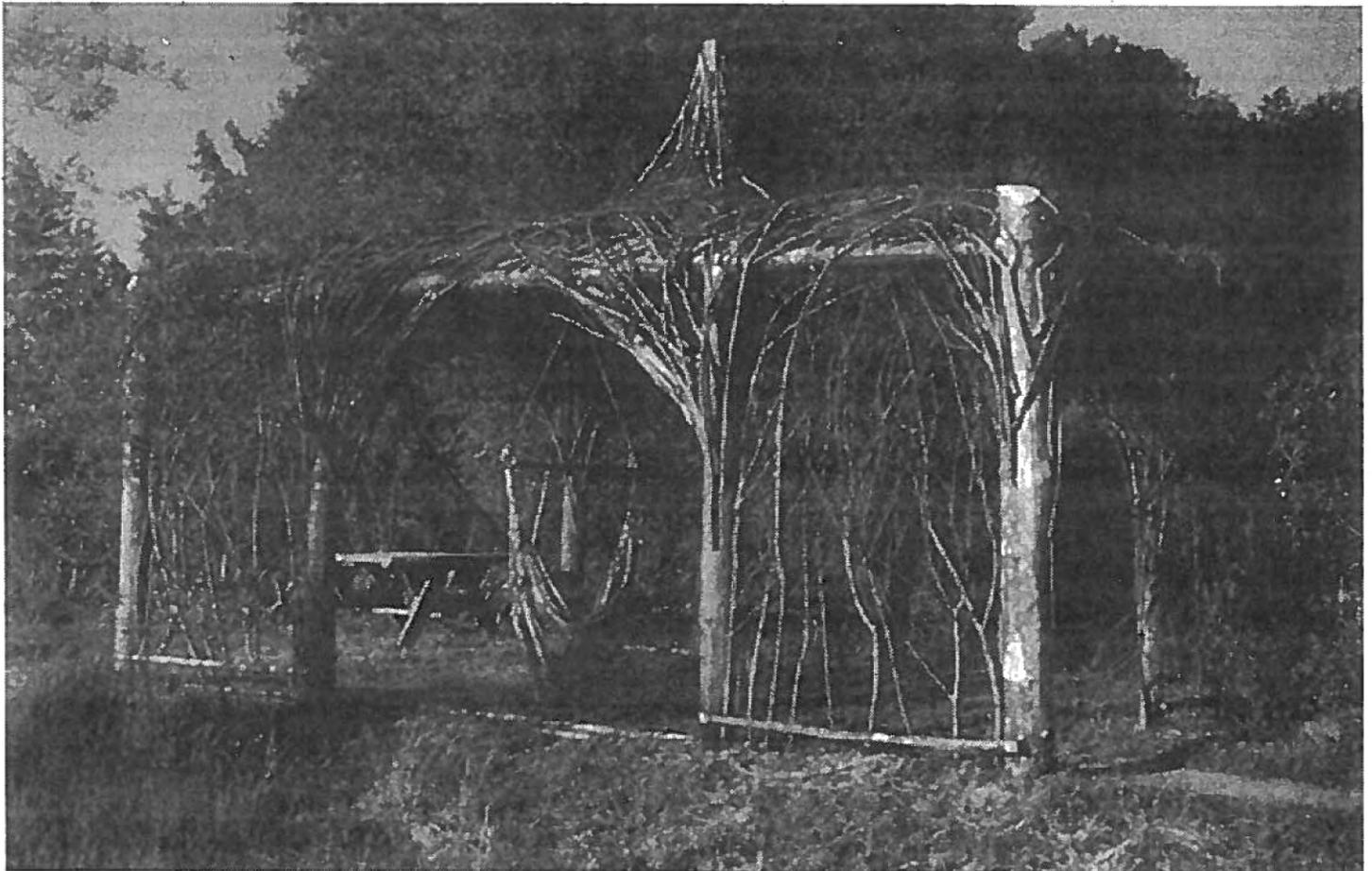
IF SUSTAINABLE CULTURE IS GOING TO ENTICE enough people from the modern industrial world to turn the tide of destruction, it needs to be beautiful and inviting. When Bill Mollison said that permaculture design is about function, not aesthetics, he was overlooking this important function of aesthetics: beauty entices, and visual order makes structures and patterns more clear. The results of Mollison's bias emphasizing function over aesthetics can be seen in many an overgrown, illegible permaculture garden.

That was the biggest lesson I learned when, after finishing my design apprenticeship, I built a teaching garden at a high school for at-risk urban youth. The landscape was very productive, but it

wasn't very clear or inviting to the uninitiated. Therefore it was little appreciated by those who didn't already have experience with permaculture. As a food garden, it was a great success, but as a teaching garden, it remained somewhat lacking. While trying to bring the students into connection with the garden and its processes, I built several sitting spots into the landscape, working with branches cut back from the invasive eucalypts at the edge of the site. This practice of making human-scale places in the landscape from branches that would otherwise be unused has gradually become a central part of my work as a sculptor. It is also one of the most popular workshops I teach.

Just about any fairly flexible branches will do, but willow

A whimsical shade structure, hammock shelter, and picnic area sits pond-side at Occidental Arts and Ecology Center in Northern California.



trees have become my favorite source for many reasons. They are native to most temperate parts of the planet, and grow vigorously in coastal, riparian, and many other moist areas. Their abundant clumps of branches benefit from being thinned regularly. The branches are an excellent material for making baskets, furniture, and small structures, and they are so vigorous that if you just stick them in the ground and give them enough water, they can sprout into whole new bushes and trees. This means that any thing you might build from willow, like fences, borders, archways, arbors, and benches, could be living and growing structures. These living structures draw you into an intimate, long-term collaboration with both the plant and the site, and have quite a special poetry to them.

Living willow work is a well-established tradition in England, where artists such as Mick Petts have been making sculptural and educational installations from willow for decades. A good all-around book on the subject, *Living Willow Structures* by Jon Warnes, is published by Search Press out of England, and is usually easy to order from a good bookstore. This kind of work is starting to show up in some gardens, landscape architecture, and in the work of some artists in the US, but it remains a pleasant surprise to most people.

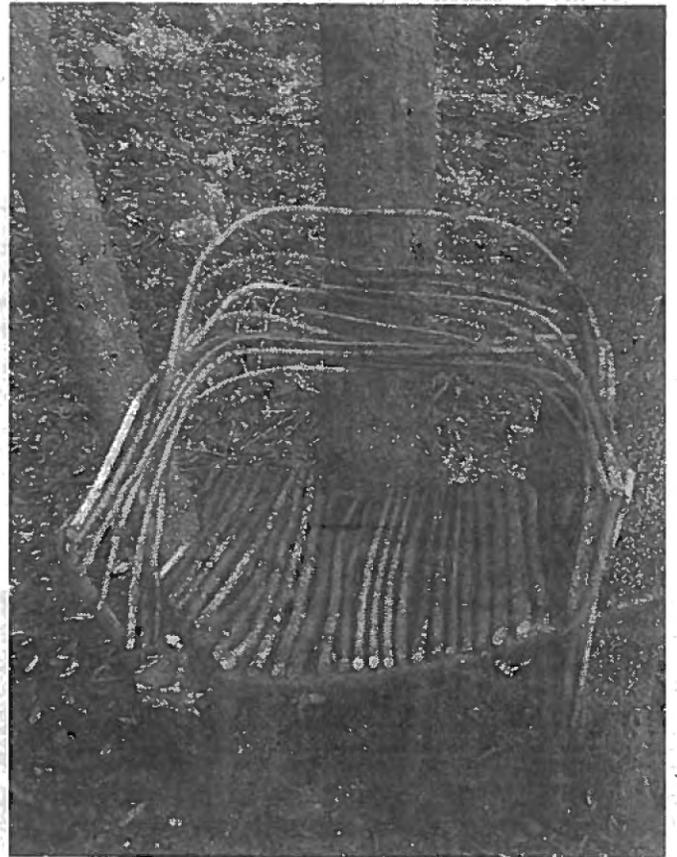
Building a living bench

Over the years, I've developed a simplified, functional, and evocative bench pattern that lends itself well to different sites and populations. With a few techniques and an assortment of tools, just about anyone can make a living bench. First you need 30-60 willow branches, 10' or more in length, and mostly straight, with minimal forking and few thick side branches. This kind of growth is about 3-5 years old, and is to be found at the edges of established clumps of willow, or in openings in the middle of the thicket. In some rural areas, willows line the ditches at the sides of the roads, and are cut back every few years when they grow towards the traffic; this makes perfect material for the living willow harvester.

These living structures draw you into an intimate, long-term collaboration . . .

Most of the material you want is 1/2" to 1" in diameter, and easy to harvest with some pruning loppers. But you will need some thicker material for the bench posts, at least 6-8 pieces 3' (1m) long by 1.5" (4cm) diameter, and to cut these may require a small pruning saw. After harvesting your load of branches, trim off any small side shoots and leaves with hand pruning shears, leaving a single long flexible shoot called a "whip." If there are any forked branches that have sculptural appeal, you can leave them forked, but you want the bulk of the material to be simple whips.

To put the posts in, you need to make holes with a good metal stake. I use a piece of 1.5" thick steel pipe about 3' long, with its end cut at an angle. Pound it 12-16" (30-40cm) into the ground with a small sledgehammer, wiggle it a bit, and pull it back out. Then you can push your post piece (the 1.5" by 3' sections) firmly down into the hole, pounding a little with the hammer if need be. The posts shouldn't be more than 18" (45cm) apart



Somine built this sturdy forest seat into a triangular space between fragrant bay laurel trunks.

sideways, and 12" (30cm) apart front to back. So a 3' (90cm) wide by 2' (60cm) deep rectangular bench would need about nine posts. I often do a crescent or half-circle instead, which needs fewer, and rarely make something bigger than a cozy loveseat for two or three people, since I feel that humble intimacy is a part of the aesthetic I strive for.

Once all the posts are in place, cut them off at the same height. Sixteen inches (40cm) is the standard height for a chair seat, so an inch or two (2-5cm) shorter than that is about right. Pick one post to be your guide, and transfer the mark from it to all the rest, using a bubble level, string level, or water level. Trim them as flat and level as you can, using a small pruning saw or large pruning loppers (the loppers made by Fiskars, with Finnish steel and gear teeth for leverage, pack the most power for their size).

Now you can start to add on the crosspieces. These are trimmed from branches about 1" (2.5cm) in diameter, and should stretch across the entire front edge of the bench, the entire back

edge (which is curved if you're doing a crescent), and be anywhere in the middle of the bench where the span between front and back is greater than 12-14" (30-35cm). They can extend a few inches out to the sides, past the tops of any posts, if desired for the shape of the bench. Note that you can bend these pieces somewhat if that's needed to reach a post or make the curve. Also, if any of the posts have a bit of wobble to them, you can usually pull that tight as you attach the crosspiece.

... humble intimacy is a part of the aesthetic I strive for.

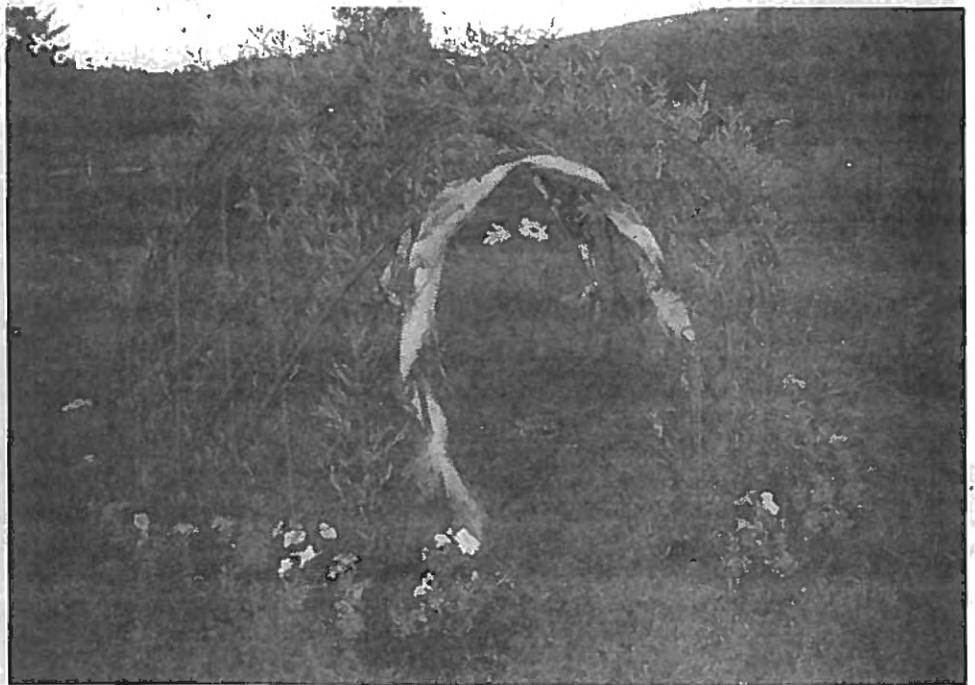
Crosspieces are attached to the posts with galvanized nails or deck screws, about 2-2.5" (5-7cm) long. It is very important, however, to pre-drill holes for all nails and screws, with the holes slightly larger than the shaft of the nail or screw: This is because the green wood of the fresh-cut willow is going to shrink, and would split around the metal nails without such a hole. The holes should be about 1/2" (1cm) shorter than the nail, so that the end of it bites into the wood. My favorite fasteners are galvanized finishing nails, but for some larger branches you may need screws to be sure of the connection.

Once the crosspieces are firmly in place, defining the edges of the bench shape, you're ready to do the seat slats. These are cut to size from branches about 1/2-3/4" (1-2cm) in diameter, and run from front to back atop the crosspieces. Attach them to all the crosspieces with galvanized finishing nails (maybe smaller ones than you used to attach the crosspieces to the posts), pre-drilling each hole with a diameter larger than the shaft of the nail but not larger than the head of the nail. If you want to be thorough, you can tap the nails under the surface of the wood with a punch. Then you should cut each one off smoothly flush with the front edge of the bench, and approximately flush with the back edge, using the loppers. (It's much harder to do this if you leave them all till the end.)

The slats can have a bit of space between them, but not more than their diameter. Since the wood won't be universally straight and uniform, you will have a bit of puzzle-piecing to do along the way. Some wiggle here and there adds to the charm of the bench, but you should try to match the diameters of adjacent pieces to

each other, so the bench surface won't be too bumpy. You should also put slightly thicker slats in where the span between crosspieces is longer, and can use skinnier ones where it's shorter. Remember that the wood is very bendable, so you can straighten out a curved piece if need be, but too much tension might pull it off the nail. When all the seat slats are in place and trimmed off, making an even seat surface, it's nice to add one or two more horizontal pieces along the whole front edge. This makes a good, clear visual accent and also covers the ends of the slats so they don't poke at your legs when you sit down.

Now the real fun begins. Spread out all the whips and forked branches you have left, so you can get a good look at the range of possible forms in your palette. These will define the back and sides of the bench. Start with a long, simple whip, and make a stake hole for it next to one of the corner posts at the back edge of the bench, but at an angle pointing toward the other end of the bench. (Note that you will need a skinnier stake for these whips—the 3/4" (2cm) solid metal stakes for concrete formwork that are sold at hardware stores work very well.) The whip will go into the hole at an angle, and then bend over into an arc along the back edge of the bench. You should nail it to any posts and crosspieces it crosses, and can tie off the end either to the edge of the bench, or to another whip set in at the opposite angle.



Living building materials enhance the quiet intimacy of outdoor spaces.

You will need several whips on each side of the bench, arching towards the other side. After you've sketched in the shape of the back with the first few branches, the rest will go in to fill the spaces, and will get easier to fix in place as they weave in amongst the others. You can tie them off to other branches if need be, using twine or wire. You should note, however, that since the lifeblood of the living branches is in the underbark of the cambium, wrapping wire too tightly around a branch causes

much more damage than putting a nail through the middle. If I need to wire a branch, I'll usually use soft copper wire and not tie it too tight, so the branch can push its way out as it grows. You can bend them only a certain amount before they break, but can always replace a broken branch with another one. Keep adding in branches until you run out, or until the structure feels firm enough to lean against while seated. These benches can be amazingly comfortable, and strikingly lovely.

...be mindful of the season in which you do the work.

The back and sides of the bench are where the sculptural forms of the branches can really shine. A few forked branches can go upright along the back, and send their branches out towards each side. Skinnier curved branches go well as armrests, staked in at the front corners of the bench and bent towards and around the back. Try to find a placement where any funny-shaped pieces complement the overall pattern, rather than trying to force them to be other than they are. And remember not to strive for too much control over the details of the form, since it will be growing out differently next year, anyhow!

There are several things to think about if you want your living bench to grow well. Willow, being essentially a wetland plant, likes it pretty damp, especially if it's just been cut off its mother tree. If you're placing the bench somewhere that isn't naturally soggy, you need to plan for its irrigation, at least until the next rainy season. A mulch-filled swale along the back perimeter, maybe with a soaker hose in it, is a good minimum gesture. You should also be mindful of the season in which you do the work. The best time to cut the willow is in the late winter, when the leaves are off and the trees have been dormant for a while. The best time to plant the structure is by early spring, before the new year's budding and leafing out has begun. The more you deviate from this ideal timing, the more care you will need to give the newly planted bench until it has taken root, which might not be till next Spring. (And of course it would be imprudent to plant the willow where its roots would compete with a vegetable bed or house foundation.)

Finally, there's planning for your living structure's growth and develop-

ment. If you've done the planting well, the back and sides of the bench, as well as the tops of the posts, will start to sprout leaves and shoots within a few weeks. These shoots can be woven into the framework of the structure as they get long enough, or cut off if they diverge too much from the overall pattern. With care, the structure can get stronger and stronger each year. In addition, crossed branches may graft with each other, making it stronger still—you can encourage this by nicking off the outer bark on each branch where they touch, and tying the spot together with twine or tape. The seat slats and crosspieces, which are not planted and won't sprout, might need to be replaced here and there after a few years as they get brittle.

The willow will be dwarfed by its tight planting and weaving, but it still wants to be a small tree, so the benches can easily become their own bowers within several years. I've found that if you shape your structure so that it creates forms with a lot of surface area, the tree tends to be fairly agreeable. And of course it will grow the most at the edges, where there's more light. Starting one of these benches is the beginning of a long-term stewardship relationship, which is exactly what we're trying to develop and promote with permaculture—just be sure, that if you're doing one at somebody else's site, they understand that!

Further Possibilities

I've found these benches to be one of the easiest and most evocative projects to do with willow, and they've been well received at a number of sites. I like to let each one be unique, shaped to the individual place and the particular branches used. Several other kinds of small bentwood trees incorporate well into

Kid-sized structures invite exploration and create a direct connection with the earth.





The structures take root and grow, becoming a comfortable place both to view the landscape and to be part of it.

I continue to make art as a primary means of spreading the word about permaculture . . .

such benches—hazel is great for sturdy non-living members, and dogwood is beautiful for accents and will sometimes also sprout. They are especially good in school gardens, where a long-term collaborative relationship with nature is exactly what we're trying to teach. A *Pattern Language*, the bible of alternative community design by Christopher Alexander, et al, also has several great suggestions about where to place seating in a human landscape.

Living willow also lends itself to woven domes, bowers, archways, and fences, which are well outlined in Warnes' book. Non-living willow, too, has great versatility as a building material—I once built a 12' (3.5m) onion dome I could stand on top of, from a network of woven

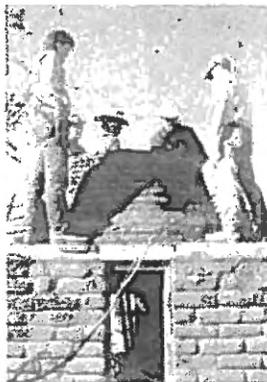
and wired branches no bigger than 1.5" (4cm) in diameter. Its potential as sculptural lath and wattle on timber frames is wide open, and largely untapped.

I continue to make art as a primary means of spreading the word about permaculture, because I feel it communicates more deeply and resonantly than any lecture, slideshow, or text. A sculptural,

sustainable space has a very special feel to it, one that just can't be duplicated by modern materials and methods. Once you get hooked on that feel, you're pretty committed to walking an ecological path. There's also a great deal of ecological work out there in art history, and its discourses—many bioremediation projects have been done as public art, and the Green Party was founded by a German conceptual sculptor! All of these tools are available to the permaculturist for aesthetic and cultural activism, and should be used whenever possible. If we make it beautiful enough, they will come! Δ

Joshio Somine is a sculptor native to Northern California. He has been studying and participating in permaculture since 1997 and has worked with sites and communities nationally and internationally, including Earthaven, Occidental Arts and Ecology Center, and the Lama Foundation. He currently lives in Seattle, where he is studying landscape architecture and he can be reached at joshio23@yahoo.com.

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Where Permaculture Meets the Performing Arts

The Body as Zone Zero

Nala Walla

AS MANY OF US KNOW, the field of permaculture is overflowing with talented and creative people. It is perhaps not surprising, then, that the word culture is so prominent in the name of our movement. In fact, so much open-mindedness and creativity is required of its practitioners that permaculture may be considered an art form in itself. Yet, the reality of so many creative people trying to work together on a day-to-day basis presents one of the central challenges of permaculture: how do we get along? If we are to serve as midwives for an emerging sustainable culture, how do we avoid wasting precious energy on intra-community friction and conflict? Since our personal and social health is a precondition to efficient progress along the path of sustainability (or any path, for that matter) how do we tend to this health?

The answers to these questions are intimately related, as they have always been, to the arts. Because the arts foster healthy connections between community, self, and Earth, they have a central role to play in permaculture designs and village building efforts. As an artist working within the sustainability movement, I am particularly interested in highlighting and creating meaningful dialogue around this exciting and juicy topic: how can we specifically address and nurture an art of permaculture that transcends outdated separations between the arts and sciences, allowing them to cross-pollinate freely?

Connection prevents collapse

There is an astonishing diversity of talent on the permaculture palette—from visionary designers, philosophers, and teachers, to roof thatchers, grafters, and herbalists.

Yet, a study of permaculture principles tells us that diversity in and of itself is not sufficient: for any system to achieve true stability, resilience, and health, meaningful connections must exist between the diverse elements of the system. This stability principle (1) is as applicable to human socio-cultural systems as it is to a garden or a watershed. A rainbow of color alone does not ensure a beautiful painting unless there is an artful and harmonious blending of those colors.

We have unfortunately seen many intentional communities collapse, not because they lack proper gardening techniques or competent solar electrical system design, but because unresolved interpersonal conflict can slowly poison a project from within. Groups can have extremely high levels of skill and motivation, but if they have no history of creative play and celebration to encourage connection and social revitalization, they often end up with the “activist burnout” syndrome. This situation can be remedied by resurrecting buried customs of gathering for festival, ceremony, and performance. Through participatory and collaborative art play, the body-based arts help us to redefine and custom-tailor our own rituals to suit current needs.



For the author (pictured), the study and practice of both permaculture and the arts begins at home in the body.

The body-based arts: Body remediation as bioremediation

We use the term body-based arts to refer specifically to those arts that require no canvas, camera, or any other tool besides the human body. Improvised theater, song, dance, martial arts, yoga, and storytelling are immediate arts, meaning both that they are happening now, and that no media are needed to translate between the artist and the art. Since the involvement of media can often mean prohibitively high cost of materials, and translation risks censorship, immediatism (2) can be an extremely valuable quality—especially when considering today's runaway corporate advertising and media.

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The body-based arts offer their practitioners a very direct, experiential method for understanding nature, its spirals, cycles and harmonies, its rhythms and sequences being literally incorporated without first being filtered by the rational brain. After thousands of years of intense rationalist focus on science and intellectual achievement in Western societies, this perspective is sorely needed. And, anyone who has a body can participate, at no cost, at any time. In a world where almost everything has been turned into a commodity to be bought and sold, these free arts are a rare gift.

It becomes more and more apparent each day that human beings will be required to deepen our understanding of Earth's processes, and harmonize with these processes if we are to thrive on a long-term basis. Since our bodies are quite literally made from (and of) Earth, the body-based arts provide us with a way to connect to the Earth without intermediaries—we simply consult our own bodies, thereby reducing the risk of information being lost in translation. This direct line of communication with the Earth is invaluable to permaculturists, and to the flow of communities to which they belong.

The body is the Earth

The basic building blocks of Earth and atmosphere—carbon, water, nitrogen, oxygen—are the same that comprise our own blood and bones, our breath and our brains. Our shedding hair, skin, tears, and eventually our entire bodies are all returned to the Earth where they break down again into these same elements and are recycled over and over.

Interestingly, an etymological inquiry into the word Earth reiterates this basic knowledge. The modern English word Earth shares its root sound “-er” with other words in our Indo-European language family that mean “to exist” and “to be.” We recognize this sound in the Old English word “eart” or “art,” as in “thou art,” or the Spanish word *ser*, which means “to be.” Over time, the roots evolved into the sounds “-ergh” and “-orgh,” recognizable in the Greek word *orkheisthai*—“to dance”—and the word orchestra in English.

Thus, when we utter the word for the living, planetary web within which we make our home, we are speaking aloud the sum of linguistic history, affirming the knowledge that our very existence is intimately related to Earth. When we dance and make music, we are actually describing, reflecting, and participating in the processes of Earth, and gaining a profound understanding of them.

Art is not a luxury

“Ritual is a tool that allows us to think not only logically, but analogically, and ecologically.”

—Dolores LaChapelle (3)

In indigenous and non-industrialized societies all over the globe, festivals, celebrations and rituals of all kinds are always part of life. Dance, music, theater, song, and storytelling are not mere frivolities. On the anthropological stage, they are cast well in their roles of social lubricant and tonic, purposes that are crucial to the health of any social species.

By emphasizing and reinforcing cooperation, harmony and symbiosis, art gatherings that involve music, dance, and performance help to bind the group together. Because they are body-based and participatory, these gatherings have a profound ability to dissipate tensions both within the body and between people. And, importantly, they serve as a method for people to explore a sense of union with natural cycles, patterns, and time scales that are simply too vast to understand rationally. The way humans use the arts to harmonize physically with each other and recalibrate our behavior with an ever-changing world can be considered a type of therapeutic experience that is indispensable to social health and sustainability.

No-tech is the new high-tech

Marshall Sahlins' *Stone Age Economics*—a fascinating exposé on the economic activities of indigenous groups from the Kalahari to Tierra Del Fuego—indicates that most of the waking hours in tribal life are spent in social and leisure activities: talking with neighbors and visitors, napping, dancing, singing, copulating, and making music. Sahlins achieves a staggering upending of popular belief by documenting peoples worldwide who accomplish all “work” in just a few hours each day. (4) It seems our Paleolithic past—which accounts for roughly 99% of human existence—may not have been as harsh and brutish as we moderns suppose.

Sahlins' studies suggest that so much time is spent in social activity, creative arts, play, and rest precisely because these activities are crucial to human health and well-being and, therefore, to sustainability. Cultures overly focused on scientific, intellectual, and technical achievement tend to devalue these

Improvisors learn to value their "edges". . .

important activities, resulting in a myriad of energy-sapping social, mental, and physical ills. Ironically, the abundant leisure promised by technology seems always to elude us in techno-industrial societies, but is actually achieved in low-tech gatherer-hunter societies, whom Sahlins calls "the original leisure society." (5)

If those of us practising permaculture are to avoid Type-One errors, (6) we might ask ourselves if are we investing enough time in these social and leisure activities. Or, by ignoring their importance, are we making the same mistakes as the society we seek to change?

A social toolkit containing consensus facilitation, conflict resolution, and nonviolent communication is greatly enhanced when we take a cue from indigenous and non-industrialized peoples and add play, ritual, and celebration to the list of tools. Explorations of storytelling, music, free dance, yoga, and other body-based arts can help us establish healthy new village life. Many permaculture and village-building organizations are now including these arts as part of their teaching curricula. (7)

I have frequently witnessed how physical theater games, for example, can act as a modern gateway into the territory of ritual and celebration, and grease the social wheels. It is amazing how the shyness, tension, and hierarchies in a room can dissipate when we get everybody making strange faces, sounds, and movements. Seeing your friends and colleagues jump around the room making monkey sounds makes it difficult to hold onto rigid assumptions about whom they may be. Laughter is a great lubricant to interaction, and should not be underestimated as a consensus tool. How might games be used to create group harmony before your weekly house meeting? A lunchtime play session in the garden, perhaps, to loosen up sore arms and legs? At the cob building party, a rhythmic song to get the feet stomping and the cobs flying? We are always more efficient when we are having fun.

Cultural clearcutting

Here it may be helpful to compare our own human communities with another community found in nature. A healthy, mature forest is made up of a network of countless overlapping and interwoven relationships that co-evolved over millennia. The

connections between leaves and air, roots and fungus, birds and bark, worms and soil, and so on create a rich tapestry as functional as it is beautiful. When this forest is clearcut, the intricately woven fabric is left in tatters, its functions badly shredded, and connecting threads broken.

When we use nature as a model to provide guidance and understanding, as we regularly do in permaculture, we recognize that human cultural and social structures, which also evolved over long periods of time, have been clearcut in tandem with our forests. Sustainable cultures all over the globe—within which each and every one of us have our ancestry—have been uprooted by colonialism, slavery, inquisition, military violence, and, more recently, industrialization and globalization. Just as we take great care to replant and repair our ravaged landscapes, we must also tend to the important task of reweaving our social fabric, worn thin by systemic domination and oppression. (8) Participation in the body-based arts helps us with this reweaving.

Embodying permaculture

One of the most fascinating things about improvised, body-based art forms is the striking similarity of their basic, underlying principles with those of permaculture. Principles such as:

- Redistribute the surplus
- Oversupply is pollution
- Minimum effort for maximum benefit
- The problem is the solution
- Work with nature, not against
- There is no such thing as waste
- The edge is where the action is
- Diversity and connection equals strength and resilience
- The three O's: observation, observation, observation

have precise physical corollaries in movement and theater. And, learning these principles with the entire body/mind, instead of just the intellect, is deeply beneficial. I offer three short illustrations of these similarities.

In organic, release-style movement forms, for example, we practice moving from one position to another using the minimum amount of muscular and energetic effort required. Through breath and relaxation, the mover is encouraged to relinquish surplus tensions in the body that are counterproductive and ultimately dangerous to health. Previously stuck energy is released into the floor, or, in the case of contact improvisation dance, into the support of a partner, making it newly available as precious momentum to keep the dance moving. Sound familiar? See Mollison's Principle of Disorder (9), in which oversupply equals pollution.

Improvised storytelling and theater traditions provide another example when we use games based on spontaneous gesture, character, and speech to explore the diverse contents of our memory and psyche. Improvisors learn to value their "edges"—material that is funny, surprising, strange, or even frightening at first. Instead of retreating into familiar or known material, we are encouraged to explore this edge, as it inevitably indicates we

have stumbled into a most rewarding territory. When embraced, material which at first seems to be problematic can indeed become the solution, and we remain in the ecotone—that boundary terrain which is always the most productive and diverse of any system. Improvising with sounds, movement, and characters we didn't even know were in us liberates us from habits, and contributes greatly to personal diversity of expression and choice.

Finally, the single most valuable skill a person can gain in the improvised arts is how to observe the surroundings. In many body-based art forms, we learn how to witness our partners in a dance or a scene without judgment, and only then respond. Acting upon assumptions or habit in an improvisation quickly creates a confusing tangle that is difficult to repair. In permaculture, we see this same emphasis upon proper observation as the key to good, efficient design.

By practicing improvised art forms, the principles of permaculture are absorbed directly into the body, rounding out our intellectual understanding and transforming it into true, holistic knowledge. What we learn in the studio, on the stage, or around the campfire are skills that make us better permaculturists and members of the community. And, improvisation in itself is an adaptation strategy that becomes more and more valuable as the pace of climate and social change accelerates.

Localism begins with the body

In studying permaculture, many have become familiar with the concept of using zones to organize our landscape and our lives. We place elements that we use intensively or require daily tending (i.e. water tap, kitchen herbs, chicken coop) within a few paces of the home in Zone 1, thereby conserving energy and promoting efficiency and ease. The home itself can be considered Zone 0 since it is often the natural center or focal point from which all activity radiates. It is useful, then, to include our own bodies—indeed our first, true “home”—in our concept of Zone 0.

Localism—starting small, using locally available resources, supporting local economies—is a fundamental principle of good permaculture design. Many forward thinkers have envisioned a sustainable future comprised of an interlacing network of locally self-reliant communities. If our bodies, part of Zone 0, are the first units of localism from which healthy homes, villages, and communities are built, we must both care for our bodies and accept what they have to offer us. We put the cart before the horse if we work in Zone 1 or 2 without first tending to our physical, mental, and social health. Practicing the body-based arts demonstrates a sincere commitment to localism.

Healing the tyranny of the talented

“The artist is not a special sort of person, but each person is a special sort of artist.”

—A.K. Coomaraswamy

When we gather to practice improvisational arts, there are no experts or virtuosi to experience the art for us. Since bodily knowledge can only be gained by using our own bodies, we each

take the responsibility of participating to the best of our ability. The notion that art is only for the “talented” or the “gifted” is a misconception that keeps us from experiencing deep healing. Art is a practice and a learned skill, not a mysterious gift bestowed upon a rare few. The knowledge and healing offered by the arts are our birthright.

In many body-based arts, such as authentic movement and action theater, (10) we practice dissolving the internalized critic who tells us how things are supposed to be, encouraging diverse ways of expressing our uncensored selves. We learn to witness others in our community as they practice, transforming judgment into clear observation. The acceptance and acknowledgement we feel by having others witness the stories we tell—through movement and sound as well as words—is listed by psychologists as one of the critical steps in the process of healing trauma. (11)

**...our new villages
must establish a supportive environment
for the cultivation of
expressive freedom.**

In her article that appeared in the February 2006 issue of *Permaculture Activist*, Lisa Rayner points out that even in the safest of homes, constant bombarding with news of war, torture, and ecological collapse means that none of us are spared exposure to trauma. (12) The long and continuing legacy of violence against and oppression of the body compounds that trauma and

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affects us all. Retraining ourselves how to tell and witness our stories thus empowers us to be the instruments of our own healing.

In order to reclaim diversity in our bodies, voices, and minds, our new villages must establish a supportive environment for the cultivation of expressive freedom. As we reverse the trends towards industrialization and homogenization of the body and self-expression, we strengthen ourselves, our communities, and our species.

Practicing the body-based arts demonstrates a sincere commitment to localism.

When abundant connections and healthy relationships exist within a community, accomplishing great things becomes possible. This is perhaps not surprising, since human relations are a natural system, and all natural systems require proper connections and relationships to function smoothly. The arts contribute greatly to healthy relationships and healthy bodies, and are therefore an integral part of permaculture and ecological living. If human relationships and cultural infrastructures have been damaged, artists play a key role in the reparations, and we are all artists.

Many generations of exclusive focus on scientific and rational thought has created enormous imbalance and myopia in human socio-cultural systems. As permaculture artists at this critical point in human history, we have the opportunity—and responsibility—to restore balance between scientific knowledge and a more intuitive, body-based wisdom. When we absorb ecological principles thoroughly into the entire body/mind system—not just the frontal lobe of the brain—we are better able to innovate holistic and ethical solutions to mounting environmental and social problems. Contained within the boundaries of permaculture is the seed of a new and yet very ancient art that is connected to ecology, spirituality, community, and activism. Δ

Nala Walla is a trans-disciplinary artist, teacher, and activist living at the BCollective: an off-grid arts and ecology project on a tiny island near Port Townsend, WA. Her work as a homesteader frequently overlaps and feeds back with her work facilitating Bodyecology and Bodyiversity workshops, and performing dance, theater, and music everywhere from organic farms to preschools. For more information about her work or to contact her, visit www.bcollective.org or email nala@bcollective.org.

Notes

1. See Mollison, Bill (1998) *Permaculture: A Designer's Manual*, Tagari Publications, Sister's Creek, Australia.
2. Immediatism is a term coined by philosopher Hakim Bey. See Bey, Hakim (1994) *Immediatism: Essays by Hakim Bey*, AK Press, San Francisco, CA.
3. See Devall, Bill and George Sessions (1985) *Deep Ecology: Living As If Nature Mattered*, Gibbs Smith, Inc., Salt Lake City, UT.
4. Sahlins, Marshall (1972) *Stone Age Economics*, Routledge, London.
5. For an excellent treatise on the pitfalls of technology, see Mander, Jerry (1991) *In the Absence of the Sacred: The Failure of Technology and the Survival of the Indian Nations*, Sierra Club Books, San Francisco, CA.
6. Type-one error is a permaculture term used to refer to a fundamental error that causes a continual negative spiral of dysfunction until it is corrected.
7. Some examples include the Village Building Convergence (City Repair), the Village Design Institute, and the Wilder Institute.
8. Forum theatre, developed by Brazilian dramatist and activist Augusto Boal, is a valuable social remediation technique in which groups improvise solutions to oppression and conflict. See Boal, Augusto, (1985) *Theatre of the Oppressed*, Theatre Communications Group, New York.
9. Mollison, Bill, *Permaculture: A Designer's Manual*.
10. See Adler, Janet (2002) *Authentic Movement, Inner Traditions*, Rochester, VT and Zaporah, Ruth (1995) *Action Theater*, North Atlantic Books, Berkeley, CA.
11. See Herman, Judith Lewis, (1992) *Trauma and Recovery*, Pandora Press, London, UK.
12. Rayner, Lisa, "Ecological Collapse and Trauma Theory," *Permaculture Activist*, No. 59, February 2006.

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and Resources for
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The Nearly Lost Art of the Found

Andy Mahler

"Amazing grace how sweet the sound... I once was lost, but now I'm found."

—Scottish Hymn

IN 1879, A FRENCH POSTMAN in the little town of Hauterives was delivering his regular bicycle route when something out of the ordinary caught his eye. It was a stone, an unusual and oddly shaped stone that somehow captured his imagination and changed the course of his life. He picked it up and took it home, as he would many others from that day on, constructing an amazingly elaborate, intricate, and ornate structure to house them. Thirty-three years in the making, the result he called the *Palais Ideal* or Ideal Palace, was a most marvelous and epic undertaking, a surrealistic structure, molded entirely by hand and incorporating the stone and other objects he had found.

In the Watts neighborhood of Los Angeles, working from 1921 to 1954, an Italian immigrant named Simon Rodia had it in his mind, "to do something big," and he did. The result, known as the Watts Towers (pictured), is like the *Palais Ideal*, made almost entirely of found objects, in this case broken crockery, brightly colored pieces of ceramic tile, and a thousand other things embedded in an ornate filigree, its spires rising ten stories towards the sky.

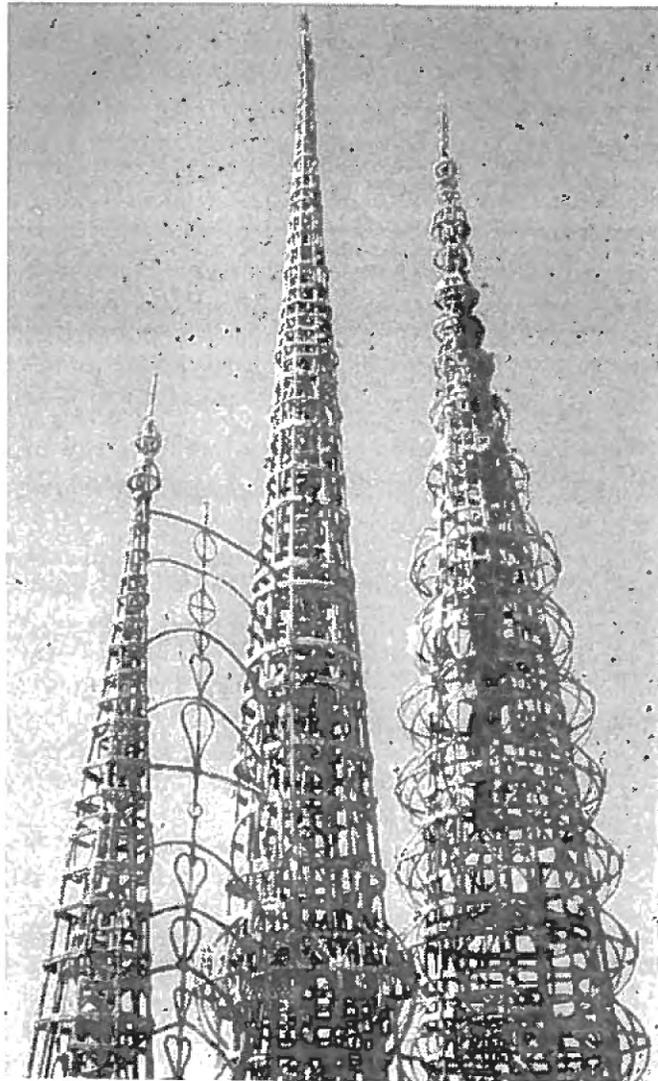
There is something about the found that can inspire flights of fancy or turn into an obsession. There are books, films, treatises, magazines, and websites that celebrate the found: found art and dumpster-diving; gleaning and garbology; serendipity and synchronicity: all dedicated to celebrating, re-using, and recycling the vast "waste product" of our opulent cast-off culture.

A *Palais Ideologique*

The Lazy Black Bear in southern Indiana is no *Palais Ideal* or Watts Towers, but its appearance is at once eclectic and idiosyncratic, with more than a hint of obsessive engagement with the romance of the found. It could perhaps be described as a *Palais Ideologique*. It has been the site of two-week permaculture design courses offered through Indiana University every summer for the past four years, and it is a testament to the allure of the found in both form and function. From the old school blackboards that create an elegant slate floor in the dining room, to the large brightly colored fiberglass spheres and salvaged iron wire spools

that decorate the yard, found objects are everywhere in evidence. Sticks and stones, skulls and bones, everywhere you look there is something to catch your eye.

The course is organized by Dr. David Haberman, Professor of Religious Studies at Indiana University, and offered through the Collins Living Learning Center on the Bloomington campus. Principal instructors for the course are Peter Bane and Keith Johnson. More than 100 students have taken the course and received Permaculture certification. Professor Haberman organized the course after participating in a weeklong permaculture practicum at Earthaven Ecovillage in North Carolina. He says that taking the course helped clarify for him a way to address the growing concern that the University was not only failing in its fundamental mission of preparing young people for the challenges they would be facing once they left school, but largely silent on the growing array of threats to the Earth's natural systems upon which all life depends.



Many of the 115 participants who have taken the course thus far (including several seniors for whom it was their last college course) have expressed the opinion that it was the best and most useful course of their entire college careers. Part of the explanation they offered was the experience of being at the Lazy Black Bear, which, hidden away in the woods at the end of a dead end road in the middle of the Hoosier National Forest in south central Indiana, takes a little finding.



Brass bedsteads, steel spheres, and "possum rockets" artfully punctuate the landscape.

In fact, it can be said that those who feel lost themselves can find some comfort there. And it is more than just permaculture students who have found new meaning, a new purpose, or a sense of community and connection in the circular clearing beneath the towering black walnut trees in the yard. For many, the Lazy Black Bear is a welcome antidote to the stressful pace and the ecological destruction of the hectic modern world.

The Lazy Black Bear has played host to numerous environmental and progressive organizations over the past 20 years and has been the birthplace of more than one. Most famously, the Black Bear was the birthplace of Heartwood, a cooperative network of forest protection organizations and individuals active in the East, Midwest, and South: throughout the heartland hardwood forest. Heartwood hosts its annual reunion the second weekend in October each year at the Lazy Black Bear.

Finding a future in the past

Many hundreds have attended events here and many of those have returned, some again and again. I know, because I am one. I

first attended a party at the farm that would become known as the Lazy Black Bear when but a boy of nineteen, and marveled at its rustic and grown-in look, its natural, exotic yet familiar, functional feel. Little did I know then that ten years later I would move to Orange County, Indiana, and take up residence there, marry Linda Lee, and become a denizen myself.

Yet two clues foreshadowing the intertwining of our lives were evident early on. We both were practitioners of the art of

collage, the quintessential practice of celebrating the found in two (and sometimes three) dimensional compositions. But perhaps more significant, was a book to be found in both of our collections at the time and in both cases one of our favorites: *Naives and Visionaries* (E. P. Dutton and Co., 1974) a book cataloging an exhibition of the work of untrained and obsessive builders, collectors and assemblers of unique, distinctive, and fantastic environments in the United States, including Simon Rodia and the Watts Towers. (Fernand Cheval, whose life's work was in France was not included though his Ideal Palace unquestionably belongs.)

... visitors who appreciated what they saw would often contribute items of their own ...

It was not just modest means that drove our collecting, but a love for the unusual, the unique, and the bizarre, especially if free! I had been an avid practitioner of the dumpster-diver's art while still living in Bloomington, a college town with an extraordinarily rich collecting environment, heightened every year when the college let out for the summer. When Linda and I got to -

gether, one of our earliest and longest-standing routines was the Saturday morning auction where we would seek out treasures whose true value no one else could see, marvels we would then bring home and add to our surroundings. As our collection grew, visitors who appreciated what they saw would often contribute items of their own, objects of unusual or unknown purpose, the weird, the eccentric, and the droll.

We stopped going to auctions many years ago, when we ran out of rooms to fill. It was either that or add on. Which we have also done, including building a new roof over the old gambrel, adding a porch that became a dining room, then another porch and a deck, then double-decker porches with trunks of recently deceased elm trees for porch posts. We then added a tower (with double-hung windows found set out by an urban curb), then an outdoor kitchen, all with the general intention of eventually making the place available to groups who wanted a quiet place in the woods for a gathering.

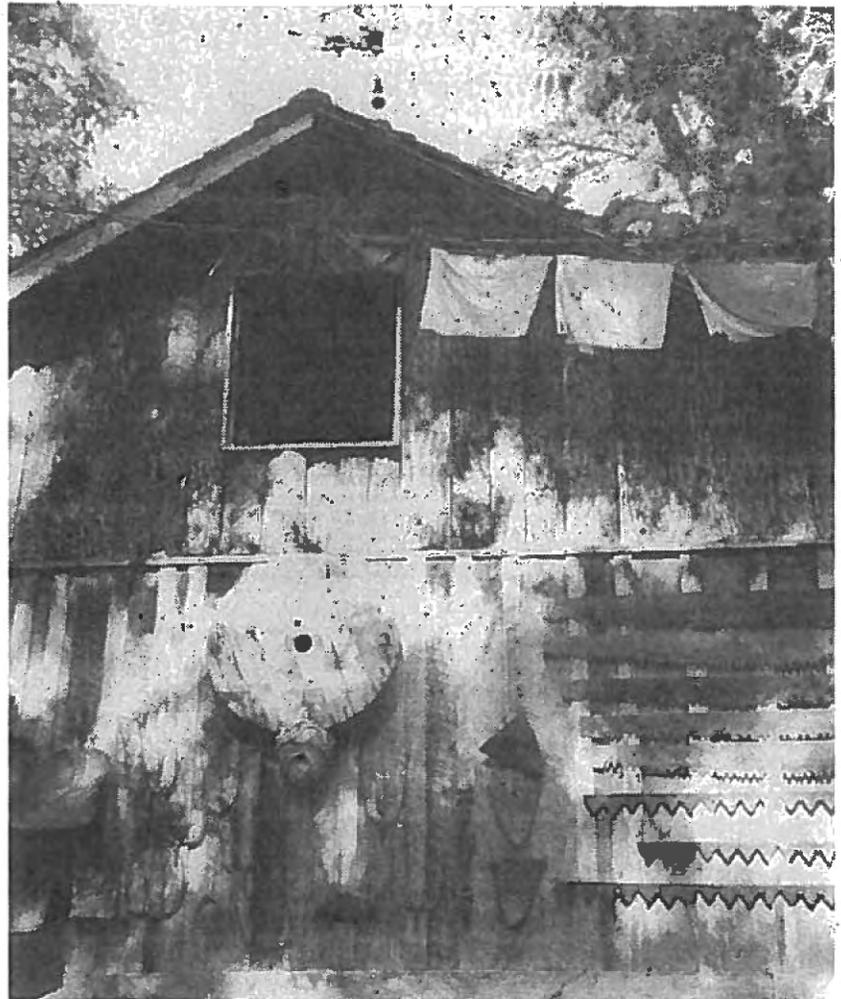
With the advent of the permaculture course we converted our old hay barn to a classroom (dance hall, yoga studio, ping-pong parlor) with a beautiful red oak floor made from boards milled on site from old trees that had died in our woods. The cupboards and shelves on the walls were all salvaged, as were the couches and carpets and chairs. When a planing mill and wood kiln in town went out of business we bought all the remaining stacks of kiln-dried hardwoods for pennies a board foot from the operator who disassembled the buildings. We also collected a variety of other useful materials which have been combined with the lumber to make additional improvements, including the fabulous "poop palace" (elegant composting toilets with a view of the woods), a solar shower with three stalls (all gravity-flow water using only heat from the sun). Most recently, we finished the dining hall—a grand and spacious affair constructed of pine trees from the land and lumber from the stacks that will accommodate a permaculture class or Heartwood reunion, or both). It is currently roofed with old advertising billboard signage, vinyl tarps 14' x 48' available locally for \$25 apiece.

When Nature Won't, Pluto Will

Entryways to gathering places and social spaces are large old iron rings once used to hold together cypress wood barrels, salvaged from the Old Pluto Water factory in French Lick (Pluto water collected from the local mineral springs was bottled as a laxative and tonic with the motto, "When Nature Won't, Pluto Will"). The barrel staves have been put to use as outdoor stair steps and raised garden bed boxes. The large organic garden highlighted with ancient tool parts and sculptural stone, and fenced with old bedsprings yields a healthful and colorful harvest for gatherings at the Bear.

The heart of any home is the kitchen, and ours is no exception, with an indoor kitchen heated by a vintage Majestic wood

cook stove (using scrap wood from a local factory), augmented for cooking by an antique Roper gas range (both cheap or free). We heat only a small portion of the house for winter, and move out to the cook's delight summer kitchen outdoors which is located between the main building and the dining hall. The kitchen has grown organically over the years and features a circular prep area in the center with a hand-made cement counter top resting on an old wire spool. The long counter top with numbered bins which holds plates, glasses, and bowls was salvaged from Kinkos, and the six-burner stove came from a home for older single men. The stainless steel refrigerator and chest freezer were donations from a local farmer who had to move from her home onto land with no grid power.



Found tools and spools adorn the upper wall of the garage. Even wildlife gets into the creative process—wasps added a conical nest to the bottom of the wooden spool-end under the window.

The Lazy Black Bear itself had been found, overgrown, empty, and abandoned by Tommy Ellis, a good friend of Linda Lee and her first husband, Max. Tommy was out coon-hunting one fine fall night when he stumbled upon the imposing structure covered in vines and open to the elements, home to possums and flying squirrels, used by the local saddle club to tether their

horses and by the local scout troop for weekend retreats. Tommy showed it to Max and Linda, and they soon made contact with the schoolteacher from Indianapolis who had bought the house and land from Kenny Myers but never taken possession.

One of the great joys of living in the same place for a long time is a certain degree of intimacy and familiarity with the surrounding land.

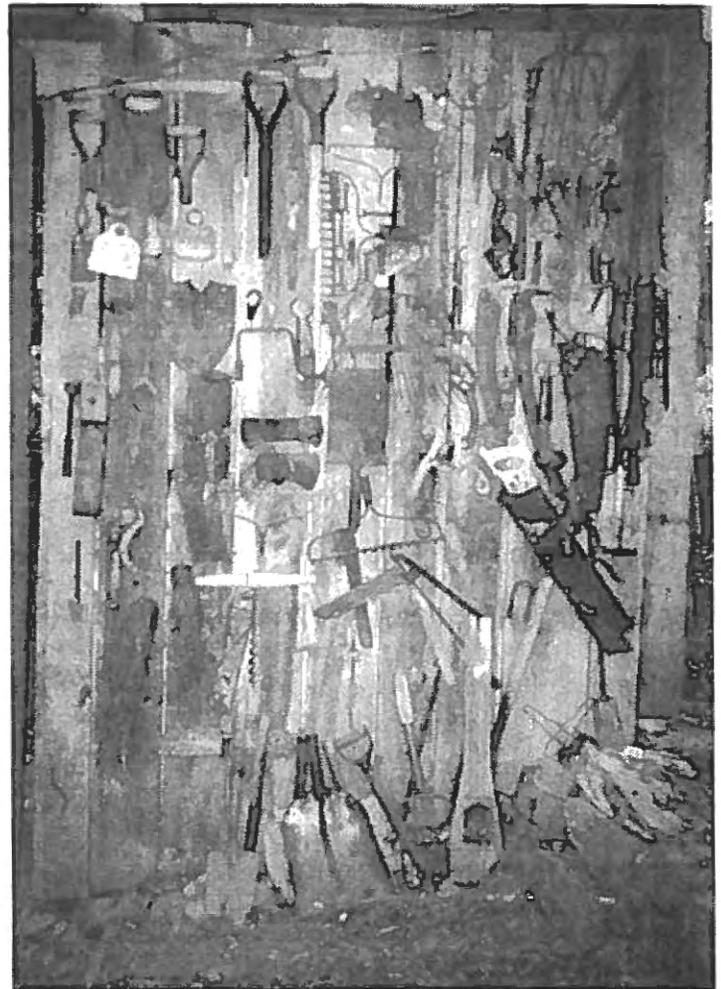
The oldest part of the Lazy Black Bear was built about 1950 by Kenny Myers, a Quaker preacher, as a bicycling hostel (back when the road still went through to the highway) using the volunteer (found) labor of students from Earlham College. The upper floor windows were hand-made using quarter-inch automobile glass. The wood was milled on-site out of trees from the surrounding forest. The central beam was a scorched 60-ft. poplar log salvaged from a barn that had burned. Kenny Myers was a master scavenger and utilitarian in the depression-era tradition of "use it up, wear it out, make it do, or do without."

The bicycling hostel never quite worked out and the house became an orphanage instead when Kenny and his wife Marie became foster parents to numerous children whose parents were unwilling or unable to take care of them. More than 60 feet long and two stories high with a gambrel roof and a huge old coal-fired furnace in the basement, the original building featured one giant room downstairs. The kitchen was at one end, boys' and girls' toilets at the other, with a multitude of tiny bedrooms upstairs.

The living room floor is a story in itself. Back in radio days, local old-timers tell of a traveling country western music program with a portable wooden dance floor painted to advertise Kraft Cheese. Among Kenny Myers' prized finds was the old dance floor itself which he salvaged and reused. You can still see the remnants of yellow and red paint on some of the well-worn boards.

Finding terra incognita underfoot

One of the great joys of living in the same place for a long time is a certain degree of intimacy and familiarity with the surrounding land. As one who used to travel a great deal, it has been an endless source of wonder and satisfaction and comfort to



A Jasper Johns of junk covers one wall of the woodshop.

find new things close at hand, even on our own land. The greatest surprise has been a cave not a half mile from our door, on land we own, only discovered in the last ten years. The cavers who have been exploring and mapping it have yet to reach the farthest reaches of its labyrinthine depths. I have had the good fortune to join them on more than one of their forays. There is something remarkable about being in a place so very close to home, in an area that has been thoroughly explored and fully inhabited, and yet to be stepping on ground on which no human foot has ever trod.

But it is not just humans who find themselves at the Lazy Black Bear. As in the days of Kenny Myers, the house and grounds are again an orphanage, but these youth are more likely to be quadrupeds and marsupials, for Linda Lee has become the Possum Mom, nursing orphaned (lost and found) possums (and skunks and squirrels and groundhogs and deer...) back to health. Four area veterinarians refer people seeking help for small animals they have found but are unwilling or unable to tend to, to Mademoiselle Lee's Finishing School for Orphaned Possums. Here, those next to be released are sheltered as they grow to size in three ornate "Possum Rockets," habitats hand-built by a local craftsman using salvaged materials.

Linda's days are taken up with mixing the various possum formulas for different weights at different stages, washing possum dishes, feeding possums, cleaning cages, and washing possum bedding. When they reach the proper weight, she releases them to the halfway house, an old barn at the edge of woods and field. On weekends she sells at the farmers market—what else but envelopes made from pages torn from recycled magazines and wallpaper sample books; and flower bouquets which include both colorful garden fare and wildflowers she picks along the byways of our county.

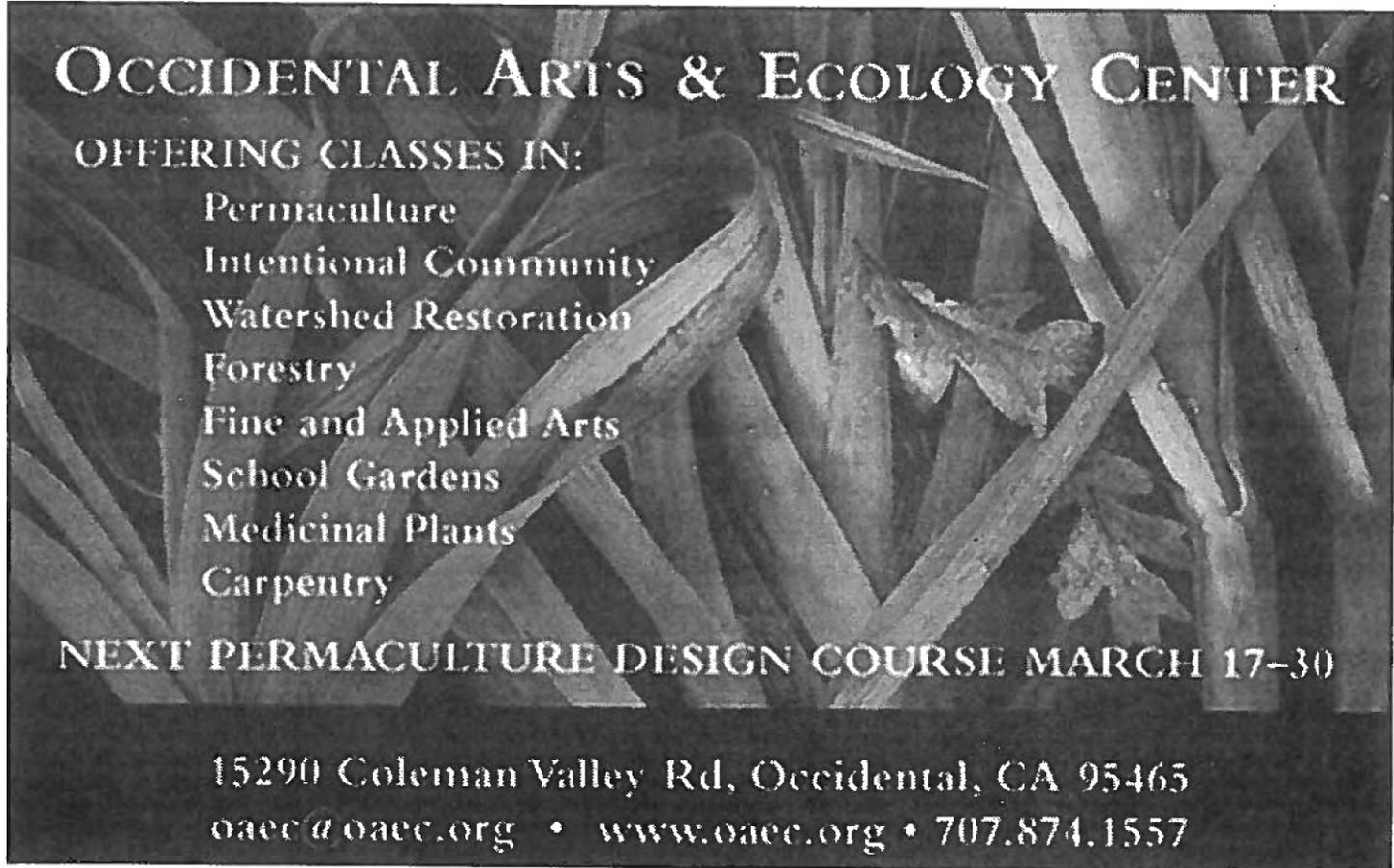
The treasures I find these days are the amazing people . . .

As for me, you remember the old adage, "Don't go looking for trouble, trouble will find you." (a corollary being: "Don't worry about tomorrow, today's not over yet.") From a proposed concentrated hog factory farm on our road, to a proposed simulated nuclear bunker-buster test explosion just 15 miles away, to a new plan to quintuple the logging of the state forests,

trouble is never far away. I am again working for Heartwood, recruiting and providing assistance to those who love the places where they live, and are willing to protect them. The treasures I find these days are the amazing people who, armed only with their sense of justice and a commitment to protect their families, homes, and communities, fight travesties like mountaintop-removal coal mines and proposed interstates and by-passes that would take their homes and destroy their familiar lives.

The Lazy Black Bear houses it all and offers a visual reminder that a better way, a more gentle and creative, festive and serene option is available to the human family. It's both out there and within each of us: the art of the found can be a key to integrating nature, life, spirit, and design. If you but look it's always there to find. △

Andy Mahler may be contacted at andy@blueriver.net or 812.723.2430. For more information about Heartwood and its work protecting forests, clean water, and wildlife through supporting community-based activism, local self-reliance, and regional forest, farm and food networks, visit www.heartwood.org.



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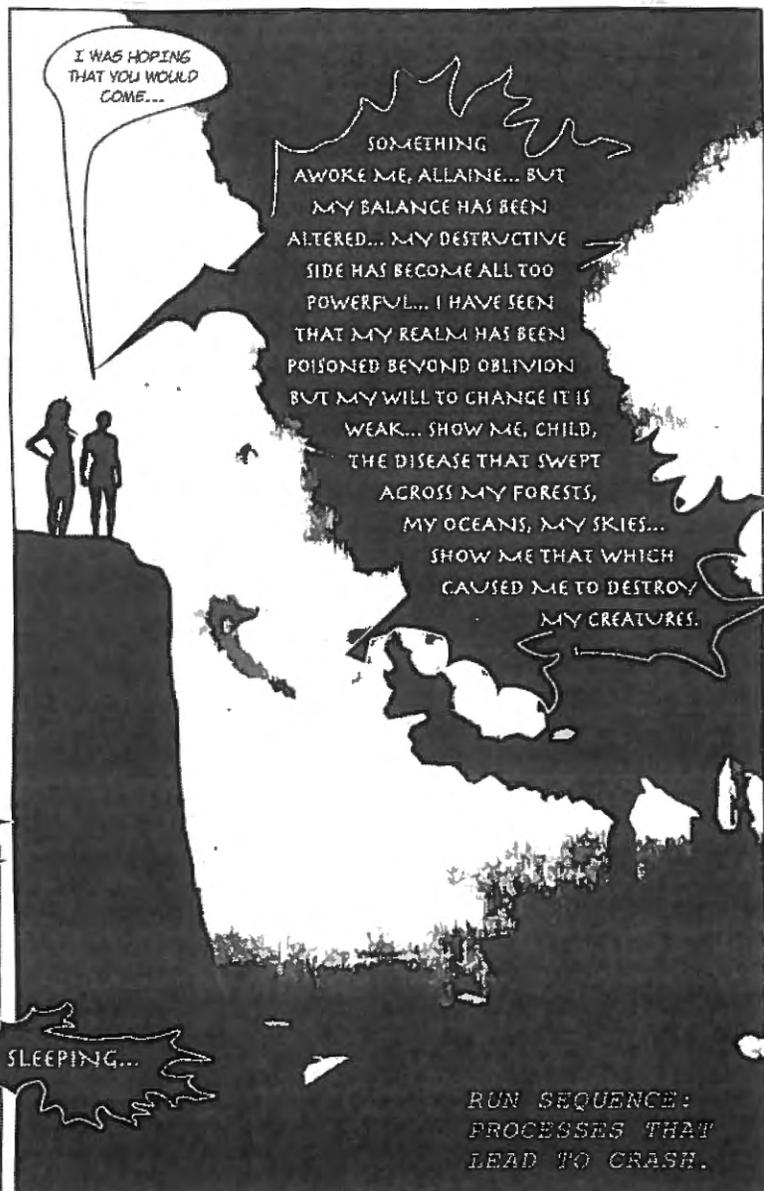
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Permaculture Permeates Pop Culture

AN EXCERPT FROM
ANAFAE...

Alternative culture increasingly embraces permaculture, and the illustrations of artist Monica Richards are exposing thousands to its ethics and principles. Here's an excerpt from her forthcoming graphic novel (www.monicarichards.com/anafae).



IT MAY BE HARD TO EXPLAIN...

START AT THE BEGINNING.

IT WAS THE HUMAN SPECIES.

THEIR CULTURE PULLED THEM OUT OF THE NATURAL CYCLE OF LIFE...

ABANDONMENT OF TRIBAL COMMUNITY.

MISINTERPRETATION OF ORAL TRADITION.

PATRIARCHAL CONQUEST AND EXPANSION.

SUBJUGATION OF THE FEMALE GENDER.

THEOLOGICAL ELITISM. BELIEF IN ABSOLUTE DOMINION OVER LAND AND ANIMALS.

THE QUEST FOR MATERIAL GAIN AT THE EXPENSE OF NATURAL SYSTEMS.

THEN...

INDUSTRIALIZATION.

YOU MUST HAVE KNOWN ABOUT THEM?

YES. THEY WERE MY CHILDREN... ONCE.

THEY WERE ONCE IN BALANCE WITH MY REALM.

FERTILITY RITES. THE CELEBRATION OF BIRTH, THE NEW YEAR, THE HARVEST...

YES...

IT ENDED WITH THE DISCONNECTION AND MANIPULATION OF NATURE...

CONTINUE SEQUENCE...

AGRO-CHEMICAL MONOCROPS.

FACTORY FARMING.

BIOENGINEERING.

NUCLEAR WEAPONRY.

DESTRUCTION OF FORESTS.

CHEMICAL ENVIRONMENTS.

NON-BIODEGRADABLE PLASTICS.

THE POISONING OF BIRDS AND SEALIFE.

CORPORATE GLOBALIZATION AND TYRANNY.

AND THEN THE SEEDS...

TERRA MORTIS



SEEDS...?

GENETICALLY MODIFIED. LATER BANNED...

Terminators, also known as the Suicide Seed, were first developed by the U.S. Department of Agriculture and the multinational seed industry to prevent farmers from replanting saved seed.

Crops grown from Terminators were created specifically to render seeds sterile at harvest time. The patented technology prevented farmers from germinating a second generation of seed, allowing seed companies to ultimately gain monetary control over crop production.

BUT SECRETLY GROWN AND DISTRIBUTED. FED TO ANIMALS ALREADY MODIFIED GENETICALLY. FED TO HUMANS IN POLLUTED ENVIRONMENTS. AFFECTING ALL LIFE.

The patent was first allowed through a loophole where corporations were able to patent life forms, and the Terminator's patent was broad - applying to plants and seeds of all species including both genetically engineered and conventionally-bred seeds. Molecular biologists who studied the patent had mixed views on the potential ecological hazards of the sterility trait. The greatest fear was that the sterility trait from first generation seed would spread via pollen to neighboring crops or wild relatives growing nearby. A genetic technology aiming to sterilize seed extinguished the right of farmers to save seed and breed new crop varieties, and threatened the food security of billions of people. The USDA and the corporations behind Terminator technology applied for patent protection in from Brazil to Vietnam.



AND WHY WAS THIS DONE TO MY REALM?

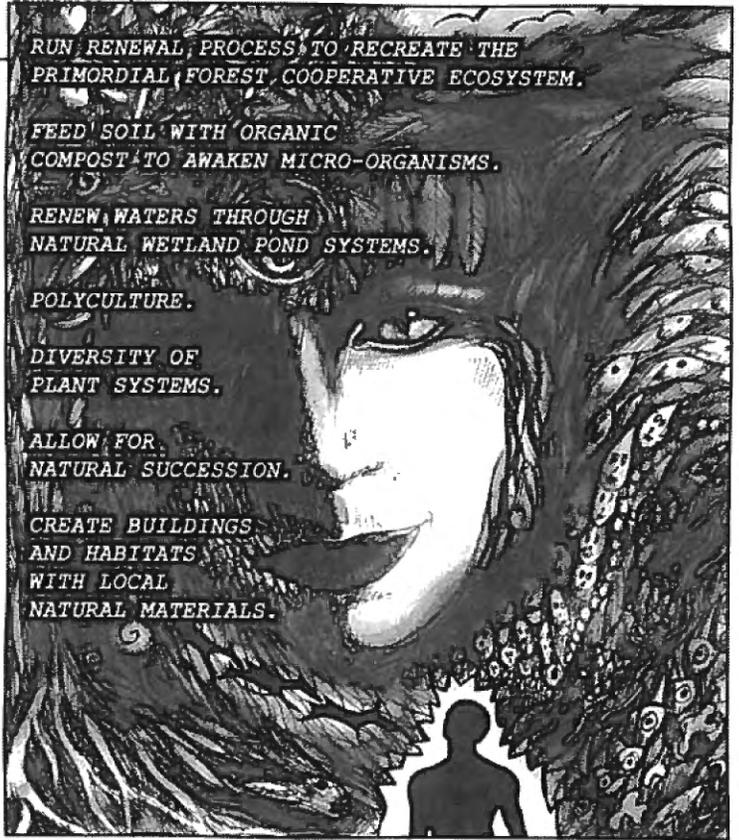
HUMAN BELIEF IN ABSOLUTE DOMINION OF THE EARTH...

THE NEED FOR IMMEDIATE WEALTH AND POWER WITH NO REGARD FOR ACTION.

MOTHER! DON'T LEAVE!



WHAT WOULD YOU DO TO BRING ME BACK?



- RUN, RENEWAL, PROCESS, TO RECREATE THE PRIMORDIAL FOREST COOPERATIVE ECOSYSTEM.
- FEED SOIL WITH ORGANIC COMPOST TO AWAKEN MICRO-ORGANISMS.
- RENEW WATERS THROUGH NATURAL WETLAND POND SYSTEMS.
- POLYCULTURE.
- DIVERSITY OF PLANT SYSTEMS.
- ALLOW FOR NATURAL SUCCESSION.
- CREATE BUILDINGS AND HABITATS WITH LOCAL NATURAL MATERIALS.



From the Regions

Permaculture in Brazil: Perspectives on Systems

Andrew Fischer

I LANDED IN SAO PAULO for a six-week visit to Brazil on October 25th 2005. My baggage was lost, the plane was four hours late, and I waited in line forever to get through customs. I had the clothes on my back and a toothbrush. My Brazilian friend waited for me at the airport despite my being so late. We drove through the city of Sao Paulo and an immense expanse of buildings housing the 15 million people stretched on to the horizon. I saw people living in the freeway median strips. Immediately I sensed that the cultural systems at work in Brazil are not the ones with which I am familiar, and I realized that I would be learning a lot the trip.

I would like to share some insights of traveling around Brazil visiting friends and permaculture sites and how it has helped me as a designer understand complexity, forcing me to expand my capacity for thinking about culture. This was my third trip to Brazil; I speak Portuguese (mixed with Spanish as I find out after receiving some strange looks from the natives). I have also traveled through Mexico, Bolivia, Peru, and Belize and to the Amazon twice, but none of these journeys prepared me for traveling 2000 miles along the East Coast of Brazil. I went from Bahia in the northeast to visit Marsha Hänzi at her farm in Mariza and on to Salvador, Rio de Janeiro, and to the southwestern edge of Brazil: Iguacu Falls, on the Argentine border, visiting many places in between. My trip plan was to get to know the landscape, the language, and the people of Brazil better and to experience Brazilian permaculture design in a deeper more fundamental way.

What was so striking to me from a permaculture designer's perspective about traveling to another culture is that it made me realize that we don't really know what is happening outside our own culture. I was looking for cultural patterns. I was trying to understand what was the pattern that connects, or that underlying essence that transcends culture. We are, after all, permanent-culturists. According to Bill Mollison permaculture is supposed to be applicable in any situation on any place on the earth. But what about the underlying, unseen patterns that I felt there but couldn't get a handle on?

As a designer I was looking at the complexity of the Atlantic Rainforest, the mix of cultures that makes Brazil so unique, and all the differences that make up the elements of a natural and cultural landscape. This was the crux of my journey and also a place of great learning and development. My mantra became "be in a place of not knowing" or what Masanobu Fukuoka calls nothingness. Essentially I felt like I didn't know what was going on most of the time, and that was a good thing. In letting go I could be in a place of pure experience of the landscape, people,

food, soil, plants and energy of the Brazilian culture. I was forced to be in this place of openness where I could begin to see.

I went to visit a permaculture site in southern Brazil. This region is subtropical, eastern coastal Atlantic rainforest in the state of Santa Catarina on the island of Florinopolis. I went to visit a community and find out about permaculture systems in this particular landscape. There are still some scraps of native forest but mostly, like on the East Coast of the US, the landscape has been worked for some time.

Traveling around the large and touristy island of Florinopolis on local buses with luggage is an exercise in patience. It took me a few buses and lots of questioning to get where I wanted to go. I got off at the end of the line and hiked up a steep dirt road to the community of Nova Paz (New Peace). The community is a collection of small houses built on a hillside. The hills rise up steeply behind the community, and they are covered with second growth forest. I went to the community center and spoke to Esmeralda to get a key to the guesthouse.



A garden bridges the margin between forest and clearing at Jorge Andre Goncalves' site on the island of Florinopolis.

I walked on trails past a pond loaded with frogs, skirted a waterfall in the forest, and arrived at the house of Jorge Andre Goncalves who is in charge of the permaculture design in the community. Jorge was there tending his gardens. My eyes began immediately to tune it to the surrounding hillside landscape that makes up his site. I saw all the components of a well-designed permaculture system: tree crops of banana, acai palm, acerola, a giant mandala garden with medicinal and food plants, a simple hand-built house of stone and timber, water catchment system, terraces, swales, bamboo groves, bananas growing on a grey water system and more. All the elements are integrated. Jorge lives there with his son and partner in a modest 300-sq. ft. house he built. In the subtropical climate its good to spend most of your time outside during the day so the houses are generally small. I asked lots of questions about how all of the permaculture systems worked as we walked around looking at the gardens and food forest. "Do you have problems with animals eating your food crops?" I asked. He said, "I am not concerned with production, I

want to see how the systems connect." Then I asked Jorge about growing food and eating simply, since in Brazil the staple is rice and beans. And he said, "I am actually learning to eat more complicated." I was starting to get the feeling that there was more to Jorge's design than I perceived. It was getting late and we made a plan for the following day to explore the site further.

The following day I was excited—here was my chance to get into some permaculture design and connect with a Brazilian designer. We toured Jorge's site. He has been on the site for several years. There was no road so everything had to be carried in or brought in on carts. Jorge's family house was built of stone and wood in a typical Brazilian style with a root cellar dug into the basement. He had terraced raised bamboo garden beds with vegetables growing. The agroforestry system was in the beginning stages.

Most everyone involved in permaculture in Brazil knows the work of Ernst Gotsch. Ernst has pioneered work in the Atlantic Rainforest collecting seeds that form the basis of the forest succession and broadcast seeding the whole forest at the same time. Larger trees and production crops can be directly planted into the system for early returns of bananas and pineapples. After that it's a matter of using your machete to create mulch, build soil and select how the forest will evolve. Jorge is using this technique in his Zone 3 forest garden. Since the whole site was on 20% slope he had built up an enormous pile of small diameter wood debris from clearing the site and used it to build a mandala garden. The mandala is an almost level circular garden nearly 40 feet across where he had more vegetables, fruit-bearing shrubs, and herbs growing. It reminded me of a giant *hugelkultur*.

I had been seeing bamboo groves all over Brazil. This is a significant on-site resource around here with hundreds of uses. Jorge was using bamboo for many purposes including raised beds using split bamboo, trellises, building materials, and stakes.

"How much food are you producing on your land for the community?" I asked. Jorge replied, "I am not trying to produce large quantities of food." I saw lots of different food plants that I knew so I was perplexed by his answer. He continued, "I am concerned with how the systems connect. I am designing to connect all the systems you see here," he said. As a designer I understand connecting systems linking outputs of one system to the input of another but I was starting to grasp something larger here.

Jorge and I began a discussion about his views on permaculture and what were his design principles. What does permaculture look like here in sub-tropical Brazil in the Atlantic Rainforest within this cultural context? I could see all of the elements, but I was tuning into something else happening here. There was quietness to the answer.

Jorge was pointing to a design principle that it has taken me a long time to grasp. Jorge's design is developed not for outputs but for overall function and harmony within the larger system. Does the system interact together well? Do the systems' individual elements benefit each other? By creating more diversity or complexity is the system more resilient or more fragile? It is great to have all of these pieces but how do they work together? I had some questions to work with. The list of unanswered

questions that came up during the design process was sitting in front of me. I realized that this was what I had come to learn.

From my Brazilian journey and connecting with people like Jorge I learned that cultural differences matter because they create a focus or an emphasis based on all the aspects I mentioned earlier: language, history, cultural norms, etc. As someone from the United States, I had a built-in predisposition for looking at results, outcomes, and production. Brazilians tend to be a little more laid back, so Jorge was looking at the larger picture of how the whole system was working together over longer periods of time. These are the simple cultural differences that I can point at directly but there was a lot more to it and I am learning more all the time about the hardwired cultural norms that affect my approach to permaculture design. This trip was an amazing opportunity for me to delve deeper into systems thinking and different approaches to the permaculture design process. I was very impressed by my visit to Nova Paz and learned a great deal by being there and just being in Brazil. I highly recommend the journey for anyone interested in stretching his or her design mind and cultural experiences.

Jorge is also involved in permaculture network called PERMEAR. This network is involved in connecting people who have permaculture sites on the ground and sharing their experiences. PERMEAR is a system of systems dedicated to connecting elements (their sites) into a network that functions better. In their words, "We are a group of Brazilian Permaculturists, some with more than 20 years of experience. We work locally and regionally in various forms: private and community projects, in institutes, with indigenous communities, with farmers, universities, social movements and professionally as rural and urban consultants. Over the years, as result of the need to share experiences and mutual inspiration, the PERMEAR Permaculturists Network was born, which has, as basic characteristics, the ethics of permaculture, interpersonal relationships and free exchange of information, through internet forums and in periodic meetings which occur in the various regions of the country." The PERMEAR network embodies the principles of permaculture to further the establishment of demonstration sites and education to a new level.

For anyone traveling to Brazil for the Eighth International Permaculture Convergence (IPC8), PERMEAR has graciously offered to open its demonstration sites up to visitors. You can contact them individually through their website at www.permear.org.br (in Portuguese).

More information about IPC8, slated in Brazil for May 2007, may be found at www.ipc8.org. △

Andy Fischer is an ecologist, permaculture designer, and plant lover who lives in Ashland, OR. He holds an MS degree in Environmental Studies from the University of Oregon and has studied permaculture and worked in various ecosystems throughout the US and Latin America for the past 15 years. He currently teaches permaculture and helps develop permaculture demonstration sites in Southern Oregon. He may be reached at www.sacredearthinstitute.org.

Reviews

Proven Peak Oil Solutions Review by Scott Horton

COMMUNITY SERVICE, INC. *The Power of Community: How Cuba Survived Peak Oil*

DVD/VHS (2006) 53 minutes. \$20.

When cheap, subsidized oil stopped flowing to Cuba at the dissolution of the former Soviet Union a decade and a half ago, the small island nation was launched into what its people call the "Special Period." It was and continues to be a time of social and economic hardship that has forced Cuba to deal proactively with the realities that face the rest of the world. Cuba is the first country to confront the crisis we are all facing: Peak Oil.

Community Solution, the non-profit organization in Yellow Springs, Ohio, (www.communitysolution.org) has produced this fact-filled and compelling documentary chronicling how Cuba did it.

The film opens with a pocket history of Peak Oil that covers salient points, a timeline of oil production and peaks worldwide, as well as commentary by experts in the field. The film proposes that peak oil is just the beginning of economic and lifestyle collapses that will increasingly affect the rest of the world, and that we have much to learn from Cuba's humble decade of transition.

During the transition, Cubans lost an average of 20 lbs. due to shortages of food caused by virtual overnight lack of petroleum-based fertilizers and pesticides. Transportation infrastructure nearly came to a standstill with ripples felt throughout the faltering economy.

The predictions are not pretty, but they are also not really what the film is about. Following a brief and sobering introduction to the subject, the film makers move along to providing positive, solutions-oriented practices Cuba implemented to survive its own artificially imposed crisis.

Surprisingly, permaculture was incorporated and institutionalized by the government to address such social needs as food production, land distribution, and healthcare. As early as 1993 permaculturists were invited from Australia to teach Cubans holistic ways of solving challenges that faced them.

As a result, today 50% of Havana's food is grown inside the city and more than 80% of the country's food is organic. Urban farming is officially mandated and supported by the government. Unused urban land has been cleaned up and reclaimed by neighborhoods and turned into productive gardens. Rooftops were converted to farming. Cuba went from having the most industrialized agriculture in Latin America to being a model of sustainable practice and organic production. As a result, farmers are now among the highest paid professionals in the country and the field attracts more and more people interested in growing food.

Amid all this radical change born of necessity, healthcare and education remained top priorities: free access to both has continued uninterrupted in Cuba,

where statistics on health and life expectancy are roughly the same as the US.

For specifics about how Cuba did it, you'll have to watch the film—it's well worth an hour of your time and will doubtless engender much fallout thought and discussion. An obvious question is why, with more financial resources, the industrialized world can't seem to wake up and get it together and follow Cuba's lead.

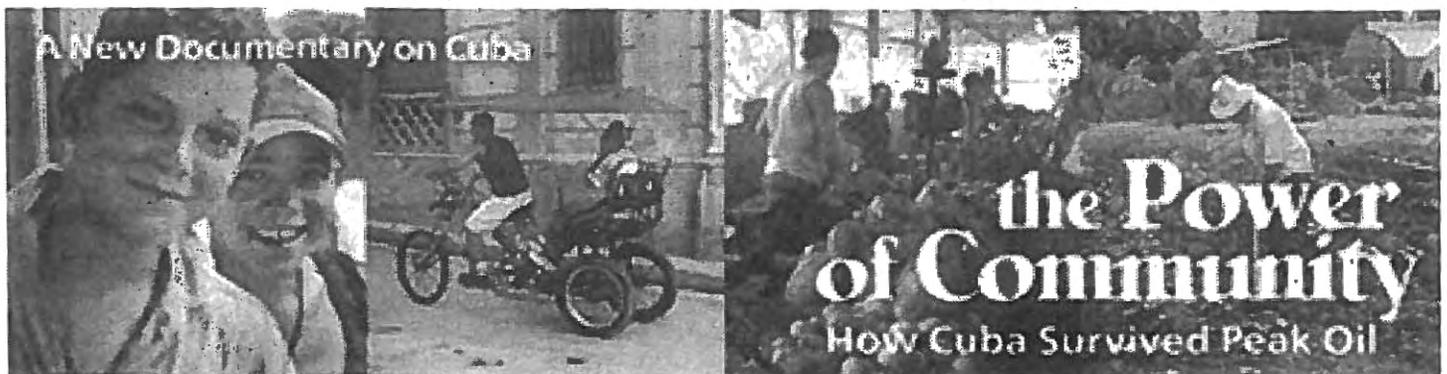
One economic analyst interviewed in the film describes the difference: In Cuba when we say let's all turn off the lights so we can conserve energy together, everybody turns off the lights. In the US, the same suggestion is often met with indignance: "Why should I turn off the lights, I'm paying for it?"

To effect the changes we need to face Peak Oil and other crises, we need to change our mindset, and permaculture acknowledges the power of community engagement and appropriate technologies to do so. As US permaculturist Patricia Allison puts it in the film: "it's not the technologies, but the human relationships," that most matter in designing and implementing change.

We need look no further than Cuba—just 90 miles from the mainland US—to uncover successful strategies to weather the coming storm. *The Power of Community* deftly outlines many of these and gets viewers thinking about solutions, not just the gloom and doom. △

**For additional Reviews
see our website:**

www.permacultureactivist.net



EVENTS

Advanced Permaculture Design Mexico

Dates: November 11-20

Location: Huamantla, in highland Mexico, 2 hours east of Mexico City.

Description: This course is an intensive design process for PDC graduates. Participants design portions of the restoration of the 16th century Hacienda Santa Barbara in rural Mexico as an eco-inn, permaculture center, and elementary school for the neighboring area. The restoration is funded and has begun, but much design work needs to be completed, presenting an opportunity to gain in-depth experience on the "ground floor" of a multi-faceted permaculture design. There will be two all-day field trips to neighboring historic, permaculture, and natural building sites.

Instructors: Scott Horton, Capra JiNeva and guests.

Cost: \$1,050 includes lodging, meals, field trips, and all course materials.

Contact: Scott Horton

San Jacinto Mtns. Permaculture Inst.
PO Box 1762, Idyllwild, CA 92549
951-659-5362

LaSemillaBesada@hotmail.com

4th Annual

Permaculture Design Course Central America

Dates: February 1-18, 2007

Location: Project Bona Fide, Isla Ometepe, Nicaragua

Description: Join our fully bilingual, simultaneously translated, 100-hr Certificate Permaculture Design Course. Project Bona Fide works with communities of the Maderas volcano region through workshops, seed banks, multi-use trees for agroforestry, regenerative food production systems, natural building, off-the-grid living, and appropriate technologies such as: ferrocement, drip irrigation, on-site metal working, bamboo technologies, and innovative water pumping/storage solutions. Participants will be living and learning in a rural setting where most folk are subsistence farmers.

Instructors: Chris Shanks, Michael Judd, Reed Aubin, Jenny Pell, Joanna Mae Souers, and Andrea Calfuquir.

Cost: \$1500.

\$400 deposit by 12/1; \$100 discount by 11/1. College credit available.

Contact: Chris Shanks

ch_shanks@hotmail.com

www.silentdust.com/bonafide

www.permaculturenow.com

Learning Spanish in Community South America

Dates: December 1-13

Location: Gaia Ecovillage, Navarro, Buenos Aires, Argentina

Description: This immersion Spanish course offers a unique opportunity to learn and practice Spanish while experiencing life in a pioneer eco-village in South America. This course is suitable for absolute beginners as well as people with a high intermediate mastery of the Spanish language.

Cost: \$600 incl. tuition, lodging, meals, and materials. 50% deposit to confirm. Application form required.

Contact: Argentine Permaculture Institute - Asociación GAIA
+54-2272-492072
Fx+54-11-47522197
www.gaia.org.ar
gaia@gaia.org.ar

Learning and Exploring Sustainable Life Principles South America

Dates: January 15-24, 2007

April 9-18, 2007

Location: Gaia Ecovillage, Navarro, Buenos Aires, Argentina

Description: This course is for students looking for practical skills in sustainability that college can not offer. Opportunities to see and participate in permaculture living systems in different development stages, and be involved in the work.

Contact: Asociación GAIA (above)

5th Annual

Permaculture Design Course Bahamas

Dates: January 4-19, 2007

Location: Cape Eleuthera, Bahamas

Description: Our 100-hour Certificated Permaculture Design Course is an opportunity to learn and experience permaculture at the Island School, an institution committed to a sustainable and place-based curriculum. Participants will experience the beauty and challenge of our site as well as be part of the design process as the Island School continues to evolve.

Instructors: Chris Shanks, Sarah Gardner, Jack Kenworthy, and local Bahamians.

Cost: \$1995

Contact: Chris Shanks
ch_shanks@hotmail.com
www.islandschool.org
www.permaculturenow.com

Permaculture Design Course Argentina

Dates: February 16-28, 2007

Location: Gaia Ecovillage, Navarro, Buenos Aires, Argentina

Description: This is a 13-day certificate design course taught in Spanish only. Topics include, PC principles, patterns and cycles of nature, climate, soils, cultivated ecosystem, energy, water, appropriate technologies, developing settlements, natural building, design strategies, ecovillage design, alternative economies, and more. Lecture, discussion, hands-on practice, and mentored small group design projects.

Instructors: Gustavo Ramirez & Silvia Balado, and guests.

Cost: \$600 includes materials, lodging, and meals. Application form required. 50% deposit to confirm.

Contact: Argentine Permaculture Institute - Asociación GAIA
+54-2272-492072
Fx+54-11-47522197
www.gaia.org.ar
gaia@gaia.org.ar

Permaculture Design Course Central America

Dates: February 11-25, 2007

Location: San Pedro Columbia Village Toledo District, Belize

Description: Join us at Maya Mountain Research Farm, an established permaculture demonstration farm cultivating hundreds of species of useful plants. Learn the principles that make ecosystems self-sustaining and apply them to your designs for integrated homes and gardens, energy and water systems, thriving communities, economies, and global political movements. This certificate course is applicable to both tropical and temperate climates. Activities will include birding, caving, river swimming, green-building examples, and field trips to other lush, productive agro-ecological systems including cacao (chocolate!) farms.

Instructors: Toby Hemenway, Larry Santoyo, and local guests.

Cost: \$1200 incl. indoor lodging and home-grown organic meals. \$100 non-refundable deposit due upon registration.

Contact: Maya Mt. Research Farm
San Pedro Columbia,
Toledo District, PO Bx 153,
Punta Gorda BELIZE
www.mmrfbz.org
info@mmrfbz.org

Permaculture Design Course West Indies

Dates: January 5-20, 2007

Location: Trinidad & Tobago

Description: Join us at Wa Samaki Ecosystems on the Central Range of Trinidad as we undertake the first ever two-week, hands-on intensive Permaculture course in T&T. We'll be introducing the concepts of Permaculture to the Trinidadian public and providing an environment for the exchange of local and international ideas and information on Permaculture. Wa Samaki Ecosystems is a 33-acre former citrus and tobacco farm turned permaculture demonstration site.

Instructors: Peter Bane and Dr. Hugh Skinner.

Cost: US\$1500 includes lodging, meals, materials, and field trips. Airfare not included. US\$300 deposit to register.

Contact: Permaculture at Wa Samaki
c/o 6 St. Ann's Ave
St. Ann's,
Trinidad and Tobago, W.I.
John Stoilmeyer
011+868-624-1341
Erle Rahaman-Noronha
011+868-673-4180

www.wasamakipermaculture.org

8th Intl. Permaculture Conference (IPC 8) Brazil

Dates: May 2007

Location: Sao Paulo, Brazil

Description: "Greening our Economy with the Principles of Permaculture." Workshops, lectures, field trips, and case studies will highlight public policy changes needed to encourage sustainable economies at the local, state, and national level. Focus on local currencies, cooperatives, micro-financing, global environmental markets, ecological restoration, carbon credits, fair trade, economic democracy, certification, green accounting, and other related themes.

Instructors: Speakers will come from all over the world—from Grameen to favela coops to barefoot economists, to prominent green thinkers, to US millionaires ecologically transforming their corporations, to successful credit banks.

Contact: www.ipc8.org
ipc8@lists.riseup.net

Urban Permaculture Design Course Southern California

Dates: Six Weekends in 2007

Jan. 13-14 & 27-28;

Feb. 2-3 & 24-25;

March 10-11 & 24-25.

Location: Los Angeles Eco-Village

Description: Participants will learn how to redesign and retrofit cities to integrate harmoniously with nature. This complete, six-weekend permaculture design certificate course focuses on creative, pro-active strategies for urban environments. Course topics include: ethics and principles, soils, water catchment and cleaning, ecological systems, food production and security, reading the landscape, ecovillages, renewable energies, natural building, activism, non-violent communication, alternative currencies, and more. Multiple hands-on activities and site visits emphasize an immersive, experiential approach to learning permaculture.

Instructors: Scott Horton & Kat Steele.
Guests incl. Dr. Bill Roloff, Lois Arkin, Bradley Mowers, David Haskell, Esfandiar Abbasi.

Cost: \$800 including all course materials and lunches during the course.

Contact: Lois Arkin
213-738-1254
crsp@igc.org
www.laecovillage.org

11th Annual

Permaculture Design Course On-line

Dates: November 5

Location: On-line

Description: Six-month long course includes reports, weekly reading assignments, and participation in questions and discussion via email. The heart of the course is "The Permaculture Design Course CD-ROM," with more than 300 files including several "posts" of course notes and readings for each of the 21 course modules, numerous papers and pamphlets, at least one sample of a full permaculture design, sample standard designs, databases, and a full-length book.

Instructors: Dan Hemenway, Cynthia Hemenway, and Willem Smuts.

Cost: \$1200

Contact: Barking Frogs
Permaculture Center
barkingfrogspc.tripod.com/frames.html
BarkingFrogsPC@aol.com

15th Annual

Permaculture Design Course Western Oregon

Dates: November 30-December 13

Location: Dexter, OR

Description: This course offers the full PDC curriculum with an additional emphasis on urban situations and ecovillage design. Taught on 87 acres of forests, gardens, and meadows, this course provides students the unique opportunity to live and work in an intentional community while earning their certification. We promote teamwork and have fun while learning together.

Instructors: Rick Valley, Jude Hobbs, Marisha Auerbach, and Marc Tobin.

Cost: \$1250-\$1450 sliding scale.
\$200 early registration discount.

Contact: Lost Valley Educational Ctr.
81868 Lost Valley Lane
Dexter, OR, 97431
541-937-3351 x 112
events@lostvalley.org
www.lostvalley.org

Permaculture Design Course Hawaii

Dates: December 2-16

Location: Puna District, Big Island

Instructors: Douglas Bullock, Lonnie Gamble, Sean Canetta, Brian Robbins, and other local guests.

Contact: Diana Krystofiac
641-472-7033
kryst@natel.net
www.internproject.com
www.permaculturenow.com

Earth Activist Training Northern California

Dates: January 7-21, 2007

Location: Northern California

Description: EAT combines a full permaculture certificate course with earth-based spirituality and practical political know-how. Learn Magic 101, Nature Awareness, Solutions (urban gardens, organic farming, natural building, bioremediation, greywater systems, ecoforestry, soil-building, watershed restoration), Consensus Process, Planning for Big Changes, Creating Ritual, Movement Building, Renewal of Hope, Breaking the Spell (of fear, rage, grief, frustration).

Instructors: Starhawk & Erik Ohlsen

Cost: \$1100-\$1600 sliding scale,
work-trade and loans available.

Contact: mer@starhawk.org
www.earthactivisttraining.org

Free Event and Calendar Listings
Email your info to: pcaeditor@earthlink.net

Permaculture Design Course Northern California

Dates: March 17-30, 2007

Location: OAEC, Occidental, CA

Description: Two-week certificate course in land-use design based on permaculture. Students will enjoy our 80-acre site with its 30-year history as a cutting edge learning institution. Topics to be covered include permaculture theory, food diversity, soil enrichment, water use, erosion control, natural building, organic gardening, forest farming, and more.

Instructors: Brock Dolman, Dave Henson, Adam Wolpert, Doug Gosling, Michelle Vesser, Carol Nieukirk, and others.

Cost: \$1,350 includes lodging and meals. \$1250 if registered ahead two weeks.

Contact: Occidental Arts and Ecology Center
15290 Coleman Valley Rd.
Occidental, CA 95465
707-874-1557 x201
707-874-1558 fx
oaec@oaec.org

Permaculture Design Course San Juan Islands, WA

Dates: July 15-August 4, 2007

Location: Orcas Island, WA

Description: A three-week certificate design course on the Bullock's 25 year-old permaculture homestead. Approximately 144 hours of classroom and hands-on education including design methodologies, observation, annual and perennial foods, water/energy/waste management, appropriate building, plant propagation and culture, outdoor mushroom cultivation, herbs, and natural fiber use. Parents: Call for info on concurrent wilderness awareness course for kids!

Instructors: Douglas, Joseph, & Samuel Bullock, John Valenzuela, Toby Hemenway

Cost: \$1600. (\$100 discount by 6/1). A \$250 non-refundable deposit to register.

Contact: Dave Boehnlein
360-840-8483
permaculture.dave@gmail.com
www.permacultureportal.com
www.permaculturenow.com

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Permaculture Design Course Southwest US

Dates: March 30-April 13, 2007

June 29-July 13, 2007

August 3-August 17, 2007

Location: Santa Fe, NM

Description: 72-hour intensive with emphasis on systems thinking, pattern literacy, dryland strategies, food forestry, community practices, and invisible structures for people from all biomes.

Instructors: Scott Pittman,
Joel Glangberg

Cost: \$1200 incl. indoor lodging & meals. \$100 non-refundable deposit to register.

Contact: EcoVersity
2639 Agua Fria Street
Santa Fe, NM 87505
505-424-9797
www.ecoversity.org
info@ecoversity.org

Certificate Program in Earth-based Vocations Southwest US

Dates: March 29-June 8, 2007

August 2-October 12, 2007

Location: Santa Fe, NM

Description: The 10-week certificate program builds on a permaculture base and includes Natural Building, Sustainable Land & Garden, Alternative Energies and Land Arts and Community Activism. Classroom and field work with real-life projects and installations. Graduates learn skills for living on the land, and working with earth-based enterprises. Recommended for people seeking alternative vocational skills and practical experience to pioneer a meaningful livelihood.

Contact: EcoVersity (see above)
505-424-9797 extn. 10

12th Annual

Permaculture Design Course Southwest US

Dates: February 10-11, 17-18

Mar. 3-4, 17-18, 24-25

Location: Tucson, AZ

Description: Get your Permaculture Certificate in the Southwest drylands. These five weekends on sustainability cover everything from water harvesting to community economics to natural building.

Cost: \$650. \$595 for registration by December 1st.

Contact: Dan Dorsey
520-624-8030
dorsey@dakotacom.net
www.sonoranpermacultureguild.org

Permaculture Design Courses Ohio Valley

Dates: June 10-24, 2007

Location: Paoli, IN

Description: Fifth annual life-changing Pc certificate course taught through Indiana University (3 hrs. credit to IU students). Enjoy world-class education from the Permaculture Activist team in a unique and artful setting within Hoosier National Forest one hour from Bloomington; draft horses, swimming pond, organic farm, hot solar showers, excellent music on site. Lose your ignorance; find hope. We have graduates around the world.

Instructors: Peter Bane, Keith Johnson,
Rhonda Baird & guests

Cost: \$1000 includes meals, camping, course materials, and dancing.

Contact: www.indiana.edu/~ilc/permaculture.html, or for non-credit options and site info: Andy Mahler, 812-723-2430
andy@blueriver.net

www.permacultureactivist.net/DesignCourse/PcSyllabus.htm

Permaculture Fundamentals

Dates: May 3-6 & 25-27, 2007

Location: Oldenburg, IN

Description: First half of the certificate course taught in two weekends at historic Michaela Farm. Organic farming, natural building, and sustainable systems on-site. Learn strategies for a low-energy future: urban farming, green neighborhoods, home energy retrofits, edible public landscapes. Leads to the certificate when paired with a Design Practicum.

Instructors: Peter Bane, Keith Johnson
Rhonda Baird, and guests.

Cost: \$475 includes tuition, meals, materials. Lodging options extra.

Contact: Pamela Corcoran
Assn. for Regenerative Culture
540-344-5013
plcsignup@yahoo.com
www.ARCulture.org

Permaculture Fundamentals

Dates: July 13-21, 2007

Location: nr Athens, OH

Description: Appalachian Ohio is justly famous for herbal wildcrafting, pawpaw culture, organic farming, sustainable forestry, and a wealth of local economic initiatives. Join us in this trendsetting region of great natural beauty as we empower ourselves with ecological awareness and design literacy. This course, together with a Design Practicum, leads to the internationally recognized certificate.

Instructors: Peter Bane, Keith Johnson
Rhonda Baird, and guests.

Cost: \$475 includes tuition, meals, materials. Lodging options extra.

Contact: Pamela Corcoran, as above.

Permaculture Design Practicum Ohio Valley

Dates: August 24-September 1

Location: Loveland, OH

Description: Second half of the certificate course taught in eight days at Grailville. Wetland wastewater treatment, youth education, empowered women, progressive and earth spirituality, and an emerging ecovillage. distinguish this site on 300 acres near metropolitan Cincinnati. Grailville will host the 10th Continental Bioregional Congress in 2008, and our design work will help prepare the site as well as realize the vision of Heartland Ecovillage. Gracious accommodations at the Grailville conference center make this an exceptional opportunity. PDC or Permaculture Fundamentals is a prerequisite for obtaining the certificate.

Instructors: Peter Bane, Keith Johnson Rhonda Baird, and guests.

Cost: \$695 includes tuition, meals, lodging, and materials.

Contact: Pamela Corcoran

Assn. for Regenerative Culture
540-344-5013
plcsignup@yahoo.com
www.ARCulture.org

Permaculture Design Course Mid-Atlantic US

Dates: 6 weekends in 2006 & 2007
Oct. 28-29, Nov. 18-19,
Dec. 9-10, Mar 24-25,
Apr. 21-22, May 19-20.

Location: Heathcote Community,
Freeland, Maryland

Description: This course combines experiential and academic learning, through lectures, readings, discussions, field trips, and hands-on design projects (using Heathcote as well as your own site). Topics include permaculture ethics and principles, ecosystems and patterning (mapping, assessment, analysis) for urban, suburban & rural sites, techniques for restoring and managing energy, soils, water and cycling wastes without pollution, organic gardening, forest gardening and edible landscaping, design integration, staging, and presentation. Participants will receive Permaculture Design Apprentice Certification upon completion of the course, which is the first step towards becoming a professional Permaculture Designer.

Instructors: Dawn Shiner & Karen Stupski

Cost: Sliding scale: \$600-\$1200.

Contact: Karen Stupski

410-343-3478
karen@gaiainiversity.org
www.heathcote.org

Permaculture Design Course Virginia

Dates: Mar. 2-4, 16-18, 30-Apr. 1,
April 13-15 & 27-29, 2007

Location: Charlottesville, VA

Description: Five spring weekends in historic Charlottesville, featuring eastern America's best permaculture teachers.

Instructors: Peter Bane, Dave Jacke
David O'Neill, Christine Gyovai

Cost: \$1200 includes tuition,
meals, materials. Lodging options extra.

Contact: Pamela Corcoran

Assn. for Regenerative Culture
540-344-5013
plcsignup@yahoo.com
www.ARCulture.org

Permaculture Design Course Upstate New York

Dates: November 10, 2006-
March 24, 2007

Location: Ithaca, NY

Description: A comprehensive course (over 100 hours) covering all elements of the curriculum. Class time will focus on experiential design activities for our evolving demo site. Classes run Saturdays and Sundays on alternating weekends. Students may sign up for the entire course or on a per-class basis.

Instructors: Steve Gabriel, Karryn Olson-Ramanujan, and guests.

Cost: \$800, lodging extra

Contact: Finger Lakes Permaculture
Institute
POB 54, Ithaca, NY 14851
www.fingerlakespermaculture.org
info@fingerlakespermaculture.org

Permaculture Design Course Upstate New York

Dates: 5 wkds. February-June '07

Location: Hancock, NY

Description: This world-recognized course provides an introduction to permaculture. Students are invited to bring details of their own sites or potential sites and explore site-specific permaculture solutions in hands-on workshops. The course serves as foundation for further study.

Instructors: Geoff Lawton, Andrew Jones, Andrew Leslie Phillips, Claudia Joseph, Ethan Roland, and guests.

Cost: \$200 per week-end unit.

Contact: 917-771-9382

greenman124@yahoo.com
www.hancockpermaculture.org

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Radical Caring! The International Activist and Communities Magazine. Free photoclassifieds for communities seeking members, activist personals, activist obituaries, free events, and more! Love, Action...Networking! www.RadicalCaring.org. -63

Goddessing: Int. journal of Goddess expression, research, news, events, arts, delight, & eco-feminism. \$35/5 issues (2.5 years). Goddessing, PO Box 269, Valrico, FL 33595. See "Goddessing" pages: www.goddessmandala.com. -62

Education/Internship

THAILAND - Pun Pun organic farm, seed center, and sustainable living learning center hosting: "Build with Us," Earthen Building Workshops. Learn to build start to finish. Nov. 25-Dec. 1, 2006 and March 15-21, 2007. Also, 3-mo. Intensive Internship: Dec. 9, 2006-Mar. 9, 2007. For more information see website www.punpunthailand.org. -62

For Rent

5,600 sf. strawbale home on 5 acres nr. Austin, Texas. Originally designed for a permaculture farm. Commercial kitchen, 85,000 gal rainwater system, raised garden beds, large composting area, deer fenced. Ten minutes to lake. Rate depends on size of family/group. 512-261-9688. www.laurenbachrealty.com. -62

For Sale

20' Yurt by Great American Yurts. Insulation, snow/wind kit, dome skylight, etc. New (in crate). Asking \$8,000 (paid \$9,230). Will ship in USA. Contact: earthwardproject@juno.com. -62

Position Available

Live and work in the Oregon Rainforest! Position available for experienced natural builder. Roof and board. Permaculture homestead. Mountain Home, 95245 Rink-Creek Ln., Coquille, OR 97423. -62

Widow with homestead: Wants to convert to permaculture. Building experience required. Write first: Smitty, 933 Greer St., Pea Ridge, AR 72751-3107. -62

Position Wanted

Worldwide Travelling Non-smoking, Non-Drinking, Housesitter available. Also available as an internet/computer assistant. 207-871-5300. guru@dsame.com, www.peace.dsame.com. -63

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 II, 1 Feb. '86 **Garden Design**
 II, 3 Aug. '86 **2nd Int'l PC Conf.**
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 III, 1 Feb. '87 **Networking, Natural Farming, D-Q Univ., Children's PC**
 III, 2 May '87 **PC Restoration of Wild Lands, Design for Sacramento Farm**
 III, 3 Aug. '87 **Annual Planting Cycle**
 IV, 1 Feb. '88 **Marketing PC Products, Bamboo, Home Wastewater Treatment**
 IV, 2 May '88 **Urban-Rural Links: Economics & Community Development**
 IV, 3 Aug. '88 **Social Forestry, Gabions, Jap. Org. Ag., Prodc/Cons. Coops**
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 V, 4 Nov. '89 **PC Def's, Water Conservation, Small Dams, Ponds, Keyline**
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 VI, 2 May '90 **Insectary Plants, more Greywater, Land Use for People**
 VI, 3 Aug. '90 **Water: Forests & Atmosphere, Catchment, Nepal, Pond Design**
 VI, 4 Nov. '90 **Urban Permaculture: Ecocity Conf., Soil Detox, Suburbs & Pc.**
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 #24 Oct. '91 **Creativity in Design: Examples; Index Issues #1-23;**
 #25 Dec. '91 **Design for Community: CSAs, Restoring Forest; Garden Ecol.**
 #26* May '92 **Soil: Our Past, Our Future: Fertility, Worms, Cover Crops**
 #27* Aug '92 **Integrating Pc: Deconstructing Utopia, Grassroots Organizing, Garden Polyculture, Pattern Learning, Living Fences**
 #28* Feb. '93 **Structures: Comm'ly Dsgn, LETS, Industry, Strawbale/Timber-frame Bldgs.**
 #29/30* July '93 **Networks: Special Media Rvw, Rural Reconstr'n, Leaf Conc., Comm'y Food Initiatives, Pc in Palestine, Do-Nothing Educ., Feng Shui, Pc Acad.**
 #31* May '94 **Forest Gdng: Energy & Pc, Mushrm Cultvn, Robt.Hart's F.G., Spp for N. Cal., Alders, Agroforestry in Belize & China, Honeylocust, N-fixers.**
 #32 April '95 **Animals & Aquaculture: Animal Polyculture, Small-scale Cattle, Goat Dairy, Keyline, Feral Chickens, Bee Plants, Constructed Wetlands**
 #33 Dec. '95 **Cities & Their Regions: Green Cities, LA Eco-Village, MAGIC Gardens, CoHousing, Micro-Enterprise Lending, Suburban Conversion.**
 #34 June '96 **Useful Plants: Bamboo Polyculture, Medicinals, Pest Control, Root Crops, Oaks, R. Hart's For. Gdn, Russian Plants, Regl. Plants, Sources**
 #35 Nov. '96 **Village Design: Pattern Language, Consensus Democracy, Conflict, Historic & New Villages, Planning for Tribe, Vill. Economics**
 #36 Mar. '97 **Climate & Microclimate: Climate Change, Windbreaks, Low-Tech Sun Locator, Drylands, Cool Slopes, Straw-Clay Bldg, Round Beehive, Water Catch.**
 #37 Sept. '97 **Tools & Appropriate Technology: Dowsing, Workbikes, New Energy, Scythes, Japanese Saws, Nursery, Ferrocement, Greywater, A-frame & Bunyip Levels, Ram Pump, Solar Toilet, Log Yoke, Cookstoves...**
 #38* Feb. '98 **Economic Transformation: Speculative Economy, No Middle Class Worker-Owned Coops, WWOOF, No Money!, Global Warming, What Profits?, Holistic Financial Planning, Land Use, Adopt-A-Hive**
 #39 July '98 **Knowledge, Pattern & Design: Pc: A Way of Seeing, Sand Dunes, Native Conservation, Language Worldview & Gender, Patterning as Process, Land-Use Planning, Teaching Pc, Vietnam, Holmgren on Pc**
 #40 Dec. '98 **New Forestry: Regl. Devlpmt., Horselogging, Menominee Reserv'n, Forest Investing, Restoration, Old Growth, Homestead Tenure, Forest Soils, Forest Farming, Woody Agric., Rainforests, Windbreaks, Coppice**
 #41* May. '99 **Natural Building: Oregon Cob, Cordwood, Bamboo, Thatch, Ethics, High Winds, Origins of Conflict, Greenhouses, Ponds, Adobe, Road-Building, MicroHydro, Bldgs. That Live, Under \$20K Houses, Dreams**
 #42 Dec. '99 **Self-Reliance & Community Cooperation: Co-Intelligence & Self-Orgn., Archetype Design, Sovereignty, Samoa, Mondragon, Natural Housing, Comm. Gdns., Zone Zero, Solar Electric Tractor, Beekeeping**
 #43 June '00 **Food & Fiber: Hunger, Ferments, Seasons Salads, Heirlooms, Fencing, Self-Fertile Gdns, Rice Revolution, Cold-climate Food, Edible Insects, Chillies, Food Origins, Garlic, Ethnobotany, Wild Food, Bamboo, Hemp**
 #44 Nov. '00 **Earthworks & Energy: Spreader Drain, Horse Swales, Earth Dams, Machinery, Carpet-lined Ponds, Constr. Wetlands, Biogas, Windmills...**
 #45 Mar. '01 **Medicine & Health: World & Self, Healthy Home, Designing Care, Ayurveda, Agents of Decay, Comm. Health Centres, Women Trad. Med 4th World Apothecary, Healing Weeds, Medicinal Crops, Hawaiian Bot'ls**
 #46 July '01 **Good Work & Right Livelihood: Pc Golf Course, Downsize Cost of Living, New Forest Economy, Energy Currency, Buddhist Mktng., End Wage Slavery, What's Surplus?, Urban Community, Enterprise Facil'n**
 I, 2 Nov. '85 **Fruit & Nut Trees**
 II, 2 May '86 **IPC-2 & Pc Courses**
 #47 June '02 **Watersheds: Water as Commodity, Basins of Relations, Beavers Watershed Development, Skywater Center, Urban Stormwater Gabions, Conservation Investments, Peat Bogs, Rabbits.**
 #48 Sept. '02 **Making Changes: Co-Intelligent Activism, Webs of Power, Urban Food, How to Change, Teaching for Change, Global Transformation, City Repair, Escaping the Job Trap, Argentine Recovery, Costa Rica Pc**
 #49 Dec. '02 **Where is Permaculture? Land-Rent Reform; 10 N. American sites plus Cuban Agric.; Beauty+Sustainability in NZ: Cacti/Succulent Plants; Animal Self-Medication; Challenge to Pc Movement**
 #50 May '03 **Ecosystems: Holmgren on Pc Mvmt; E. Hazelp & Synrg. Agric. Chestnuts/Pigeons; Oak Savannas; Root Crop Polyculturs.; Alders Fungal Ecosys.; Humans & Wildn; Indoor Ecos.; Humid Tropics.**
 #51 Jan '04 **Traditional Knowledge & Regeneration: Bates on Cataclysm& Collective Memory; Shepard's Wisdom of the Genome; Waru Waru; Biosculpture; Inuit Medicine; Fermented Stimulants.**
 #52 May '04 **Aquaculture: Ecological Aquaculture; Fish for Health; Dowsing; Designing Ponds; Greywater Biotreatment; N. Amer. Polyculture; Managing for Native Species; Integrated Village Fisheries; Vietnam.**
 #53 Aug. '04 **Education: Life-long Learning; Edge-ucation; The Albany Free School; Indigenous Education & Ecology; Ecocentric Pedagogy; School Gdn and Dances; Ecology of Learning; Brain Gym.**
 #54 Nov. '04 **Fire & Catastrophe: Designing Beyond Disaster; Opportunity; Rise of Globalization; Invasion Biology; Street Orchards as Security; Community Food Security; Water Rising; Disrupted Climates.**
 #55 Feb. '05 **Learning from Our Mistakes: Petroleum Dependence; Village Design; Aust. Hard-Won Lessons; Read the @!#!@ Manual; Trial&Error; Experiments in Forestry; Owner-Builder; Ten Mistaken Ideas in Pc.**
 #56 May '05 **Tree Crops, Tree Guilds: History of Pine Nuts; Tree Vegetables; Acorns; Restoring American Chestnut; Honeylocust as Silvopasture; Broadscale Agroforestry; Bamboo; Wondrous Willow; Social Forestry.**
 #57 Aug. '05 **20th Anniversary Issue: Challenges; Remembrance; Pc in USA; Hawaii Retrospective; Pc Changes; Permaculture; Pc's Soft Edge; PINC; Gaia University; Oil Depletion; IPC-7; Retrofitting Suburbs.**
 #58 Nov. '05 **Urban Permaculture: Urban/Rural Futures; City Zones & Sectors; Growing Food; Detroit Visionaries; Rebuilding New Orleans & Everywhere; Transformation of a Military Base; Workers Co-op; Energy Descent.**
 #59 Feb. '06 **Peak Oil: Peak Oil & Pc; Ecological Collapse & Trauma Theory; Thom Hartmann; Pathways for Energy Descent; How Cuba Survived; Oil & Food; Biofuels; Cultivating Algae for Fuel; Relocalize.**
 #60 May '06 **Land Use Past & Present: Sust. Ag an Oxymoron?; Negev's Bedouin; Eastern Woodlands Agroforestry; Pc Heals in India; Arcosanti Land Planning; Pop. Growth/Land Hunger; Mexican Reforest; Rocky Mtns.**
 #61 July '06 **Unseen Kin-doms: Observation as Design Tool; Soil Food Web; Bees; Mycelial Internet; D-I-Y Mycorrhizal Inoculum; Cover Crops as Bee Forage; Earth Energies; Local Currencies; Dead Zones; Birds at Risk.**

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Oct. 28-29, Nov. 18-19, Dec. 9-10, 2006. Mar 24-25, Apr. 21-22, May 19-20, 2007.

Freeland, MD. Permaculture Design Course. Karen Stupski. 410-343-3478.

karen@gaiainiversity.org, www.healthcote.org.

November 5. On-line. 11th Annl. Permaculture Design Course. Barking Frogs Permaculture Center. barkingfrogspe.tripod.com/frames.html, BarkingFrogsPC@aol.com.

November 10, 2006-March 24, 2007. Ithaca, NY. Permaculture Design Course. Finger Lakes Permaculture Institute. PO Box 54, Ithaca, NY 14851. www.fingerlakespermaculture.org, info@fingerlakespermaculture.org.

November 10-12. nr. Tustin, MI. Raising Vegetables and Civic Values: CSA in the 21st Century. CSA-MI, 3480 Potter Rd, Bear Lake, MI 49614. 231-889-3216 (toll free 877-526-1441). csafarm@jackpine.net, www.csafarms.org.

November 11-20. MEXICO. Advanced Permaculture Design. Scott Horton, San Jacinto Mountains Permaculture Institute. P.O. Box 1762, Idyllwild, CA 92549. 951-659-5362. LaSemillaBesada@hotmail.com.

November 30-December 13. Dexter, OR. Permaculture Design Course. Lost Valley Educational Ctr. 541-937-3351 x 112. events@lostvalley.org, www.lostvalley.org.

November. THAILAND. Permaculture Design Certificate and Cultural Immersion. EcoLogical Solutions. info@ecologicalsolutions.com.au, www.ecologicalsolutions.com.au.

December 1-13. ARGENTINA. Learning Spanish in Community. Argentine Permaculture Institute - Asociación GAIA. +54-2272-492072. Fx+54-11-47522197. www.gaia.org.ar, gaia@gaia.org.ar.

December 2-16. Big Island, HI. Permaculture Design Course. Diana Krystofiac. 641-472-7033. kryst@natel.net, www.internproject.com.

January 4-19, 2007. BAHAMAS.

Permaculture Design Course. Chris Shanks, ch_shanks@hotmail.com, www.islandschool.org, www.permaculturenow.com.

January 5-20, 2007. TRINIDAD, W. Indies. Permaculture Design Course. Permaculture at Wa Samaki, c/o 6 St. Ann's Ave, St. Ann's, Trinidad & Tobago, W. Indies. John Stolmeyer. 011+868-624-1341. johnjohn@wow.net, www.wasamakipermaculture.org.

January 7-21, 2007. CA. Earth Activist Training with Starhawk. mer@starhawk.org, www.earthactivisttraining.org.

January 13-14 & 27-28; Feb. 2-3 & 24-25; March 10-11 & 24-25, 2007. Los Angeles, CA. Urban Permaculture Design Course. Lois Arkin. 213-738-1254. crsp@igc.org, www.laecovillage.org.

January 15-24, 2007. ARGENTINA. Learning and Exploring Sustainable Life Principles. Argentine Permaculture Institute - Asociación GAIA. +54-2272-492072. Fx+54-11-47522197. www.gaia.org.ar, gaia@gaia.org.ar.

January 24-27, 2007. Pacific Grove, CA. Ecological Farming Conference. Eco-Farm Association. 406 Main St., Watsonville, CA 95076. 831-763-2111. www.eco-farm.org.

February 1-18. NICARAGUA. Permaculture Design Course. Chris Shanks, ch_shanks@hotmail.com, www.silentdust.com/bonafide, www.permaculturenow.com.

February 10-11, 17-18, Mar. 3-4, 17-18, 24-25. Tucson, AZ. Permaculture Design Course. Dan Dorsey, 520-624-8030, dorsey@dakotacom.net, www.sonoranpermacultureguild.org.

February 11-25. BELIZE. Permaculture Design Course. Maya Mountain Research Farm. info@mnrfbz.org, www.mnrfbz.org.

February 16-28. ARGENTINA. Permaculture Design Course. Argentine Permaculture Institute - Asociación GAIA. +54-2272-492072. Fx+54-11-47522197. www.gaia.org.ar, gaia@gaia.org.ar.

February-June, 2007. (5 weekends). Hancock, NY. Permaculture Design Course.

917-771-9382. greenman124@yahoo.com, www.hancockpermaculture.org.

March 2-4, 14-16, March 30-Apr. 1, Apr. 13-15, 27-29. Charlottesville, VA. Permaculture Design Course. Pamela Corcoran, Assn. for Regenerative Culture, 540-344-5013, plcsignup@yahoo.com, www.ARCulture.org.

March 17-30. Occidental, CA. Permaculture Design Course. OAEC. 15290 Coleman Valley Rd. Occidental, CA 95465. 707-874-1557 x201. 707-874-1558. oaec@oaec.org.

March 29-June 8. Santa Fe, NM. Certificate Program in Earth-based Vocations. EcoVersity. 505-424-9797.

www.ecoversity.org, info@ecoversity.org.

March 30-April 13. Santa Fe, NM. Permaculture Design Course. EcoVersity. 505-424-9797. www.ecoversity.org, info@ecoversity.org.

April 9-18. ARGENTINA. Learning and Exploring Sustainable Life Principles. Argentine Permaculture Institute - Asociación GAIA. +54-2272-492072. Fx+54-11-47522197. www.gaia.org.ar, gaia@gaia.org.ar.

May 2007. BRAZIL. International Permaculture Convergence (IPC 8). www.ipc8.org, ipc8@lists.riseup.net.

May 4-7 & 25-27. Oldenburg, IN. Permaculture Fundamentals. Pamela Corcoran, Assn. for Regenerative Culture, 540-344-5013, plcsignup@yahoo.com, www.ARCulture.org.

June 10-24. Paoli, IN. Permaculture Design Course. www.indiana.edu/~ilc/permaculture.html, or Andy Mahler, 812-723-2430. andy@blueriver.net.

June 29-July 13. Santa Fe, NM. Permaculture Design Course. EcoVersity. 505-424-9797. www.ecoversity.org, info@ecoversity.org.

July 13-21. nr Athens, OH. Permaculture Fundamentals. Pamela Corcoran, Assn. for Regenerative Culture, 540-344-5013, plcsignup@yahoo.com, www.ARCulture.org.

July 15-August 4. Orcas Island, WA. Permaculture Design Course. Dave Boehnlein. 360-840-8483. permaculture.dave@gmail.com, www.permacultureportal.com, www.permaculturenow.com.

August 2-October 12. Santa Fe, NM. Certificate Program in Earth-based Vocations. EcoVersity. 505-424-9797. www.ecoversity.org, info@ecoversity.org.

August 3-August 17. Santa Fe, NM. Permaculture Design Course. EcoVersity. 505-424-9797. www.ecoversity.org, info@ecoversity.org.

August 24-September 1. Loveland, OH. Permaculture Design Practicum. Pamela Corcoran, Assn. for Regenerative Culture, 540-344-5013, plcsignup@yahoo.com, www.ARCulture.org.

NETWORKS AND RESOURCES

New Local Currency

In the Southern Berkshire region of Western Massachusetts, locally owned businesses, concerned citizens, and community based banks are joining together in a new program called BerkShares, a local currency. The purpose of a local currency is to help build the local economy by maximizing circulation of trade within a certain region. Widely used in the early 1900s, local currencies are again being recognized as a tool for sustainable economic development.

BerkShares became available on September 29th and during the first weekend consumers exchanged their federal dollars for over \$50,000 BerkShares, representing an enthusiastic pledge to support the program. Consumers can use their BerkShares among other things, to build a house, purchase a new muffler for their car, get a massage, stay at a hilltop bed and breakfast, arrange a business contract, eat at a number of great restaurants, shop for local foods, have their carpets cleaned, and support their church through a donation.

Structured as a ten percent discount note, consumers can exchange federal dollars for BerkShares at participating banks. Ninety federal dollars yields one hundred BerkShares. BerkShares are printed in denominations of 1, 5, 10, 20, and 50.

Participating businesses will accept BerkShares at full dollar equivalent in payment for goods and services. As long as the BerkShares stay in circulation—for change, partial payment of salaries, and purchase of

goods—they will keep full dollar value; however, when merchants accumulate too many in their cash registers, they can redeem the notes at participating banks for 90 cents on the BerkShare, in effect offering regular customers a ten percent discount.

Using BerkShares will be a citizen's way of voting for local businesses and keeping money in the community. According to the Berkshire organizers "The people who choose to use the BerkShare make a commitment to buy local first."

Facing the powerful impact of the global economy on all local economies, BerkShares will offer a positive example of how citizens can take responsibility for keeping their own economies vibrant and jobs local. If the program is successful it may be a model worth replicating in other regions. More information about BerkShares, including a directory of businesses accepting BerkShares, is available at www.berkshares.org. BerkShares is sponsored by the E. F. Schumacher Society and the Southern Berkshire Chamber of Commerce. Δ

Fundraising Toolkit

Compliments of the Relocalization Network, **The Fundraising Toolkit**, available for free online at www.relocalize.net/resources/fundraising, is intended to help Post Carbon Groups succeed in their visions by tapping into the resources required.

The Relocalization Network is a growing network of local post-carbon groups and Relocalization Network affiliates all over the world, which are working to prepare their communities for an energy-constrained future. These community-based groups receive guidance, educational resources and electronic

infrastructure from Post Carbon Institute. The groups work within their communities in cooperation with local governments, businesses, non-governmental organizations, and educational institutions to put the concept of Relocalization into practice.

The Fundraising Toolkit offers advice, templates, and examples based on successful fundraising techniques. While the information is simple and maybe even obvious it's a helpful guide when starting a fundraising project that may seem daunting to beginners. The toolkit is part recipe book, part confidence booster.

It begins with the thought "If You Need Money, You Have To Ask For It" and advises fund-seeking groups to:

- Define what you want to achieve and by when. Work backward from these goals.
- Establish how much money you need to achieve your goals.
- Develop a Wish Lists of items that your Group needs.
- Create a basic fundraising proposal that you can tailor for different potential funders.

The toolkit continues with some of the following headings:

- Do Not Fear Rejection*
- Build Relationships with Donors*
- Funding sources*
- Building your donor base*
- Foundations and other grant-making bodies*

The appendices contain templates for a Donor Prospect Profile, a Donor Thank you Letter, and a Fundraising Proposal.

The email we received regarding the toolkit had a pledge card at the bottom, apropos of the message. You can mail donations to Post Carbon Institute, 3683 West 4th Avenue, Vancouver, BC, V6R 1P2 Canada. For more information visit: www.postcarbon.org. Δ

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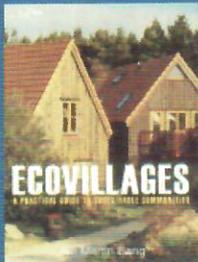
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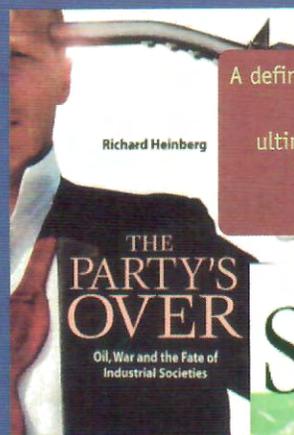
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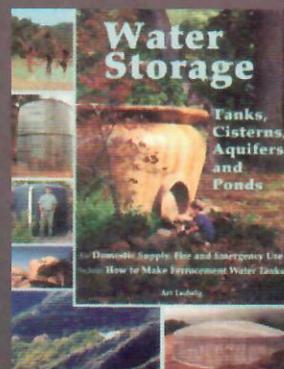
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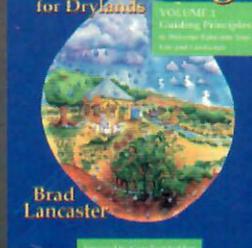
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