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Good Work & Right Livelihood

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Searching for Meaningful Livelihood

Toby Hemenway

THE ROAD TO MEANINGFUL WORK can be circuitous, and has its share of blind alleys. The signals that a person is on an ethical path are not obvious, and usually come from within—quiet hints that are often drowned out by the blare of contemporary culture. Mainstream society bestows its rewards of money and power in ways that seem to have no bearing on the integrity or usefulness of the work done. The signs toward right livelihood can easily be missed, or are written in languages we aren't always taught to read.

In my case, my mother knew I would become a biologist long before I did. She tended my jars of tadpoles, bottled cocoons, and ant farms, and liberated the inhabitants each time I reliably moved on to new interests. In those grade school days, I thought I was destined to be a great Egyptologist. But when I finished college, I hungered not for hieroglyphs, but for decoding the knowledge and evolutionary experience locked within chains of amino acids and DNA.

The new tools of genetics were just emerging, and I worked in several medical-school labs learning to map genes, cut and paste DNA, and coax bacteria to produce useful proteins. The techniques threw open huge vistas: we would soon learn the evolutionary lineages of plants and animals, cure genetic disease, and end cancer. When I was approached by a small biotech company working on cancer drugs, I happily abandoned the skimpy budgets of academia for the opulent laboratories of industry.

At this exhilarating new company, we were proud of our work. We weren't just a bunch of mercenaries touting new tranquilizers. We were going to cure cancer and end suffering. I believed in what we were doing, and had no qualms about introducing new genes into bacteria and yeast to make our research tools; it was all just chemistry. What my colleagues in agricultural biotech were doing appalled me—their manipulations seemed aimed only at selling more Round-Up—but we were curing cancer, and benignly, with naturally occurring hormones that boosted the immune system.

As the company grew from eighty employees to a thousand, and the science became subservient to the marketing, we lab folk began to grumble. While analyzing clinical trials data, I could see signs buried within the numbers that our drugs, and others like them, weren't really increasing people's survival. They just made it possible for patients to withstand even larger doses of chemotherapy and radiation, prolonging their lives so they could suffer through more rounds of treatment before they died. We weren't really curing cancer, we were just helping medicine to justify pouring billions of dollars into excruciatingly invasive treatments instead of the real cures for cancer: prevention, early diagnosis, and lifestyle changes. Soon after this realization, I left mainstream science. As my perspective had grown a bit larger, what once seemed a sure path to right livelihood proved to be a dead end. The brightly painted signs pointing toward work that our culture values can blind us toward that work's larger meaning.

Though the words of permaculture's three ethics—care for the Earth, care for people, and share the surplus—are simple, the work of carrying them out is often maddeningly complex. What do we do? What jobs are satisfying, pay a living wage, and don't engender subtle or obvious plunder and exploitation? How can we develop the critical thinking and observation skills needed to truly see the consequences of our actions? Where does money fit into the picture, and how do we separate it from the complex emotional, cultural, and social encumbrances with which it has become bound?

This issue of *Permaculture Activist* explores the search for right livelihood and meaningful work, with its frustrations and joys, winding pathways, and occasional blind alleys. As is this magazine's preference, most of the stories are from the front lines: from activists, students, farmers, designers, and a philosophically minded gardener or two who are all grappling with how to make a living while doing as little harm as possible to the Earth and its inhabitants. Each of their lives touches many others, and all of these writers show an awareness that we all play a role in creating the world at every moment.

Work is the expenditure of energy that supports us. Sometimes it's a direct exchange: I tend my garden, and its food keeps me alive. These are simple transactions with obvious results whose rightness can be easily gauged. Other times, the interactions are less straightforward, as when our needs can only be met by an exchange with the larger society. Then we must venture into the marketplace, often working for money. Here the ripples of our actions become confused. Many of us eschew supporting a brutal and exploitive culture, and are working to create a separate, ethically based society. But the two cultures will always enmesh, and our actions can never be completely separated from their effects in the larger world. In these pages, the various authors describe their own efforts at finding solutions to the problem of right livelihood: a way of working in the world that will, as Hippocrates said, first do no harm, and beyond that, will be fitting of a regenerative culture.

With each act, we make the Earth a better place or a less pleasant one. That is our choice. We are immensely powerful beings who often act as if we have no power at all. The challenge is to understand precisely how our actions ripple through the social and environmental fabric, and to learn from our mistakes. This issue of *Permaculture Activist* chronicles the efforts of people who have taken on that challenge. Δ

— Future Issues—

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CONTENTS

Wealth versus Value

A New Human Story

Jacob von Uexkull

TWENTY YEARS AGO I founded the Right Livelihood Awards [the "Alternative Nobel Prizes," of which Bill Mollison was an early winner] to honor and encourage those who have dared—sometimes at great personal risk—to think the unthinkable, to break the taboos that prop up unjust systems, and empower others with new ideas and opportunities. Over the past two decades, almost a thousand individuals and organizations, working in many areas in most of the world's nations, have been nominated for, and over 80 have received, the Right Livelihood Award.

One thing this has convinced me is that something different is needed if we are to change course in time to avoid the collapse of our planet's life support systems, and what the historian Lewis Mumford calls the "barbarization from within" of society.

What we need is a new paradigm, for the present paradigm will not release its hold until a new one becomes and remains more clearly visible. We need to tell a different human story, for the present one can have no happy ending. To do this, we first need to understand our society's values.

The Old Story

Our current human story describes a world created by chance, where the material level is the ultimate reality and morals are mere "emotions." This (post-) modern story sees all other human stories as fairy tales. We are "robot vehicles blindly programmed to preserve the selfish molecules known as genes" (Richard Dawkins). We have elevated increased consumer "choice" to the highest societal goal. Yet this goal is in direct conflict with the task of maintaining a livable planet.

The story is cynical about everything except cynicism. It substitutes markets for politics, ethics, and faith. The world has become a Western theater where this dismal play is performed daily, supported by all the skills and billions that Madison Avenue can muster. The status quo triumphs, for no moral argument against it can be taken seriously.

The result is paralysis—at a time when we can least afford it. Never has the gap between short-term thinking and long-term consequences been wider. Restoring environmental security is by far the most difficult challenge we have ever faced and the most morally compelling issue of our time. Yet the "minimum which is environmentally and scientifically necessary is more than the maximum which is politically feasible or even thinkable" (Al Gore).

We need to deconstruct the modern myth that has brought us to this impasse, deeply wounding both our outer and inner environments. This myth has several parts, but one of the most powerful is the fallacy of wealth creation.

Jacob von Uexkull

The Fallacy of Wealth Creation

The Japanese have savings of $90,000 per capita. From 1990 to 1998, real wages increased by 15 per cent, while they fell in the US (OECD). Manufacturing output exceeds that of the US. Japan's current account surplus grew in the 1990s at twice the rate of the 1980s. Net external assets increased in the same decade from $294 billion to $1,153 billion, while the US deficit and liabilities grew even faster.

Yet the story we now hear is that the Japanese economy "collapsed" in the 90s and the country is an economic basket case. Why? Because its citizens, having decided that they are rich enough, are "dangerously" low consumers. Living in an aging society with a weak social net, a large public deficit, and a polluted environment, they sensibly prefer to save. Yet their frugality is now lambasted in the Western economic media for endangering the global economy.

Meanwhile, the US—supposed model for us all—is collapsing. Since 1979, the income share of the bottom 80 per cent of society has fallen—the poorest losing most—while the richest one per cent have gained the most. According to government statistics, most US workers now earn less than in the 1960s and 1970s, but work longer hours. Fossil fuel use is still increasing but the government will do nothing "to jeopardize the American lifestyle"—as the US representative at the Hague Climate Summit put it.

We need a new story, and we can learn from Japan—but not from its previous "success"—from its failure. We need to know how

our economies can be rebuilt so that frugality is experienced as a bonus, not a threat. This involves, for example, looking at the environmental and social effects of current discounting, accounting, and tax regulations. Our new story needs to include the externalized "takings" of our economic success stories—and the absurdities and costs of a "wealth creation" built on the depletion of nature and ethics, "selling the family silver," and the monetarization of non-market wealth.

The new story needs to challenge the naïve nonsense of market populism, portraying us all—from workers to corporate raiders—as daring rebels against governments who want to take our money. We need a story that prepares us for the huge structural adjustments required in the rich economies and societies so that we can cut fossil fuel use by the necessary 70 per cent. Denial of natural limits—despite the mounting evidence—has cost us over half our global forests and species in the last 50 years. We cannot afford to keep pretending.

And yet we do. Nothing better illustrates our hubris than the claim that you cannot stop "progress" or "turn the clock back." The past is full of examples of extinct (mono-) cultures. Shortly after the Roman poet Juvenal declared that "wealth is our divinity," the clock was turned back to such an extent that some technologies widely used in ancient Rome were lost and not re-introduced in Europe for over a thousand years.

Building on Common Values

Yet pessimism can be countered. There is ample evidence that a global citizens' community with common values already exists. Research by the Institute for Global Ethics and others has found a remarkable global convergence, and even consensus, on common values. This basic consensus overrides diverse worldviews. It is shared by religious believers and non-believers of very different social backgrounds and in very different countries.

Of course there is diversity in how values are interpreted and implemented. For the poor, the most important human rights are economic. War and peace, tradition, climate, and geography will also influence our priorities. But that is a far cry from the story of irreconcilable Western, African, or Asian values. When examined, the claimed disdain of Asians and Africans for political and civil rights reveals itself to be a convenient excuse for local dictators and their Western backers reluctant to grant democratic rights which might endanger their economic privileges. Significantly, the only Africans and Asians to accuse me of not understanding their different values have been the representatives of the former Nigerian and Indonesian dictators, complaining about Right Livelihood Awards given to human rights activists in their countries.

"The Present Paradigm Will Not Release its Hold Until a New One Becomes More Clearly Visible"

In fact, the main values gap today is not between most Europeans, Americans, Asians, and Africans, but between all of us and the values of the ruling economic fundamentalism—which even in democratic countries is presented as sacrosanct and without alternative. Our problem today is not a "values vacuum" but that widely-agreed human values are not acted on. Indeed, they have often been rendered invisible by the refusal of commerce and finance to accept that they should be restricted by the values of the societies in which they operate. As a result we become less confident about our moral judgements.

Consumer or Citizen?

It is a sign of the trivializing effect of our soundbite public debate that the distinction between our value judgements as citizens and our preferences as consumers is hardly ever articulated. It is simply assumed that the latter govern the former, that our overriding value is competitive greed. This is not so. In *The Economy of the Earth*, US Professor Martin Sagoff describes his students' reactions to the decision by the US Forest Service to lease a wilderness in the middle of a National Park to Walt Disney Enterprises to develop a ski resort. Asking his students how many had visited or would visit this wilderness as it was, he received only a few responses while many responded positively when asked if they would go if the area was developed in the way Disney planned: "The class got really excited." The consumer demand was clearly there.

Sagoff went on to ask his students if they thought the government was right in giving Disney a lease to develop this wilderness. "The response was nearly unanimous. The students believed that the Disney plan was loathsome and despicable, that the Forest Service had violated a public trust by approving it, and that the values for which we stand as a nation compel us to preserve the little wilderness we have for its own sake and as a heritage for future generations."

This is not an isolated example. Questioned in depth in a recent international study about current priorities and future preferences, large majorities in the US—as well as other industrialized countries—wanted less emphasis on "economic opportunity" and more on cultural and educational opportunities, emotional and environmental security, and the "spiritual dimension." (*Journal of Human Values* Vol 5 No 1, 1999)

Citizen values come a poor second to consumer preferences when policies are set on the national level. On the global level, where more and more decisions affecting us now are taken, citizen values are seen by the corporate globalizers as an undesirable impediment to trade. But global corporations that insist on the right to penetrate every area of life, cannot then expect to be shielded against the ensuing responsibilities. Global values of honesty, compassion, fairness, community, etc., apply to everyone; and especially to those benefiting from the huge privileges of incorporation and limited liability. If forceful international agreements are possible to protect the values of com-

merce, then they are also possible to protect more fundamental human values, including the right to protect diversity against the threat of a global monoculture made in Washington and Hollywood.

New Global Structures

We urgently need global structures that articulate our common global values. That is why I have proposed a World Future Council, giving a voice to our common future. Council members would be 50 to 100 respected and open-minded individuals from various countries, backgrounds, and beliefs. While they would serve on the Council in their personal capacity, the aim will be to include recognized political, religious, and civil society leaders as well as representatives of business, the sciences, and so on who have shown an awareness and understanding of global values.

The World Future Council would not claim to "represent" others, but rather to express and manifest common values and goals—as citizens taking responsibility for the future. The Council would aim to be a catalytic force that crystallizes and manifest universal concerns and formulates value-based responses. Its power would be moral. It could stimulate the creation of regional and local councils who would bring their issues and propositions to the World Council for debate and promotion.

The responses I have already had to this proposal have convinced me that it is an idea who time has come. And I invite anyone thinking or working along similar lines to consider joining forces to ensure that "globalization" does not mean the worldwide imposition of the values and interests of a small privileged minority. For the most serious threat to us all today is not the (impossible) continuation of "business as usual." It is the collapse of our societies, as our leaders lose their credibility and are replaced by preachers of intolerance and obscurantism, leading the reaction against market radicalism. Even local diversity needs a global voice to speak up for its values.

The alternative is terror on a global scale—not just by a few fanatics but by the many hundreds of millions who see their livelihoods and lands destroyed, their families and futures threatened by the West's unwillingness to change. If we wait too long, then the West may be confronted with very different global values as the poor majority lose their patience and decide "the time has come for destroying those who destroy the earth." (Revelations 11:18). Δ

Jakob von Uexkull is a writer and translator who specializes in environmental issues. A professional philatelist, he sold his rare stamp collection in 1980 to create an endowment for the Right Livelihood Awards. Annual awards are now worth $230,000. This article originally appeared in The Ecologist, *Vol 31 No 4, May 2001, and is reprinted with permission. Their website is www.theecologist.org*

Golf in the Garden

Designing the Permaculture Links

Jerome Osentowski and Peter Bane

SOME WORK just seeks you out. Or so it seemed four years ago when central Colorado's Roaring Fork Valley found itself in an uproar about golf. Tributary to the Colorado above Glenwood Springs and framed by 12,000 ft. peaks of the Elk range, the Roaring Fork has seen a succession of economies over the past century and a half, from silver and potatoes to coal mining and beef ranching, but these have largely given way in recent decades to recreational tourism and think tanks. Now, Colorado Hwy 82, which winds its way through fields of alfalfa hay to connect the tiny mountain towns of Carbondale, El Jebel, and Basalt, is increasingly flanked by burgeoning bedroom suburbs that form the gateway to one of the world's trendiest addresses: Aspen.

With jet set money from all over the world fueling demand for exposure to its majestic scenery, the area has an abundance of ski slopes, gourmet restaurants, time-share chalets, and traffic jams. A surfeit of well-heeled visitors throughout the year has meant a growing demand for golf as well, which caught the attention of veteran developers David Wilhelm, Jim Light, and Jim Chaffin. Chaffin had been among the original developers of the Snowmass resort and together with Light had built a number of award-winning golf courses including Spring Island in North Carolina. Teaming up with David Wilhelm, whose vision of a 19th-century park like Yellowstone with small rustic cabins set in a natural semi-wooded environment would ultimately be realized, Chaffin and Light felt they had a winning concept, and, downvalley from Aspen, where well-watered ranch bottomlands promised suitable landscapes at still affordable prices, they were sure they had the right location. Negotiations with the ranch-owning families centered on the preservation aspects of the golf course, which would maintain more open space than the usual housing developments that were popping up all over the Roaring Fork.

A water feature, freshly planted with multifunctional shrubs, divides two fairways.

A Rude Reception

When the developers' proposal went before the Basalt Town Council it drew the largest crowd in the town's history. And though many local business interests were eager to see the money the development would bring, even more town residents, many of whom had settled in the area for its pristine natural beauty, were shocked and dismayed to learn that nearly 300 acres of ranchlands along the river would not only be recontoured by bulldozer, but would be forever after doused with turf fertilizers and herbicides. This would be the fourth golf development in the area in recent years, and the one that snapped the camel's back of public tolerance. Wilhelm, Chaffin, and Light's well-oiled and high-flying promotional effort had just touched down... on its nose.

Tipped off by a friend of the impending controversy, Jerome Osentowski, who had by then been gardening a rocky mountainside a few miles above Basalt for a dozen years, showed up at the meeting and managed to wedge himself through the crowd into a side door. Quickly assessing the furor, he determined to steer clear of what looked to be an insoluble dilemma, but chatted briefly with one of the developer's representatives, and dropped a business card before leaving.

The town council were caught in a squeeze. The proposal couldn't go through without their permission, but the developers owned the land and could ultimately force the issue through the courts if the Basalt councilors refused. Sentiment among town residents was implacable: no golf course.

Finding the Balance

Councilor Steve Solomon emerged as the point man for the town on the issue. He began researching less toxic alternatives to herbicide spraying, and he began to work to connect the developers with some local allies.

"It all started in the greenhouse," recalls Jerome, when the developer's superintendent, Kevin Adams, came around for a tour a few weeks later. As Jerome explained how the fennel plants in the greenhouse harbored beneficial wasps that kept pests at bay, Adams asked, "Can you build me one of those at the golf course?"

Jerome's first thoughts were "What can be done to make a golf course useful?" After all, there was almost no more potent symbol anywhere on the planet of idle wealth, toxic consumption, and artificial control of nature than this odd setting for executive sport. Could it be in any way redeemed? Permaculture training and

A maturing BioIsland in fall foliage.

practice intruded immediately and an edible landscape came to mind, then thoughts of how to balance the diverse elements required. Years of working with market gardens, organic greenhouses, and a forest garden at 7,000 ft. in the Rockies had not been idle play. Jerome was well versed in concepts and techniques of integrated pest management (IPM), and knew the value of hedgerows for crop protection in traditional agriculture. But what would it look like on the golf course? He began to focus on the use of flowering plants to create an outdoor insectary and habitat for bug-eating birds.

Garden Meets Golf Course

Thus the concept of BioIslands™ was born. Hot spots of diversity occupying all the "out-of-bounds" sections of the course, they would form the backbone of a new golf-centered ecosystem. The BioIslands would carry nature's helpers throughout the other 262 acres of the course by creating a long, rich edge of native and beneficial plant communities to protect the more vulnerable greens and fairways from devastation by *cruncher-munchers*. What other golf course operators kept at bay with sub-lethal doses of pesticides, BioIslands at the Roaring Fork Club would suppress with waves of beneficial wasps, lacewings, syrphid flies, and lady beetles, deliriously happy amidst acres of umbels, wildflowers, native trees, and flowering shrubs. If it worked the strategy might just save the developers' bacon: it would not only allow them to show the townsfolk they could avoid most of the toxic chemicals usual to golf course management, but it would be beautiful in a way most well-groomed links only pretended to be.

Jerome set to work researching plant guilds. He got together with Basalt nurseryman Guido Meyer at the Colorado Tree Ranch and began picking species that would work in the particular environment of the Roaring Fork. Meetings followed with The Design Workshop, landscape architects hired by the development company, and with representatives of Jack Nicklaus's design team, which would lay out the course itself. The aim was to integrate the BioIslands seamlessly with the greens, fairways, and roughs.

The theme of working with nature caught the ear of the developers. Chaffin and Light had already made moves in this direction with their earlier project at Spring Island, pioneering a new, natural style of course. At Basalt pressures from the townspeople helped push ecological sensitivity to the forefront. Wetlands along the river would be retained, rather than filled, and additional wetlands created; existing riparian forest would be incorporated into the out-of-bounds. Fly fishing was to be a second major attraction of the resort and a series of lakes would be built serving as hazards for the golf course and as habitat for different species of trout. The nutrient-rich water would provide a source of chemical-free fertilizer when it was used to irrigate the greens and fairways. Restoration became an important focus as well. An existing irrigation ditch would be transformed into a man-made trout stream that splashed and babbled beneath cottonwoods and willows as it meandered through the guest cabins.

Fruits of the Struggle

But good ideas and good intentions weren't enough. The Roaring Fork Club had started out with a huge public relations deficit and had to claw its way back up the mountain of public approval inch by inch. Perhaps the development could become a force for environmental improvement in the valley. Councilor Solomon continued to advocate for a win-win solution.

Public meetings dragged out the permitting process. "I was their shining star," chuckles Jerome. "Though no one planned it that way, I began noticing that whenever I wasn't present at the meetings, the Council bogged down in controversy over environmental issues." Trusted by the local community for his long years in ecological education and with a solid reputation for high-quality food production, Jerome became a bulwark of the developers' credibility.

The town council persuaded the corporation to set up the Roaring Fork Conservancy and to help fund its operations from resort proceeds. The Conservancy has since become a powerful local watchdog for watershed health. It's taken a particular interest in protecting rookeries of the great blue heron, some of the most important on the Rocky Mountain flyway. And the Roaring Fork Club continues to support this work by sponsoring an annual benefit tournament for the group.

Public opposition began to soften as the developers continued to show good faith, but their troubles weren't over. On top of the permitting delays, unrealistic schedules and difficulties in establishing the turfgrass held back the planned opening by almost a year. In this context, Jerome's efforts became critical to financial stability. Early blooming of wildflowers in the BioIslands gave the still unfinished course a spectacular beauty that helped win over customers and investors. Almost every Saturday Jerome gave tours or press conferences as prospective members and cabin buyers paraded through. Bouquets of flowers from the BioIsland abundance decorated tables at the weekly barbecues.

Painting with a Broad Palette

All was not glory, however, as accomplishing this display meant that 20 acres of BioIslands had to be planted with 8,000 trees, 20,000 shrubs, and vast numbers of perennials, then hydroseeded with a

wildflower and legume mix. There were miles of drip irrigation to be installed and tons and tons of mulch to be hauled and spread. Working persistently for two and a half years, Jerome directed hard-working landscape crews to establish the system. "It was like painting," he recalls, "There was only so much we could do on paper. On-site design was the key. I had to see it on the ground. I would pull the plants off the truck, lay out a pattern, and the crew would follow behind digging them in." It was hard going, too, with lots of hand work in poor subsoil left in the wake of the earthmoving. "We had different guilds for the different environments of the course." Each day Jerome would assess the next day's prospects and plan his selections accordingly.

The ecological model was a savannah with pockets of forest garden. Some areas were very dry, especially the difficult edges along an old railroad right-of-way. Others were seasonally inundated wetlands. North-facing slopes got different mixes than south- or west-facing banks. Following a pre-construction inventory of plants on the site and drawing on a core of native and adapted species, Jerome and fellow guild designer Meyer had created a diverse palette of useful assemblies that would nurture beneficial insects and wildlife, heal and build soil, and provide an ever-changing visual feast throughout the seasons. There was a Rabbitbrush-Sage-Buffaloberry guild for the driest areas, consisting mainly of native plants. Mountain mahogany, a native nitrogen-fixer, was used with Piñon Pine, Indian ricegrass, Penstemon, Bitterbrush, and scrub oak on the edge. Chokecherry, Amur maple, and Siberian Pea Shrub formed the center of a guild for moister areas, while a slightly different mix focusing on Serviceberry brought a tamer, more colorful blend of plants including currants and gooseberries in close to greens and other areas where a more formal look was wanted. Redtwig dogwood led the guild for riparian zones and right next to the water a Cottonwood-Willow-Elderberry group of plants was used. In the area near the cabins more colorful and edible species such as lilacs, roses, gooseberries, and Nanking cherries were emphasized to set off the small lawns framing the residences. All in all, seven species of trees, 29 shrubs, 31 perennials, and 18 annual wildflowers, among them lupins, vetches, native grasses, Oregon grape, and echinacea were used in various combinations that included three nitrogen-fixing perennials and 12 edibles.

The Human Story

The demands of the installation were only a part of the job, however. Getting the course superintendent and grounds staff to embrace the concept and carry on the monitoring and maintenance that would ensure success of the system was at least as challenging as putting in 30,000 plants. Optimal performance of the Integrated Pest Management (IPM) system would require regular observation to check for pest impacts, periodic release of beneficial insects, as well as weeding and soil building during the early years. Golf course professionals are used to spraying and mowing, not to the subtleties of observing and cultivating natural systems.

Changing the culture of the golf course took persistence. The BioIslands needed a dedicated manager familiar with their design and ongoing cycles. Jerome helped the Club create this position by describing the job, and when the position was finally filled last year, he held biweekly trainings for the new manager.

A Weed of Another Color

The project bogged down briefly in the middle from differences of opinion over the role of weeds. Black medic *(Medicago lupulina),* a nitrogen-fixing legume related to alfalfa, became a lightning rod for a clash of paradigms. Persisting along with clovers, dandelion, and plantain from the old cattle pasture soils, it had germinated in the BioIslands and in some areas of the new fairways to the aggravation and dismay of the course managers. In particular the medic seemed to dominate the driest BioIsland zones. The managers feared that like the other pasture plants it would spread quickly into the fairways and outcompete the slower-growing turf grasses. Already delays in turf establishment had set the project a year behind schedule and nerves were a bit frayed. The pros were sure the medic needed to be stopped. Jerome saw the humble weed as an ally. He understood the role being played by the aptly named medic: It was first aid for the poor disturbed soils of the BioIsland areas, fixing nitrogen and providing cover for other plants to establish. "I could see it in the driest areas. The native grasses were huddling next to the medic. And they're tough! Nothing else would have survived." It was Nature's nurse crop, and it took a year and a half in some areas before the medic had improved the soil enough for other plants to take hold.

Meanwhile, the culture clash between

The Redtwig Dogwood Guild

Gambel's oak *(Quercus gambelii)*
Native chokecherry *(Prunus virginiana demissa)*
Buffaloberry *(Shepherdia argentea)*
Redtwig Dogwood *(Cornus sericea)*
Alpine currant *(Ribes alpinum)*
Wild rose *(Rosa spp.)*
Gooseberry *(Ribes grossularia)*
New Mexico Locust *(Robinia neomexicana)*
Native plum *(Prunus spp)*
Spruce *(Picea engelmannii)*
Ponderosa Pine *(Pinus ponderosa)*
Cottonwood *(Populus angustifolia)*
Aspen *(Populus tremouloides)*
Annual flower mix:
- Shirley Poppy *(Papaver rhoeas)*
- Plains Coreopsis *(C. lanceolata)*
- Globe Gilia
- Mountain Phlox
- Bird's Eye *(Gilia tricolor)*
- Bachelor Button *(Centaurea cyanus)*
- Wallflower *(Cheiranthus cheiri)*
- Blue Gilia *(Gilia capitata)*
- Baby Blue Eyes *(Nemophila menziesii)*
- Baby's Breath *(Gypsophila paniculata)*
- California Poppy *(Papver californica)*
- Firewheel
- Drummond Phlox *(Phlox drummondii)*
- Sulfer (sic) Cosmos *(Cosmos sulphureus)*
- Scarlet Flax *(Linum)*
- Cosmos Sensation Mix
- Five Spot
- Rocket Larkspur *(Consolida ambigua)*

Riparian perennial mix:
- Dame's Rocket *(Hesperis matronalis*
- Medium Red Clover *(Trifolium pratense)*
- Alsike Clover *(T. hybridum)*
- Slender Wheatgrass *(Agropyron trachucaulum)*
- Black-eyed Susan *(Rudbeckia hirta)*
- Rocky Mountain Iris *(Iris missouriensis)*
- Sheep Fescue *(Festuca ovina)*
- Shasta Daisy *(Chysanthemum maximum)*
- Icelandic Poppy *(Papaver nudicaule)*
- Purple Coneflower *(Echinacea purpurea)*
- Redtop *(Agrostis gigantea)*

ecology and lawn order came to a symbolic head. Maintenance crews were yanking dandelions and clover out of the patchy fairways. The BioIslands manager kept grousing about the medic and "the weeds." With chemical fertilizer off-limits in the BioIslands, Jerome sought to plant more of the medic to hasten improvement of their degraded soils, but management resisted. He offered the B.I. manager a contest of ideas: he would prepare a list of ten benefits of the black medic while she would set out the reasons for removing it. In the end, the logic of natural processes was unarguable, and the list became a part of the final report on the Roaring Fork Project. *(see sidebar)* Apparently no drawbacks could be found; the medic stayed. Other "weeds" went on working too, in plain sight: in most areas, wildflowers broadcast over the BioIslands had effectively replaced the annual pasture weeds.

The following season the evidence of succession was clear for all to see. The black medic had receded into the background as other plants gained ground in the dry areas. Meanwhile, with the help of some hand-pulling and spot spraying of competitors, the bent grass and fescue of the fairways came on strong, filling in to a lush, green sward. The course opened with the BioIslands secure.

To ensure the program would continue in the right way, Jerome and his associates produced a report, consisting of three large binders with every imaginable resource the pros could need to run their system: suppliers of materials, insects, seed, organic fertility builders, and more. Embedded in the report was a management protocol that set out the frequency of monitoring, critical limits and natural indicators within the system that would trigger specific responses, and a careful schedule for maintenance operations. This took months of research to assemble and craft.

Playing under Par

But did it work?

"In the two years since the course opened there has been no need to spray for cutworms," a major pest of turf grass, reports Jerome. "Trichogramma wasps living in the BioIslands kept the populations down by parasitizing their eggs." And there have been no major insect outbreaks in the four years since the project began. Only a few aphids have been spotted on the course though there have been infestations elsewhere in town.

So the BioIslands are doing their job. They've become lush reservoirs of beneficial insect life, filled with birds, flowers, and ripening fruit. "When I'm out there, it doesn't feel like a golf course to me," says Jerome. "It feels like a young forest."

And there are unexpected benefits too. "The fishing guide at the Club recently told me that damsel fly populations are so healthy that they're not needing to feed the trout in the ponds. That," says Jerome, "comes directly from the habitat created in the BioIslands. It closes another organic loop."

Tallying the Score

And was it worth it?

From the point of view of the Roaring Fork Club, the approach has had many advantages. The first success came on the public relations front. The BioIslands strategy helped sell the course to the town of Basalt. And the beauty of the wildflower meadows filled the sails of the marketing staff during a hard time when a conventional landscape job might have driven the project onto the rocks. Long-term costs will be lower as maintenance diminishes and savings from avoided spray costs mount up. There is a large advantage from the reduced toxic exposure to workers and golfers alike with significantly reduced risk and liability costs. The perennial backbone of the golf course has a great resiliency to changing climate and environmental stresses that results in savings to the bottom line. And careful environmental stewardship has helped the Club win and keep prestigious Audubon certification, a feather in its cap that helps it reach a small but growing niche market of environmentally aware golfers.

Benefits of the Black Medic "Weed"

- **Nitrogen-fixer**—It produces free nitrogen that is available to wildflowers and other plants.
- **Nurse crop**—It does not compete with wildflowers or native grass species for root space or light, as do other nitrogen-fixers (*e.g.*, red and yellow clovers). Medic grows very close to the ground and tends to grow gently around the native grass and wildflower seedlings. Traditionally it has been used as an interplanted nurse crop for winter wheat throughout North and South Dakota.
- **Moisture control**—Medic helps to recycle moisture back into the soil as a living mulch.
- **Aeration**—The tap root of Medic helps aerate and break up the hard clay soils in the BioIslands.
- **Fertilizer**—Its roots help to bring up minerals and micronutrients from subsoils.
- **Food for beneficials**—The flowers are food for beneficial wasps and others. Early flowering provides a convenient niche in time.
- **Weed control**—It helps by out-competing less useful weeds.
- **Erosion & dust control**—It grows close to the ground and thus helps stop soil erosion from wind and water, and keeps down dust around cabins and clubhouse.
- **Non-invasive**—It has not been invasive in the turf areas or in the BioIslands. This is not the case with the red and yellow clovers, which have proved to be quite aggressive in the BioIslands. Seeds of all three of these plants were already present in the soils of the Ranch before the golf course was developed and remained in the soils that were used to top-dress the turfs and BioIslands. As all three germinated, only the Medic has not been a problem.
- **Slow to spread**—It does not easily creep onto the turfs. Seeds would have to germinate on top of the turf grass, which they don't seem to be able to do.

The Greening of the Greens

As baby boomers gain senior positions in business nationwide, the green values associated with their generation begin to color the executive ranks from which most high-dollar golf memberships are drawn. Smart businessmen are beginning to wake up to the toxic time bomb that chemical turf management represents: golf links are drenched in herbicides and fertilizers far too often and without enough time between applications and exposure to the public. It's a sorry tale, illegal, and almost unavoidable with the economic pressures on staff to maintain playability at any cost.

Fresh interest in more natural course landscaping offers hope for a healthier future. Certainly the game's origins in Scotland were far closer to nature than most contemporary course designers and managers might care to admit. Yet much of the pressure for intensive management of golf courses today comes from an industry that supplies chemicals and machinery to this multi-billion dollar sector of the economy. A lot of sales dollars are spent to promote "perfect turf." Closely clipped lawns may help amateur golfers enjoy lower scores, and the tight turf is faster to play, which serves the clubs wanting to sell more tee-off slots, but the manicured look demands constant mowing. And that serves the industrial suppliers because it weakens the turf, which in turn requires the support of heavy chemical fertilizer and herbicide applications to keep growth rates up and pests restrained.

There's a subtler difference at the Roaring Fork Club too, that may escape the attention of most golfers who've experienced nothing but bland conventional courses. It's alive. The harmonics of the landscape are different in an environment filled with diverse plants, birds, and insects. The game itself takes on a more complex feel, stimulating and challenging sensibilities in the players that simpler landscapes cannot touch. For the aware player, this ineffable quality enriches an experience already heightened by mountain grandeur.

"Friends who play the course tell me they really notice a difference," says Jerome. "It's too obvious not to appreciate."

"From a financial point of view, this was a big job, but I didn't get rich from it. I hired a lot of people to help research and produce the report." A tremendous amount of legwork went into documenting the methods for ecological golf course management. "It's a new field and I was pioneering, putting it together for the first time. I expect the real payback for me will come with subsequent jobs where my experience and know-how will smooth the way. Much of the research is done now." That payoff may not be far away either. Jerome has already conducted a feasibility study on BioIslands for another course in Palm Desert, California. And this spring he will travel to Salt Lake City to present his work to parks department officials looking for ecological solutions to a new golf course in nearby Park City.

The project offered Jerome another reward. "This was the first chance I'd had to apply permaculture design intensively to this large a landscape. That was a plus for me, and I have a real feeling of gratitude for that opportunity."

And what about the land and the community, first clients for any permaculture designer? The Roaring Fork Golf and Fishing Club brought a fair bit of work into the town of Basalt, Colorado, but the real boon came from the hard-won relationship forged between the town and the developers during the protracted negotiations over permitting. The Club offers its members fly-fishing and cross-country skiing in addition to golf, privileges extended to town members as well. The small (1800 s.f.), one- and two-story cabins are tucked into the edge of piñon-juniper forest, giving the development a traditional flavor in keeping with the original vision of a family-oriented mountain resort. The residences not occupied during off-season double as extra ski housing during winter and are rented short-term to town residents and visitors at other times. Bike paths run throughout the course and the development is within easy walking distance of the town schools. With Jerome's impetus, the Club has hosted numerous educational program for school children on the ecological benefits of the BioIslands.

And from a long-term land-use perspective, the course maintains a lot of open green space near the town center. It preserves the riparian functions of the river in harboring wildlife and regulating flood flow, while its management program avoids most toxic chemicals, helping maintain water purity. The BioIslands enhance diversity in the valley. And if the town finds itself in a real bind in 20 or 50 years, the fairways and greens—unlike the apartment buildings or tract homes that might have taken their place—can easily be put back to pastures, meadows, and crop production. The forest gardens are already there, just getting better.

Sometimes, right livelihood doesn't look like you think it will. It may be a matter of doing the next right thing, but for a purpose you hadn't imagined. Δ

Jerome Osentowski and Peter Bane will teach the Central Rocky Mountain Permaculture Institute's 15th annual Permaculture Design Course at Basalt, Colorado August 20-September 1. For information call 970-927-4158 or visit www.crmpi.org. Details on page 6.

A mix of wildflowers points the way to the ninth hole.

A Tale of Two Families

Keeping Up With The Smiths

Steve Solomon

IMAGINE TWO FAMILIES, the Joneses and the Smiths. The Joneses are a typical American family, striving for the American Dream. The Smiths are creating an alternative lifestyle, one that cherishes personal liberty over immediate prosperity.

This story is about why the Smiths are far more likely to become wealthy than the Joneses.

In a modest but quiet city neighborhood lives an up-and-coming young family named Jones. The Joneses have carefully made all the widely agreed upon moves to earn success and prosperity. Everyone who knows the Joneses also thinks they're doing fine.

Mr. and Mrs. Jones are the same age, 34 years old. They refrained from marriage until graduated from our state university at age 22. Then, for four years they both worked and saved even more diligently than they had labored in college, frugally accumulating a down payment for their dream home. They bought something realtors call a "starter house," a very small, unpretentious, 3 bedroom place, only $20,000 down and a mortgage of $105,000 with the rest of your life to pay it down. To the young and eager Joneses this ticky-tacky house seemed an idyllic rose-covered cottage. They thought it was plenty savvy to reduce their down payment by paying the asking price and slightly more interest.

Promptly upon becoming a proud mortgage holder, and with great optimism, Mrs. Walker Jones started baking two babies as close together as possible. At the time of this story the youngest child has reached first grade and Mrs. Walker Jones is back working full-time. What a relief she feels to have two incomes; what a relief to get away from her difficult youngest child during working hours.

The Joneses' work in different fields but their salaries are virtually equal. And being very average Americans, their salaries are average: each grosses exactly $1875 per month. Mr. Jones has a long-hoped-for entry-level executive marketing position with a large corporation; Mrs. Jones, her career set back by childrearing, is now learning to handle real-estate closings for a local escrow company.

Though both work and have very reasonable hopes for advancement, the Joneses' budget reveals an all-too-common American tragedy.

PITI the Joneses

The Joneses' budget needs explanation. PITI (Principal, Interest, Taxes and Insurance) on mortgaged homes generally runs about 1% of the value of the mortgage each month. The Joneses were surprised, astonished actually, when they received the first year's summary of their mortgage record and discovered that after paying over $12,000 on the house that they had reduced their amount owed by almost nothing. However, Mr. Jones' father explained to them that is how mortgages worked. In the early years almost everything paid in went to cover interest. What would make it bearable was that home prices had increased steadily, so you could rely on your house value inflating far faster than inflation. Father Jones stressed that there was no reason to worry about home deflation. This had happened in the East but would never happen here in the Northwest. Why, in eight to ten years, their house might sell for twice what they had paid, giving them a tidy profit they could use as down payment on a much bigger house—when their sure-to-be increased incomes permitted them to make bigger mortgage payments.

THE JONESES' MONTHLY EXPENSES

ITEM	EXPENSE	BALANCE
Monthly Gross Income	—	$3750
House (PITI)	$1050	$2700
Cars, 2, All Expenses	$731	$1969
Groceries (incl. 4 bag lunches)	$637	$1332
Federal Income Taxes	$287	$1045
Social Security Deductions	$262	$783
State Income Taxes	$105	$678
Unemployment & Worker's Comp	$68	$610
Telephone, Electricity, Heat	$250	$360
Clothes	$150	$210
Entertainment	$210	$0
Children's Allowances	$50	[$50]
Saving For 2 Week Vacation	$80	[$130]
House Maintenance	$75	[$205]
Furniture Ensemble On Credit	$188	[$393]
Ever-rising Credit Card Interest	$75	[$468]
Illness	$150	[$618]
Christmas? Newspaper Subscription, Monday Night Football Beer, Mamawonchabuyme's, Mrs. J's Secret Wish List More and More Credit Card Interest . . .	?	[?]

Car Expenses. The Joneses each drive 40 roundtrip miles to work and back, plus another 50 after work miles each week, toing and froing; on weekends they usually enjoy a tenting trip to the Coast or the Mountains or visit family or friends in nearby cities where they've no motel costs. Average driving: a very average 2,250 miles per month. One IRS method to account for business-related auto expenses, including depreciation on a late-model car, repairs and maintenance, gas, insurance, fees, etc., allows 32.5¢ per mile. This figure can easily be cut in half by driving old beaters and repairing them yourself, but the Joneses need every possible day's income to make ends meet and can't afford to risk their tenuous job security and image at work driving an old or unreliable car. So every two years, the senior of their two cars, the one with about 50,000 miles on it, is replaced with a brand new plain-Jane compact. One day they expect to be much happier driving nicer cars.

Food. The U.S. Government estimates that the average family spends 17% of their gross income on food. Lets generously assume 17% also includes detergent, light bulbs, paper products and other non-food items usually bought at the supermarket. This figure can also be greatly reduced through bulk purchasing and avoiding prepared and processed items. But Mrs. Walker Jones hasn't time for much kitchen work; she is too busy helping balance the budget.

Taxes. I'm assuming the Joneses can't itemize deductions and pay about six percent in State Income Tax. Utilities. I'm assuming they live in the Maritime Northwest where winter is not really cold and low cost electricity from the Federally subsidized Bonneville Power Administration is available. Electricity is much dearer in the Eastern U. S.

Illness. Going steadily deeper into the red every month, the Joneses are under a lot of stress, not good for anyone's health. And Mrs. Walker-Jones is usually too tired after work to prepare really healthful meals from scratch: her unsupervised children eat junk food after school. Worried though they are, beset by aches, pains and sniffles though they are, still, there's no money for more comprehensive health insurance than the major medical provided at work. Consequently, there are many uncovered bills for frequent doctor visits for their two hyperactive, flu-prone, allergic children; and many over-the-counter remedies essential to keep Mr. and Mrs. Jones going to work, and their children in school, ill or not. The Joneses are praying for a government bailout of their health situation, because they can't afford to be sick. Nor can they afford it when one of their children is sick, for this means losing pay resentfully nursing the kid or begging one of their increasingly put-upon parents to help them out.

THE SMITHS' MONTHLY EXPENSES

ITEM	EXPENSE	BALANCE
Monthly Gross Income	—	$1875
House Maintenance	$45	$1830
Car Expenses	$281	$1549
Groceries (Including 1 bag lunch)	$180	$1369
Federal Income Tax	-0-	$1369
Social Security Tax	$131	$1238
State Income Tax	-0-	$1238
Unemployment Ins., Workmen's Comp.	$34	$1204
Telephone, Electric, Heat (firewood)	$90	$1114
Clothes & Furniture	$90	$1024
Health/Sickness (vitamins)	$74	$950

The Worries Mount

Behind their pasted-on smiles and their automatic response of "fine" whenever asked how they're doing, the Joneses are writhing insecurely in a self-created financial trap, praying for a raise or a better job to lift themselves out of their financial hole. Should one of them be seriously sick for long, should the family miss a couple of month's income, their home, cars and etc. would all go by the boards. Their jobs are rather unsatisfying and they have to tolerate considerable stress there, Mr. Jones is very worried about the layoffs his company has initiated to become leaner and meaner. He has also seen how many other executive marketers are pressured to produce beyond any possible reality, and then discarded, sucked dry like a spider does to its prey. Sadly, more income won't really help them much because to make life tolerable after work they are conditioned to spend, spend, spend.

And Mrs. Walker-Jones is privately noticing lines appearing on her tired face and wondering what happened to the boundless energy she once had. Every night she feels tired; on Saturday she drags through their pleasure trip. And she worries that her once lovey-dovey husband is becoming increasingly irritated with her over little things. And secretly, she worries about her increasingly powerful urges to really smack the children who frequently misbehave loudly.

There's a common semi-joking term in our culture for this kind of unfreedom: wage slave. And a bumper sticker that goes with it: "I owe, I owe, so its off to work I go." PITI!

The Smiths at Home

The Smiths and the Joneses started out very much alike. They all came from the very same small Oregon city, became teenage sweethearts at the same high school, attended the same university and are the same age. And like the Joneses, Mr. and Mrs. Smith also graduated Bachelors of Arts from our state university in the same year the Joneses did, when they promptly married too, just like the Joneses. Then, just like the Joneses, the Smiths also worked hard for four years, frugally accumulating a down payment for their dream home. That accomplished, Mrs. Smith also baked her own pair of babies.

Actually, subtle differences between the two couples first became apparent during their teenage years. Both the Joneses and the Smiths were already serious couples

in high school, but the Joneses were what their friends called "grinds," intent on future success by getting excellent grades. Most evenings and weekends they studied together. The Smiths exuberantly bubbled with *joi de vivre,* and never saw much sense in denying themselves fun in the evenings, especially when without considering that much work it was still very easy to get passing grades, even B's and occasional A-minuses.

So no one in high school or college pegged the Smiths as most likely to succeed, and in fact, their jobs after university weren't the career sort of white collar entry-level junior executive positions the Joneses competed for. No, during summer breaks and after graduation the Smiths did more proletarian, outdoorsy things like planting trees on piecework.

Then Mrs. Smith got an easier, minimum-wage job doing field work at a winery, where her natural warmth and easy facility with Spanish (picked up while at university and during summer vacations bumming around on Mexican beaches) led her to promptly be promoted to a field "foreman" overseeing a Latino crew. Soon she was making very good money.

And Mr. Smith, who had an innate commitment to being responsible in contractual relationships and an ability to recognize and relate to other peoples' self-interests and viewpoints, soon upgraded his contacts in the forestry business and became a self-employed contractor, living in a tent doing timber surveys in summer. For a couple of months each year he managed a Christmas tree sales lot in Los Angeles for a percentage of the gross sales.

After one year of too much distance between them, Mrs. Smith left her 9-5 at the winery and joined him in the woods and on his annual trips to LA. Though they now only worked about six hard overtime months a year, and hung out the rest, during that time the Smiths made about the same amount of money that the Joneses earned all year. The Smiths had nothing of what the Joneses called "job security," but they did have the tax benefits of being self-employed and kept a lot more of their income.

Paying Cash

When it came time to make their first nest, the Smiths chose a lifestyle of independent self-sufficiency rather than buy what the realtors call a starter home, mortgage and all, like the Joneses did. Mr. Smiths prowled the countryside looking for a small, cheap and rather undesirable piece of raw land that they could build a house on, their prime consideration was that they own their property free-and-clear and have about $5,000 left over after closing to put in a well and septic field. The Smiths had one other serious requirement, though the parcel need not be large, it had to have considerable visual privacy from any road that county building inspectors might travel. That they had to search the far hinterlands well beyond the limit of commuting distance to the city of their birth did not worry them; they liked the fact that they weren't going to be in a bedroom community full of city people playing at rancher, cowboy, or gentleperson farmer.

"The Smiths chose a lifestyle of independent self-sufficiency rather than a mortgage"

If they were anything, the Smiths were persistent, so they eventually found exactly the kind of place they'd envisioned so clearly. Having enough ready cash for an outright, mortgageless purchase, they made a particularly good deal because raw country property usually cannot be bank financed. Permits in hand, potable water drilled for and found, driveway, septic field and power pole installed by the "irrigation" well for what the electric company called a "well service," the Smiths were broke and as yet without a house to live in, though there would be nothing to stop them from camping indefinitely on their own property if they wished to or really needed to.

At this point in our story, both Smiths and Joneses (allowing for the Joneses' down payment and closing costs) had made an equal cash outlay, with one major difference: the Joneses had monthly P(rinciple) I(nterest) T(axes) and I(nsurance) to cover and were about to discover how expensive it is to work a 9 to 5 job that you can't afford to lose. The Smiths only had "T" to pay, and rent—and having made no visible improvements yet, their property taxes were very nominal, less than $30 per month. Rather than borrow any money, the Smiths worked one more Christmas season selling trees in LA, buying nothing but absolute essentials. This extreme frugality was no great sacrifice, for they were happy about their soon-to-come future and did not mind waiting a bit longer.

Come spring, the Smiths, who had by then saved up another $6,000 or so, bought a run-down, single-wide leaking roofed, rusty-bolted, rotting-carpeted single-wide mobile home, something, despite its decrepitude, the authorities had to consider a legal dwelling. They paid for it in cash, in full, had the mobile home towed on to their land and moved in. Their property taxes promptly went up, but only very slightly. Soon, Mrs. Smith hatched her first child. Mr. Smith, who didn't want to be away from his family for months at a time found a local job and they now had a Life, with a budget. When considering this budget, please compare it to the Jones' budget.

Their mobile home was ugly, not terribly comfortable and sometimes the roof leaked, but the new baby did not know the difference. The infant responded only to the cheerful emotional quality of its environment, and so was happy. And there was no point in insuring such a wreck since no bank was demanding protection for its equity and in a pinch the Smiths could just buy another one out of pocket.

Doing it Themselves

The Smith's had sold their spare car to help raise money to cover moving-in costs and kept only their middle-aged, low mileage, full-sized pickup truck. It too was paid for and will probably survive another

100,000 miles. No auto loan means they don't have to have collision insurance, while liability insurance in this rural area is much cheaper than had they driven city commuting miles; Mr. Smith does the minor mechanic work. So, we'll figure his driving cost per mile at half the Jones' rate: 19.5¢, a gracious plenty, as I know from personal experience.

Mrs. Smith doesn't work at a money job. But she is busy and economically every bit as productive as her husband. Just like the Joneses, her youngest child is of school age, but besides being her own dairy (nursing each of her two healthy babies for 18 months or so), Mrs. Smith purchased a small electric flour mill and every two or three days turns out several loaves of salt-free whole-grain bread using flour freshly milled from the highest quality cereal obtainable. This bread is so much more sustaining than anything from the store that it truly serves as the "staff of life." Bread, at 38¢ per loaf, makes up a very large part of their total diet. Mrs. Smith also grows a very large pesticide-free garden, fills the root cellar with potatoes and carrots and apples, her chest freezer with frozen wild berries. Buying grain by the 50-pound sack made her discover the economy of buying cheese by the 40-pound box and filling their chest freezer with rich, golden yellow June butter purchased from a neighbor in spring when the cows were first turned out to pasture and their milk was especially rich from all the vitamin A in the young grass. And Mr. Smith figures that anything inside (or even trying to get inside) the effectively deer-fenced garden is groceries. That's why the their food bill is so low.

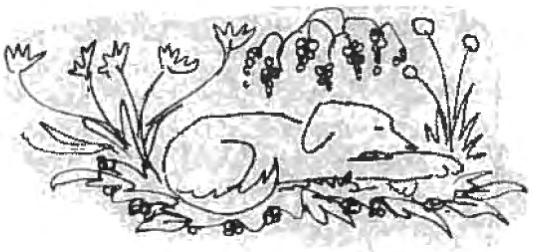
Oh yes, and the children: Mrs. Smith is home schooling them. She has the time, the ability and most importantly, the motivation. She doesn't want them exposed to the materialistic, shallow culture of a state-run institution, nor eat the bad food of the school lunchroom, nor getting the idea that they should be like all the other kids. Especially, she does not want them watching television; there is no TV in the Smith's house. Her children have mixed feelings about being different. On the one hand, they want to find out about school where all the neighbor children go every day all the long day, but on the other, home schooling is more efficient; they do in three hours at home what the neighbor kids do in eight (including time in the school bus). And they do get to play with the neighbors after the school bus has brought them home. Sometimes they even disobey their mother and covertly watch television at the neighbor's house.

Their income taxes, with only one modest income and four dependents, are minimal. In fact, the Smith's are officially below the poverty level and qualify for food stamps but don't accept them because they don't believe in getting something for nothing. Their utilities are lower than the Joneses because Mr. Smith occasionally brings home a pickup load of firewood from work.

Mrs. Smith spends no more on clothes than the Joneses but when they do buy new clothes they get very high quality stuff. Mrs. Smith frequently shops at the Goodwill or Salvation Army for furniture and may remake old clothes over into more modern styles. She has lots of time to use for saving money.

An Independent Attitude

And about their older truck: Mr. Smith isn't worried about taking a day off work now and then to repair it. First of all, he has excellent relations with his employer, who operates a small-scale logging and milling company. Then, they are free and clear, so Mr. Smith knows that if he were fired or his employer's business failed, he could easily survive on unemployment and their garden. This gives him an independent attitude, one I admire. Mr. Smith doesn't need your agreement or support to survive and consequently won't accept much disrespect before inviting someone to get out of his space.



For health care, their auto liability insurance has medical coverage while their greatest likelihood of physical injury is in the car. The Smiths figure they could cover an injury out of savings or future earnings. Something catastrophic? Well, the Smiths figure that life just isn't safe and no one gets out of it alive anyway. Risk is just part of the game. As to illness (as opposed to injury) they consider themselves virtually immune—well-protected by Mrs. Smith's diligent research into healthy diet and kitchen expertise. The children's diets are well-supervised; they graduated from breast to honest bread and vegetables, and are amazingly vigorous, wide-faced, their mouths completely free of cavities, their teeth naturally without tartar. Their parents are nearly as fine. Naturally, they've no health insurance. Their medical budget is spent on vitamins. Dentist? What for?

And what is Mr. Smith doing with their $950 per month surplus? Following his own careful plan, he's covered the leaking trailer roof with another overhanging roof supported by 4x6 posts, is accumulating bargain materials, gradually tacking lean-tos on the mobile home. Naturally, the building inspector can't see any of this. And if he did, it doesn't look like a house a'building, only a roof and decks or porches—things one doesn't usually need permits to do. However, one Sunday morning at first light, in the fog, a party of Mr. Smith's friends will tow that old mobile home away, plug up the gap it left in between the various sheds with siding and by Monday morning, there will stand a completed, illegal, permitless house looking as if it has been there forever.

When Mr. Smith finishes building his house, he will be 37 years old and will begin thinking about going back into business for himself. He will also have no debt. Δ

Steve Solomon is the founder of Territorial Seed Company and the author of several books on gardening. His website, www.soilandhealth.org *contains the full text of many rare and out-of-print books on gardening, health, and social issues. Steve now lives in Tasmania.*

A Journey Toward Right Livelihood

Finding Work that Works

Nick Routledge

A number of important alchemical manuscripts are preserved in the Vienna Staatsbibliothek. Among them I once found one entitled The Garden Where the Task is Found. *The content of this manuscript was not accessible to me.*

—Rudolph Bernoulli

IT TOOK ME A WHILE to find the church. Earlier I had sought out the tomb of William Blake in London's Nonconformist Cemetery, the funereal lot of a prophet deemed too heretical, in death as well as life, for the Church's embrace. Now, three hours from London, down a long, narrow passageway off a quiet city street, I sat alone in the stone-walled cell where, seven centuries before, the epiphanies of Julian of Norwich, England's most celebrated Christian visionary, had transformed Europe's religious landscape.

An American, Thomas Merton, described English mysticism as possessing "less blood and anguish, less hellfire and horror than is to be found in any other school of Christian mysticism, and this, of course, is how it should be." Sitting in Julian's cell, brooding over her words, "All shall be well, and all shall be well, and all manner of things shall be well," I wondered why the apocalyptic-metamorphic dimension to Anglican mysticism has consistently taken on such a peculiarly paradisical bent—Marvell's "green thought in a green shade." What is it about English dirt?

At the time, my internet access bills were running at about $1,000 a month, the culmination of a working life that had begun in the international capital markets in London almost a decade previously and which then found me self-employed, falling out of the boardrooms of America's largest companies, where I'd been hyping the consequences of advanced internetworking technologies. The culture of the soil had never held the remotest appeal. But though I didn't know it, the questions I was mulling in Julian's cell were already propelling me irrevocably toward a belly-flop in a biodynamic compost pile deep in the Oregon woods. Now, six years later, a houseless green-thumbed mendicant, and full-time activist with Eugene's Food Not Lawns collective [see sidebar], I find myself at large in a community that the federal intelligence community insists is the most unruly urban pocket in the country. As I write, in late May, chic SUVs are sliding up to our gardens to issue federal grand jury subpoenas. Permies are seeking court-appointed attorneys. The knives are out.

Melding Thought and Action

In a sense, the attention comes as no surprise. When the great 20th century Cabalist, Abraham Joshua Heschel, insisted that effective prayer is fundamentally subversive, he was touching on the essence of the nature of right livelihood as elucidated by his forebear, Shimon ben Gamliel, some centuries before: "Do not mistake talk for action. Compassion fills no mouths, pity builds no houses." It's an observation echoed by sages across all cultures: true prayer involves annihilating the distinction between the active and the contemplative life, between thought and action. The being is the doing, as they might say. In Christian cosmology the credo has been expressed as *laborare est orare*, literally, "work as prayer." And in the Bhagavad Gita, for example: "What is work? What is beyond work? Even some seers see this not aright. I will teach thee the truth of pure work, and this truth shall make thee free. Action is greater than inaction. Perform therefore thy task in life. The world is in the bonds of action. Because the victory won by the man of wisdom is also won by the man of good work. That man indeed sees the truth that vision and creation are one. Yoga is wisdom in work."

Look closely, and deep wisdom traditions the world over are concerned with marrying a profound understanding of vision and creation—the nature of the world and existence, and the realpolitik of daily life. And at the heart of this transmutation of religious sensibility into being, stands the notion of a life well lived, of noble sentiment made real, of a marriage between the inner and the outer life, the sacred and the secular, the poetic and the political. Indeed, when mystics claim that "dying to the One" or "forgetfulness of the self" is the key to a satisfying life, perhaps all they're saying in secular terms is that saving the world and saving ourselves are one and the same proposition. We live, in a very real sense, to heal: ourselves, and our context, contemporaneously. Which is all very well, of course. But how on earth does one proceed? What type of work, works?

Trained as an economist, I've taken a sniff of every argument for the materialist justification of work since Adam Smith emerged as capital's first formal apologist. When I began my working life as a financial journalist in London in the early 1980s, a focus was the first major third-world debt rescheduling crisis. Then, as now, London's financial district ranked as the central processing unit of international capitalism. I spent years talking money and markets with financiers, many of whom were dear friends. And I became

keenly aware that sound business decisions were killing people the world over. Slowly the picture filled out—a run-in or two with the Establishment here and there—and before long I had abandoned the international capital markets, utterly dismayed by the machinations of a system that struck me as increasingly and, more to the point, irresistibly savage. Surely, I thought, there has to be a better way.

Leaving the Money Train

I plummeted, floundered in a sea of confusion, then agonizingly re-engaged with the System around the Californian high-tech scene, to conclude my working life as a suit with a personal database that included contact information for the executive officers of most of America's biggest companies, the White House, and others. But the contradictions inherent in trying to marry the rightful duties and responsibilities of husbandhood, for one, to the reality of a world in the grip of a form of mass insanity was tearing me apart. Money-making, never a passion, slipped further down the list of priorities. I found myself drawn inexorably toward charitable endeavors that simply weren't paying the bills. I was seeking my sanity, it felt, but the financial choices the instinct demanded were fueling the dissolution of my marriage. She let me go, gently.

Now, though, I had the bit between my teeth. I began stepping even further off the money train. Offers of huge paychecks came in. I turned them down. I couldn't reconcile the type of work they demanded with what I had become, where I was going. And, frankly, I had no idea where I was headed. The mystery exceeded any explanation. It was clear there was absolutely no economic rationale for my endeavors, but I gritted my teeth and pressed on. I helped orchestrate a slew of non-profit cyberspace events, clambered on airplanes to visit poets, drove deep into the hills to meet women with wolves, sweated with the American Indian Movement. Then I crashed, in a mountain of debt. Within a year, I walked off a Chinese medicinal plant conservancy and biodynamic farm deep in the Oregon woods, determined to test the literal teachings of Christ. A penniless, wandering sadhu. I walked for a year and a half.

And then, I came to rest among gardeners.

The English word "Paradise, comes from an old Persian word for garden: *pairidaez*. Pari means "around," and daeza means "wall." The Persians have long been known as the masters of the *hortus conclusus*, the closed gardens of the Middle East. But the idea that Paradise is a garden easily predates Persian culture. It's a very ancient one. Four-thousand-year-old Sumerian writings mention a paradise garden for the gods. The Garden archetype is, in fact, common to every wisdom tradition. Native American mythology, for one, is thick with mention of it.

Finding the Garden's Depth

I had always assumed the Garden as Paradise was simply a quaint religious symbol, a parable for the masses. A morality tale. Then the dirt got under my fingernails, and the re-education began in earnest. As Anita Lange puts it: "The prolonged, earnest practice of tending growth and harvest finely tunes a particular quality of attention that enables intimacy with wisdom inherent in the land. With growing discernment we learn which of our human understandings are in accord with the cycles of nature; a decisive requisite to being fully at home. Initiation to wisdom from the land lies beyond a baptism of rain and grit, beyond bone-weariness or wide-eyed wonder. It is only with senses fully awakened that we become present with ourselves within the wholeness of the world." I woke to a sense of Presence, a sense of place, a sense of destiny.

I was without a plot of my own. From

Food Not Lawns: Rebirthing Eden One Block at a Time

Food Not Lawns is a non-profit gardening collective based in Whiteaker, Eugene's lowest-income neighborhood. Our efforts focus on rebirthing highly localized food and medicine cultures, and preservation and propagation of rare plants.

In the past two and a half years we have facilitated dozens of workshops—including free permaculture certification training for local residents—and distributed thousands of pamphlets, manuals, and publications on seed-saving, deep ecology, sustainable horticulture, alternative energy, community organizing, food politics, and related topics. We maintain a seed and research library and have also freely distributed seeds and thousands of plants to hundreds of people within our community. We maintain four demonstration gardens that are home to over 400 species of rare, native, and edible plants. We also design and implement community-access gardens and other community-sustainability projects in and around our neighborhood.

Our effort is bootstrapped, running almost entirely on volunteer labor, with money for supplies coming from grants and plant sales. Our approach evolves constantly, but might be summarized as a permaculture-biodynamics communion rooted in the realpolitik of urban poverty. Although our network of contacts is growing fast, for the most part we remain a little-known phenomenon. Several periodicals have recently published articles about us, including *Eugene Weekly*, *Oregon Daily Emerald*, and Oregon Tilth's *In Good Tilth*.

We produce a homegrown 'zine, *The Weed Lover*. For a copy of issue #5, on drought and water, and a list of other publications we distribute, please send your name, address and $4 payable to Food Not Lawns, 165 N. Grand, Eugene, OR 97402. Or contact us at foodnotlawns@yahoo.com (checked monthly).

the beginning, I found myself helping nurture a community garden—not a collection of individual allotments within a shared space, but a single, shared garden physically located within a co-housing community, a playground for whoever wished to participate, with no one fulfilling the role of head gardener.

Like it or not, all our strengths and all our flaws became meshed in a fresh, common framework of experience: The garden is a gentle sounding board for failure, we learned. I saw our diverse community informing the diversity of the garden, as individuals brought their own preferences to the dirt. I experienced the garden changing the community's approach to its shared landscape and, in so doing, changing the very fabric of how its members approached their life.

There were particular aspects to the experience that shocked me to my core. There's an intelligence to children in the garden that defies all normative description. A magic. And they defined the heart of our experiment. I found children doing everything from laying down the design of the garden as they played, to showing me revolutionary approaches to making compost, to handholding me through my shyness in the garden as I handheld them. Indeed, their interactions with the garden seemed to bypass typical adult-child strictures and provided a context for them to potently fashion the entire context of our community, the politics of our world. The garden was their ally.

And more than anything, I began to see how the depths and dimensions within the cycles of nature, that for all our intellect we will never fathom, became a part of us. I saw a mystery beyond mode and measure, the influence of a harmony that fed our health—in part because its natural integrity not only responded to our love, but also defied our falsehoods, impatience, arrogance. I saw work in the garden bringing the Mystery back into us, shaping us all. We were bonded to the Spirit of Gaia, the Earth Logos, the Song of the Earth, call it what you will.

As the seasons passed, the gnosis deepened. Working with the avant-gardening community in the Whiteaker district of Eugene, we scoured the grapevine for any tidbits on the latest permacultural trends. Seeds, plants, counsel, we hungered for it. And gradually, our sense of how we defined our context and how it defined us evolved. Ever since I first stumbled into the eloquence of Wendell Berry, I'd been alerted to the relationship between landscape and virtue, but the posit had always been vague and unpracticed. What was new was that I began to live the social implications of mixing and marrying the philosophies of the likes of Mollison, Jackson, Fukuoka, Steiner, and Miles Davis. The boundaries between garden culture and community culture crumbled. And the veil that separated them dropped to reveal that they had always been one and the same. And our error had simply been a forgetting of that great ancient truth.

I became fascinated with the relationship between sun cultures—plant guilds and human guilds—and what permaculturists could do in a landscape to nurture healthy cultural archetypes. Hedgerows, for one, took on an immense political significance. Our local sustainable horticulture study group had been reading and talking around the subject of Andean agriculture, the way it depends on its margins, incorporating them into the very structure of it form, as opposed to pushing them back to land unsuitable for farming as we moderns have long done. If, to paraphrase Wendell Berry, we can have agriculture only within nature, and culture only within agriculture ("At certain points these systems have to conform with one another or destroy one another"), then it was apparent that hedgerow guilds offered a prime example of the sort of reconciliation by which we could escape the endless swinging between center and margins, rigidity and revolt, that has plagued human culture for millennia. Berry suggests the remedy is to accommodate the margin within the form, to allow the wilderness to thrive in domesticity, to accommodate diversity within unity. Slowly, the landscape began to read like a living constitutional convention—but this one was organic, informed by eternity, ever-changing, cyclical, wedded to a suprahuman truth.

Art by Kiki Metzler

The Gardener as Subversive

And I began to sense why the English mystics spoke of peace with such authority: they were informed deeply by English gardens. Slowly, the apocalyptic-metamorphic dimension to deep wisdom traditions came, into sharp focus. All of them, from Hopi to Moslem, Buddhist to Christian, insist that historical time culminates with a return to peaceful cultural reconciliation and an accompanying return to an Edenic Paradise. The two transitions, one and the same. The implications hit me like thunderbolts. Human injustice hurts Mother Earth, and Paradise isn't a mythic, otherworldly notion. Indeed, "Paradise Gardening," as Joe Hollis refers to the creation of edible, perennial landscapes supporting intensified foraging, is about literally co-creating Paradise, here and now, within this realm of experience. "Never mind the New Jerusalem," Martin Luther King insisted, "What about the New Atlanta?"

Why then, if avant gardeners are in the

work of rebirthing Eden, are G-men confiscating the clunkers we're using to haul compost? Is it because the security apparatus in this country correctly senses just how intrinsically subversive the work of an urban avant gardening collective is? The life of the soil fuels a Truth that points to the contradictions at the heart of the Great Lie, and in attuning ourselves to the spirit of Gaia, permies inadvertently assume the role of mediators between that truth and the society we inhabit. We are prophets of the dirt and, as Heschel so astutely observed: "The role of the prophet is to interfere with injustice." The meeting of the avant gardeners and military intelligence always was a historical inevitability.

I'm a mendicant who is comfortable talking monetary policy with central bankers, situationist aesthetics with anarchist neo-primitivists, compassionate conservatism with Promisekeepers. In these, and indeed in all credos I have encountered, no matter how destructive, the defining impulse appears to be an honest-to-goodness effort on the part of individuals to make sense of what do to upon falling out of bed every morning—how, in a sense, to attune ourselves to the great unifying march of evolution. That it's a quandary for most of us isn't news: as Rilke put it, "There is an ancient enmity between our daily life and great work." But what if the clever reasonings of religious, political or academic think-tanks, indeed the ancient paradigm-context that serves as a basis for all intentions, are proffering "answers" where there are no answers to be found? What if the secret to our collective truth is actually with-out explanation? What if it is to be found in the Mystery of the garden?

Working Hard, Hardly Working

As we might expect, a workable approach to remaking Paradise turns clever certainties about the nature of constructive work upside down. Paradise gardeners are renowned for their zero-work ethic—Mollison's "reclining designer." That's because we are elementally about co-creating landscapes that are attuned to Nature's patterns and rhythms: self-sustaining, edible landscapes that require an absolute minimum of intervention on the part of the gardener. In other words, no toil: "Consider the lilies of the field, how they grow: they toil not, neither do they spin." The yoke is easy.

Of course, taking it easy hardly fits in with conventional notions of virtue, but then again, our civilization's valuation of the nature of virtuous work may well be rotten to its core. As Terence McKenna puts it: "Now you see, the current theory of problem solving is that we must solve all our problems with solutions that make a buck. Well, it just may not be possible to solve the problems of the 20th century and make a buck at the same time. But if you're willing to put aside that notion, then the human future appears endlessly bright." Or, to paraphrase the words of the Christos, Mammon sits fundamentally at odds with the irresistible march of evolution. That, in a nutshell, is the stark truth underpinning a collaborative return to the Garden, perhaps the truest attunement to the Great Work we are capable of. "Work, motion, life," says William Bryant Logan, "All rise from the dirt."

In her cell, Julian of Norwich experienced a vision of a lord (God) and a servant (Christ). "I watched, wondering what kind of labor it could be that the servant was to do. And then I understood that he was to do the greatest labor and the hardest work there is. He was to be a gardener... and he was to persevere in his work, and make sweet streams to run, and fine and plenteous fruit to grow, which he was to bring before the lord and serve him to his liking." The vision culminates with the servant completing his gardening and being rewarded with the hand of his bride, the church. "Now, the spouse, God's son, is at peace with his beloved wife, who is the fair maiden of endless joy. God rejoices that he is our true spouse, and that our soul is his beloved wife." The Song of Solomon celebrates a similar correspondence between bride and garden: "A garden locked is my sister, my bride, a garden locked, a fountain sealed." In many ancient agricultural societies," Mircea Eliade tells us, "woman is assimilated to the soil, seed to the semen virile, and conjugal union to the work."

Opening the door to Work amounts to opening the door to Paradise. Δ

Nick Routledge studies tai-chi in Eugene, Oregon. Previous livelihoods include writing for Euromoney Magazine (www.euromoney.com) and curating A Space Without A Goal, the Electronic Frontier Foundation's consciousness archive at: www.scribble.com/world3/meme1/akond.html

An Interview with Tom Ward

Surviving Insurmountable Opportunities

***Tom Ward** is one of the longest-practicing permaculture teachers and designers in North America. He is trained as a forester, electrician, and herbalist, and the author of* Greenward Ho! An Ecological Approach to Sustainable Health. *Like many in permaculture, Tom struggled for years to find work that was both ethical and paid a living wage, and has lately achieved that goal. Toby Hemenway interviewed Tom at his home in Ashland, Oregon.*

***Permaculture Activist:** How would you describe your role in the permaculture design work you do?*

Tom Ward: I act as a counselor. My ethical position distinguishes that from a consultant's role, which is to make decisions for the client, and from a contractor's, because I'm not hiring and firing, taking a cut of anybody's wages, or claiming any intellectual property. When I draw a map or create a document, it belongs to the client and the workers. My jobs are observation, supervision, idea management, and facilitation of communication among the client, the workers, and the land.

My son plays a lot of Dungeons and Dragons, and I wrote him describing my role in terms of that game. As a character in Dungeons in Dragons, a counselor has no power except persuasion and information. A counselor is a philosopher, having a set of ethics. A counselor works for everyone but is paid by the ruler, or in my case, the client.

I've found that the counselor-client relationship develops into an emotional attachment, and the client and workers demand the time and attention of the counselor. Therefore the main goal of a counselor is to become scarce and invisible. It requires knowing how to give advice that will teach the recipients to think for themselves so they can make wise decisions on their own. This is stuff that is not yet taught in permaculture design courses, but it should be.

These are very progressive business practices, and I'm running up against difficulties with other professionals on my jobs: architects, tradespeople, and contractors. These are the professionals I work with, and they have traditional ways of working that include kickbacks, which apparently are legal—they are written into the contracts.

I'm working with the IWW, the Industrial Workers of the World, or Wobblies, and I'm now a union representative for them in forestry, which is where the Wobblies started. The Wobblies have a systems worldview that was mapped out in 1905. It's a collectivist, syndicalist view, managing the resources of the planet in a sustainable way with the workers in control of production and distribution, and not the capitalists. This is a very interesting permaculture-compatible flow.

So as a counselor I am not just working for Gaia and my client, I'm also working for the workers. So I have organized my main forestry crew, a group of young anarchists who are thoroughly decorated and pierced in the neo-tribal way. They're now union members.

***PCA:** In earlier conversations you've mentioned that you work on strawbale mansions for rich people. Why do you feel this has benefits?*

TW: I call it mitigating the effects of the construction of strawbale mansions. Strawbale has the potential to become a sustainable and valuable architecture. However, at the moment it's burdened by the interest that local government and professionals have in taxing and taking a cut from everything, the middleman phenomenon. And it's undermined by the way the codes change: Every strawbale I've helped build has been under a different set of codes, even though I've worked on one a year for three years and they've all been local.

Each of the strawbale mansions I've been involved with was built with the express desire of the owners to have their house be a demonstration site. I have the promise of the human client that the house will be open to the public, that it will be well-documented, and that the truth will be told about its cost effectiveness, comfort, and so on. So I see these as good experimental, leading-edge projects to be involved in.

In these jobs I've also been able to experiment with keyline for steep forested slopes, on which there is little documentation. I've built 20 ponds associated with these strawbales.

But I think part of your question is, where are my ethics challenged in that work? They are challenged when the human-steward clients are too busy to pay

Tom Ward documenting his work.

attention and they are making bad decisions because they aren't listening to their counselor. This it tricky because the permaculture ethic is like the Oath of Hippocrates: first do no harm. That's essentially what "care for the earth" is. What if your client won't do the next step to make things better? Is that an ethical quandary? Yes. It happens, for example, when I set up a system and we get to where all we need to do is use a soil ripper in the dry fields on a keyline pattern before we turn on the irrigation, and this will make the place bloom, will allow 3 or 4 cuttings of hay, and the owner says, "No, I don't want to make the investment, I just want to turn on the irrigation." That will cause erosion and other difficulties.

So in spite of all my eloquence I'm unable to get the ideas across, because the client won't stand still long enough, won't read the books, won't think. Thus I've learned to talk to these clients very gently and say not, "You need to do this" or, "If you don't do this it'll be a big mess," but rather, "You have an opportunity now to do this and if you miss this opportunity there will be consequences." It's very delicate, because you need to keep the client in the driver's seat. We want humans to learn to make good decisions. These clients aren't going to have me as their counselor to their dying day. My first two strawbale clients are now on their own now, making intelligent, careful decisions, and that's the outcome we should hope for.

***PCA:** You want to teach the clients to become independent.*

TW: Exactly. It's analogous to doing a design. In the past when I did a big project and then left, it was often abandoned. I found the outcome very interesting permaculturally because I could return to the project to see how the site—the plants, the wildlife, the soil—was doing. I had put in place the patterns on the land—the ditches, ponds, runoff control, collection, diversions, swales—and yes, by golly, if you abandon a permaculture project, soon you have a jungle that is thoroughly out of control. This is because of the exuberance of nature, and because you've improved the biomass holding-capacity and placed the elements in the right relation with the sectors to harvest all their energies. One has to have a sense of irony, and has to understand that you're making investments of time and your client's money in systems that should indeed run themselves. And the client turns out to be one of those systems that if designed right, you can abandon.

But that doesn't always happen. For example, how much money can you talk the client into spending for assessment? Very little. They want results, not assessments and observation and planning. They want elements, and they want the elements they want, placed where they want them, with little regard for interactions or relative placement or principles. So this is your job as a counselor: education, and trying to balance the dilettantish interests of the client with the interests of the landscape. Say a client tells you, "I like rock walls, let's put some there." You must then gently ask, "Where do we get the rock, who's going to do the work, what are you going to plant into them, who will maintain them?" This is the real work in being a counselor.

"Once you have done enough training to have the skills to be a designer, then take on an impossible task"

***PCA:** You were raised as a Quaker. How does that influence your work?*

TW: First and foremost, Quakerism is philosophical and has ethics. This prepared me early on for permaculture. Quakerism also has its own language, plainspeech, in which we use the old second person singular: "I speak to thee, Friend. " This has a very different effect than "I speak to you." That taught me how language influences the way we see and think.

I was raised in an insular community in the Hudson Valley in the village where my people have been for almost 400 years: South Glens Falls. There was an oral tradition about farm life. Even though my family had been forced off the farm into factory work, and many of them died from the toxicity of the factory, even though I was in the degraded proletariat working-class place that my village had become, we still talked farming. We still went out to the farms, got our jugs of milk from the cooler and left money in the bucket. We grew big gardens.

It was as if I were raised in another century, as if I were given a special window into a peasant-farming, indigenous people. That included my family's wildcrafting, which was extensive.

So right from day one I was raised as a wildcrafter-farmer in a place that was our place. We were told stories that connected us to that place endlessly, every day. That's one value that came out of it, plus a willingness to understand that there are other ways to be than a suburban consumer.

***PCA:** How did you get where you are?*

TW: Here are the steps: Take every opportunity that you can to do physical labor in a large number of different venues, especially in every kind of farming you can do. Do safe and non-toxic construction. Work for non-profits in bookkeeping and organizational structure. Live in group housing so you deal with children, animals, medical crises, epidemics, as well as gardens. If you were so lucky as to have a life like this, during which you were always poor, always desperate, and not sure where your life was going, please remember, you are in training. Once you have done enough training to have the skills to be a designer and be able to estimate costs and times for jobs, then take on an impossible task.

In my case I took on a book that took me 16 years. During those 16 years I had a project: I was writing a book. I had a task, though no one thought I would finish this book. But I had a raison d'être. In the writing of this book I collected files, did research, and built up a library. I did my first farm design in 1971. It had multifunctional crops, another reason why when I first met permaculture I took to it quickly.

When you do a big project, you need to live someplace while you're doing it. So you develop community ties and organiza-

tional experience, and you may eventually finish your project.

So you gain a reputation, mixed as always, but you're local and you're known. And suddenly you attract clients, often rich clients. These clients have dreams of what they want to do on their land and they want someone to manifest those dreams for them. They hire you as a permaculture counselor, and you have to tell them, "Well, actually I work for the Earth, and you with your money are in partnership with me and my experience, and together we'll work together for the Earth." This is an education in itself, for both of you. After you've done one of these jobs, and word gets around, you will be swamped with work.

Of course, you should probably also have projects that you feel frustrated with because you're not getting anything done on them, or because you're making too much money and thus don't have any time. But keep in mind that the money could evaporate at any time if the economy changes. Then there are old clients who call you at any time to get free advice. Today, since I'm spending time in this interview and doing a lot of paperwork, I have one meeting and I'll make $50 for the day. That's not much for a day's work.

I get one or two days completely off at home every couple months; every day I do some counseling work, and I have no slack. I'm in my mid-50s, and I wonder what retirement looks like when you don't have any of the normal backups. It's an investment in a lifestyle, in a possible future. It makes life very interesting, but it's tremendously risky. Do we wish to recommend this to anyone?

My experience is, the more money I make, the fewer connections with friends I have. I'm a machine now, and I don't have time to have a full human life. I work at the behest of the land and the people. But my support systems fall away, except for the very local ones. It's like a zone structure, where I can only visit the closest ones. I can't keep up the long distance ties. In Quakerism there is a name for people like me: "isolated friend," and there are social systems to take care of those people. But not yet in permaculture.

PCA: Do you interact with the local government?

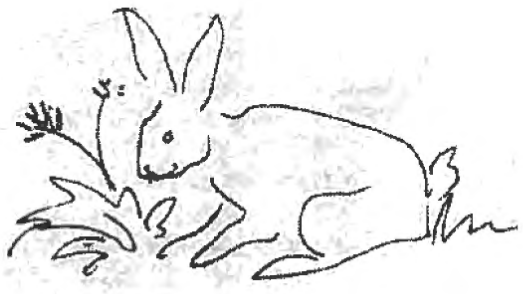
TW: I have a very interesting "edge" relationship with the city government, entirely because of my having lived here for 26 years, and from my reputation. Because they know I live here and I'm not going anywhere, people in the city government can say, "Tom Ward knows about social forestry." Thus social forestry stays on the city agenda. They can say, "Tom Ward is doing a permaculture demonstration site at the high school," so permaculture stays on the agenda. I'm known, I have no arrest record, and I'm not going anywhere. I don't hobnob with the officials, don't drink wine and get indigestion with them. But I have an effect through public speeches, herb walks that officials attend, and so on.

"The abundance that has landed in my lap is dizzying and discouraging"

Ashland is a leader in innovation. It was the first nuclear free zone. The city has a 1929 memo of understanding that gives it a say in what goes on in the federal lands in its watershed. That's translated into my doing forestry plans for the government. And so I became known in that capacity, and that's gotten me involved in a new project with huge potential.

PCA: What's that?

TW: I've been started on one of 20 or so contracts in a stewardship pilot program with the US Forest Service, a brand new program. I'm a steward of a piece of public land.



They've begun to allow me stewardship of hundreds of acres of federal property—the commons—that happen to fall within an environmental assessment because they're in a road prism, the area immediately affected by a road. A road prism goes from the top of the roadcut to the toes of the fill. Here's what I mean: Imagine a cross section of roadbed built on a desert. It would be truncated, have 2:1 or 3:1 slopes, a flat top, and a flat bottom. There's your prism. But on a mountainside, where my project is, the prism looks very different. Above the road is a cut into the mountain extending down to a little bit of ditch and a short slope up onto the roadbed. Below the road is a long slope down the mountain containing the fill that was cut out of the mountainside to build the roadbed. All that encompasses the prism. In the hills a prism can be from 50 to about 300 feet wide.

I care for a seven-mile stretch of road, so if the prism averages 100 feet wide, do the math: It's hundreds of acres. It's at 3,000 to 4,500 feet elevation, with no poison oak, and is wall-to-wall Scouler's willow, *Salix scouleriana*, a native willow that has fantastic properties for basketry and coppice wood, among others. It's standing willow timber, from three to nine inches diameter on very large stools [stumps for coppicing]. Some stools I worked last year showed fantastic coppicing, yielding eight- to ten-foot wands in one year, perfect flexible willow wands that had no branching.

My pilot project last year was so incredibly productive that it's being raided by basketmakers or somebody. Unfortunately, they're not making proper cuts for coppice.

In the pilot proposal the Forest Service has given me extraction and farming rights. I will be able to plant, build, remove, and adjust. They're moving into the project incrementally. First they gave me the extraction permit on an administrative fee basis so I'm able to buy the willow for $5 a ton. This keeps everything very clean as far as

Congress is concerned, which worries about sweetheart deals.

However, the Forest Service understands that if I make an investment ins selling coppice stools, they can't just put that resource out to bid. Because I created that resource, I'm allowed to work the resource. So I have started the initial thinning, cleaning up these thickets on large stools that have been coppiced previously by wind or bugs. I thin out all the junk and the wood I can use immediately because I have a big demand for willow on projects I'm working on. This also helps me get the large ready to create coppiced stools by a winter "clearcutting" of the timber still standing on the stools. I'll have hundreds of tons of willow coppice.

That's just the beginning. That's just one species. There are a hundred economic species already growing on this road prism. Others are yerba buena, three species of ceanothus, maybe ten European invasives such as prunella, yarrow, St. Johnswort, and mullein. All of these are medicinals and there has been no spraying on this road for years.

What the Forest Service gets in return for my removal of materials is fire-hazard reduction, a clear view for drivers, invasive plant management, slope stabilization through planting and redirecting of water in erosion prone areas, and interestingly, managing an area that is heavily used by what they call "hobby campers." There are two or three homeless people's villages there. The sheriff goes up and down the road checking that people move their tents every two or three weeks, But there are probably 20 people living on this stretch of road. It's government land, outside the watershed, so they can camp on it. This means there are serious issues of trash, sanitation, and security. We will be providing a sort of a presence.

The challenge is here I have gotten myself into that permaculture principle, "we are surrounded by insurmountable opportunities." The abundance that has landed in my lap is dizzying and discouraging. That's because I don't have a culture of artisans available to suck up tons of materials and put them on the market. I don't have—completely—an educated populace to act as market to buy the works of these artisans. I don't have crews harvesting these materials, bundling them to sell to the artisans. And I don't have the time to do complete assessment on hundreds of acres even if they did come to me free.

So I need an economic development plan of the highest order, one that takes into account ecological mandate and local economic and social systems. Now, the traditional way for me to be involved in this project is for me to take a cut from everybody's work who is working on this project. It would be as if I were the king, taxing my subjects who were working the commons. Instead, to be ethical, I think I can earn an inspection fee. I am the botanist, I approve any harvesting or planting, I maintain the documentation for the forest service. So the only people who are permitted to do any harvesting are holders of a permaculture design course certificate. Artisans could be more varied but I only want so many harvesters. We need a broker on board, a wholesale yard where we have the materials bundled by the hundred-weight, because that's all that a person can handle and get into a truck.

I need a mill that specializes in making quarter-inch willow paneling. This wood is marbled with red, purple and yellow. It is absolutely gorgeous, highly stable, would make the finest cabinet material, a very high-end value-added process. But there is lots of cull to be chipped or developed into other products. I need standardized products that can be sold out of any retail outlet, which includes four-by-eight panels, privacy screens, and hurdles.

So there are products to develop, an economy to develop, organization and relationships between all the players to develop. Yes, we have groups and meetings and young people who are wanting to do exactly this, and the city of Ashland is fully behind this, and the Forest Service thinks this is the greatest thing since sliced bread. But I'm in the middle of all this. All these things are coming together in this one project, and the potential for this project is awesome.

Is there any backing from the permaculture community for this project? Who will organize a course so we can do assessment and design, and come up with harvesters and craftspeople out of the course? How can we make this course affordable for young people who have no money whatsoever but want to move into this kind of lifestyle? I hope to have approval from the Forest Service to have a little village up there for the harvesters who can live on site during some parts of the years. My god, man! This is full-on design stuff, and truly an insurmountable opportunity. Δ

Discovering Economic Truths

Calories, the Real Economic Currency

Thomas J. Elpel

MOST ECONONISTS RELY on computer printouts of numerical data for their financial planning. By comparing one series of digits with another they can find the immediate trends in the economy and take advantage of those trends. To most people that seems normal. To me it always was, and still is, artificial. I have always wanted to help both people and the environment, and I learned at an early age that knowledge of the economy could be one tool to reach that end. However, I wanted more than just the knowledge of how to generate a positive series of numbers. I was looking for something bigger. I was searching for universal truths. I wanted knowledge about the economy that was constant from year to year, from culture to culture. I wanted knowledge that would be useful to a poor person or a rich person, in our culture, or in any culture. The truths about economics that I found were not in the New York Stock Exchange, but in anthropology and nature.

Little has changed since the stone age. We still have the same basic needs today as in millennia past for such things as physical and mental well-being, shelter, fire, water, and food; it is only the way we meet those basic needs that has changed. For example, as hunter-gatherers we met our needs largely on our own. Each of us produced every aspect of our culture, from shelter to clothing to entertainment. Today we have the same needs, but we more often meet those needs through the network of society, trade, and money. Nevertheless, if we look beyond the illusion of money we will discover that our economy today—like the economies of all past cultures—is based not on dollars or Deutsche marks or yen, but on calories of energy.

Some things have hardly changed since the Stone Age. We still have the same needs, just new ways of meeting those needs.

The calorie is a unit of measuring energy. Specifically, it is the amount of heat required to raise the temperature of one gram of water by one degree Celsius. The caloric value of food is measured by igniting the food to find out how much heat it releases. As human beings, you and I require approximately 2,500 calories of energy to fuel us through each day. The calories we consume come from the sun. Plants convert sunlight into food that we and other animals can eat. Petroleum and coal also contain calories of solar energy, but that energy was captured by plants millions of years ago. The calories from these and other sources are ultimately the basis of all economies.

One Calorie In ...

The economies of our ancestors may have seemed different from ours, without all the institutions of finance that we have, but they were still surprisingly similar, even before there was money, and even before the very first trade or barter ever took place. Our ancestors of long ago may not have had money, but they still had to make decisions that were economical. For example, there were a great many edible plants and animals in their environment which they could harvest and consume for calories, but not all animals or plants were economical to hunt or gather. There were many food resources which were difficult to gather, so more energy would be expended than gained in the process. The result was a caloric deficit. For a food resource to be economical, the people had to be able to gain enough calories of energy from the food to replace those expended, plus enough extra to expend on other chores and activities such as making tools as shelter, sleeping, or singing and dancing. At first they harvested only food calories. Later they started harvesting additional calories, in the form of firewood, which I call fuel calories.

Money is simply a token we use today to represent calories of energy. Strictly speaking, we use it to represent human energy, or human productivity. Each of us produces goods or services to exchange to others for the goods and services we need. We put a great deal of energy into the goods and services we provide, as does everyone else. Money represents that energy and makes it easy for us to swap our energies. I can make a product and sell it, and I get paid for the energy I put into it. I can then take that money and buy a product from another person. I give

them my money to compensate them for their energy. Ultimately I have exchanged my energy for theirs, and money is just something that makes the exchange process easier. For simplicity we can say that money is a token that represents calories of human energy or labor.

Money also represents fuel calories, but not directly. One person can spend a day (and a couple of thousand food calories) harvesting tens of thousands, even millions of fuel calories. That fuel can be firewood, petroleum, uranium, or any other type of fuel. A relatively small amount of human labor can be expended to acquire a tremendous number of fuel calories. These fuel calories can then be put to work for us to increase our production. One person can only consume a few thousand food calories per day, and is therefore limited in the amount of work they can do per day. But a person can also burn hundreds of thousands of fuel calories to run machinery and increase output. Fuel calories are like cheap slave labor. They give each of us the calorie equivalent of having between 100 and 300 slaves working for us 24 hours a day. We expend a few food calories to harvest a lot of fuel calories, and we spend a combination of food and fuel calories to produce the products of our culture.

Food and Fuel

It could be said that money only represents calories of human labor, since it takes human labor to harvest the fuel calories. Yet each of us uses a combination of food and fuel calories to do our work, so it is convenient to say that money is a token that represents both food and fuel calories. The fuel calories are obviously worth less than food calories, since they are so easy to come by. We easily expend millions of times more fuel energy than food energy in our country, yet the fuel calories still only account for three to four percent of the cost of producing all the goods and services of our country. This means we have only about three to four percent of our culture expending labor to harvest all that fuel. The rest of the cost goes towards the people putting all that fuel to work to create our products. The specific ratio of food to fuel calories does not really matter, as long as you understand that money is a token we use to represent both.

Today every product we pick up has been shaped by food and fuel calories. For example, a simple drinking glass is made from the resources of the earth mined and shaped with the food calories of human endeavor, combined with the fuel calories from one or another source. The people that produce those food and fuel calories provide the basis of our entire economy. Directly or indirectly, we produce goods and services for the people who produce the energy that fuels us through our tasks. In return they pay us in calories of food or fuel to cover the energy we expended, plus they give us extra calories that we can trade to other people for the services and goods we need. We might think we pay with money, but actually we pay with calories. We earn calories at our jobs, then we pass them on to others to support them, in exchange for their goods and services. The stuff we call money is just a token representative of calories. Without money we would have to carry around bags of food, and bottles of gas, or batteries with electricity. Money makes life a lot more convenient.

Money is a token we use to represent calories of food and fuel.

A Versatile Measure

The only problem with money is that people get caught up in the illusion that it is real wealth. They manipulate numbers in an effort to make money, but they fail to create any real wealth. You can hear people doing this every day in advertising, get-rich schemes, and political speeches. Their proposals may seem sound according to the math, but if you think in terms of calories you will find that their plans seldom bring about real wealth. I've written a book, *Direct Pointing to Real Wealth*, to help people think in terms of calories, rather than money, because the flow of calories points directly to real wealth.

Ultimately, all aspects of our economy are tied to calories, including inflation, insurance, stocks and bonds, and interest. Consider, for example, insurance. Insurance in a primitive economy meant having neighbors who would share some of their calories with you if you had an accident, and you would do the same for them in their time of need. Insurance is similar today. We all pay calories into a common fund, and any person or family that is in need draws from the fund. For example, if a person's house is destroyed then that person withdraws enough calories from the fund to rebuild the house. Having built our own house, I can tell you that you expend a lot of calories building a house. So the person whose home is destroyed withdraws a large amount of calories form the common fund to fuel the carpenters as they rebuild the house, plus enough extra for the carpenters to exchange for the goods they need. There is only one main difference between insurance in our economy and insurance in past economies. In past economies every member produced calories and contributed them to the insurance pool. In our economy today the insurance agents do not produce for the pool. We sustain them with a share of the calories we produce, and they in return serve us by overseeing the pool of calories and by doling them out to those in need.

Similarly, banks are essentially places where people can store calories when they

have a surplus, or where they can borrow them when they do not have enough. Primitive banking may have started when a farmer borrowed calories from a neighbor's surplus to fuel the family as they built their house. They may have borrowed a certain number of calories with the promise to repay them when they grew crops the following season. One year they would build their house. The next year they would raise crops and repay the loan, and give back additional calories, which we call interest, to pay for the service. Today bankers sustain themselves without producing any calories of their own. They do this by loaning us calories with the stipulation that we must eventually pay them back more than they lent us.

Besides borrowing calories from banks, most of us also store them in banks. Banks are usually a safe place to store extra calories until we need them. Bankers have found that they can loan out our calories to other people as a means to earn calories for themselves, as long as they can give ours back when we come for them. If many people store their calories at the bank then it is unlikely everyone will come on the same day to withdraw their funds, therefore the bank can loan most of the total they have stored.

Even inflation can be discussed in terms of calories. Inflation is simply a word we use to describe the changing relationship between calories and the tokens that represent calories. Inflation has occurred when a given amount of tokens (money) cannot be exchanged for as many calories as in the past. Inflation is usually caused by the source that makes tokens, typically a government, and can be additionally affected by banking institutions.

Stocks and bonds are also related to calories. When you invest in stocks you become a banker and a gambler. You loan a business the calories they need for sustenance while they build their business. You then get a share of the profits when their business is up and running, exchanging goods and services for the calories people bring in. If they do well then you get extra calories back as profit. If the investment fails to bring back a net gain, then the business fails and the calories you invested were expended as sweat and tears, but no gain.

All in all, very little has changed since the stone age. Throughout the ages the calorie has remained the universal measure of economic wealth. Each of us is simply working to harvest more calories than we expend. Δ

Adapted from Direct Pointing to Real Wealth: Thomas J. Elpel's Field Guide to Money. *Tom Elpel is the author of several books on nature, economics, and construction (see page 53 for review). He teaches primitive and contemporary living skills at Hollowtop Outdoor Primitive School and lives in Pony, Montana. For more information, visit www.hollowtop.com.*

A Bridge Between Buddhism and Capitalism

Birth of a Meditation Cushion Salesman

Patrick Clark

WHEN I FIRST MET Linsi Deyo she was busy crafting a pile of funny round cushions she called zafus. I was impressed. Here was a woman who found a trade that employed her in a rural Appalachian community where most of us were driving to the city for work. Little did I know that someday this woman would be my wife and business partner, and I would be a meditation cushion salesman.

We were a good match because we shared a similar quest. Linsi and I both subscribed to the same credo, believing the current economic climate that exploits people and the environment to produce profit for stockholders needed reform. I always wanted to create a right livelihood—a business that would support my rural lifestyle, provide a meaningful service to the community, and be pollution free. I wanted to be a part of the Green Business movement that promoted ethical and ecological business policies and practices in the workplace and beyond. If businesses use energy-efficient and recycled products and equipment to produce the same, and uphold high ethical standards, it will create a more just and sustainable world. The leader of the movement is an organization called Co-op America, which currently lists over 2,000 business members in its National Green Pages and publishes a quarterly magazine.

Linsi Deyo atop a Carolina Morning Designs cushion in the Appalachians.

Buddhist Marketing

In truth, the green business movement was almost 2600 years old—founded by Shakyamuni Buddha—before Co-op America began seventeen years ago. Right Livelihood was a part of the Buddha's Eight-fold Path to enlightenment. The eightfold path is formula for relieving suffering in one's life and the world. It involves cultivating mindfulness or awareness in everyday life. Now, under a different name, a lot of people were interested in right livelihood. A new market of green consumers had evolved, and in this business I believed I had found the bridge between Buddhism and Capitalism.

Neither Linsi nor I had the knowledge or the resources to effectively run a business or tap into the booming Buddhist market. We were well meaning, idealistic, social and environmental revolutionaries and artists who wanted to merge our ideals with our livelihood. We had each developed a repulsion to money and business. Since our majors were in philosophy and environmental education, our only business education was the school of hard knocks. Yet on some level we were fascinated with money and business. Perhaps we felt that if we could master them, they would somehow become friendly. They might even reveal some kind of mystery that could open our minds and create a dramatic shift in consciousness.

One day the electric man knocked on our door with a "collect or disconnect" order. That electric man was giving us a message: Money links even the good acts of the world. Without it, even a green business cannot survive. Our $7,000 per year income did not work. The cottage industry had gotten too unwieldy for two for us to handle, and we could barely pay ourselves. The only answer was to sell more cushions.

But this whole idea seemed like capitalism, which I thought was the opposite of Buddhism. Wasn't this supposed to be a noble right livelihood? Wasn't Buddhism, and our business, a sanctuary from the market economy where one is bombarded with tacky and pressuring messages to "buy this" or "eat here?" How could we promote our cushions without encouraging materialism and competition with other companies who were trying to do good as well?

For many weeks the phone barely rang. It was like trying to sail in a sea with no wind. Our friends felt sorry for us and offered much advice such as, "Why don't you sell them at football games? They would be great for those hard stadium seats." Everywhere we went, we were dreaming up ways to sell more cushions. We considered bumper stickers. They could say, "Carolina Morning Designs: your one stop for enlightenment." But how do you make a big noise with

something that doesn't make any noise at all?

The Green Consumer Paradox

We spent many years looking at this as we worked in the business and sat on our cushions during meditation day in and day out. This was our koan: How do you operate in the market economy with non-violence and still make a living? How do you make a living without supporting a system of destructive resource use and dysfunctional social practices?

Instead of having worked toward a career, we had spent years learning how to live a sustainable lifestyle, grow vegetables, bicycle for transportation, cultivate inner awareness, recycle paper, plastic and glass, write to our Congress-people, boycott Wal-Mart and participate in local environmental groups. We didn't know how to do all this and make a viable living. Can they go together, or does one need to sacrifice the sustainable part while at work in order to support the sustainable part while at home?

The paradox of being a green consumer is that it costs more—because you are paying the true environmental and social costs—so you need to make more money. How can we afford solar panels and get off the grid if we are struggling to buy organic carrots? And to be truly green you need to make money in a way that fosters sustainability. How many of us can say that our work, or the company we work for, does this? Or the companies where we invest our money? Or the products we purchase? The quest for survival is still as primal to us today as it was to our stone-age ancestors. Immediate personal survival often overrides concern for long-range, planetary well being.

We learned that even a green business uses many of the same procedures and principles as a standard business. Just because we do good doesn't mean we will do well. We decided that if we didn't learn (ugh!) the ways of managing business and money that we so abhorred and avoided, we might as well go find jobs.

Money crunching, marketing and advertising, systems design and analysis—all the things that make Wall Street and the stock market tick—these were the things we had to learn.

Photos: Patrick Clark

Meditation cushions support CMD's staff financially, thanks to careful business practices.

A book, *The E-Myth: Why Most Small Businesses Fail and What to Do About Yours* turned our perspective and our business around. The term "E-Myth" refers to what most people believe an entrepreneur is: someone who knows a trade and has a great idea to start marketing their creation or service. Author Michael Gerber calls this an "entrepreneurial seizure". What is overlooked, according to Gerber, is that running a business takes management skills. It is not enough to just know a skill or design a product. At a certain point a business gets too big for one or two people to manage, yet it lacks the organization to facilitate the quantity of sales needed to survive in our highly ordered and competitive market place. This is the reason most businesses fail within the first five years of operation.

Reality Meets E-Myth

We were a case in point. Cushions and materials and papers and equipment were all over our house, porch, and barn. We often paid our bills late with stiff fees, and didn't file taxes on time. We could never keep up, much less increase our orders. We didn't have a profit and loss statement (we barely knew what one was), so there was no way to analyze anything about our business and make informed decisions. We could not even take a small vacation.

We read the book in 1997 then signed up for an eighteen month correspondence course at the E-Myth Academy. Since then we've put in hundreds of hours quantifying, measuring, researching, projecting, imagining, fixing, and systematizing everything from inventory to production to marketing and hiring. When we realized we netted around $12,000 in 1997, we wondered if it was all worth it. So many years of our lives were invested in building a dream that wasn't sustaining us, and often wasn't fun. It had become mostly a matter of survival by that time.

For two people to live on $12,000 they must be very creative. But we were more dedicated to making our chosen lifestyle work than to moving to the city. In the fall of 1997 we relocated to a different community where some friends allowed us to build a tiny, movable house on their land. We rented a cheap building nearby to run the business. Almost every weekend for a year was spent setting up our lives in this new environment, building our passive solar trail shelter on the edge of the Pisquah National Forest, which is our house today. For months we were constantly exhausted and burnt out, barely able to go on and face the new day. We were living in the old world of do-it-yourself subsistence (make-it-or-do-without) and the modern world of high-pressured business (analyze, quantify and compete), with no space or rest in between or at either end. Why would we work so hard for so little? What was in it for us? Because there was no turning back. We had worked ourselves into a predicament and now we were working to get ourselves out. We couldn't go over it

or around it, we had to go through it. Call it karma or circumstance, the fact is by that time there were no other viable options. In trying to create a better world, we had created a very stressful and unstable life—sort of the opposite of our ideal.

Applying the Noble Truths

For hard times, there is no better place to turn than the very Buddhist teachings which we were promoting through our cushions. We had to take a close look at The Buddha's Four Noble Truths: that suffering *(Dukka)* exists, that suffering has a cause (the attachment to pleasure of the aversion to pain), that liberation (happiness, peace) is possible, and that the path to liberation is the Eight-Fold Path. It took great strength to accept where we were at and not be bitter, blame ourselves, or indulge in self-pity. Somehow we managed to stay together in our 10-foot by 10-foot shelter, and work side by side to pull Carolina Morning Designs out of the tangled mess it had become.

We had to ask ourselves whether sticking to our ideals and principles of sustainable living and right livelihood was worth all the work. But there was no other choice. At least, we decided that overcoming the obstacles would be much more rewarding than giving in to them. Now that we had accepted the notion of a specialized world with a market economy, we were ready to participate in it. Learning how to be in this world and not of it was so much more meaningful than deciding we could never fit in with the way things are, and forever live a life of resistance and regret.

This is not yet a "rags-to-riches" story, the kind that fascinates so many people. Don't get me wrong—money is a part of prosperity—but it is not the only part. The definition of abundance has more to do with overall satisfaction than with the size of one's income. This is a story about looking at money and the lack of money, and learning to not identify with or cling to either. It is about two people's quest for right livelihood and their coming to terms with the way things are, and that the way things are is impermanent. It is a story about developing present moment awareness and practicing it in the experimental arena of work. It is a story about perseverance, determination, and running a business with integrity amidst the din of our often harsh economic climate.

For many years, we supported our business. Today, Carolina Morning Designs supports us, as well as seven other employees. The quest for an authentic life has been our own spiritual path, a hard-earned success. And even during this "economic slowdown" when others are laying people off, we continue to grow faster than ever. This is not only good news for us at CMD, but for the world as well. That is the "win-win" of a green business. The sales of yoga products is a barometer of how many people care. We are in a constant state of dynamic evolution and learning, changing, rearranging, organizing and restructuring as we dance with the fluctuations of the market place and integrate each insight that becomes uncovered.

Co-op America can be reached at 1-800-58-GREEN: 1612 K. Street NW, #600, Washington, DC 20006 or www.coopamerica.org

For support in finding your own right livelihood try The Anti-career Workshop at www.anticareer.com or *Creating the Work You Love* by Rick Jarrow. Δ

Patrick Clark (cmd@zafu.net) is a writer, musician, and co-owner of Carolina Morning Designs. For more about meditation and the New Ergonomics check out www.zafu.net The16th Anniversary of Carolina Morning Designs is Aug. 20, at Carolina Hemlocks Campground, Celo, NC 1-888-267-5366 for info or visit the website.

Working with Your Money or Your Life

An Escape from Wage Slavery

Alan Seid

The foolish person wants more money, and more of the things money can buy. The wise person wants enough money, and more of the things money can't buy: health, happiness, love, and peace of mind.

—Joe Dominguez (1938-1997)

I AM 30 YEARS OLD and I have not needed to work for money—to "make a living"—for over three years. Since March, 1998, my own life-projects and invitations to teach sustainability tools have guided my day-to-day life. I am able to offer my workshops on a donation basis, making my services available to people who would otherwise not be able to pay. Those who offer donations do so in the spirit of supporting others to attend future workshops. This is the financial engine of my work. Something called the FI program has allowed me to get my personal financial needs largely out of the way.

Getting to this place was not always easy. It was a big shift for me to become conscious about money (writing expenses down, come on!). Healing the money piece of my personal landscape was something I focused on for a few years, and the time and energy gained has been more than worth it. For me, the initial investment of time and intention has paid off formidably. The main thing I've given up is going to a job. My days are less rushed, and more time-rich.

The following is a description of a sustainability tool that focuses on money. When I presented an introduction to this process at my permaculture design course at the Bullock brothers' site in 1999, someone described it as a social aspect of permaculture. Permaculture began by emphasizing garden systems that exhibited the diversity, resilience, and stability of natural ecosystems. It has expanded to include natural building, nutrition, small-scale renewable energy systems, and much else, including sustainable economics.

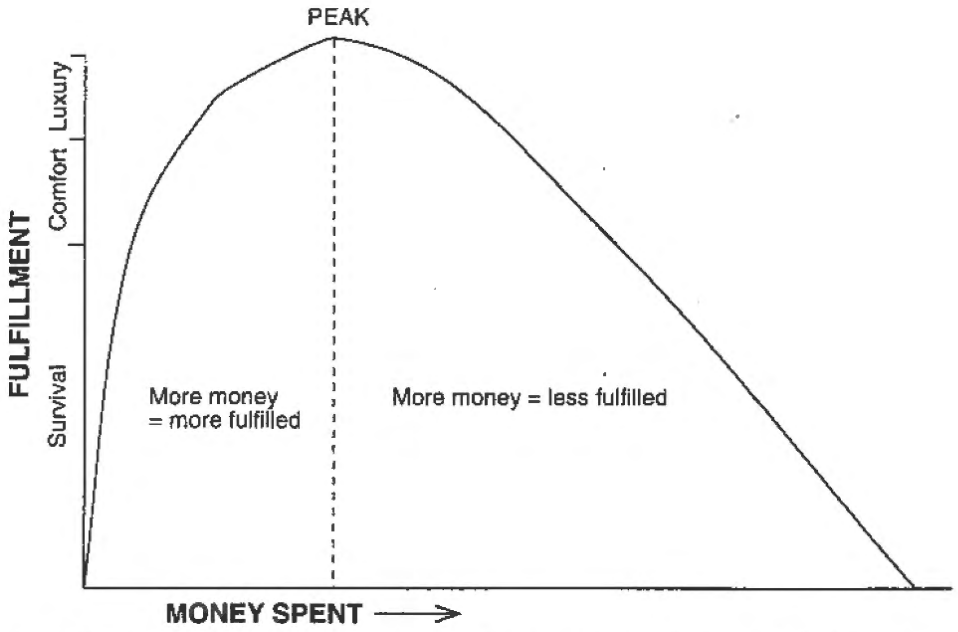
Finding Financial Health

Sometimes a person comes into our lives who touches us deeply. Such a person for me was Joe Dominguez. Besides his spiritual depth, and his insight into relationships and what makes people tick, Joe's program on money has affected, positively and powerfully, every facet of my life.

This process is known as the "FI program." FI stands for Financial Intelligence, Financial Integrity, and Financial Independence. It is detailed in the bestseller *Your Money or Your Life*, by Joe Dominguez and Vicki Robin (Viking/Penguin, 1992), and in the new re-release of his audiocassette/workbook seminar, Transforming Your Relationship with Money (Sounds True, 2001).

This is a nine-step integrated program for financial health, based both on self-interest and higher values. It is a whole-systems approach to money, work, consumption, and time, a "personal finances" facet of sustainable living that focuses on root causes instead of symptoms. This program provides a framework for being impeccable with money, in a way that benefits ourselves, others and the planet.

First, we must recognize that money—along with sex—is one of the most loaded topics in our culture. You may find that strong feelings come up as you read this article. This is understandable. There is neither consistent early-childhood education about money, nor does our culture teach straightforward, life-connected rules for handling this energy we call money. Some of us love money,



The Fulfillment Curve. Money spent for survival items (food, clothing, shelter) brings very high fulfillment per dollar. Comforts bring more fulfillment, though not as much per dollar as essentials. Luxuries bring only a little more fulfillment, but with much more money spent. At some point, fulfillment peaks and spending more money brings less. Adapted from Your Money or Your Life *by Dominguez and Robin (Viking/Penguin 1992).*

some of us hate it. For many it is a source of confusion or anxiety, or simply something we expend a lot of energy trying to ignore. The idea of putting awareness into our relationship with money almost always makes us uncomfortable. We all have issues around money, and facing that fact honestly and truthfully is the healthiest place to start.

Some of us treat money as freedom, or security. Some of us treat it as power. Some of us regard it as evil or dirty, others as essential. In the FI approach, we treat money simply as something for which we have traded some of the hours of our life. The power of this definition lies in its simplicity.

The practical advantage of this definition is that money is no longer "out there," no longer an abstract number on a piece of paper or a coin. This simple definition also strips away much of the emotional power of money: Money becomes no longer a necessary evil nor a tool of political repression. When I define money as the life energy—the time—I trade for it, I regain some of my power, because now money has become intrinsic to me, not some impersonal outside force. This is a very personal and intimate definition for the money in my life, because how I expend my life energy says a lot about the meaning and purpose I ascribe to my life.

Another advantage of this definition is that it is true 100% of the time. It makes my relationship with money no longer an abstract theory nor a projection of my cultural conditioning. I am dealing with the most precious energy to me: the finite hours of my visit to planet Earth. This may seem absurdly simple, yet it accomplishes something that eludes so many: accurately defining something to which I relate every day.

If I define two books as "shoes" and strap them to my feet to go out for a stroll, I'll probably have a hard time walking. If I sit down to read my shoes the way I would a book, this probably won't meet my needs for information or relaxation. In the same way, as long as I define money as something it isn't—power, prestige, bad, dirty, freedom, security, and so on—this distortion will play itself out throughout my relationship with it. I will probably have a hard time using money in a life-serving way. This is why we need a definition that is accurate 100% of the time, and which is also very personal and intimate instead of a nice-sounding theory. Thus, money equals life energy, the hours of my life I exchanged for it.

Measuirng Fulfillment

Based on this very simple definition for money, the FI Program requires that we ask two questions about every expenditure of money:

(1) Did this expenditure bring me fulfillment (happiness, wholeness, satisfaction) proportional to the hours of life energy I spent? The aim here is to maximize our fulfillment in relation to the life energy spent.

(2) Was this expenditure of life energy in alignment with my values and life purpose? The aim here is ensuring that our actions line up with our values and with our purpose in life. If we don't know our values and life purpose, asking the question provides an opportunity to explore and learn. The intention here is to maximize our integrity: walking our talk. I personally don't care if you change your walk or if you change your talk, but when they line up, you experience integrity, wholeness.

"The FI approach treats money simply as something for which we have traded some of the hours of our life"

When we examine our monetary actions through these two questions, we begin to discover "how much is enough." Our spending becomes based on maximizing fulfillment and integrity (quality of life), rather than on worry, fear, guilt, shame, cutting back, "I deserve it," or depriving ourselves of things we want and need. This also lets us easily and naturally separate "standard of living" from "quality of life," the former being how much stuff we consume, the latter being how happy or fulfilled we are.

Further natural results of this applied awareness in our relationship with money, experienced by tens of thousands of people following this process, are eliminating debt, generating savings, and creating the option of financial self-sufficiency, allowing us to free up our time so we can be of service. I've met dozens of people who have reached this stage, who have the time and space to follow their hearts and be of service without needing to charge, and who have been living this way for years, some of them for decades, simply from following the steps in the FI program.

The carrying capacity of Earth is a function of a certain number of people at a particular lifestyle. A person living in the US, Canada, or Europe has many times the impact on Earth's life-support systems as someone living in one of the less-developed nations. Consumption patterns in the rich countries—a clear extension of our unconsciousness with money—are a primary cause of, among others, species extinction, climate instability, deforestation, ozone depletion, war, famine, and poverty. Our home planet is suffering beneath the weight of human beings who use very powerful technology to consume the Earth in hopes of fulfilling nonmaterial needs and desires such as acceptance, respect, security, freedom, prestige, and love, through more and more stuff. Becoming clear and empowered within ourselves regarding the powerful energy of money can be a key strategy for serving life on the planet.

Many tools, strategies, and methods exist to redirect the meaning and function of work and money toward a more humane, Earth-friendly society. These include LETS systems, local and alternative currencies, barter systems, micro-lending, community cooperative banks, socially responsible investing, shareholder activism, job-sharing, shorter work week campaigns—the list could go on and on. One of the things I appreciate about the FI Program is that I haven't found any sound alternative economics model or practice with which it is not compatible; in some

cases the effect can be additive or synergistic.

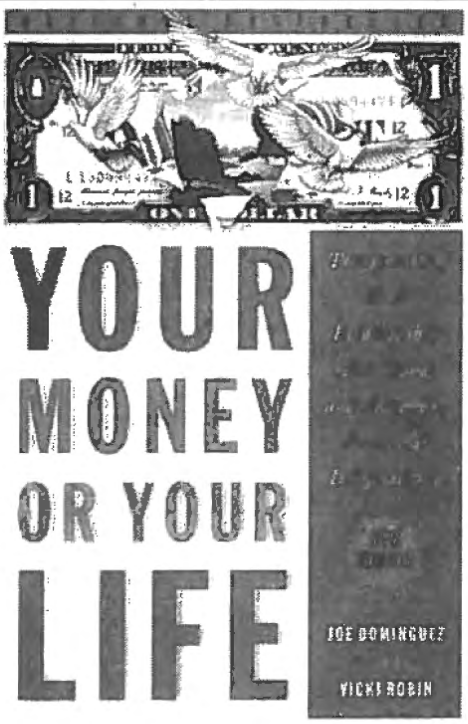
The Culture of Careerism

Economics is the religion of the nation-state and the global economy. When a political leader speaks about the economy, people perk up their ears. When people in our culture speak about money, it is usually about "more" or about "less," but rarely about "how much is enough." There's a saying attributed to Will Rogers about how our culture encourages us to "spend money we don't have on things we don't even need, in order to impress people we don't even like." In addition, we live in a culture where many people work 8 to 10 hours a day, 5 days a week, 50 weeks out of the year, for 30 or 40 years of their lives.

This culture of careerism emerged from a particular place and time in history: the Industrial Revolution that began between 300 and 500 years ago in Europe and the Americas. The culture of 9-to-5 'till you die can only thrive in an environment of consuming more than we need. If we didn't think we needed so much stuff to be happy, we wouldn't need to work so much to earn the money for all the stuff. In contrast, the fields of archeology, anthropology, and history tell us that before the Industrial Revolution, people spent, on average, 3 hours a day to fill their physical needs and comforts.

Because the aim of the FI program is maximizing fulfillment and integrity, occasionally people who participate discover that they need to spend more money to increase their quality of life. But this isn't typical. In fact, thousands of people who have done the FI Program and were polled over the years report, on average, a 20% voluntary drop in expenditures with increased quality of life.

This program will work in any system that has cash flow (money in, money out) and human labor. You could be homeless, or you could have a four-car garage crammed with junk. It doesn't matter. In one case, the program may help someone be very efficient with limited resources, and work their way up to "enough." In another case, someone might become aware of the burden of their excess, and backtrack toward "enoughness," maximizing fulfillment, and an exploration of values that encourage balance.



Increased financial clarity positively affects our emotional health, our families and communities, and empowers us to navigate more clearly through the outdated economic paradigms driving the destruction of life on the planet.

Though full financial self-sufficiency (described below) does not need to be the motivation for doing this program, it is a natural outcome of following the steps over time. The motivation may be simply to get out of debt, or create savings for specific goals. However, when one sincerely follows all the steps (there are 9: they are very simple, and the program consists of all of them) the result is a relationship with money that is at peace, whole, and empowered—in which all the pieces of your life fit together and you see how money supports the kind of life you want to live.

Some, as I was, are attracted to the program by the potential to be free from working for money. Financial clarity and peace of mind came as a byproduct. However, even when you reach the point of a steady and secure income for the rest of your life—one that comes from a source other than what you do day-to-day (in many cases interest from savings), and is enough, and then some, for a consciously chosen lifestyle—you need not quit your job. The difference is that you can quit if you like. But nobody says you must.

Then, if your employer downsizes, or you get the itch to travel, or you'd like to take up a service or learning opportunity that won't pay, you are financially prepared. Or maybe that dream permaculture property becomes available and you have enough cushion for a down payment and still be above water. You are simply at a place of greater choice.

I mentioned in the beginning of the article that I left full-time work in 1998. Since then, I have increased my skills so that: (a) if civilization suddenly collapses, I have multiplied my ability to be self-sustaining and thrive in community, or (b) assuming the continuation of things as they seem to be, and I need to create income, I can earn several times more money than when I quit in early 1998, because I've expanded my skill base.

Sensible Storage

Permaculture emphasizes slowing the flow of resources and energy from source to sink. In permaculture terms, the FI program allows me to set up my financial "cistern" at the highest point of my "property" and allow gravity to do some of the work. The "cistern" is a tool, a process, that enables me to create savings faster and in larger quantities than without it. If a dry spell comes along, this cistern will be a welcome reserve to protect the garden of my life from material stress or risk.

When I was filling my financial cistern, my intention was to do the job that would pay me the most for a finite period of time, without compromising my health or my values. For me, that was Spanish translation and interpreting for non-English speakers.

Another part of the program involves tracking the flow of money, in and out. Keeping track of expenses is simple, but not always easy. Some people keep an index card in their wallet; I've used a small notebook. Rather than trying to reduce my expenses, I focused on maximizing my fulfillment and my integrity. I used to buy books and compact disks like I needed them to survive. When I com-

pared the life energy spent on these items to the fulfillment and integrity resulting from their purchase, I naturally began buying fewer and fewer. Don't get me wrong. Books and CDs are great. But each of us needs to find out "how much is enough" for maximum fulfillment and integrity. My expenses (in these categories, anyway) went down, while my experience of quality of life went up. This is just an example. Everyone has "gazingus pins"—things we buy on automatic pilot that don't add to our life relative to the life energy we spend on them.

The FI program is designed to help you keep your expenses in line with your goals and values. My values include creating a lifestyle for myself through which I can be of service, and which is also has a light impact on the planet. My goals included creating enough savings so that I could live off the interest for the rest of my life, ASAP, and establishing a sustainability learning center that focused on training people in the best of the best of life-serving tools and skills, including permaculture.

Because my lifestyle is materially simple, I didn't need nearly as much in savings as most people told me I would. I simply followed the FI process, and defined for myself how much was enough. The entire process aids your clarity in relation to money, and empowers you to be independent from so-called financial experts and the difficult-to-pierce mythology surrounding money in our culture today.

It's almost impossible to describe what it has meant to me to have my time be fully mine. Sometimes I feel blessed, but that's only when I compare myself to most people in society. To be able to serve people in the intentional community in which I live, and to serve people in the larger community—with no financial strings attached—and to take care of myself when that is required, ought to be birthrights, and not such a big deal. But it is a big deal because it's so different from the norm. Now, in a contemporary economic context, there is a tool people can use to have more control in their lives. I've been applying this tool since 1992. Almost ten years later, I'm reporting back: it works.

However, my personal story isn't so important. Each person's tale is different. One of the beauties of this program is that you can make it as personal as the clothes you wear. The tape course and the book offer stories of people applying the process. In fact, the intense interest in people's stories prompted a sequel to *Your Money or Your Life* focused only on stories. To write *Getting a Life*, Jacque Blix and Dave Heitmiller interviewed more than two dozen individuals and families from diverse backgrounds: urban, suburban, and rural; younger and older; with kids and without; home owners and renters; and so on. For those who like case histories, this book gives concrete examples of people who have applyed this program.

"It's almost impossible to describe what it has meant to me to have my time be fully mine"

The Power of Precedent

When I met Joe Dominguez, he and others had already created the New Road Map Foundation (NRM) to give away the proceeds from the book and tape course to organizations working for a positive future. At the time, NRM had 10 full-time staff, each of whom had done the steps in the program and had arrived at financial self-sufficiency. Thus, as a nonprofit, they had very low overhead because they paid no salaries. Everyone was there out of love for their work, not a paycheck. Organizationally, they could turn on a dime if so desired. Seeing this group of people thus freed, I gained a lot of inspiration around what is possible.

If the people who work as farmers, gardeners, landscapers, teachers, researchers, and designers found a sense of enoughness, they would be less dependent on their jobs, and on undependable external market conditions, to fulfill basic material needs. Perhaps many would become financially self-sufficient, devote themselves to their families, communities and other fulfilling avocations, and offer their skills and expertise wherever they felt called or were most needed– not only to those with money or something to trade.

If the people who work, paid or not, as activists, protecting watersheds, forests, democratic freedoms, and the biotic community in general, employ this tool for being truly efficient with finite financial means, more of their life energy would be freed up for what they love to do in the world. Some of this might happen because they have less anxiety and stress around money—or less energy invested in avoiding the issue altogether. Perhaps merely having six months' living expenses in savings would free them from the stress of month-to-month living. Or some might become financially liberated, becoming empowered to freely give their labor of love to the world.

It's win-win-win.

The FI Program is a tool anyone can use. It's not expensive: The book and tape can be found in the library. The program helps us create a relationship with money that is at peace, empowering, and purposeful. Putting it into practice enhances each person's financial intelligence, integrity, and independence. Using it, people define how much is enough for them by clarifying the relationship between money and fulfillment, and between money and living a life in alignment with their values. It is also designed to help create, for those who want it, a life free from the constraints of having to exchange their life energy for money. I hope this article will inspire students and practitioners of permaculture to put FI into practice in their life design. For more information on the FI program see www.newroadmap.org and www.fiassociates.org. Δ

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Exploring the Third Ethic of Permaculture

Finding a Sense of Surplus

Toby Hemenway

IT'S EASY TO GRASP the wisdom in the first two of permaculture's three ethical principles. The benefits of "care for the earth" and "care for people," are obvious, and it's not a difficult step to put those principles into practice. But then comes that third, more challenging principle, "share the surplus." That's where some of us waver a bit. How large a pile do we need to store up before some of it spills over into the category of surplus? What if we give the surplus away and then badly need it tomorrow?

Even if we're able to see the intelligence in sharing the surplus, doing it is a tough step to take. In a culture that exhorts us to be sharp investors and to save for those ever-looming rainy days, and that equates our worth with our bank balance, what heresy it is to urge that we give that valuable surplus away!

How can we know how much is enough and learn to share the remainder? I'll start by offering a practical reason to abandon the urge to hoard. From a simple physical viewpoint, a surplus is a bother: It must be stored. Storing something is expensive and nearly always causes it to lose value. Think of hiding money in a mattress while inflation chews away at it, or having food rot in the cellar. The value of most goods comes not when they are stored, but from use, from the benefits of flow. For example, the fertility of soil isn't properly measured by the amount of nutrients present—many are in unusable form—but by the flow of those nutrients to plants and soil life. Likewise, money best retains its value when it flows: when it is exchanged for useful goods, employed as capital, or invested in a bank, business, or government which will then put it to use.

Thus surplus money must come out of the mattress and be made to work. However, when money is invested it can do great harm. What businesses are we comfortable owning stock in? How about government or corporate bonds? Land, an investment option I often hear suggested, is not a liquid place for savings. To get cash back from land, the property must be sold, and usually on contract (banks rarely loan money on raw land), so the seller carries obligation and risk for decades. And whenever land is sold—as I know from bitter experience—it is logged or otherwise developed, because land only has monetary value when it is consumed by the economy.

Also, it's easy to become obsessed with shepherding our surplus. A wealthy relative of mine, a brilliant and creative man who retired young, now spends his day watching the stock channels. His surplus controls him. Holding more than we need means devoting concern and effort to its care.

"The problem is, barter societies don't seem ever to have existed"

The Uncertain Line of Time

However, I doubt if practical arguments will persuade people to share the surplus, because the desire to hoard isn't really grounded in reason. In part, the insecurities that drive people to hoard stem from our transition, long ago, from cyclical to linear time.

Archaic humans experienced time as cyclical, where events weren't singular, but recurrent. Time seemed not to progress so much as to loop. Human activities were embedded within cycles of sun, moon, tides, solstice and equinox, and other patterns of return. A hard and hungry winter was inevitably followed by a gentle spring and bountiful summer. People knew that times of scarcity didn't last forever. During a grim season, their comfort came from the certainty that lean times had always ended in the past, and would end this time too. Hence they didn't need an eternally expanding storehouse to reassure them, merely enough to get through the drought, the deluge, or the winter. For these people, decrease and increase ebbed and flowed in a timeless and familiar rhythm. Each person's life was safely embedded in a well-worn pattern of cycles within larger cycles.

But we have unwound these comforting cycles and hammered them straight, into the arrow of linear time. We see each event as unique, separate, and not enmeshed within a larger periodicity. For us the past recedes into dimness, and the future extends toward uncertainty. Linear time offers no recurring pattern of birth, maturity, death, and renewal, only the whirling of numbers—bank balances, dates, odometer mileages, the NASDAQ index—that mount or diminish. Having lost the knowledge that this, too, shall pass, and that tomorrow always brings renewal, we can only gird ourselves against the worst possible case, and here our imaginations are fertile. No storehouse or bank account can be large enough to protect us from a murky, unraveling eternity where anything can go wrong, and stay wrong forever.

With no faith in renewal, it's easy to believe that we could lose everything. This fosters the illusion that we live in a world of scarcity. Economics itself, our secular religion, is defined as "the allocation of scarce resources among competing demands." That's a bitterly Darwinian view of human interactions. If we limit ourselves to that world, where armored ATM machines parcel out twenty-dollar bills in miserly driblets, we can be fooled into believing that scarcity is the rule.

But scarcity is not life's law. Outside my window as I write this, high springtime is turning the corner to summer. A foot or more of new growth shoots in a green fountain from every tree branch, seedheads hang heavy on the tall grass, and nature's fecundity is a palpable presence. Nature's model is one of supreme, unbridled abundance. It seems ironic, then, to live in an economic system based on lack. When a single ear of corn

can yield hundreds of grain-stuffed plants, how puzzling to find that our economy is based on a science of scarcity.

Economic Mythmaking

Yet economics, whose own practitioners call it the "dismal science," has at its core a number of untruths. One is that, in any transaction, it is a deep trait of our nature to squeeze every ounce of value from the exchange. We've all been taught a homey little myth to reinforce this point. It says, in olden times people used barter to exchange their labor and resources: I'll make you a pair of shoes, you trade me your ax. But barter, this myth says, was inconvenient—perhaps the village ax-maker already had plenty of shoes—so humans invented money to create a system of universal exchange and to standardize values. That way people could know they were getting equal or better value in any transaction.

The problem is, barter societies don't seem ever to have existed. In the 1920s the maverick French economist, Marcel Mauss, cited anthropologists who found that moneyless societies rarely use a strict barter system. Instead, most goods circulate as gifts. One person in a community gives something to another who needs it, even though there may be no hope of immediate return. This open-ended giving links both people, and points toward a future exchange. The giver is seen by the group as useful, reliable, and generous, and is accepted into the communal flow of goods and labor, while the receiver is indebted to a system that supports him. I watched this process in action during a stay on Bali about 15 years ago, which at that time still had a largely cash-free culture. When a young couple married, a relative gave them a corner of land. Then friends built them a house from donated supplies and stocked it with food, furniture, and utensils. Later, the couple helped out at subsequent house-raisings.

These open-ended exchanges knit close personal bonds that overshadow the value of the gift. Often a long-circulated gift will become invested with a value far beyond its utilitarian worth. Mauss says that societies even developed methods to prevent calculating who had given how much to whom, specifically to stop careful accounting from restricting the flow.

Our culture still bears vestiges of a gift economy, perhaps because it is more natural to us than the so-called "free market" that's often touted as inevitable and superior. When a friend drops by with a jar of homemade jam, I feel warmly obligated to return the favor and prolong the friendship. And the most coveted and valuable items in our culture—diamonds, works of art, sacred relics—have little usefulness, but derive their worth from intangible sources such as history and myth. The existence of gift economies and the lack of true barter pokes a nasty hole into the inevitability of the economics of scarcity.

So why is scarcity such an easy sell? Why is it so difficult to achieve the sense of having enough, and the belief that goods are abundant, that is the prerequisite to sharing the surplus? A deeper look at gifts begins to point to an answer.

Filling the Hole

One form of gift is that which so-called primitive people offer as sacrifice. They know that all we are given in life flows freely from the earth and from the gods, and sacrifice begins the process of repayment. These peoples' connection to the divine lessens the terrible sense of emptiness and loneliness that humans bear. Humans are born alone and we will die alone, and that knowledge, whether called original sin or existential angst, causes nearly unbearable pain from which we try desperately and creatively to distract ourselves. For millennia, humans have known that a relationship with spirit was the path to filling this huge hole within themselves. The divine gave humans relief from the emptiness. To pay back this awesome debt, people once offered their surplus as a sacrifice or gave it to the church. Gifts to a Creator allowed people to pay back the ultimate gift of peace they received. These gifts, by returning what was given, also insured that the cycles of abundance would continue.

Because they were connected with spirit, archaic people felt full, so they didn't need to hoard. We hoard because we feel empty, and have nothing to fill our emptiness except material things. Modern people feel this emptiness so acutely because we are too clever to believe in the divine. We have bludgeoned God to death with the tools of science, logic, and philosophy. Only what we see and measure is real, and consciousness is merely an epiphenomenon of brain chemistry, not a link to the Creator. The scarcity ethic has its true roots in the immaterial, in our disconnection from spirit and the resulting sense of loss that our corporeal existence forces on us. Since this spiritual emptiness can no longer be filled with spirit, we look for completion to the only things we believe in: goods, endless activity, and most of all, money.

Goods and activity quickly reveal themselves as unsatisfying, but money never seems to. When we are bloated on food, we stop eating. After buying that vacation home, most people cease acquiring real estate. Sex and drug-taking pale after a while, or cause enough damage to drive us into a 12-step program. But money... money is something different. Money is non-material—it merely represents wealth, and is convertible to wealth of any kind—and thus holds the most promise to fill our non-material, spiritual emptiness. And being non-material and limitlessly convertible, money never tells us when we have enough. A story told of Andrew Carnegie is that a reporter asked him, "Now that you're the richest man in the world, how much money will be enough for you?" He answered, "Just a little bit more."

We have traded our gods for cash. Today we worship at a less satisfying, less meaningful shrine, but one that is difficult to turn away from. The gleam of gold holds the eye, and watching the pile grow larger is nearly irresistible. During a controversy over whether Christians should accept interest on invested money, a 5th-century Syrian bishop, Jacob of Saroug, had a vision of the devil, who was all in favor of interest. "I do not mind," the devil told the bishop, "if the priest uses the interest he draws from his money to buy an ax with which to smash the temples of my idols. The love of gold is a greater idol than any image of a god.... They have cast down the idols, but they will never cast down the coins that I shall put in their place."

Without a relationship with spirit to make possible the divine exchange of surplus for the gift of wholeness, we have little choice but to store up all we can in an attempt to fill our emptiness. That rainy day looms too ominously for us to be generous. Of course, whatever we hoard still isn't enough—how could mere matter or money fill that spiritual hole?—so in misdirected hope we work harder, produce more, earn more, and mound up our nest egg.

The result of this is the growth economy. Only by believing in endless growth and progress can people be certain they'll soon have still more, that tomorrow will surely be better than today. If I didn't believe that tomorrow I will get a raise, that next year I'll live in a bigger house, that someday I'll have my boss's job, I would have to look around me and be miserable at the sight. Without the promise of growth to distract me, I'd be forced to see what I had today—that crummy job, the ugly house, the abusive boss—and realize that it was horrible, wasn't going to change significantly, and was a result of a dismal system in which I was trapped. And that would be a revolutionary discovery, one that the advocates of growth have not made or pray we won't make. If we believe tomorrow will be better, we can acquiesce to today's injustices and inequities. But the truth is that tomorrow we will still be mired in the economics of scarcity. Tomorrow will be very much like today. Only by understanding that today we have enough can we abandon our empty, ceaseless striving.

A Permacultural View

It would be pleasant to wrap up this essay by offering a simple solution that everyone can adopt and instantly be cured of a sense of emptiness. But I can't offer a fail-safe technique for developing a sense of surplus. The solution won't come from outside. However, let's take a permacultural view of the problem. One of permaculture's strengths is that its solutions are not one-size-fits-all techniques, but derive instead from a way of looking at things, and at this new vantage many problems dissolve into solutions. Permaculture suggests that the best solution to most problems is to observe, and to model designs and actions after natural rhythms and time-tested ways. Learning to share the surplus follows this pattern. By observing the consequences of the need to hoard, it becomes obvious that the cost is high. But recognizing a surplus is not done only by measuring and counting. It comes with a deeper observing: understanding where the sense of "not enough" stems from. That emptiness comes from inside. It can be relieved in part by reconnecting to the cycles of natural abundance through a closer relationship with nature.

Perhaps more importantly, inner emptiness and the resulting drive to hoard can be alleviated by reconnecting to the divine, whether it's spiritual practice, some form of talking therapy or experiential self-exploration, Earth rituals, or a few visits to the church of your childhood. By linking to natural cycles and the constant flow of gifts from spirit, it's possible to know how much is enough, to give away the surplus, and to be sure that the gift will be returned. Δ

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An Income-Sharing Community in Seattle

Adventures in Egalitarian Living

Jon Dumont

SEVEN FRIENDS got together in 1995 to buy two houses in the Central District, Seattle's poorest, hence most affordable, urban neighborhood. Our idea was to form an intimate, family-style commune that made decisions by consensus. We saw too many people living their lives in meaningless isolation, killing themselves at jobs they didn't care about, and that weren't benefiting anyone except the rich. Community struck us as a sustainable solution. Admittedly, it isn't much done, and seems extremely frightening, even un-American (whatever that means) to most. But as we found out when we began to nose around, there is a vital movement out there, that believes in what it is doing, and is eager to provide information to help others plug in.

Our first official decision after we moved onto the property was to call ourselves the Jolly Ranchers. The name makes us laugh, and seems a mild antidote to the common ailment of choosing a name that sounds like a retirement village. So far we haven't been sued for copyright infringement.

Our purchase of these modest, cheaply built homes was the culmination of several years of intense dialog concerning ideology, lifestyle, compatibility, geographical and demographic need, finances, psychology, and child rearing. Initially, more than twenty of us were involved in this conversation. A core of us had gone to college together at the University of Maine, and had somehow managed to maintain unusually close ties over the years, despite the many expected and unexpected life changes and large doses of middle-class drift. Our numbers dwindled as the conversation became more focused. It was a little sad whenever someone backed away from the project, but degree of commitment was exactly what we were trying to determine. Finally, after several years of chatter, the time had come to put up or shut up.

None of us had much money, and the only way we were able to bankroll this project was through collectivization of resources. Alone we were probably going to be renters for life. Two of us were self-employed artists, four of us were human service workers, and one of us was a union organizer. The overhead on the property was high, so we were all working full time at our jobs in addition to scrambling to create a large common space out of a basement, fixing the many things that were broken, and painting whatever was drab. It is fun to think back on those days. We may have been short on experience and know-how, but we lacked nothing in terms of sweat and idealism.

Fixing it Up

The newer of our two houses was built substantially from found, donated, or second-hand materials, and we have continued those practices, both inside and outside the homes, whenever we can. Though it is almost prohibitively expensive, we have used blow-down timber and non-toxic paints. Almost all of the furniture in both houses has been gotten by means other than the retail store and the checkbook. Fortunately for us, people are always throwing away perfectly good couches, dressers and lamps.

When we bought the property, it was rather weed strewn and overgrown. The previous owner had planted some peach and apple trees, but they had been neglected for some years. We started to rehab the yard by liberally making and using compost and mulch to help rebuild a healthy soil ecosystem. To the existing edible landscape, we added pear and plum trees as well as a wide variety of cultivated and native berries. During the past year, our resident gardener has largely focused on recreating northwest native habitat (including a small pond) around the periphery of the property using many salvaged plants from local development sites. It is important to us to use plants all through our landscape that attract and support beneficial insects, such as mason bees. Additionally, we build a small greenhouse, again, largely out of donated materials. In it, we can grow things like tomatoes and grapes that require more heat units than our cool summers provide. And, of course, we are totally organic.

The first major stumbling block that the Ranch had to face arose when we were trying to make a decision about money sharing. This concept was extremely important to some of us, and as inseparable from notions of egalitarianism as consensus based decision-making. The idea that we would be a money-sharing community had been a part of our conversations from the beginning, but it became extremely contentious once we began to try in earnest to nail it down. All sorts of fear and mistrust began to rise to the surface and our house meetings

Photo: Stephen Nadal

Jolly Rancher Shawn Young taking a break from a little yardwork.

became sullen and polite at best, blameful and teary-eyed at worst. After trying hard to work it out, two members—our resident blacksmiths—decided to leave the community.

We were unprepared for an exodus this early in the project, and dismayed that it occurred over this topic. There were resentments and hurt feelings all around. Obviously we did not possess the communication skills that we thought we did. Our learning curve was daunting. However, we managed to handle Lauren and Matt's departure in a fair and agreeable manner, and we remain friends.

Tuning the System

Six years later we are still money sharing, and it has never been a problem at the Ranch. We've fine-tuned our system, but it remains essentially what we agreed to in the autumn of '95. Members are encouraged to work at jobs that are both personally satisfying and socially beneficial. The commune's governing philosophy is strongly anti-capitalist, so what we would consider right livelihood usually falls in the human service, activist, or artistic realms. We value flat or nonexistent hierarchies, are critical of sharply defined job divisions, and certainly don't want to see anyone making a profit off the backs of others.

The number of hours that we each work is also a personal decision, but open to discussion depending on how the community's finances are looking at that particular time. Generally speaking, we want to be a group of people who are maximizing the time that we can spend with each other, and engaged in the activities that hold the most passion for us.

All of us deposit their earned income into the Jolly Rancher account. As of this writing, everyone receives a $250 monthly stipend for personal expenditures. The stipend does not include medical bills not covered by personal insurance nor vacation expenses (subject to a group decision by consensus), both of which the Ranch routinely pays. If a person is only working twenty hours for pay, it is assumed that they are spending their time in a way that is directly or indirectly benefiting either the Ranch or the larger community, perhaps by gardening, maybe by reading philosophy, possibly by engaging in civil disobedience.

Members have used some of the time gained by living in community to contribute to many worthwhile projects over the last six years. We've put energy toward becoming active in the local community council, volunteering for a preschool literacy program, writing grants and organizing local gardeners toward the purchase of the neighborhood p-patch, and participating in various actions sponsored by Earth First! and Food Not Bombs.

"Six years later we are still money sharing, and it has never been a problem"

During the protests against the WTO in 1999, the Ranch housed more than 30 activists who had traveled from out of state to make some noise and let the world know how they felt. It was an inspiring, chaotic week. We are proud of the many ways in which the Ranch was able to help during this historic action. Two of us spent the week in jail for exercising the right to free speech. It might have been more difficult for us to make the decision to get arrested without the financial stability and moral support that comes from living in community.

Meeting the Challenges

Since we began, we have met as a community—somewhat less than religiously—once a week for at least an hour, and occasionally for an entire day. On average, our meetings run a fast-moving two hours. First, everyone gets a chance to check in with the group about how they are feeling, and chat a bit about significant events in their week. Anything can be a topic for the body of the meeting. A lot of it is financial, material or chore-oriented, and we can often push through those pretty quickly. Someone facilitates, and that duty rotates each week, but anyone is free to contribute additional facilitation at any time. We try to adopt a listening posture: give the speaker time to finish her thought, ask probing questions of the speaker rather than immediately contributing additional content, really know what the topic is, and move the conversation vertically rather than horizontally. Meetings have remained informal over the years. Some have felt that it is confoundingly structureless, but we think that our meetings encourage a high degree of personal responsibility, and allow for flexible and creative solutions.

Our practice of consensus is similarly informal. A decision is only considered final when everyone truly believes that they can live with it. An objection to a proposal should be made using the framework of our mission statement (see sidebar). We try to avoid the tyranny of the most articulate by actively encouraging the more reticent among us to speak their mind, and by providing lots of space, and what is hopefully a comfortable environment in order to figure out what it is they want to say. This process can be messy, painful and slow. However, it also feels very empowering, and often results in solutions to problems that would probably have not have been uncovered through any other method. When we have made a good decision, every one of us feels included and knows that he or she contributed to strengthening and deepening any proposal that we have agreed upon.

House meetings are at their most interesting when the topic is interpersonal. By intention our lives are more interdependent than most, so shit definitely comes up. At some point or another we all have become angry, hurt, and entrenched, unable to see the part that we have played in the misunderstanding, and in need of assistance to communicate clearly and to restore what passes for harmony at the Ranch. No one has to talk about her issues in group, though everyone is encouraged to, but all of us must be willing to talk through their conflict with the other(s) involved at some point and in a fashion agreeable to all. Brushing a problem under the rug is not acceptable. We have found

that, in general, the presence of a group of people who we care about, and who care about us, helps to make it easier to talk about a tough issue. We use a mélange of communication techniques borrowed from Dr. David Burns and Dr. Marshall Rosenberg, among others. Simply put, their suggestions have helped us to talk about what we want (staying in the "I"), rather than characterizing the behavior of others (which is often inaccurate, and almost always contentious). We want people to take responsibility for their own emotions, and be clear, direct, honest, immediate and, when possible, compassionate. All of this is easier understood than accomplished, but having clear goals and guidelines is a great place to begin.

A Community that Shares

Obviously, our standard of living is high with little income because of the advantages of an economy of scale. Two houses full of people can share a lot of resources, which cuts down on expensive and wasteful duplication. Our groceries are much cheaper than if we lived alone or in pairs, which gives us the freedom to buy higher quality, less-toxic food.

We own one automobile, one refrigerator, one stove, one stereo, and probably only one of anything else you can think of. When something breaks, we pay for the repair out of our joint account.

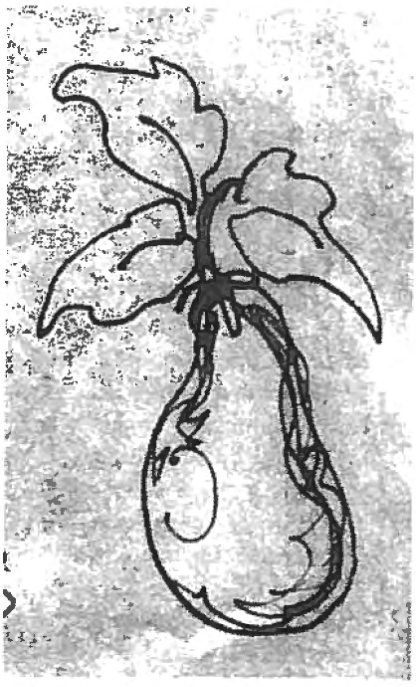
In the fall of 1998 the Jolly Ranchers joined the Federation of Egalitarian Communities, and co-hosted, along with the Beacon Hill House, another Seattle based community, the twice-annual assembly. The FEC is a network of communes that holds its property and labor in common, practices non-violence, incorporates an equitable form of decision making, acts to preserve natural resources, does not permit discrimination on the basis of race, class, creed, ethnicity, age, sex, or sexual orientation, and creates processes for group communication. It is important to us to be a part of a larger movement. As late capitalism's circus draws to its painful conclusion, we believe that the network of intentional communities will undoubtedly play a significant part in whatever social reformation may then begin to transpire.

Of the seven founding Jolly Ranchers, three remain. Though not what we expected, or hoped for, all of the other communities that we know of have similar rates of attrition. In fact, the life expectancy of a new community is something like two years. The Ranch has had some tough times, but right now it feels pretty healthy. We remain full, or close to full, by accepting temporary members, people who want to stay at the Ranch for a year. They share costs, but do not money share, and have consensus only on matters that concern them directly for the time of their stay, and not on physical-plant changes at all. Of course, their opinions are valued on every topic.

We enjoy having temporary members, and if we did not accept them, bedrooms would remain empty for long periods of time. It turns out that people who are interested in money sharing in an urban commune are few and far between. We get as many inquiries as we can handle, and lots of requests for temporary membership, but in our experience it is rare for someone who has not lived in an FEC community before to have considered putting their politics in play on this level. Except within the confines of the nuclear family, income sharing remains a taboo.

Warts and All

There are several downsides to having a two-tiered community. The most obvious and problematic is that there is a huge power imbalance. Temporary members feel, well, temporary. They do not own the property, and feel that they have less of a voice. The permanent members feel powerful and clumsy, and are always self-conscious and apologetic about the difference. It turns out that landlords suffer too. The other major downside is that, although temporary members always bring a lot of excitement and new energy to the Ranch, building an intimate relationship with someone who has decided a priori to stay a year feels provisional in a project that intends to be life-long. We talk about this a lot, and have mitigated some of the problems, but they will never go away. We would love to be full of permanent members, and it may be that even before that happens, we will decide to no longer accept temporary members.



Everything that the Ranch is doing now is subject to change. The only things that we can expect to remain constant are the principles that guide us. The Jolly Rancher Project has been a wicked ride so far. I have learned more in the last six years than at any other time in my life. That's not to say that lots of it hasn't been difficult; it has been. Taking a long honest look at the way that society has shaped and even warped us is not always pleasant, although it is probably necessary. The first summer that we were together, at the beginning of each house meeting, a playing card would be dealt to each of us and, without looking at it we would place it up on our forehead so that everyone else could see its value. This always broke the ice, and made us erupt into nervous laughter. We don't do that anymore, but I still appreciate the power of the metaphor. Those who love us can often see who we are in both our strength and our weakness more clearly than we. And they can help. Δ

Jon Dumont co-founded the Jolly Ranchers in 1995. He has worked in human service for 17 years. The Jolly Rnachers can be contacted at jollyranchers@ic.org. Visit the Federation of Egalitarian Communities at http://www.thefec.org

Rebuilding a Rural Economy

Growing Community Power

Peter Donovan

Here in northeast Oregon's Wallowa County, our local economy has depended on the export of commodities—lumber, cattle, and grain. People feel powerless, as if their future is being dictated by outside markets and money, urban environmentalists, and federal regulations.

When you are powerless, you can't hide the fact from the younger generation. They leave. By nature they want a chance to play, on the "A" team perhaps, and to swim with the current instead of against it.

When you are powerless, you depend on others for your money. An eroding tax base increases your dependence on grant writing. You become adept at depicting the distress of your community, rather than its strengths (except when it comes to selling real estate). Absentee ownership of real property increases.

When you are powerless, you are guaranteed to be in conflict. Here the word *development* has tended to bring out suspicion, fantasy, avarice, hopelessness, or active resistance, depending on who you talk to. People disagree on what development is, where it comes from, why it occurs, and whether it is a good thing. The phrase *sustainable development* doesn't help, because people have radically different notions of what sustains what. For some, agriculture sustains civilization. According to others, civilization should sustain agriculture.

Good Intentions

Over the years, there have been many efforts in Wallowa County to do something about high unemployment, social problems, degraded riparian conditions, fiscal problems, and more. All too often, these efforts have been characterized by a top-down approach, focused on the problems or symptoms, rather than on the powerlessness itself.

The participants in these efforts are typically capable and well-intentioned people, a subtly designated elite, who by virtue of their professional backgrounds and civic commitment "know" what is best for others. They develop plans and strategies to remedy the deficiencies, problems or symptoms, and weaknesses of the community. They write for grants to fund these programs. They hire executive directors and program officers to run them, and to "educate" the public about the extent of their problems.

The perceptions, knowledge, skills, and techniques to do otherwise were simply not present here. We did not have the language or the tools of thought to deal constructively with power and powerlessness. Foundations and governments were only too happy to fund the problems, in response to our eloquence on our predicament, and this state of affairs limited the power we could acquire for ourselves.

However, two things occurred. We gained some skills, experience, and success in envisioning and running programs, which helped us gain and even share power. We also began to experience some dissatisfaction with the results, and with the way we were looking at the problems.

Using the Holistic Management decision framework was a crucial turning point for me. But when a community sees itself as controlled by outside forces, as lacking power, setting a holistic goal appears to be an abstract exercise, like a two-dimensional drawing of an "impossible" three-dimensional geometric shape. Most could not see how to get "there" from "here."

Ripples from the Zambezi

One of the notable failures of our linear, needs-based, top-down approach was in economic development, where our county failed to recruit or retain major employers after much effort and expense. In November 1998, after learning about Ernesto Sirolli's Enterprise Facilitation method from Don Nelson, who was then leading the Kellogg-funded Washington State University Holistic Management training project, I was intrigued enough to go to Hastings, Minnesota to visit a project. I spent time with the facilitator there, Ron Toppin, meeting clients and learning about how Enterprise Facilitation worked. Martha Sirolli gave me a copy of Ernesto's book, which I read at one long sitting in a coffee shop in White Bear Lake (*Ripples from the Zambezi: Passion, Entrepreneurship, and the Rebirth of Local Economies*, New Society Publishers 1999).

Here was a path we could follow in Wallowa County that would create new economic activity quickly and cheaply. Here was a practical and proven social technology for allowing passionate individual entrepreneurs, rather than speculators and planners, to chart the future. By encouraging development from within, by building on our strengths of creativity, resourcefulness, intelligence, skill, and commitment, by helping serious people build a foundation of sound management under their ideas (rather than using incentives to create often-rickety superstructures), we would grow power locally, and begin to resolve some of our conflicts about development.

In February 1999, Sirolli came to Enterprise. He outlined his background, philosophy, and method to 25 people in the basement of the town library. I made 30 audiotape copies of a speech Sirolli had given in Spokane. A diversity of people understood the message and were galvanized by it. These were liberals and conservatives, people on every side of issues such as the New Economy, growth, and development.

A self-selected core group of about a dozen people met monthly, with a good deal of additional interested participation. We used the consensus circle, asking ourselves, "What is the situation with regard to economic development here? What are the worst possible outcomes of change? What are the best possible outcomes? What are the beliefs, behaviors,

strategies, and actions needed to foster the best possible outcomes." This was a simple way of testing whether the Sirolli Institute's community package would move us in the direction of our best outcomes.

We decided that it would, although we had some issues around the expense and the meaning of engaging an outside consultant to help us move in that direction. Again, this was about power. Would engaging an outside consultant really change things for us and our community? Would this be a series of seminars or strategy sessions, interesting perhaps, but only resulting in plans and documents that sat on a shelf? Did we need to do it on our own, to "reinvent the wheel"?

Some people called board members and facilitators of projects in the Midwest. We built confidence that the Enterprise Facilitation strategy would work for us, and Sirolli came again to Wallowa County in November 1999 and spoke to more people, enlarging our circle. We began to fundraise the $170,000 needed for a two-year trial. We concluded that in making the radical shift from top-down to a bottom-up approach, we could lessen our risk by engaging an outside authority who had developed through experience a proven and cost-effective method. The "packaging"—the community operations manuals and the training provided to board and facilitator by Sirolli—has helped to protect our effort against the tendency to seek control, to suppress diversity, and to implement projects from the top down.

The interest and cooperation of positional leadership has been crucial. Sirolli's passionate advocacy of an empowerment approach to development threatens some traditionalist economic-development professionals. Lisa Lang, our local economic development director, was an active proponent from the start, and raised much of the money needed for our project from state and federal government grants.

Four months after Myron Kirkpatrick, our full-time facilitator, hit the ground here, we have several startups and expansions in the wings. (Baker County to the south also began an Enterprise Facilitation project after Sirolli's visit to them in February 1999, and preceded us in fundraising and implementing it. Their facilitator, Ruth Townsend, has helped with 13 startups so far.) We are trying to shift our funding base to include more local and private-sector dollars in order to take responsibility more fully and to grow power.

The Power of Beliefs

The primary barriers to the practice of Enterprise Facilitation are beliefs—for example, that the people in your community are not creative or resourceful, that they must be told what to do, and that development comes from somewhere else. Or, that private enterprise will always seek to damage natural and social capital in order to prosper, and that "sustainability" is therefore achieved through control.

The crisis of sustainability won't be resolved without addressing development too. As Jane Jacobs observes, "Economic development, no matter when or where it occurs, is profoundly subversive of the status quo."

What helped us go forward is our local sense of the "entrepreneurial revolution"—the aforementioned creativity, resourcefulness, and commitment, the sense that people across the social and political spectrum are increasingly committed to right livelihoods.

Like many areas in the rural West, Wallowa County is at a pivot point about power. For twenty years we have implemented programs from the top down. These have helped build the necessary skills, knowledge, and commitment. Now we are able to try something different, in a conscious manner, while taking advantage of what we have learned.

Finally, the implementation of Enterprise Facilitation requires champions or leaders who see the possibilities and can help others see them, who understand that the primary barriers are beliefs that are disguised as fact and experience. Who these people turn out to be may surprise you, as will the motivated people with ideas who will come forward.

In changing beliefs, an effective technology helps. Galileo's telescope played an important role in the collapse of the belief that the sun revolved around the earth. Enterprise Facilitation, by making competent management coaching available to the grassroots, is showing itself to be an effective technology for empowering people who have dreams for a better life, and for helping people see each other's assets.

Peter Donovan, who lives in Enterprise, Oregon, likes to report on what people are learning from conscious attempts at managing wholes rather than parts. His website contains many articles based on firsthand, on-site reporting, including several on Enterprise Facilitation projects in the Midwest and Canada: http://managingwholes.com

Permaculture Advice from Way Out There

Cosmic Bob's Plan for Your Life

As Revealed to Douglas Bullock

(Cosmic Bob is a permaculture guru from the fifth dimension who occasionally makes an appearance at permaculture courses and events. Sometimes he appears unexpectedly out of thin air, surrounded by a light purple mist and the subtle aroma of garlic. At other times he is channeled by someone who has been momentarily touched by the Force).

AS YOU KNOW, there are a lot of people these days wanting to make a positive change here on earth. You are probably one of them yourself. The big question is, What to do?

Are you thinking about learning sustainability skills? Looking for a green, ecological-agriculture program at one of those liberal arts universities? Or are you planning on designing your own degree? Do you want university credit for independent study?

Remember that institutions are generally interested in maintaining the status quo, and seem to have trouble changing gears toward a more sustainable view. Do you really believe that those professors and counselors are telling you the truth, or does it just seem like more of the same old crap? Are they walking their talk, or does someone living in a 3000-square-foot, all-electric golden-medallion home, driving an SUV to work to teach about sustainability seem a little hypocritical?

Are you ready to blow school off all together, but not sure what to do next?

If you can identify with any of these predicaments, **Cosmic Bob's Plan** may be what you're looking for!

Cosmic Bob's Plan will help you develop your own ideas about sustainable agriculture and right livelihood, better than any school. It will help you gain a better understanding of whole systems, biology and life's processes.

Be a valuable first-choice intern on any farm you desire! Make better decisions, be prepared if you plan to get your own land or join a community.

Okay: Take a deep breath. Here's **Cosmic Bob's Plan**.

Year One

Start and maintain your own small vegetable garden. This should contain annuals and biennials, veggies, flowers, and fruit. It can be in your own backyard, at an established community-garden, or wherever. Just make sure to do it yourself! That way there you're not diluting your responsibilities or decisions. And be sure to save some seed from your favorite plants along the way.

Year Two

Continue the garden and add some perennials: strawberries, asparagus, herbs, wing beans, chayote, and so on (there are lots more suitable perennials in the tropics—a point to consider when choosing a site). Learn to build a trellis and again, save some seed.

Year three

Continue the garden and add woody perennials: blackberries, raspberries, blueberries, currants, gooseberries, (in sub-tropics and warmer, add passion fruit, banana, and papaya). Stick in some medicinal herbs, plant a few fruit trees and—oh yes—save some more seed.

Year four

Continue the garden and set up a nursery for starting young plants. Learn to propagate woody perennials so you can expand your garden or duplicate it elsewhere.

This four-year span can be accelerated or condensed, and if at all possible, plant more shrubs and trees. If planted early they will be fruiting by year three.

Concurrent with all This:

Take a good permaculture course.

Work (get a job!) with a tradesperson: carpenter, electrician, plumber, mason, concrete-worker, fence-builder, and so on. Stick with it for at least three months, or longer if you like. It will be to your advantage to do more than one of those.

Also work with a landscaper, nursery or seed company. Do this for at least three months too, longer if you can.

Also, attend a community or polytechnic college, or night school, and take courses in small-engine repair or auto mechanics. If you're keen on it, add welding and mechanical systems. Drawing is a big plus.

Intern on a permaculture farm for a whole growing season. While there, work with wild and domestic animals. For instance, build a chicken or rabbit tractor. Learn to raise poultry, rabbits, or other small livestock from new-born or just hatched. Build a hutch or coop. Build a beehive and work with bees. Build bat boxes or birdhouses or develop reptile or amphibian habitat.

Produce a value-added product from something you grew or wildcrafted: tinctures, salves, dried fruit, jam, baskets, extracts, soap, and so forth.

Develop a species index for part of your town (at least a few square blocks). Locate, map, and catalog all trees and major shrubs.

Read voraciously from the book list below. Get to know older gardeners in your area.

Document every project with text and photos, including comments: What did you do? Why? What worked? What didn't? How will you improve it next time?

Presto chango, you have educated yourself far better than any dull old schoolhouse ever will.

Wasn't that simple? Δ

Douglas Bullock lives on Orcas Island, WA with his family and tends one of the finest permaculture sites in North America. He will be teaching a Design Course this summer (see ***Events****, p 59).*

Cosmic Bob's Book List

Olaf Alexander, *Living Water*
Suzanne Ashworth, *Seed to Seed*
John Beeby, *Test Your Soil with Plants*
Nancy Bubel, *The New Seed Starter's Handbook*
Luther Burbank, *The Luther Burbank Biography Series*
Phillip Callahan, *Para-Magnetism*
Phillip Callahan, *Ancient Mysteries, Modern Visions*
Callum Coates, *Living Energies*
Michael Evenari, *The Challenge of the Negev*
David Fairchild, *The World Was My Garden*
David Farrelly, *The Book of Bamboo*
Ray Feltwell, *Small-Scale Poultry Keeping*
Lee Flier, *The Bio-Gardener's Bible*
Manasobu Fukuoka, *The Natural Way of Farming*
J. Howard Garrett, *The Dirt Doctor's Guide to Organic Gardening*
Will Graves, *Raising Poultry Successfully*
John Jeavons, *How to Grow More Vegetables*
David Jones, *Palms Throughout the World*
F. H. King, *Farmers of Forty Centuries*
Robert Kourik, *Drip Irrigation*
Crow & Elizabeth Miller, *Organic Gardening*
Bill Mollison, *Introduction to Permaculture*
Bill Mollison, *Permaculture: A Designers manual*
Alanna Moore, *Backyard Poultry, Naturally*
Nyiri Murtagh, *For the Love of Ducks*
Menninger, *Nuts of the World*
J. Morton, *Fruit of Warm Climates*
North American Fruit Explorers, *NAFEX Handbook*
and back issues of their magazine, *Pomona*
Stella Otto, *The Backyard Orchard*
Stella Otto, *The Backyard Berry Book*
William S. Peavy, *Super Nutrition Gardening*
Ehrenfried Pfeiffer, *Weeds and What They Tell*
Peter Proctor, *Grasp the Nettle*
Rodale Press, Encyclopedia of Organic Gardening
Rodale Press, *How to Grow Vegetables & Fruits by the Organic Method*
Seed Saver's Exchange, *Fruit, Berry & Nut Inventory*
Seed Saver's Exchange, *Garden Seed Inventory*
J. Russell Smith, *Tree Crops: A Permanent Agriculture*
Sunset Books, *Plant Propagation*
Art Sussman and Richard Frazier, *Hand-Made Hot Water Systems*
Lee Schwanz, *Rabbits for Food and Profit*
Elizabeth Stell, *Secrets to Great Soil*
Katie Thear, *Free-Range Poultry*
Peter Tomkins and Christopher Bird, *Secrets of the Soil*
Charles Walters, *The ABCs of Bee Keeping*
Charles Walters, *Weed Control without Poisons*
P.A. Yeomans, *Water for Every Farm*
National Academy Press, *Lost Crops of the Incas*
ACRES USA, all you can find, including back issues

A Program in Sustainable Design, Building & Land Use

Social Ecology in Action

Keja MacEwan

WHAT DOES IT MEAN to be involved in a participatory design process? Why would someone want to embark on such an adventure? Through the Institute for Social Ecology (ISE), I have been involved with a participatory design process for three and a half years. I started as a student of a three-week course titled "Sustainable Design, Building & Land Use." The following summer, I returned, took the course again, had my curiosity piqued, and took another course titled, "Ecology and Community." Throughout the next winter, I studied at the Institute, and the third summer, I interned in design and construction. There I shared my experience from the previous two years, gained new experiences, and was able to offer to other participants some of my knowledge of alternative design, natural building practices, and alternative energies. As a student, intern, and a member of the community, I have been part of design and development at the campus of the ISE and have contributed to decision-making. Using the model of participatory design is one of the practical outcomes of the philosophy of Social Ecology.

The heart of Social Ecology is analysis and critique of current anti-ecological trends and the social structures at the root of such problems. These problems are particularly visible in human landscapes, the interface between social and environmental processes. Thus it is important to address development and its

Students in a design group learn cooperative skills.

effects on the interrelationship between people and nature. In its courses the ISE offers skills and tools to develop alternatives, new social structures and visions, and options for ecologically sustainable societies. Not only is it a school that can spread its views, but it also is an embodiment of what it believes.

Walking the Talk

That's why I became so involved with the process of development at the ISE. The school has fashioned its design principles to match its community based, ecologically sustainable beliefs. Our development format uses a participatory design process involving faculty, staff, students, and the greater community. With everyone's input we hope to create a campus that has incorporated environmental vision, is accessible to all people, and has intrinsic educational value.

"Participatory design includes the entire community in decisions"

Over the past few years, we have been analyzing our site and developing plans to design a suitable, energy efficient, community-oriented campus. In decision making we include variables such as ecological footprints, resources, finances, long-term plans, short-term needs, etc. Last fall we decided to renovate part of the existing farmhouse, temporarily, into a kitchen and dining area. Later, we hope to build a state-of-the-art kitchen that embodies sustainable design and permaculture theories by using passive solar design and technologies, active solar energy, a living machine, attached greenhouse, and similar elements. Meanwhile we are trying to fulfill our present needs while working toward our future goal.

This past January the Institute took another step toward its vision of a campus that reflects it principles. The ISE held a "design intensive." For two weeks, faculty and interns volunteered their time to develop the new kitchen plans, and redesigned library shelving. We developed a set of criteria, but also needed to create the specifics, such as floor plans, elevations, electrical and plumbing plans, materials list and budget. We spent the first a week brainstorming, drawing ideas, reviewing, and drawing again. First, we held a group discussion to familiarize everyone with the task. Once we were comfortable with it, people began brainstorming and sketching ideas. We then came together and shared our ideas, discussed the pros and cons of each plan, and gathered in small groups to produce two or three strong proposals. After rounds of sketches, reviews, and more sketches, we came up with a comprehensive and cohesive plan that was far stronger for having been developed by six minds. Then we held a public critique. The greater community and some professionals offered their opinions and feedback of the drawings. This whole process reflects how participatory design includes the entire community in decisions, creating a well rounded, carefully thought out, and inclusive process.

We spent the second week addressing ideas and concerns that came up during the critique, and re-drawing the plans to incorporate these changes. By the end of the second week, we had the floor plans, elevations, electrical plans, proposed budget, and a preliminary phase plan for building.

Students from the ISE construct a cabin in the woods

A New Generation

The process is far from over. We are currently posting the drawings on our web site with a forum for feedback, to solicit further ideas and support from the broader social ecology community.

Our process has always incorporated many people, and will continue to do so. This allows the Institute to address the social issues of hierarchy and power—issues that are defined and critiqued in social ecology—and then offer an alternative: participatory design and community decision-making. The process brings community together for decision-making, empowers everyone involved, and serves to further educate people.

This coming summer, we plan to use this building project to incorporate into the process a new generation of students in sustainable design, building and land use. Like me, each of these students will experience a new way of approaching today's problem of unsustainable design, and learn why it is important to do so. In this way the Institute makes its vision stronger. I have been empowered by the experience of working with a diverse group of people, guided by those with more knowledge, and offering to help those with less. I am sure others will feel the same empowerment and take the process forward. Δ

Keja MacEwan is a recent graduate of the Institute for Social Ecology's BA program. A carpenter by profession, she is based in Vermont. She is interested in sustainable design and building, and democratic community development.

Bike Touring Eco-Sites in Berkeley

A Day of Urban Sustainability

Tim Krupnik

MOST OF US would agree that a primary aspect of right livelihood is a willingness to teach people a better way of life. To the permaculturist, this means teaching people how to live well without harming the earth. Right livelihood also means that we need to direct our energy where it is needed most —working to heal the most damaged, eroded, and disrupted landscapes and ecologies. And no word fits the description of *damaged environment* better than *city*.

While cities are exciting places, rich in cultural tradition, they are also hampered by industrial pollution, crowding, concrete, and despair. Apartments constructed from mined materials thrust into the sky, residents consume chemically-treated foods trucked in from miles away and automobiles churn out noise and pollution 24 hours a day. But worst of all, cities can leave the environmentally aware feeling powerless, unable to see how they can lead a more sustainable life amidst the steel and concrete.

That's why, here in Berkeley, some friends and I decided to start holding "Bike Trips for Urban Sustainability." We wanted a way to showcase some of the creative, proactive things that people are doing that lead to a more sustainable way of life. Since all of us can't simply run away from the cities to start rural farms, we wanted to showcase urban gardens that could benefit personal, community and environmental health.

The idea is simple (and you can do it in your town, too): Seek out four or five households that demonstrate some aspect of urban sustainability, be they organic gardens, solar power, or greywater recycling systems (for just a few possible examples). Set a date for a bike tour and invite people to come along. Travel from house to house and let people "show and tell" their permaculture projects, demonstrating how these simple techniques can provide tangible and accessible ways to lessen our load on the earth.

Biking to eco-sites gets a thumbs up.

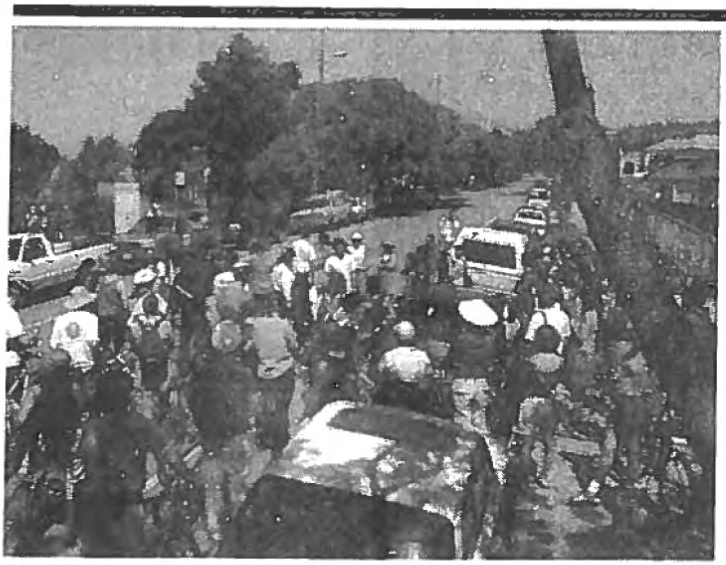
Last year, we did just that. Forty people turned out for a free tour, and we visited several households that featured greywater systems, beehives, and frontyard organic gardens. It was outrageously fun, and people who had felt they were "square pegs in society's round hole" got to meet other like-minded environmentalists, strengthening our community.

We enjoyed it so much that we decided to hold another tour this spring. With minimal publicity (75 flyers and postings on a couple of e-mail lists) a whopping 80-100 people turned out for the second "Day of Urban Sustainability." A critical mass of cyclists, beekeepers, gardeners, architects, activists, and children took part in the event. The first stop was the Berkeley Eco-House.

The Eco-House is a project aimed at purchasing a residential home in Berkeley, California and renovating it into a sustainable home and ecological educational center. Although the group is still in the process of purchasing the house itself, the back yard boasts a small yet productive sheet-mulch garden. Babak, the garden caretaker, gave us the history of the Eco-House in context of the neighborhood, where he grew up. "We don't want to stop here with this property," he told us. "We have visions of blocking off the street, de-paving it and making it a real community space free from the fear associated with cities." He motioned toward the garden. "This is just the start." He pointed out the tool sheds next to the gardens, one built of cob materials, and the other of strawbales. Each supported a living roof of California native plants.

Next, we cranked on to another house where Jon Bauer (see email contact below) summarized the basics of how to build a simple, low-cost chicken coop and keep chickens in the city (it's easy—just share the eggs with your neighbors to keep them from complaining!). "At the rate they're producing at now—and they keep making more and more eggs—by mid summer we should have infinite eggs and infinite compost," explained Jon.

After that, we dropped by another house in Oakland (see "The Urban Wilds Project" in issue #45 of *Permaculture Activist*). Here, the excited cyclists got crash courses in building solar cookers from dumpstered materials, worm composting, and beekeeping. One of the top-bar beehives was cracked open so that people could get a look at how these amazing creatures work.



Urban Sustainability Day attracts a big crowd.

The finale of the trip was a stop to another house in North Oakland. Our friend Laura explained her multi-story greywater-wetland irrigation system and her homemade bike-powered laundry machine, and she demonstrated some cheap, accessible solar panels.

Giving it Away

People left the tour feeling empowered and excited. Each of the houses demonstrated simple, low-tech approaches to urban sustainability—ideas and designs that each one of us can take home and replicate, thus lessening our impact on the planet's dwindling resources. We passed a hat and raised some money that will be donated to The Oakland Bike Library Project and to a collective of folks who are building a community bio-diesel reactor (so we can make recycled fuel locally).

Bike trips such as these are good exercise, educational and most important, *fun!* They take little effort to put together, and can really inspire people, helping them out from under the psychological tangles created by living among concrete, urban sprawl, and waste. More importantly, when the trips are free of charge, they can draw out a large crowd, thus improving the chances of exposing people to concepts like permaculture design and local sustainability. Rather than sell these ideas, we've found it to be most rewarding to know you inspired someone to go home and replace their lawn with an organic vegetable garden. What we lost in time preparing for the tour was gained in respect from the attendees, and that's *truly* right livelihood. So please go out and plagiarize this concept—set up a bike tour for Urban Sustainability in your city today! Δ

Tim Krupnik can be reached at 5912 Genoa St. Oakland, Ca. 94608 or emailed at soilfirst@tao.ca. The Bike Trips for Urban Sustainability will likely be held a number of times throughout the year. They will be facilitated by Jon Bauer, who can be contacted at farmerjonb@hotmail.com.

Brazil's World Social Forum

Activists Envision a New World

Brendan Conley

More than 10,000 activists representing more than 100 countries gathered in the city of Porto Alegre, Brazil in January to create a new world. The giant conference, called the World Social Forum, took place at the same time as the World Economic Forum, a gathering of business and government leaders in Davos, Switzerland. Moving beyond demonstrating against the corporate-globalization model of economics, as activists have done in Seattle, Prague, and Washington, DC, these organizers held a conference of their own to discuss cooperative models and positive alternatives.

"This is a forum for society, not for money and multinationals," said Bernard Cassen, editor of France's left-wing weekly Le Monde Diplomatique and one of the founders of the conference.

"Our different visions, applied to economics, stress that the economy exists for the person, not the person for the economy," said Duncan Maclaren of Caritas International, a Catholic social service network. "That culture which puts the human at the center of economics cannot be produced by the market. The market is an instrument among many for economic well-being. It is not a substitute for life."

The labor union members, nonprofit organizers, and direct action proponents gathered in Porto Alegre echoed this sentiment. With over 100 workshops per day, the forum was a meeting place for an overwhelming number of alternatives. The participants' views ran the spectrum from reformist (nonprofits that want more international protection for workers and the environment) to revolutionary (the rebel group Revolutionary Armed Forces of Colombia sent a delegate).

The experimental forum hosted a number of eclectic visitors including French farmer Jose Bove, famous for damaging his local McDonald's; Nobel prize winning Portuguese writer Jose Saramago; leader of Brazil's Landless Workers Movement Joao Pedro Stedile; US writer and activist Starhawk; and East Timor freedom fighter Taur Matan Ruak.

The location of the conference was no accident. The city of Porto Alegre and the state of Rio Grande do Sul have long been controlled by Brazil's Workers' Party. Porto Alegre has earned a reputation as a city that is governed efficiently and with concern for workers and the environment. The city is famous for its participatory budget process, in which labor unions and nonprofit groups give input into the city budget.

"There is no corporate sponsorship of the World Social Forum," said Kenny Bruno of the organization Corporate Watch. "No ads telling us how sustainable Shell is, or how clean Dow is, or how concerned for the poor Philip Morris is. No Nike swooshes. Just a few banners for the national bank of Brazil, saying 'It's better because it's ours.'"

The delegates discussed the goals and tactics of the international movement against so-called "free trade"—or neo-liberalism as it is known in much of the world. The organizations represented shared a consensus that "free trade" agreements such as the North American Free Trade Agreement (NAFTA) and the World Trade Organization (WTO) favored the freedom of corporations over environmental protections and the rights of ordinary people.

But more than criticizing globalization, the participants sought to elaborate on alternative systems and solutions in the realms of economic and social development. "The World Social Forum will provide a space for building economic alternatives, for exchanging experiences and for strengthening South-North alliances between NGOs, union, and social movements," according to a statement by the organizers. "It will also be an opportunity for developing concrete projects, to educate the public, and to mobilize civil society internationally." Workshops addressed topics such as micro-businesses, the unpaid work of women, bioethics, and direct democracy, centering on the theme of *um outro mundo es posivel*—another world is possible.

The forum was a broad dialogue that revealed a wide spectrum of views within the movement. For instance, some groups stated their intention to work for stronger labor and environmental protections within the WTO, while others insisted they would struggle to dismantle the WTO. Conference organizers said that there was no intention of drafting a manifesto for the movement. Rather, the event was an attempt to begin a dialogue on alternatives.

Many people gathered in Porto Alegre found time to leave the conference rooms and take direct action. Jose Bove, the French activist, led a group of 1,300 Brazilian farmers from the Landless Movement to a genetic engineering research facility run by Monsanto, where they ripped up biotech crops. The farmers proceeded to occupy the land, setting up camp where they had uprooted the crops. Genetic engineering is illegal in the state of Rio Grande do Sul, and Bove commented that "what we did at the Monsanto farm should have been the job of the police."

Even the "anti-Davos" forum, as the WSF was called, was not immune to protest, as demonstrators stormed a press conference to demand greater participation for blacks. "We are more than 50 percent of the population of Brazil, but at the World Social Forum we only get one hour of a five-day meeting to express our views," said Vanda Gomes Pinedo, of the Unified Black Movement. The protesters, many wearing African dress, demanded more space for blacks in the workshops and panels.

If you're excited to hear about the conference and wondering why you didn't learn more about it from other sources, you're not the only one. The fact is, coverage of the World Social Forum was extremely limited in US media. Major US newspapers like the Los Angeles Times and USA Today declined to cover the conference at all, while the New York Times published only one paragraph on the subject. Activists have commented that the media seem to be more interested in violent clashes between police and protesters than in thousands of people meeting to plan a better future.

In Porto Alegre, as thousands marched through the streets chanting "a new world is possible," the cry seemed to be an echo of that slogan born in the streets of Seattle during the November 1999 protests against the WTO, and since heard around the world: "This is what democracy looks like."

For more information:
World Social Forum:
www.worldsocialforum.org
Cooperative Economics:
www.cooperativeeconomics.org

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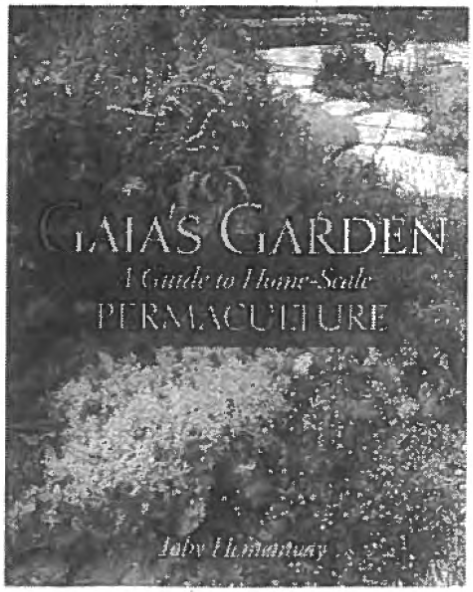
REVIEWS

We're on Our Way Home

review by Peter Bane

TOBY HEMENWAY
Gaia's Garden: A Guide to Home-Scale Permaculture
Chelsea Green Publishing, White River Jct. VT, 2001.
$24.95 paper. illustrated. 238pp.



The first book published in this country in a generation to embrace ecological design of the home landscape, *Gaia's Garden* is a snapshot of Permaculture in America at the turn of the century. Taken from the "left coast," it is more a portrait than a map, and reveals a Western profile. An in-depth look at Permaculture's importance in the garden, it also affords us glimpses of some fine examples in which Permaculture has turned around degraded or marginal landscapes. Not claiming to be a comprehensive treatment of the subject, the book nevertheless makes an appealing introduction to it.

Though dressed as a garden diva, the book makes a broad intellectual sweep. It covers the whole spectrum of subjects marking the paradigm shift from dominator to partnership relations between humanity and planet Earth. *Natural landscaping* is a step toward a gentler use of the world around us. *Organic gardening* "changes the bag," shifting inputs to eliminate toxins and employing biological materials and solutions to the challenges of raising food and fiber. *Permaculture* changes the organization of those relations through design, a process of making conscious and informed choices to achieve synergies between elements of a landscape and the humans who inhabit it. A fourth subject is godmother to all these and gives the book both its name and its spiritual purpose, which is to invite a large audience of readers to engage the self-organizing processes of nature's intelligence.

The idea that the processes of nature are intelligent, that matter self-organizes into living communities which further shape their environment for the benefit of more life, that consciousness is the outcome of evolution *is* the large idea of our time. Broadly known at the Gaia Hypothesis: "the Earth is alive," it promises to heal the historic split between science and religion that has defined the modern era.

Toby Hemenway is a scientist, trained in genetics, who shares with his readers his rapturous enjoyment of the garden. Toby's pleasures are obviously enhanced by his knowledge of the intricate complexities of ecology; he offers this knowledge to the reader in a friendly and muscular style.

A graceful foreword by John Todd, aquatic tinkerer and dean of American applied ecologists, gives us a glimpse of the world in a jar, prefiguring Toby's even richer world behind the garden wall, a world that with our help, can "pop" into life: buzzing, blooming, swirling, burgeoning across the landscape. In the mind's eye comes a vision of myriad ecological gardens popping to life all across America. If that vision should come into being, I hope this book will be remembered as one of its champions.

Gaia's Garden is organized into three sections: Garden as Ecosystem, Pieces of the Ecological Garden, and Assembling the Ecological Garden.

In the first, Toby introduces theory of ecological design and principles of permaculture: how nature works and how we can get with the program. These are presented with a filter to make them especially useful for gardeners. This section includes a succinct and practical exposition of patterns that can improve efficiency and ease burdens in the garden. Here too he makes a powerful argument for less consumption and more self-reliance and gives harsh treatment to native plant fetishists with their abhorrence of the mixing so vital to successful gardens. This is more than an intellectual matter because food supplies of the future will depend on gardeners and their creation of ever more sophisticated hybrid ecologies, drawing on the genetic heritage of all regions to compose the pantry of plants that sustain us.

The presentation of concepts and examples in this opening section constitutes a good basic reference to design.

The guts of the book come out in Part Two. Here we learn about soil, water, plants, and animals. The soil chapter is especially well written, its prose brisk and metaphors well used. I was fascinated with Toby's descriptions of primary, secondary, and tertiary decomposers. While he avoids the complexities of the aerobic/anaerobic cycle in soils (a story I personally love), he gives the lay reader a full plate of well-organized information about the life of healthy soils. This is a better integration of soil ecology than I have read elsewhere, and though the information is by no means new, this version is engaging and helpfully succinct.

Besides advocating water collection in tanks, ponds, and swales (he practices what he preaches), the author is to be commended for pushing the envelope on greywater. If we are ever to stem the hemorrhaging of nutrients, water, and topsoil that our present farming, food, and sanitation systems impose on us, Americans must begin by reclaiming their own greywater. Toby makes no bones about the importance of this and tosses off the increasingly flimsy excuse of legal prohibitions with a deft phrase, "greywater is a legal grey area." He writes right; there is no longer any good excuse not to take responsibility for this matter at the household level.

Though good on greywater, the book delicately sidesteps mention of recycling shit; urine is relegated to a single line in a sidebar listing fertilizers. Real permaculture doesn't avoid these issues but perhaps that's for the next book. In the meantime, read *The Humanure Handbook* by Joe Jenkins, also from Chelsea Green, for the "the rest of the story."

While talking about pieces of the garden, Toby places continuous emphasis on design, synergy, and holism. He introduces the reader to important terms and ideas such as *standing biomass, pioneer plants,* and *polycultures,* that are commonplace within the permaculture community but still esoteric to most gardeners, even organic practitioners. Advanced permaculture students may learn a thing or two as well: nurse plants are differentiated into "chaperone" and "scaffold" plants, the one in a nourishing relation to its young proteges, the other with a structural role in protection. I appreciate these distinctions because they help me see more of what is going on the natural world. The explanation of hedgerow function in traditional agriculture tells an important story about ecology.

The chapter on bees, birds, and other helpful animals may be the most important in

the book—certainly it's the one from which I learned the most. Toby's exposition of beneficial insects and their roles in controlling pests helps fill a vacant niche in the permaculture literature. It's good to have this material collected in one place for easy reference. I learned too about the differentiation of birds by niches they can occupy in the landscape and the corresponding types of body structures they manifest. As animals form key links in the food web, regulating fertility and yield, it is essential for gardeners to understand and come to terms with their flying, crawling, hopping, and slithering kin.

Part Three of *Gaia's Garden* will be welcome and familiar territory to permaculture-educated readers. Here we enter the realm of practical design. Like the good teacher he is (I hear praise from his students, so I reckon it's true), Toby, having introduced new terms, now helps the reader organize them into a language and that language into a paradigm. Gathering up those garden orphans, interplanting and companion planting, which have hung out on the fringes of organic gardening for years without getting much attention, he reveals them to be awkward youngsters taking tentative steps toward creating plant communities. He then goes on to explain guilds and "super-guilds," the adult plant assemblies that form major constituents of the garden ecosystem. These building blocks of design are shortcuts to a living landscape that provide permaculture much of its power. We can accelerate succession (don't know what that means?—read the book), we can stack yields in time and space, increase the efficiencies with which we use land and our own labor, and by the same stroke, if the author's testimony is to be believed, create wondrous worlds for ourselves to inhabit.

Gaia's Garden has many virtues, a few flaws. By popularizing and making more accessible the most powerful idea of our time, it aligns itself with the evolution of culture toward a greater humanity and the profound healing needed if we are to survive the end of oil. By organizing the paradigms of gardening into a single continuum, the book creates community among different groups of people basically sympathetic toward each other. By telling the story and the stories of contemporary American Permaculture, Toby collects and helps to establish a far-flung body of important but little known work and to give this maturing movement an identity independent of its Australian heritage. This effort is much appreciated and long overdue as Bill Mollison settles into retirement. Toby's language, particularly his naming of ecological functions in the vernacular, is often memorable: we cast our eyes over a terrain populated by "spike roots, fortress plants, mulchmakers, and shelterbelters." The book offers an excellent contemporary and well-annotated bibliography, a good glossary of unique terms, and many extensive tables of useful species. I appreciated finding the tables and illustrations listed at the beginning of the text. The illustrations are attractive and clear, even in details, greatly enhancing the already solid text, and the photographic cover is beautiful, eye-catching and endlessly pleasing with its play of subtle colors and floral textures. This is a book you will use and re-use, and enjoy having around for a long time.

Some caveats to the reader are in order. Though most of the illustrations are fine, the drawing of net-and-pan on page 51 misses the point. The book designers made a poor choice in using a grey background for the sidebars; it fails to set them off clearly. Apart from a half-dozen or so minor typographic bloopers, most of which will be obvious, there are a few less obvious errors that stood out from an otherwise fine effort. The tables bear close inspection: I read Toby's sidebar on the right-hand page describing how minute pirate bugs nest in buckwheat and hairy vetch, then checked the table on the left-hand page which listed both plant species but failed to indicate they hosted these beneficial critters. You can correct this in your own copy, but I wish the editors had done it for all of us. The table on page 87, "Plants from Mediterranean Climates," is useful but I felt the title might better have read, "Plants adapted to Mediterranean climates," since some of the plant origins are arguable.

The book also has some limitations that aren't flaws. It is a book about gardening and ecology that draws permaculture into the conversation, but it leaves out, purposely, much of permaculture's applicability as a design system to visible and invisible structures: buildings and settlement, social organization and cultural practices, and a host of other areas. This leaves plenty of room for more authors to write more books. And we hope it won't be 15 years before we get the next one. The reinforcement of permaculture's association with gardening, however commercially attractive, is also a mixed blessing, not because it's untrue, but because there is a great deal more to permaculture design that is even less well understood by the reading public.

Despite repeated efforts to universalize (for North American readers) the material, examples are drawn almost exclusively from Western sites, leaving this Eastern reader feeling not completely at home.

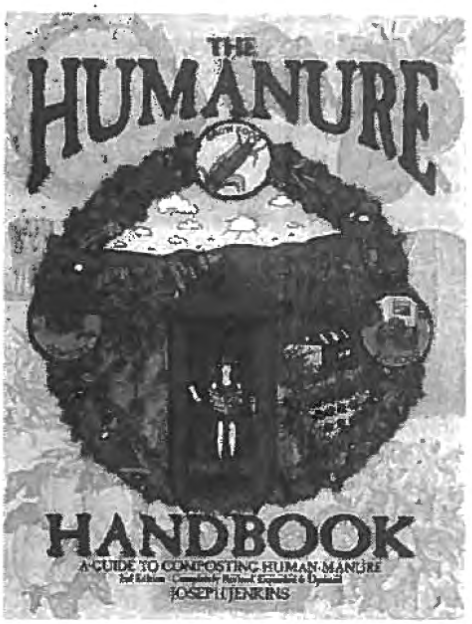
These few shortcomings could be easily corrected in a future edition; they don't diminish the importance of the book. Chelsea Green is to be commended for a strong offering. Its publication is a turning point for Permaculture in North America. Toby Hemenway set out a couple of years ago to map the progress of permaculture across the continent by reporting on the development of sites where it had taken hold. A bevy of publishers turned down that proposal, so rather than encourage Americans to seek out permaculture by pilgrimage, he wrote a book to help them implement Bill Mollison's sage advice: Go home and garden. *Gaia's Garden* is a fine testament that this ingenious system of design works well in challenging circumstances. And we have in Toby's stirring prose a passport by which any willing gardener may enter Gaia's gates and feel welcome. Δ

Humanure, Ph.D.
review by Peter Bane

JOSEPH JENKINS
The Humanure Handbook, 2nd ed.
Jenkins Publishing, Grove City, PA
distributed by Chelsea Green Publishing
301 pp. paper. illustrated. $19.00

If you liked the first edition, you'll love this one.

When it was first published in 1994, *The Humanure Handbook* was such an oddity it fell into near instant notoriety: a serious (well, hardly) book about composting human waste by a fellow who'd been doing it successfully for 20 years in the backwoods of Pennsylvania. Unwittingly Jenkins created a self-publishing classic. He'd written about something he knew, had tapped a niche market (there were almost no books on the subject for a popular audi-



ence), and had found the perfect hook: shit gets everyone's attention. *HH-1* had the right stuff: taboo-busting experience wedded to good science, authenticity coupled with tongue-in-cheek humor, the whole peppered with computer illustrated graphs, goofy cartoons, and smudgy repros of septic tank ads and newspaper clippings. Prepared for the tiny first edition of 250 copies to languish in his basement forever, the author anticipated criticism, rejection by his friends and neighbors, or more likely, massive disinterest. Boy, was he wrong!

Jenkins has learned a lot and gotten a great deal of feedback in the five years since *The Humanure Handbook* was first published. After giving a copy of the book to a friend, who gave it to his girlfriend who was a newspaper reporter, Jenkins and his untidy broadside dropped onto the media with a great splat. A camera crew showed up at his door and the story want out on the AP wire. Television stations picked it up. Pretty soon the BBC was calling for an interview. More than 10,000 copies went round the world to 31 countries. People wrote back with their own experiences, praises, and revelations, a sampling of which prefaces this new edition.

The second edition retains the basic structure and content of the first, but with a more refined presentation. Typesetting and layout are subtly more sophisticated, giving the pages a more pleasing appearance. Production values are much improved from the grainy first printing. The author has added an important chapter on alternative greywater systems, which makes the information on solid waste composting more powerful in its potential applications, allowing builders the possibility (as regulations change) to send the septic tank and leachfield the way of the outhouse. Extensive appendices survey the current regulatory environment of the 50 U.S. states and provide a listing of sources for wetland plants. Ten pages of references bear witness to the veracity of Mr. Jenkin's methods and conclusions.

Still, *Humanure's* argument remains the same: shit is not a waste; it is a resource. Our present systems of disposal have enormous visible and invisible costs in money and pollution. The problems of waste disposal are universal, complex, and urgent. The solutions are embarrassingly simple and personal.

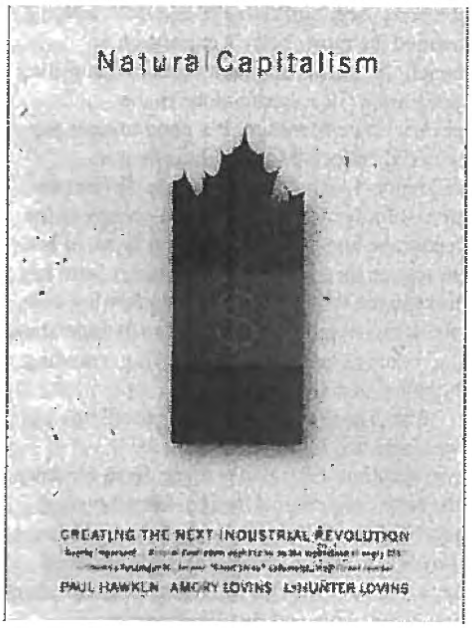
In the words of the Gospel according to Thomas, quoted in *Creating Harmony*, "If you bring forth what is within you, what you bring forth will save you. If you do not bring forth what is within you, what you do not bring forth will destroy you." The material is spiritual. Δ

How Green is the Alley?

review by Peter Bane

PAUL HAWKEN
AMORY LOVINS
L. HUNTER LOVINS
Natural Capitalism

Little, Brown and Company, 1999.
$17.95. 396 pp. paper.



This is an important book if not a wholly satisfying one. Its basic thesis is unarguable (to this reviewer, anyway): that present economic systems fail to value natural capital—the services of ecosystems—thus leading directly to the degradation of living systems. Further, the authors assert, this doesn't have to be the case; rather, good design and canny business management could turn industrial wastes into resources for the benefit of Earth, society, and the bottom line.

A collaboration between former tool vendor and author Paul Hawken and the dynamic duo of the Rocky Mountain Institute, Amory and Hunter Lovins, the book weaves their different styles together in a somewhat uneven manner that left me slightly off-balance most of the time. For all the intellectual coherence that the authors' works attain, this book's unevenness may reflect a deep clash of cultures. Hawken is more at home in the broad social and even spiritual critique of industrial society that post-modern Californians take for granted: "A society that wastes its resources wastes its people, and vice-versa." The Lovins', and Amory more than Hunter, whose voice I find hard to discern in all of this, have spent many years in corporate boardrooms and on factory floors confronting the culture of business on its own turf. Theirs is a neo-modern, science-based perspective: global problems arise because business is failing to do what it ought to do for its own good; better management, better design, better engineering, and better communication would be the salvation of the American Dream. Market mechanisms are brilliant tools insufficiently used to accomplish good purposes, etc.

The first chapter, for instance, takes off at a run. Filled with the jargon language of business: "enhanced total factor productivity" and similar insider argot, it carries the punchy, gee-whiz tone of a coach addressing adolescent boys, and manages to leave behind the unctuous feel of a corporate report. Chapter 2 elaborates on the Hypercar, RMI's silver bullet for the American economy and environment, but not until Chapter 3 and a treatment of waste in the industrial system do we get relief from this aggrandizement of the business mentality. These and others hallmarks of Amory's style stamp the opening with an unmistakable imprint and left me frankly gritting my teeth against a clever but shallow book.

I can find many things to dislike about *Natural Capitalism*. Its style is uneven and the language often ugly. Nouns are used for verbs too often (maximization), and it's peppered with bloated adverbs. In reaching for solutions to the global crisis of industrialism, it ignores issues of class and psychology: conspicuous consumption, the cult of wealth, poverty of the imagination, and the dynamic of control. The historical references to extractive capitalism reflect a narrow view of the industrial revolution, largely ignoring the massive social dislocations, rampant misery, and human degradation it brought about along with the consequent reaction of workers against the machine (Luddism and more).

An exhaustive listing of acknowledgements to corporate sponsors, clients, friends, and collaborators borders on pandering yet manages to completely omit mention of Hazel Henderson. Nor are her pioneering works in alternative economics anywhere referenced in the endpapers. I can't help but smell a personal rift behind this glaring omission and suspect that Henderson's broad and essentially spiritual perspective on human welfare and development is somehow threatening to the narrower technical critique of industrialism this book mounts.

Other failings are more ordinary. A modest exposition of what natural capital is and how it works comes rather late in the text (pg. 150), while the exercise of valuing nature in dollar terms is patently absurd. The chapter on fibers,

"Nature's Filaments," presents a useful model of cost-saving in design that bears study by permaculture designers, yet offers no answer for the problem of junk mail, an ugly externality of the market mechanism itself.

Chapter 10, "Food for Life," extends the industrial design formula to agriculture without asking whether industrial agriculture even makes sense. The examples are consequently a bit screwy, with talk of satellite field monitoring and recommendations on how to improve battery chicken houses entirely missing the point. In general I found the material on agriculture sensationalistic. Graphic information would have much enhanced the book.

The book's strengths are its timeliness and the centrality of its argument to the global crisis. Essentially an extension of the case made by Henry George, the 19th-century author of *Progress and Poverty*, that capitalism fails to value land, and a healthy re-ordering of society requires that we invert economic priorities, *Natural Capitalism* points out the fallacy of extending classical 18th-century economic assumptions into the present day. In doing so, it cuts the intellectual legs off business as usual. At the start of the industrial revolution skilled labor was scarce and land and natural resources were in apparently infinite supply. Today we know otherwise as 1.2 billion people suffer unemployment and ecosystems collapse.

Laid on this simple foundation, the book is revealed as a homily delivered to a business audience: it makes other powerful ethical points to the business community in a language that mutes the sting of guilt: Respect your employees; listen to their views. (psst, It's profitable...); Provide working conditions where they can see what they're doing and hear themselves think. (It'll improve productivity). Here are some ideas... In that way, this is a political book—politics being the art of the possible—intended to transform business practices for the good of society and nature. Clearly the authors believe that moral condemnation of business is by itself unproductive, and they have correspondingly muted that tone throughout the text. Though this approach may broaden the acceptability of their message, it risks losing perspective, as when they condemn the misallocation of $1 trillion of capital for air conditioning and energy equipment (due to the stupid design of modern buildings), but fail to make the point that ozone depletion and climate destabilization represent far the greater loss! There remains a certain hubris.

Nevertheless, the authors present a wealth of inspiring stories from the field of industrial design, both good and bad, that are brilliant individually and stunning as an ensemble. The text tosses up lines that live in the mind. The authors describe a possible outcome of optimal industrial design on a global scale as, "a net flow of very nearly nothing at all...but ideas." Or in the well-written section on building, they deliver a devastating critique of our civilization, "Few people have ever experienced real comfort—thermal, visual, or acoustic...," and follow it with a matter-of-fact demolition of the building industry, which is "yielding low returns on human capital or actual losses to society." The description of the canned cola drink, unveiled in excruciating economic detail, is fearsome: a stinging indictment of industrial and consumer waste.

Deeper critique of the capitalist system, however, is harder to find. Chapter 12 deals frankly with the strengths and limitations of markets in some detail, but its intelligence seems directed to the matter of improving the effectiveness of business. In discussing buildings, they describe the "split incentives" between landlord and tenant choices for energy conservation as a sick symptom of competition resulting from market "optimization," in effect, bad results made from slavishly following a flawed intellectual model. Yes, we increased profits, but the buildings don't work, are unhealthy, and cost too much. But this same ideology is being pushed on government and the public sector by the business community in the name of "free trade" and "globalization."

Natural Capitalism expresses an optimism that good design will drive out bad in the marketplace of ideas and use this assumption to urge business pioneers to march down the road of industrial ecology and better design. But by ignoring the problems inherent to the concentration of wealth and power brought about by the reactionary worldwide coup of the elite during the last 20 years, the authors leave us begging the question: Can a small number of well-to-do consumers drive a revolution in design? Or will we get well designed buildings (for example) for the elite and trash for the masses? Despite the grotesque usage of "incentivized" repeatedly in the text, there's no mention of profit-sharing.

In keeping with a preference for reductionist answers, the book presents a simplistic scheme of politics wherein Reds, Greens, Blues, and Whites representing (roughly) socialist, environmentalist, corporate, and (ta da!) syncretic design philosophies compete to shape the direction of society. Naturally, the authors identify with the Whites, whom they portray as incorporating the best of the three colored factions combined. What the authors ignore, and which I believe is too important to overlook, are a faction I would call the Blacks: Russian mafia, Saddam Hussein, the cocaine kings, CIA, Israeli fundamentalists, the Bush gang, Kosovars, and the likes of Cargill & Co., those for whom power itself is the ideology. If good design or intelligent policy threatens the latter interests we can expect "White" solutions to be sabotaged and discredited too, as the present US adminstration seems to be demonstrating.

How then, to get business to adopt these insights and do all these wonderful things is exactly the question this book ignores. As the authors point out, just because there's a profit to be made from good design doesn't mean it will happen—even in a capitalist system. (Maybe especially in a capitalist system!)

For all its flaws, *Natural Capitalism* is a stimulating read. You will not be bored. And I can't close without mentioning the absolute treasure in Chapter 14, which describes, in detail I haven't previously seen, the shining example of Curitiba, Brazil, a city that has effectively integrated good design into its culture for 30 years with astonishing and accelerating benefits measurable by any index. Even if you ignore the rest of the book, read this chapter. Δ

Sailing the Changing River
review by Peter Donovan

Ernesto Sirolli
Ripples from the Zambezi: Passion, Entrepreneurship, and the Rebirth of Local Economies
New Society Publishers, 1999.
$14.95. 176 pp. paper.

Many people wish to strengthen their local economies, reduce dependence on multinational corporations, build community by doing things, or achieve self-fulfillment through meaningful work. Yet these results are not coming easily or economically from the top-down, programmatic, and strategic approaches typically used by governments, economic development districts, and even by community groups, nonprofits, and advocacy organizations.

As E. F. Schumacher observed in *Good Work*, we cannot expect to raise the wind that will push us to a better world. What we can do is hoist a sail to catch the wind when it does come. *Ripples from the Zambezi* tells the gripping story of how Ernesto Sirolli learned to catch the wind of passionate, skillful, creative, intelligent, and self-motivated entrepreneurs—the acknowledged powerhouse of the economy as well as of social change.

Sirolli's experiences as a volunteer for the Italian government in Africa during the 1970s convinced him that "development" schemes were anything but. After absorbing Schumacher's *Small Is Beautiful: Economics*

as if People Mattered and the person-centered psychology of Carl Rogers, Sirolli put his radical, antidogmatic ideas to the test in rural Western Australia. Instead of trying to motivate people, he made himself available as coach and advocate for anyone who was serious about starting or expanding a business enterprise.

By treating economic development as a byproduct of personal growth and self-actualization, Sirolli was able to make a quantum leap in the effectiveness of business coaching, as well as create local miracles of economic development. He has devoted himself since to teaching committed civic leaders how to do what he has done.

"In every community, no matter how small, remote, or depressed, there is somebody who is scribbling figures on a kitchen table. If we can be available, for free and in confidence, to help that person go from the dream to establish an enterprise that can sustain that person and his or her family, we can begin to change the economic fortunes of the entire community."

The strategy that Sirolli teaches to communities involves a committed volunteer local board, who hires an "Enterprise Facilitator" who is then trained by Sirolli. The facilitator does not initiate projects or promote "good ideas." He or she responds to the interests and passions of self-motivated people. Because no one has equal passion for production, marketing, and financial management, all of which are necessary for business success, and because people only do well what they care about doing, the secret of success and survival for a business of any size is to find people who love to do what you hate. "The death of the entrepreneur is solitude." The facilitator and the board, with networking, help people form teams to advance their idea.

This is a strategy that is always followed in large business, but remains unusual in small business, where most people are still advised to write business plans singlehandedly, and farmers whose inclinations and personalities do not lend themselves to marketing are told that they must learn marketing skills to get off the commodity roller coaster.

Sirolli's ideas are not just good. They are inspiring, inflammatory, they resonate—and they are based on 15 colorful years of failing and succeeding at hoisting the sail in Australia, New Zealand, Canada, and the U.S.

The underlying philosophy has to do with empowerment rather than control. "A shift from strategic to responsive development can only occur," Sirolli writes, "if we are capable of believing that people are intrinsically good and that the diversity, variety, and apparent randomness of their passions is like the chaotic yet ecologically sound life manifestations in an old-growth forest."

The message is that bottom-up, person-centered, responsive economic development works—and if well understood and led at the community level, it works better than anything else. When a community can help motivated people succeed, the motivation spreads. "The future of every community," Sirolli writes, "lies in capturing the energy, imagination, intelligence, and passion of its people." Δ

How to Read a Tree
review by Toby Hemenway

G. CLAUS MATTHECK
Trees: The Mechanical Design
Springer-Verlag, 1991.
$39.95 121 pp. paper

This gem of a book was buried in my local university library, and has expanded my view of trees as fundamentally as Mollison's work and another brilliant book, Alex Shigo's *A New Tree Biology*. Mattheck, a researcher at the Karlsruhe Nuclear Research Center in Germany, shows here that trees are just as revealing of their character and history as are human faces. Because trees do not rebuild injured tissue as mammals do, but compensate for injuries and stresses by adding new wood, their history and growth strategies are written on their branches and bark, and can be read by careful observers who know a little about this book's subject, biomechanical design.

Trees are constant optimizers, making do with limited resources. Their form is governed by a handful of simple rules. They are pulled toward light in the process called *phototropism*, while the dominance of the leading shoot regulates the angles of side branches by *epinasty*, the thickening of wood on the branches' upper sides. Trees also place their crowns over the center of the trunk, and will counteract forces that displace crowns (broken branches, snow, earth slumping) by new growth and bending. They attempt to evenly distribute loads forced on them by wind and gravity by adding reaction wood: thickenings of growth rings on one side or the other of a stem to strengthen limbs and relieve stress. In a biomechanical sense, their lives track one goal: to minimize and evenly distribute stresses. It is this that prints the historical vicissitudes of a tree's life upon its form.

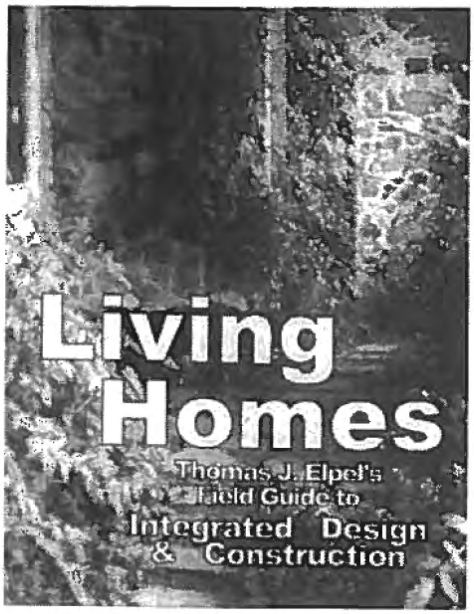
To show how these few rules allow us to trace the history of any given tree, Mathheck provides a simple introduction to the mechanics of stress: tension, compression, and how trees react to these forces. He explains the few necessary principles, then quickly proceeds into the heart of the book: a series of nearly a hundred case-studies of trees, illustrated by simple sketches, that have been bent, broken, and contorted by nature or accident into various shapes. He tells how to read each one. In one series, he shows the possible reactions to loss of a leading shoot: trouble-free conversions of secondary branches into leaders, distortion by the lingering dead leader, competition for leadership, shared leaders, repeated loss and change of the main shoot, and even self-destruction of a leader.

Mattheck explains why trees look the way they do. We see why circular wounds heal into narrow spindle shapes (to minimize high "notch stresses" at the wound sides); how weak forks grow new wood to become stronger, and how and why they fail; why trees twist and spiral; how they form welds, jughandles, and stilt roots; and why they flow around and engulf obstacles. There's even a drawing called "self-inflicted entanglement of two perfectionists," showing how two trees in contact harm each other in the attempt to reduce stresses. Each broken branch, rubbing trunk, too-close neighbor, and prevailing wind leaves an imprint upon the tree that can be read by anyone fluent in their mechanical language.

After each session with this brief, simply written but dense book, I saw the woods around our home in a deeper, richer way, and felt that their forms were a diary that I now could read. *Trees: The Mechanical Design* is a fine example of how applying a few terms and principles in a novel way can open up a stunning new vista into a world we thought was old and familiar. Mattheck has written several other books on trees that I hope to find, including one called *Design in Nature: Learning from Trees*. His works may be hard to locate outside of a university library, and they bear the high price of academic books, but any permaculturist's observation skills will be greatly enriched by reading them. Δ

A House that Fits
review by Toby Hemenway

THOMAS J. ELPEL
***Living Homes: Field Guide to Integrated Design and Construction,* 4th ed.**
HOPS Press, 2001.
$25.00. 217 pp. paper.



The best architecture is indigenous. Good dwellings match the land, are made from locally available materials, and reflect the region's culture and history. Ideally, a house also behaves responsibly: its construction and maintenance make minimal demands on the surrounding landscape (and virtually none on more distant ones), and the inputs and outputs of food, supplies, and waste flow in closed, regenerative cycles. Tom Elpel's book, *Living Homes*, documents one family's work of designing and building just such a dwelling.

On one level, *Living Homes* is almost a journal. It describes the inspiration and ethics that informed the Elpels' decision to devise an ecologically sound method of home-building, and follows Tom's thoughts as he, his wife Renee, and many friends translated their ideas into a structure. Many of the photos in the book illustrate the various stages of construction of the house. This thread of the book is a blend of homespun philosophy, observation, and hard-knocks schooling that reveals Tom to be someone operating firmly along permaculture principles, though I didn't encounter the word in his book. He makes careful site assessments, balances calories carefully, stacks functions, thinks in the long term, and learns from his mistakes without beating himself up too badly about having made them.

This personalized format allows Tom to do a little philosophizin', about the failure of the seventies "back to the land movement" (which he attributes largely to its inefficiency compared to industrial culture; in essence, it was just too much physical work for too little gain); about debt slavery, and about the evolution of personal dreams and aspirations. He offers some original insights in an unpretentious way, and I found myself just plain liking the guy.

The book's introduction describes the virtues of building with limited means. I've seen many projects and organizations that had been succeeding on meager financing which, after a big influx of cash, suddenly lost focus or drowned in frivolities, and the Elpels' house building was no different. Tom writes that if they'd had all the money together at once the house would have cost twice as much, but each time their cash ran out they simply became more resourceful. The cashless intervals allowed them to meditate on the design, and to fit the project to available materials instead of buying expensive ready-mades that they could have built themselves.

The personal story is just a small part of the book, however. This is a practical guide to appropriate house construction. It details the particular methods Tom used, but offers data and advice on many other options. Elpel explored several styles of house construction, and settled on one well-suited to the materials available in his part of Montana. His house consists of a slip-formed stone-and-concrete lower story, a logwork upper story with metal roof, and a log-framed greenhouse. It sits on a concrete slab left by the previous owner. This 30' x 95' slab allowed Tom and Renee to draw full-scale mockups of various wall schemes until arriving at one they liked; another advantage of the go-slowly strategy.

The book is organized in five sections. The first, "Dreams, Goals, and Ecology" offers a look at contemporary homesteading, site assessment, goal defining, and disaster prevention. This last is a welcome addition: If a well-built house will last several hundred years, those catastrophes that only occur rarely are virtually inevitable, and it's wise to design for them.

The second section, "Principles of Energy Efficiency" provides a streamlined introduction to the physics and economics of energy-wise design, and a handy overview of insulation, thermal mass, and passive and active solar air and water heating. Here and throughout the book, Tom makes it clear when he is reporting from experience, or when he is simply compiling information for the sake of completeness. I was pleased that he lacks the typical male's need to sound like he's done everything, and appreciated his careful use of wordings such as "reports say" or "the makers claim" when not describing firsthand use.

Part three, "Water Supply and Management" is a brief look at rainwater catchment and conservation, with somewhat less cursory coverage of greywater and septic systems. This chapter serves mainly to introduce readers to water systems less familiar than wells and sewers, and doesn't offer enough detail to construct them. Permaculturists will be acquainted with this material.

The fourth section dives in deeper, as its title suggests: "The Nuts and Bolts of Home-Building." Tom describes basic excavation and surveying, footing and foundation techniques, and concrete work. He gives a detailed look at slip-forming stone walls based on the techniques of Scott and Helen Nearing, walking the reader through the construction of his own house. He also covers a new method of building "tilt-up" masonry walls in which, as in stick-frame construction, the walls are built flat on the ground and then lifted into place. But here we're not talking about a couple of beefy guys levering two-by-six framing into place—tilt-up masonry walls require a crane and great caution. Tom explored this system with the possibility in mind of mass-producing stone-walled houses.

This section also presents log-building basics for "builders with little time or experience," strawbale construction, roofing, and windows and doors. Elpel's experience and ingenuity provides the reader with plenty of advice and time-saving tips.

The final section, "Finishing the Interior" covers heating, flooring, walls, plumbing, and wiring. Tom offers a close look at masonry stove-building, with detailed drawings of firebox construction to aid the builder. One of the most intriguing systems in the book was that of "terra tiles," home-made floor tiles from sand, cement, earth, and coloring. This mix is troweled down in place, stamped with a mold into individual tiles, and grouted. From the photos, the result seems indistinguishable from a hand-laid tile floor, yet far cheaper and with vastly less embedded energy.

This self-published book is of far higher production quality than most of that breed. The photos are clear, as are most drawings, though the latter derive from many sources so the resulting multiplicity of styles was sometimes discordant. The book is valuable not just for its technical information, but also for providing the reader with the chance to learn from a clever and likable builder through the many-faceted process of building a family home. *Living Homes* and Elpel's other books can be ordered from HOPS Press, PO Box 697, Pony, MT 59747-0697, or www.hollowtop.com Δ

. . . from the Regions

Replacing Chemicals with Biofertilizers

Rosemary Morrow

While in Viet Nam in February and March of 1999, I met a woman scientist, Dr. Nguyen Thanh Hien, the head of the Biofertilizer Laboratory in the Faculty of Biology at the National University of Science in Hanoi. Dr. Hien started discussing biofertilizers, and I quickly realized that I did not have a clear idea of what a biofertilizer was. I guessed that it was a living form of fertilizer similar to those that live symbiotically with roots of some plants such as legumes and casuarina. Dr. Hien explained that biofertilizers consist of a soil micro-organism and its growing medium. Biofertilizers work by breaking down large organic molecules into those able to be dissolved and absorbed by the plant root. Dr. Hien's laboratory has isolated and grown a range of micro-organisms which increase the amount of nitrogen in the soil.

The research began by isolating nitrogen fixing bacteria strains from the rice fields around Hanoi, selecting the best strains, then determining the best growing medium. The technology was then developed for the production of concentrated quantities. Materials for the nitrogen biofertilizer medium are easy to find in the countryside around Hanoi and consist of peat (often coconut fiber), rice husks, a little sugar and the organism that has been grown in the laboratory. The energy required for the production of biofertilizer is negligible compared to the production of say, urea.

The technology is simple and is easily be transferred to farmers and gardeners who can control it. For example, close to Hanoi, the Bavi Women's Union has been trained to produce the biofertilizer. The women had one workshop each year for three years and learned to make the biofertilizer and, to improve their field management practices, such as compost making, to enhance the effects of the biofertilizer. From one kilogram of primary biofertilizer (grown in and supplied by the laboratory) farmers can produce 64 kilograms of field biofertilizer after a two day incubation period. Each workshop produced 20-30 tonnes/day with simple tools. The final price of the biofertilizer was 200-300 Vietnamese dong/kg (about 32 cents)

Vietnamese scientists have considerable are researching biofertilizers while Australians and others are tapping into this research and expanding it. The creative and innovative work is Vietnamese while others are providing additional funding and research.

Biofertilizers have enormous potential to replace chemical fertilizers and increase crop yields, improve soil texture, improve plant health, repair soil structure, increase the soil's water holding capacity, and provide better soil buffering of acidity and alkalinity. All this with no pollution. Good management practices can provide some of the answers to feeding the world's population through this century.

"Farmers can make biofertilizer themselves and thus become self-reliant"

Dr. Hien and her fellow researchers impart good soil management practices while teaching how to make biofertilizer. Their soil management palette of knowledge and skills is based on knowing about, and maintaining soils high in humus, the complex organic matter, so crucial for biological and chemical soil stability; protecting the soil from contamination with toxic residues (primarily pesticides but also biohazardous industrial or domestic wastes such as heavy metals); conserving soil biodiversity; and quantitatively balancing the nutrients supplied to the soil from plants, animals, micro-organisms, solutions(liquid), biofertilizer and green manures.

Farmers who have become dependent on chemical fertilizers such as urea, at first substitute biofertilizer for urea and in subsequent years completely replace the chemicals.

Results from field trials show that biofertilizer together with compost applications gave significant yields increases above the biofertilizer alone, and better than chemical NPK applications. The value of biofertilizers are that:

- Farmers can make biofertilizer themselves and thus become self-reliant.
- It is very much cheaper than urea.
- It encourages good soil conservation and management practices.
- It has regenerated exhausted soils.
- It is environmentally benign as the organism does not move from the rhizosphere (root zone) while chemical nitrates are often pollutants moving into soil, underground, and surface water

Australian scientists concur with Dr. Hien that the nitrogen fixing micro-organism may be of the genera *Azospirillum* which shows a broad range of activity such as producing the natural plant growth promoter, indole acetic acid (IAA), in addition to nitrogen fixing.

Nitrogen biofertilizer:

- Improves biodiversity in cultivated soils by increasing the populations of naturally occurring groups of soil micro-organisms.
- Replaces 50-100% of inorganic nitrogen
- Increases yields
- Improves plant health and reduces pests and diseases
- Improves soil fertility
- Decreases nitrate levels in products grown with Bio-fertilisers.

Dr. Hien and her colleagues are also working on Bio-fertilisers which reduce low phosphate soils (due to phosphate insolubility, a common cause of soil acidity) and produce soils with reasonable soluble phosphate levels, by isolating soil bacteria, particularly those belonging to genera *Pseudomonas* and *Bacillus* and, in fungi belonging to the genera *Penicillium* and *Aspergillus* which possess the ability to turn insoluble soil phosphate into soluble forms by secreting organic acids. The organisms are known as phosphate solubilizing micro-organisms.

Wherever farmers hear of biofertilizers they ask for them. Watch for future articles in papers, journals and magazines on biofertilizer, because I feel this technology and approach may contain the answers to soil restoration possible on a large scale, done by ordinary people and controlled by them. Δ

Credit Union Wants Your Money

The Permaculture Credit Union office is open and is accepting savings and term deposits, no checking accounts. The Credit Union has close to $500,000 on deposit after 8 months and needs to bring share deposits to $1,000,000 to be able to offer more services to the permaculture community. The PCU is just starting to make loans to its members. You now can support a Credit Union guided by permaculture ethics. Let them hear from you. Δ

Permaculture Credit Union
4250 Cerrillo Road
Santa Fe , NM 87505 (505) 954-3479 fax (505) 424-1624 perma@pcuonline.org
http://www.pcuonline.org/

Report from the Field

Three Days on Coyote's Experimental Farm

Coyote Journal

TODAY IS THE DAY I know of a certainty that I have joined the ranks of farmers. It is a nasty, rainy day and I am wandering about the house forlornly, trying to find something useful to do. "Too wet to plow" is the popular phrase.

In the late 1970s my husband and I worked on a peach farm in central Georgia. For years after we had left there, every time it rained in the daytime I would catch myself listening for the sound of his car coming into the driveway.

Its not that we don't appreciate rain, especially now, when Georgia is three years into a draught. We've had a wet spring and we are thrilled to see West Point Lake full of water and tourists, instead of looking like a mud flat.

But pity the farmer who wants to dig in the dirt. Somehow those times when you're up to your elbows in topsoil and your shoes are clunky with three times their own weight in packed-on mud and the air is a rich with a complex perfume of earth smells... those are the times you that you totally forget yourself and you just belong right where you are.

The rain didn't shut me in entirely. I went out and walked the property "surveying the land," checking out the flow of the rainwater. Where it runs. Where it stands. Where it creates little islands of perfect moisture and drainage.

Sad to note, the patch out by the brush fence, where I had thought to plant the gourds, is deep in standing water, just as it always is when it rains. The gourds are not going to be happy there.

Today I am back at the word processor, but not because it is raining and I need something to do. It is noon, I have been up since a little after six AM and I have already spent six hours digging, planting, watering, surveying and clearing.

Part of that time went into stripping the wisteria root from a patch of ground that I am trying to clear for vegetables The wisteria has been growing there unhampered for nearly five years and has invaded everything. It is choking out the woods next to the yard and is sprouting in the dark of the crawl space under the house. In the woods all I can do is saw through the massive vines that hang down from the trees and let the vines die. But I want to reclaim the ground near the house, and that means chopping out a network of criss-crossing roots. They run an inch or two under the ground, parallel to the surface, and are intertangled with one another.

So, six hours into this beautiful, sunny day, I am fresh out of the bath, sitting on the back porch, which is walled around with glass windows and filled with a rambling garden in pots... and I am writing stories. If my back were not sore I would think I had gone to heaven.

Coyote's experimental station has been busy fermenting weeds. This comes from a cross between Bill Mollison's book, *Ferment and Human Nutrition,* on fermentation processes, and another small book about weeds and their soil preferences. Mollison gives a recipe for fermenting weeds in a tank of water (I've been using 1/2 gallon of weeds to a five-gallon bucket of water) for three to five days and then diluting the liquid to about 1/3 or 1/4 strength and pouring it onto the plants. The weed book mentions that certain plants pull particular nutrients from the soil and therefore could be thrown into the compost pile to boost its nutrient value.

The result is that after I finished cutting the overgrown areas of what is supposed to be a lawn, I collected a variety of the weeds that are supposed to be full of nutrients—vetch, plantains, dandelions—and dumped them into a bucket. They fermented and soured a bit, even producing some bubbles. Then I diluted the stuff and watered the plants. It seems to have worked a little *too* well, as the plants got to looking a bit burnt. I will be trying again, but I'll water down the mix a lot more. That's one big problem with home recipes: They're not in standardized strengths, so you might have to do a lot of tinkering to get them right. I would think practice would help.

Just guessing, but I'm thinking that there might be practical reasons for picking and choosing what you pour on what. Try not to put rotten plants onto related species of veggies. Don't pour dead vetch onto your peas, don't pour dead horse-nettle onto your tomatoes, don't pour dead daisies onto your sunflowers. Now, that's just a guess. Anyone who knows more about this is invited to send a letter or clippings or whatever to Coyote's Journal at the address below. Δ

Reprinted from Coyote's Journal, a networking newsletter published by the Crystal Rain Agency, POB 792, Franklin, GA 30217. Issues are available in hard copy for $1.00 plus SASE. Coyote is interested in street politics, activism, right wing, left wing, survivalism, herbalism, nationalism (White, Black, Native American, Puerto Rican, etc.), primitive technology, animal rights, human rights, constitutional rights, indy-media, religion, permaculture, radical agriculture, GMOs, globalization, etc.

South American Permaculture Network Is Growing

Gustavo Ramirez

From March 27th to April 2nd, 2000 permaculturists from various countries throughout South and Central America gathered at Gaia Ecovillage project in Argentina to hold the first Latin American Permaculture Conference.

The event rapidly turned into a celebration of information, inspiration, and sharing. The exchange of experiences of so many great projects all through our continent was made in a profound and friendly atmosphere. This conference have had a beautiful blend of formal information sharing, practical demonstrations and free time for participants to share and exchange ideas.

Based on this sense of family we experienced, we decided to form a network of support, founded on openness, trust and free interchange of ideas and information that characterized the whole event. And so, RAPEL -Red de Apoyo de Permacultura Latinoamericana-the support network of Latin American Permaculture was born!

On the last day of the conference the Brazilian group offer to organize the 2nd Latin American Congress in their country, which will run from September 24-28, 2001, in Vale de Capao, Chapada de Diamantina, Bahia, Brazil. Three related communities in the area will be hosting the next one. It will be a great event, not to be missed by anyone interested in or working in permaculture on this continent. Δ

www.ecolinkvillage.net/permacultura or
Hugo Leonardo hugoastro@terra.com.br

Networks and Resources

Innovations for a Wiser Democracy

Tom Atlee

On my emailing list (see below) I've written about the state of the world recently, and a number of people have asked me what they should do about it. There are so many places to start, so much that needs doing, and the whole thing is so interconnected that any action could assist or undermine any other action. We can't predict what will happen and we certainly can't control it.

But I was a linear, strategic activist-philosopher for so many years that I still ask: What parts of a problem or system can we influence that will produce the most fruitful results?

Some people and see corporations as the leverage point. Some people see patriarchal forms of power (power-over rather than power with). Some see old cultural assumptions and paradigms. Some see spiritual shortcomings of various sorts. I believe all of these can be fruitful realms for activism (See Donella Meadows "Places to Intervene in a System" http://www.wholeearthmag.com/ArticleBin/109.html for more thoughts on this).

Given who I am, what I see upstream is a social system that acts like a vast deranged individual. This giant human organism we call society can't clearly see what is happening around it, and neither can it grasp its serious internal problems very well. It can't think straight or feel deeply. Its mind and body have been taken over by parasites and cancers that are forcing it to do their bidding, and are consuming it from the inside. It is truly in a mess—about as far from a sane, wise, intelligent, healthy living being as one can get. It is barging through the world, damaging itself and creating disasters, right and left. Many of us who think of ourselves as activists or agents of healing or transformation leap around, grabbing at these disasters—dying ecosystems, homeless people, bioengineered organisms, violated civil rights, childhood crimes, wars, injustices, and on and on—instead of focusing on making the social organism sane, wise, intelligent and healthy.

I can't say that all those problems don't need to be addressed. They do, and soon. But it seems to me that our deranged society's ability generate new problems and greater suffering *far exceeds our ability to deal with those growing problems as s*eparate issues.

When you can't move a boulder directly, you need leverage. When we can't solve a problem downstream, we need to move upstream.

My own specialty has been researching upstream levers that would increase our society's co-intelligence. I'm talking about our society's capacity to see what's going on in and around it, to reflect sensibly on what it sees, to come to wise conclusions about what it should do; and then to act coherently to make things better.

But maybe you don't like thinking of our society as one big organism. You'd rather think of it as a bunch of people with a government. In that case we wouldn't talk about co-intelligence. We'd talk about a bunch of citizens who need a new, wiser form of democracy. So we might ask ourselves: "How might we set things up so that ordinary citizens could effectively and wisely guide the course of their society in this new challenging century?"

I have some answers to that question. They definitely aren't the only answers, and they probably aren't the best answers. But they could take us quite far. So I've pulled the best of them together into a **draft platform of Innovations for a Wiser Democracy**.

There's an outline below that you can scan through. If anything appeals to you, you can follow the relevant URLs below, or check out the full Draft Platform at <http://www.democracyinnovations.org/draftPlatform.html>, which includes brief descriptions of each item in the outline.

By all means, if you have ideas for higher-leverage actions than these, do send them to me with a statement of why you think they're more powerful. I'll revise the list after I get some responses.

And don't forget: This "platform" is my answer to the question, "What can I do?" I hope it helps.

Section One: Citizen Deliberative Councils. With the help of good information and powerful forms of conversation, ordinary citizens can come up with brilliant solutions and wise understandings. Establishing such councils can provide a breakthrough for democracy, ending corporate manipulation and citizen ignorance in one stroke. Three particularly interesting forms are:
Wisdom Councils: http://www.co-intelligence.org/P-wisdomcouncil.html
Danish Citizen Technology Panels: http://www.co-intelligence.org/P-DanishTechPanels.html
Philadelphia II/Direct Democracy: http://www.co-intelligence.org/CIPol_p2dd.html

Section Two: Wise Guiding Lights. Citizens need wise perspectives to help them make wise decisions. These include:
Quality of Life Statistics: http://www.co-intelligence.org/P-qualtylifeindicators.html
The Earth Charter: http://www.earthcharter.org/draft/charter.htm
The Natural Step: http://www.naturalstep.org/
The Precautionary Principle: http://www.sehn.org/precaution.html
Towards a Global Ethic: http://www.cpwr.org/calldocs/EthicTOC.html

Section Three: Common Sense Election Reform. Among the most promising initiatives are: A Voter's Bill of Rights: http://www.ippn.org/BofR.htm
Instant Runoff Voting: http://www.fairvote.org/irv/index.html
Clean money elections/campaign finance reform: http://www.publicampaign.org/ http://www.destinationdemocracy.org/
Plan for a Healthy Democracy: http://www.healthydemocracy.org/
Project Vote Smart: http://www.vote-smart.org

Section Four: Reduced Global Corporate Influence. Here are some promising initiatives:
WTO—Shrink or Sink: The Turn-Around Agenda: http://www.citizen.org/pctrade/gattwto/ShrinkSink/shrinksink.htm
World Democracy Campaign: http://www.worldcitizen.org/ [although we think citizen deliberative panels might be more effective than a globally-elected legislature]
A Global Tobin Tax: http://www.ceedweb.org/iirp/
The Simultaneous Policy: http://www.simpol.org/

Section Five: Enhanced self-organization for grassroots movements. Within grassroots groups, and among them (in coalitions), and among the public who are discussing our issues, and in the democratic culture within which we work, we can organize powerful conversations with powerful processes such as dynamic facilitation, listening circles and open space conferences, as well as dialogue, world cafe, consensus process, nonviolent communication, study circles, future search conferences, listening projects, and strategic questioning.
http://www.co-intelligence.org/P-dynamicfacilitation.html
http://www.co-intelligence.org/P-listeningcircles.html
http://www.co-intelligence.org/P-

worldcafe.html http://www.co-intelligence.org/P-consensus.html, http://www.co-intelligence.org/P-nonviolentcomm.html, http://www.co-intelligence.org/P-studycircles.html, http://www.co-intelligence.org/P-futuresearch.html, http://www.co-intelligence.org/P-listeningpjts.html, http://www.co-intelligence.org/P-strategicQing.html

We can nurture a non-oppressive sense of our common identity, perhaps as "Cultural Creatives:" http://www.culturalcreatives.org/

We need to reconfigure transformational philanthropy. See http://www.thirdworldtraveler.com/Democracy/ConservThinkTanks.html for how conservative foundations changed America. Treat leading-edge transformational initiatives the way high-risk, high-gain venture capitalists treat innovative companies. Use powerful conversations (above) to explore new ways to do philanthropy. Contact cii@igc.org if you have ideas or energy for this.

There's a lot here, but it is only a tiny piece of what could be done and what is already being done (see, for example, http://www.democracyinnovations.org/). It is my sense that this is the cream of the crop. If you have wondered "What should I do?", then pick something here that you believe in, and run with it.

Taking time away from other issues to work on this is like getting out of our cars to remove obstacles from the road. The roadway of democracy is littered with junk. It's time for some of us to get out of our cars (or off of our bicycles), and clear the road. Once the road is cleared, all of us will get where we want to go much faster and easier than we ever dreamed possible. Δ

Tom Atlee runs the Co-Intelligence Institute, PO Box 493, Eugene, OR 97440

*http://www.co-intelligence.org * http://www.democracyinnovations.org * http://www.co-intelligence.org/CIPol_Index.html*

The EarthHome Centre

Bob Ewing

BUILD IT and they will come. This sentence holds great hope, and it did underscore an endearing movie. I found out, however, that it doesn't apply to the world wide web. It takes more than just creating a web site to get people excited about your ideas. A web site can't hurt, but if you want people to buy into your dreams, you have to sit down and talk with them.

When I first decided to make the commitment to EarthHome Centre, an acquaintance created the web site, and the Turtle Island Institute offered to host it. I emailed the web site to everyone I knew but got little feedback. It wasn't until I attended a meeting of the local Green Party and asked that EarthHome be put on the agenda that things started happening. Talk is what brought the EarthHome Centre to life. Face-to-face meetings, long conversations over coffee or during lunch breaks at workshops, seminars, and other community gatherings made the difference.

Permaculture is an ethically-based design system. The ability to meet your own needs while meeting the needs of future generations is a central permaculture ethic. Any system that is able to meet its own needs as well as the needs of future generations is sustainable. I was surfing the web, looking for way to demonstrate this definition of sustainable living when I came across the alternate-culture mailing list. Since then the web and email have played an important role in conducting those significant discussions .

Email is an excellent tool for sharing information, thoughts and setting up meetings. You can forward minutes, co-author reports, and people who can't make a meeting can still ask questions, make comments and report back to the group. You do need someone to act as a facilitator in order to make this work. Email also allows you to send an information package to potential partners. I forwarded EarthHome's mission statement and objectives (see accompanying sidebar) to anyone who showed even the slightest interest.

It is often said we live in an information age. There is truth in this. Although, I sense it is a media age more than an information one. People have always needed information. The problem has been where to find facts you can trust. Advertising and propaganda are everywhere. Much of what passes for information is presented by corporate entities which own and control the information flow through television, radio, film and increasingly the Internet. Anyone who wants to know what is actually happening is faced with a daunting task. One of the features of EarthHome will be a resource center which will house accurate and timely information concerning the major social, political and environmental challenges that confront humanity today.

Current data on, for example, global warming, the destruction of coral reefs and rainforests, genetic engineering, urban sprawl, and habitat destruction will be collected and made available to the community. This information is essential if we are going to be able to develop the appropriate, sustainable responses to these challenges. The resource centre will be available to anyone who is interested in discovering what the major problems and challenges that confront us today are and what each of us can do, both individually and collectively.

In addition, to the Resource Library, the Centre will offer introduction to permaculture workshops, as well as workshops on topics such as, alternative energy, natural building, organic gardening, seed saving, the identification and use of native plants, alternative economy , alternative transportation, right livelihood and green business planning. This way people will be able to develop the skills and the ethical foundation they need to do the tasks which must be done if we are to build a healthy community.

Thunder Bay is located on the shores of Lake Superior, the world's largest fresh water lake. A waterfront location would be an ideal place to situate the Centre, but the city's plans for a mega-project there make this a most unlikely option. Alternatively, a vacant schoolyard would make an excellent choice with the existing building incorporated into the overall design. Or if the existing building is not structurally sound then a new one that incorporates passive solar and/or other ecologically appropriate materials will be built. We have been meeting with city and school board officials in order to negotiate the purchase of one of several closed schools within the city limits. This is a lengthy process but progress is being made. Our use of email has made it possible for us to reach out and inform people about what we want to do and gather needed support. There is still much that needs doing but we are headed in the right direction.

We have formed a Board of Directors and begun the process of incorporating as a not-for-profit organization. We need to continue our dialogue with the community and one way that has been chosen to accomplish this is by hosting a fall—most likely September—conference. The working theme is "Mining The Waste Stream: On the Road to Sustainability." The conference will allow us to bring together people who share similar concerns and provide a space where we can talk with each other and raise the questions and concerns we have in common while offering a viable solution. Δ

Four Frogs Permaculture Design
224 Red River Rd, #24046
Thunder Bay, ON P7A 1B6
807-344-9864
fourfrogs@visto.com

EVENTS

6th Annual Online

Permaculture Design Course

Dates: Oct. 14, 2001
Description: Elfin Permaculture's sixth annual online design course runs about six months and includes reading from texts, weekly posts of lectures sent via email, email discussion of course topics, and a set of student reports, including a full permaculture design report from all certificate candidates.
Instructors: Dan and Cynthia Hemenway, Willem Smuts, Tim Packer
Contact: http://barkingfrogspc.tripod.com/frames.html
BarkingFrogsPC@aol.com

Traditional and Experimental Building in Mexico
Tlaxco, Mexico

Dates: July 22-August 4
Location: Tlaxco, Mexico
Description: A 14-day study tour and intensive course focussing on tools for managing home, family, agriculture and ecology. Participants will learn building skills, and will cover recent developments in cob, strawbale, adobe, rammed earth, and bamboo. Knowledge of Spanish is valuable but not essential, as course will be translated.
Instructors: Alejandro Caballero, Paco Gomez, and Ianto Evans
Cost: $1200
Contact: see next listing

Sustainable Rural Development and Natural Building
Tlaxco, Mexico

Dates: Nov. 25-Dec. 8, 2001
Location: Tlaxco, Mexico
Description: A 14-day study tour and intensive course to explore principles of ecology, natural resources, local materials, and skills, and how they create an architecture. Participants will learn building skills, and will cover recent developments in cob, strawbale, adobe, rammed earth, and bamboo. Knowledge of Spanish is valuable but not essential.
Instructors: Alejandro Caballero, Paco Gomez, and Ianto Evans
Cost: $1200
Contact: Ianto Evans/Zopilote
PO Box 123
Cottage Grove, OR 97424
541-942-2005

Intensive Studio in Planning and Design
Vermont

Dates: August 3-12
Description: In this program, a small group of returning students will work as a team on a single major project, offering participants an opportunity for more advanced and concentrated learning. The focus will be on the further development of the designs for campus renovation and additions, particularly with respect to the ISE's needs for cooking and dining facilities, meeting spaces, and housing. Students will choose and evaluate building systems, develop construction drawings, and design the many details that are a part of a major project. Work may include engineering, estimating, and similar technical skills. A building project and gardening activities will also be available. Students must have completed the Sustainable Design, Building, and Land Use program offered each summer by the ISE.
Contact: 802-454-8493
http://www.social-ecology.org

Northern Nut Growers Annual Meeting
Upstate New York

Dates: August 5-8
Location: Ithaca, NY
Description: The Northern Nut Growers Association will hold its Annual Meeting at Cornell University at Ithaca, NY, from. Nut growers from the U.S., Canada, and several other countries will assemble to share ideas and sample nuts. There will be a forum headed by experts on the major nut crops and a chance to meet with commercial growers and nurserymen. Nathan L. Rudgers, the Commissioner of New York State Department of Agriculture and Marketing will be the banquet speaker. For a list of speakers, topics and trips, please see our website www.icserv.com/nnga/
Contact: Jerry Henkin
501 Riverdale Avenue (4J)
Yonkers, NY 10705
914-423 -7458
sproutnut@aol.com

Visit our Website:
http://www.permacultureactivist.net
email:
pcactiv@metalab.unc.edu

Permaculture and Village Design
Blue Ridge Mountains, NC
Village Living Residency

Dates: July 6-August 18
Location: Black Mountain, NC
Description: A six-week program including full permaculture design course certification. Additional workshops, hands-on project experience, mentoring, ecovillage immersion, and other opportunities.
Instructors: Peter Bane, Chuck Marsh, Patricia Allison, Keith Johnson, Andrew Goodheart Brown, Shawn Sudhangshu Swartz, and Earthaven Ecovillage members.
Cost: $2000 includes tuition, materials, meals, and camping
Contact: Culture's Edge
1025 Camp Elliott Rd.
Black Mountain, NC 28711
828-669-3937
culturesedge@earthaven.org
www.earthaven.org

Fundamentals of Permaculture

Dates: July 6-14
Location: Black Mountain, NC
Description: Eight-day intensive introduction to principles and practices of permaculture in a community setting at Earthaven Ecovillage. First part of the certificate curriculum in permaculture design. Natural systems, the built environment, observation and design skills, cultivated ecosystems.
Instructors: Peter Bane, Patricia Allison, Andrew Goodheart Brown, guests
Cost: $600 includes tuition, materials, meals, and camping.

Village Design Practicum

Dates: August 10-18
Location: Black Mountain, NC
Description: Eight-day intensive practice in permaculture design for a developing ecovillage community: social design, governance, infrastructure, land use, water, waste & energy, presentations and costing; mapping & surveying. Presented by the Southeast's finest design team. Second part of the certificate curriculum in permaculture design. Prior training in permaculture is a requirement.
Instructors: Chuck Marsh, Keith Johnson, Peter Bane, guests
Cost: $600 includes tuition, materials, meals, and camping.

Permaculture Design Course
Shreveport, Louisiana

Dates: July 21-August 5
Description: A certificate course taught by internationally known teacher Jeff Lawton at a former ammunition plant that is being redesigned as a demonstration of sustainable agriculture and appropriate technology.
Instructors: Jeff Lawton
Cost: TBA
Contact: Vic Guadagno
Northwest Louisiana
Commerce Center
102 Louisiana Blvd
Minden, LA 71055
877-459-5875.

Permaculture, Natural Building & Ecovillage Design
Middle Tennessee Permaculture Practicum

Dates: July 13-21
Description: The Permaculture Design Course admits PC Fundamentals graduates for the second half of the certification process. You must have taken the Fundamentals Course as a prerequisite.
Instructors: Morag Gamble and Evan Raymond of Sustainable Futures, Australia, with Albert Bates, Patricia Allison, Sizwe Herring.
Cost: $600 incl. meals & lodging
Contact: ecovillage@thefarm.org.
EcovillageTraining Center,
P.O. Box 90
Summertown TN, 38483.
931-964-4475, fx/-2200
http://www.thefarm.org/et

Natural Buildings Immersion

Dates: August 2-12
Description: The 10-day Joe Kennedy intensive. Wattle and daub. Mud and stone. Turf and timber. Build with straw, cob, earthbags, wood and other natural materials. Architect and engineer Joe Kennedy has given this course in 12 countries. Assisting: Howard Switzer, Albert Bates.
Cost: $800 incl. meals & lodging

Ecovillage Design

Dates: Oct 17-21
Description: Site selection, design for Ecovillages, consensus and conflict resolution, financial aspects, work issues, best practices. Live and work in an ecovillage for a week and get a sense of the issues.
Instructors: Greg Ramsey, Albert Bates
Cost: $500 incl. meals & lodging

Permaculture Design Course
Orcas Island, Washington

Dates: July 20-August10
Location: Orcas Island, WA
Description: A three-week certificate course on the Bullock Brothers' 18-year-old permaculture farm. Participants will learn design methodologies, observation skills, food forest and orchard design and operation, natural building techniques, and more.
Instructors: Douglas Bullock and guests
Cost: $1450 (includes meals, camping space, materials, and certification. Limited scholarships available.
Contact: Yuriko Bullock
PO Box 107
Deer Harbor, WA 98243
bullock_orcas@hotmail.com
360-376-6601

11th Annual
Permaculture Design Course
Western Oregon

Dates: December 2-15, 2001
Location: Dexter, OR
Description: This certification course will include hands-on projects, lectures, discussions, slide shows, field trips and design projects. Topics will include permaculture philosophy and methodology, observation skills and site analysis, ponds and keyline systems, soil building, agroforestry, urban permaculture and village design, etc.
Instructors: Jude Hobbs, Rick Valley, Toby Hemenway, and guests.
Cost: Sliding scale $900-1100,
Contact: Lost Valley Educational Ctr.
81868 Lost Valley Lane
Dexter, OR 97431.
541-937-3351.
info@lostvalley.org

Permaculture Design Course
Seattle, Washington

Dates: July 21-22; August 11-12; September 1-3 & 15-16
Location: Seattle, WA
Description: A four-weekend certification intensive in Sustainable Systems Design for Urban Communities Offered by the Graduate Programs in Environment & Community, Antioch Univ., Seattle www.antiochsea.edu/ec
Cost: $900 (non-students), $1140 (for continuing ed credit)
Instructors: Jonathan Scherch, Mike Broili, and guests
Contact: Dr. Jonathan Scherch
206-268-4710
scherch@antiochsea.edu.

Women's Design Workshop on Self-Reliant Living
Western Washington

Dates: September 7-9
Location: Arlington, Washington
Description: This workshop will to create a comfortable, supportive environment for women to learn permaculture philosophy, principles, and strategies. We will also focus on greywater design and implementation.
Instructors: Jude Hobbs
Cost: $140. Instruction, handouts, food and camping.
Contact: Jude Hobbs
1161 Lincoln St.
Eugene, OR 97401
541-342-1160
hobbsj@efn.org

Permaculture Teacher Training
Southern Oregon

Dates: July 28-August 3
Location: Glendale, Oregon
Description: Design course graduates will learn a whole-systems approach to teaching permaculture with a focus on team teaching Topics include: course promotion and set-up, learning styles, facilitation, time and participant management, organizing and presenting modules, and tricks of the trade. PDC graduates will receive a Teacher Training Certificate.
Instructors: Jude Hobbs and Tom Ward
Cost: $515 if registered by July 13 or $565 (includes tuition, handouts, camping and meals. $20 Carpool refund).
Contact: Heather Coburn
541-484-7365
foodnotlawns@yahoo.com

Keyline Water Management
Southern Oregon

Dates: August 10-20
Location: Williams, OR
Description: A ten-day intensive for PDC graduates to further develop assessment and planning skills, and keyline concepts. Participate in a "real life" permaculture retrofit of a homestead, and learn drought-proofing, water catchment and distribution, pond placement, ditch layout, and efficient flood irrigation systems.
Instructors: Tom Ward, Randy Carey
Cost: $1100
Contact: Seven Seeds Farm
3220 East Fork Rd
Williams, OR 97544
sevenseeds@hotmail.com
541-846-9233

Permaculture Design Series Central California

Dates: July 21-22, 28-29, August 11-12,18-19, September 1-2, 8-9
Location: Central California
Description: Through both instructor presentations and hands-on projects, students in this 12 session series will learn to interpret patterns in nature and to apply them with insight and creativity at home, at work and in their communities. This course will benefit all people interested in sustainable living practices.
Instructors: Larry Santoyo and guests.
Cost: Series, $480 or per class, $50.
Contact: Cal Poly State University Extended Education office 805-756-2053.

Permaculture Design Course Sonoma County, California

Dates: September 15-28
Location: Occidental, CA
Description: In this two-week certification course, participants will learn how to design systems for sustainable, regenerative living. Hands-on topics include: permaculture principles, on-site water development, erosion control, forest farming, organic gardening, plant guilds, alternative building materials, community economics, and much more.
Instructors: Penny Livingston, and Brock Dolman
Cost: $1,050, residential with meals
Contact: Occidental Arts & Ecology 15290 Coleman Valley Rd. Occidental, CA 95465 707-874-1557, fax/-1558 oaec@oaec.org

Permaculture Design Course Sangre de Christo Mtns, NM

Dates: Aug 4-17
Location: Mora, NM
Description: This is the basic permaculture certification course based on the curriculum of Bill Mollison. It will be held on a five hundred acre property in the Sangre de Christo mountains. This is a beautiful property with many sustainability features already in place, a good place to begin your design process.
Instructor: Scott Pittman, Joshua Smith.
Cost: $950.00 (covers instruction, meals, and campsite)
Contact: Hummingbird Ranch: 877-589-5163 valianr@yahoo.com

Permaculture Institute of Northern California

Brain-Tanning Deer Buckskin

Dates: October 5-10
Location: Northern California
Description: This workshop will teach how to transform a deer hide into soft leather using traditional wet or dry scrape methods. Participants will learn how to clean and skin a deer, select bones and antlers for tools and jewelry, and pit roast venison.
Instructors: Levon Durr and Mary Falkenstein
Cost: $450.00
Contact: Permaculture Institute of Northern California PO Box 341 Pt. Reyes Station, CA 94956 415-663-9090 pinc@svn.net

Plaster and Cob Workshop

Dates: Oct. 27-28
Location: Northern California
Description: Participants will learn how to build garden walls and benches with cob, and learn to make your interior paints and plasters using all non-toxic ingredients. These finishes surpass most commercially available paints and plasters in quality and aesthetics.
Instructor: Penny Livingston-Stark
Cost: $250.00
Contact: Permaculture Institute of Northern California

Pattern and Design Workshop

Dates: Nov. 11-12
Location: Northern California
Description: An introduction to the use of pattern to design harmonious environments. Course will cover functions of patterns, and their use to eliminate, diffuse, or concentrate various forces through application of the appropriate patterns.
Instructors: Richard Feather Anderson and Penny Livingston-Stark
Cost: $300
Contact: Permaculture Institute of Northern

How to Start a Successful Permaculture Design Business

Dates: Nov. 17-18
Location: Northern California
Description: Primarily for Permaculture Design Course graduates who want to develop a business as a permaculture designer. Course will provide advice and guidelines from experienced permaculture designers as well as architects, business consultants, accountants and other professionals. Participants will learn to present a professional design proposal and contract, develop a business plan and learn professional protocol working with clients as well as in interdisciplinary teams.
Instructors: To be announced
Cost: $300
Contact: Permaculture Institute of Northern California

15th Annual

Permaculture Design Course Central Rocky Mountains

Dates: August 20-September 1
Location: Basalt, CO
Description: A full certificate course at a high-altitude demonstration site, one of the most mature forest gardens in North America. Most of the food for the course will come from the site's garden and greenhouses. All elements of the PDC curriculum will be covered.
Instructors: Jerome Osentowski, Peter Bane, John Cruikshank, Toby Hemenway, Neil Leonard, and others
Cost: $850-$1050 sliding scale, $100 couples discount.
Contact: Jerome Osentowski
Central Rocky Mountain Permaculture Institute
PO Box 361, Basalt, CO 81621
970-927-4159 jerome@crmpi.org
www.crmpi.org

Strawbale Carpentry and Construction Workshop Ontario, Canada

Dates: August 22 to 26
Location: Ontario, Canada
Description: A hands-on workshop by the authors of *Strawbale Building* focussing on bottom-to-top carpentry skills from slab preparation and form building to top plate and roof construction as well as strawbale wall-raising and stuccoing. Limit 20 people.
Instructors: Peter Mack, Chris Magwood
Cost: $625 (Canadian)
Contact: Ecology Retreat Centre. Ontario Canada 519-941-4560

Contractor's Strawbale Construction Workshop Ontario, Canada

Dates: October 15-21
Description: A workshop for carpenters and contractors wanting to develop a Strawbale home building business, focussing on developing construction and business expertise specific to eco-home building.
Instructor: Chris Magwood,
Cost: TBA
Contact: Ecology Retreat Centre
RR#1, Orangeville, ON
L9W2Y8 Ontario, Canada
519-941-4560
ecorc@ionsys.com

Fundamentals of Permaculture Design New Brunswick, Canada

Dates: September 1-7
Location: New Brunswick, Canada.
Description: Presented by Falls Brook Centre and the Atlantic Council for International Cooperation. Includes basic permaculture material in workshops and hands-on experience, focussed on developing ecologically and socially friendly designs for sustainable living and strengthening community.
Instructors: Richard Griffith, Dan Earle, and guests.
Costs: Bedroom: $1190CN; Camping:$980CN (includes accommodation, food, instruction, and all materials).
Contact: Sarah Shima
506-375-4795
sarah@fallsbrookcentre.ca
www.fallsbrookcentre.ca
www.acic-caci.org

Permaculture Design Course Hawai'i

Dates: August 1-21
Location: Big Island Hawai'i
Description: This 21-day certification course at La'akea Gardens will cover the core curriculum material with complete design team assignmentsfrom land assessment to design presentation. Plenty of hands-on experience, and field trips to various permaculture sites.
Instructors: Michael Cramer, Don May, and guests
Cost: $1350 includes accommodation in bunkhouse or camping, vegetarian meals, field-trips, course manual and tuition
Contact: 808-965-0178 or programs@permaculture-hawaii.com

Learning and Exploring Sustainable Life Principles Argentina

Dates: November 1-15, 2001
Location: Argentina
Description: This is a basic 15-day program. Asociación Gaia has a library on sustainability related issues, most of which is in English. For the foreign participants, it will be an opportunity to practice Spanish on a daily basis, and to experience the social and cultural Argentine context. Topics include:permaculture principles and ethics, design strategies, forest gardening, windbreaks, seed saving, pond construction and maintenance, natural building, appropriate technologies, wind energy systems, alternative economies, natural cooking, group dynamics, and consensus decision-making, plus community work collaboration (cooking, cleaning, maintenance).
Instructors: Gustavo Ramirez and others
Cost: US$300
Contact: Asociación GAIA
gaia@gaia.org.ar
www.gaia.org.ar
www.gaia.org.ar

Solar/Cultural Workshop Nicaragua

Dates: July 31-August 10
Location: Nicaragua
Description: An 11-day workshop/tour in which participants learn about solar energy systems, study applications specific to Central America, visit renewable energy installations, and install PV lighting systems in a rural village. Includes recreational and cultural activities and excursions. Taught in English (Spanish ability enhances your experience).
Instructors: Dr. Richard Komp, Susan Kinne, and Grupo FENIX
Cost: $850
Contact: Richard J. Komp
RR 2 Box 7751
Jonesport ME 04649
sunwatt@juno.com
207-497-2204
or Barbara Atkinson
lightstream@igc.org.

Ecovillage and Permaculture Design Norway

Dates: July 16-August 6
Location: Solborg Camphill Village, Norway
Description: The first week will be held at the Bridge Building School, a new educational initiative teaching the application of the spiritual relationship between humans and nature. The last two weeks consist of a Summer Work Camp working alongside the people of Solborg Camphill Village. Participants can take either the Design Course or the Summer Work Camp , or the whole program. This course covers permaculture, ecological building techniques, organic agriculture, alternative economics, design systems, spirituality and society, the global ecovillage network, anthroposophy, and the Camphill network. The design course will be in English.
Cost: Design Course $400; Summer Work Camp $50 (includes board and lodging)
Instructor: Jan Martin Bang
Contact: Jan Martin Bang
BROBYGGERSKOLEN Solborg 3520
Jevnaker, Norway.
Tel: **47 32132480
Fax:**47 32132020
brobygg@start.no

REAL FOOD—FOR A CHANGE

by Wayne Roberts, Rod MacRae & Lori Stahlbrand
A witty book of dinner-table economics written by a trio of smart Canadians. Readers will find the links between food, cooking, health, jobs, energy, and the environment illuminating. Making the personal political, REAL FOOD offers an upbeat and comprehensive permaculture guide to design for household and community.
(1999) $15.00, 243 pp. paper.

PERMACULTURE IN A NUTSHELL

by Patrick Whitefield
A back pocket gem, this book draws on the best examples in Britain and elsewhere to show how and why permaculture works. Excellent primer for introducing Permaculture to friends.
2nd ed. (1997) $9.00, 80 pp. paper. illus.

STRAWBALE BUILDING
How to Plan, Design, and Build with Straw

by Chris Magwood and Peter Mack, Two of Canada's leading strawbale builders have but together this clear and well-illustrated guide to building with bales. All you'll need to know about foundations, roofs, wall ties, plasters, waterproofing, and how to avoid problems.
(1998) $25.00, 256 pp. paper. illus.

THE COBBER'S COMPANION
How to Build Your Own Earthen Home

by Michael G. Smith
A practical and clearly written guide to building with cob, or lumps of earth and straw; with charming illustrations and *joie de vivre* throughout. Covers soil composition, site work, materials, foundations, technique, sculpture, roofing, floors, finishes, tools.
2nd ed. (1998) $22.00, 134 pp. paper. illus.

SEED TO SEED
Seed Saving Techniques for the Vegetable Gardener

by Suzanne Ashworth
The best single-volume guide to saving our vegetable heritage. Discusses techniques and references botanical classification, pollination, crossing and isolation, seed production, harvest, processing, and viability for more than 150 Common vegetables and herbs.
(1991) $20.00, 222 pp. paper. illus.

THE LIFE OF AN OAK
An Intimate Portrait

by Glenn Keator, artwork by Susan Bazell
An excellent introduction not only to oaks, but to tree botany, evolutionary biology, ecology, and biogeography; plus useful insights into insects, fungi, and more. Clearly written, beautifully illustrated.
(1998) $18.00, 256 pp. paper. illus. color photos.

Books from The Permaculture Activist

INTRODUCTION TO PERMACULTURE

by Bill Mollison with Reny Mia Slay
The basic argument for permanent agriculture: how to feed and house yourself in any climate with least use of land, energy, and repetitive labor.
2nd ed. (1947) $20.00, 216 pp. paper. illus.

PERMACULTURE
A Designer's Manual

by Bill Mollison
A global sourcebook for creating cultivated ecosystems in all landforms and climates. Lucid illustrations by Andrew Jeeves bring Mollison's concepts to life. Offers essential, in-depth treatment of earth repair and practical design.
(1990) $50.00, 576 pp. hardcover. 450 illustrations & 130 color photos.

CREATING HARMONY
Conflict Resolution in Community

edited by Hildur Jackson
With contributions from England, France, denmark, INdia, Germany, U.S.A., Australia, and New Zealand this marvellous collection will soon become the community organizer's best friend. Hard-won and brilliant insights to the largely undocumented process of self-governance. A practical sociology of the ecovillage movement.
(1999) $30.00, 269 pp. paper. illus.

VILLAGE WISDOM / FUTURE CITIES
The 3rd International Ecocity and Ecovillage Conference

edited by Richard Register and Brady Peeks
Advanced thinking on agriculture, housing, wastewater, technology, women's issues, and more. Balances cutting edge theory with living examples from many cultures and perspectives. Expand your concept of what's possible for human settlements.
(1997) $16.00, 227 pp. paper. illus.

FOREST GARDENING

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(1885) $20.00, 620 pp. paper. illus.

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(1996) $25.00, 196 pp. paper. illus. 8 color plates.

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Earth User's Guide to Permaculture
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by Rosemary Morrow
This essential guide supplies overview, learning objectives, suggested graphics, syllabus content, activities, resources, and references for 40 subjects from ethics, ecology, and climate through creative problem solving, bioregions, and suburban permaculture.
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by Jean Giono
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Spec. ed. (1985) $9.00, 80 pp. paper. illus.

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edited by Doug Aberley
Mapping is the first step toward reclaiming the territory. How to envision the landscape of home: 19 passionate essays on bioregional mapping, theory and examples from city and country, USA Canada, Britain. Info on GIS, resource assessments, review of cartographic sources, many and varied example maps.
(1993) $10.00, 138 pp. paper. illus.

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The single best guide to local economic development we have found. Explains and documents new money systems, alternative energy, local trading networks, home-grown banking, cooperatives. Lays out a comprehensive sceme for wealth creation and conservation at the local level based on energy, food, and housing.
(1996) $22.00, 386 pp. paper. illus.

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LETTERBOX

Correction

Dear Peter:

I discovered an error in my article in PCA #46, *A Ruination on Barberry and Descartes*. In Section II, the mention of syphilis was in error, whereas the example of smallpox was correct. Syphilis is believed to have originated in the Americas and spread to Europe after the invasion, although this is disputed by some. On the other hand, smallpox clearly was brought to the Americas by Europeans, and was responsible for killing far more indigenous people than direct violence.

Take care,
Richard Mandelbaum

Correcting a Correction

Dear Activist:

I haven't seen the issue but I hear that in the correction showing the true wall design of Aprovecho's strawbale dorm in PCA #45, page 51, you may not have explained that the diagram included in my straw bale article (*Straw Bales in a Wet Climate* in PCA#44,) was used mistakenly with no thought of misleading anyone. Just wanted to make that clear.

Dean Still

Help for Mexico Project

Dear Permaculture Activist:

I'm writing to you from the high dry country side of GTO Mexico with a request for directions on finding interested parties to join me on our permaculture project in its beginning stages. I need help in the labors of co-creation and have accommodations and instruction to give in exchange for hands on work. We are just outside of the small artist colony of San Miguel de Allende. I look forward to any help you or your readers might be able and willing to give me as far as contacts etc. to make this vision come to be. Thanks for your time,

Terresa_besitos@hotmail.com

Jean Pain is Sought

Hi Peter:

I enjoyed your excellent article on the work of Ida and Jean Pain. I am as well extremely interested in the compost-mediated production of methane, and I would like to obtain Jean Pain's book, *Another Kind of Garden*. Do you know how I could obtain it? Also, I was wondering if the Belgian organization "Jean Pain Committee International" has a web page. Do you have any other references of contemporary work on the same subject? With the energy crisis in California, alternative sources of energy are very sought out.

Thanks for your help,
Jerome Rigot
Dept. of Chemistry and Biochemistry
321 Thimann Labs
University of California
1156 High Street
Santa Cruz, CA 95064
email: jerome@chemistry.ucsc.edu
Work: 831-459-5641

Jean Pain is Found

Dear Peter:

I found Jean Pain and he is activated. His company offers a full line of drum shredders out of France. You can find him at www.jean-pain.com/index1.htm

Thank you, sir.
Elias DeChristo,
ecotopiasbland@yahoo.com

Awakening to Permaculture

Dear Peter Bane:

I teach philosophy at UNCA, and have struggled for years to awaken my colleagues and students to the true state of affairs. My nights are often filled with terror abut the rapidly approaching point of no return. In the meantime, I live on about 2.5 acres within walking distance of UNCA and have been struggling to reduce lawn area, plant things, etc.. I read Mollison in the early 1980s, but got too little out of him because I wasn't ready. But the seeds were planted.

Now, on leave from UNCA with chronic fatigue, I finally had time to buy and read PCA. Here is a message of hope (not a guarantee, of course) a point of contact with others who wee the same problems and the same solutions, and finally, practical applicable advice about things we can do ourselves wherever we are.

I was inspired to do a plant inventory of our land, and realized that, despite my perception that we haven't done much, we have about doubled the biodiversity here, with marked results on insect and bird life. That alone was cause for cheer.

I applaud the literacy and balance, especially of your and Hemenway's writing, found in your journal. As during the Renaissance and Scientific Revolution, most of what is truly important is being done by self-educated amateurs (remember, that means "lovers") who must also find a way to live and eat. I hope the enclosed check for books, magazines, and donation is a tiny help.

A couple of suggestions: I would like articles on *mistakes*, especially in planting. Related to that, a science of ignorance (as some old PCA articles mentioned) would be more cautious about exotic species. I live with a Bermuda grass lawn that has almost made growing vegetables and herbs impossible, near a kudzu bank that regularly climbs over the trees on our property line and have seen bittersweet, Japanese honeysuckle, and multiflora rose kill shrubs in areas and make anything but beating back the jungle (with paid help) almost impossible.

Also, articles on how to deal with these pests. The assurance that undisturbed ecosystems are hard to invade is just silly for those of us dealing with disturbed and already occupied territory.

Thank you for your dedication to running PCA and thereby enabling this most important planet-healing work to continue.

Ileana Grams

Blocking Consensus

Dear Activists:

I was very interested in Tony Andersen's article about "Organizing Permaculture" in issue #45. He illustrates some valid points about the limitations of parliamentary democracy. However, I am not sure how far we will get with ideas like consensus decision-making until we begin to introduce them in our primary schools.

Some years ago I attended an annual general meeting of the Ontario Green Party, where consensus was employed. Sort of. First, we spent 45 minutes dickering about who should pay the phone bill. Surely that could have been quickly resolved without debate by an administrator. Later, we argued at length about a more important issue and at last arrived at some sort of satisfactory agreement, or so we thought. As I recall, there was an initial "go-around" to agree on the wording of the motion on the floor. *Everyone* agreed. Then we had a second go-around to confirm the agreement. At the last minute, a certain individual stood up and, with all the drama associated with a declaration of war, exclaimed, "I block!" The effect was indeed dramatic. He should have been "deemed a bungler", to borrow Andersen's useful phrase, so that the group could override his silly last-minute inspiration. But since nobody seemed to have enough experience to know what to do, this tyrant of the minority was allowed his little victory and the motion collapsed. We had all wasted a further two hours of precious time.

I respect the theory of consensus decision-making but I have seen it abused too many times to have much faith in its practice. Is this an inherent fault of the theory or is our collective lack of maturity to blame? Or is it simply that few of us have learned the system properly? If you grow up within the framework of fixed representation, majority rule and so forth, and nearly all of us have (in the western world, at least), it's extremely difficult to learn the mechanics of a new system, no matter how noble and democratic its intentions. How can we teach these skills to children, so that they'll never have to unlearn what is so ingrained in their parents?

Richard Griffith
P.O. Box 216, Station R.,
Toronto, ON M4G 3Z9

Consensus Works!

Dear Toby:

Although I don't spend all my time in meetings at Earthaven, an intentional community at the village scale in Western North Carolina, I do spend a lot of my time working toward the community's development, so I haven't managed until today to finish reading Toby's wonderful essay on "Sustaining a Revolutionary Community (Issue #42). Re-reading the beginning again today, I first of all had to squeak to your readers as loudly as possible that the quote of one disillusioned consensus-based community member, whose washing machine's repair was stalled in what must have been a rather embryonic consensus process is not typical nor indicative of consensus at Earthaven or in most other consensus-based situations. It does take time to establish a mature process that delegates many operational decisions to smaller groups or individuals, and wise leadership more than anything else is needed to lend the group trust that this delegation of responsibility will work out to the education and benefit of all.

I squeak about this because I feel the positive contribution the consensus approach can make to group decision making processes—not just in intentional communities but for activist groups, business management teams, government agencies and many other types of association—needs to be emphasized. Too few people know about consensus; probably even fewer like the sound of it. Many shudder at the thought. But taking the deep breath necessary to set those personality issues as much to the side as possible in order to make decisions that benefit the whole and include the many is for

LETTERBOX *cont'd*

me inseparable from any revolutionary actions we can take at this late, fragile state of the world and its communities.

At Earthaven, visitors continually comment on the overall success of our seven-year-old consensus process. It helps us to hear this from time to time, because of course we do get bogged down now and then over an issue we can't seem to resolve. Our belief in consensus, however, does not make us wish we could just vote and "solve" it. An understanding of the underlying value of consensus process shows us that we are missing important elements of whatever issue we're working on and are, despite our apparent short-term need, not ready to make a decision that will have long-term effects. Consensus process often gives us many opportunities to make sure that our commitment to the seventh generation is more than lip service.

Patricia Allison and I are taking our continually evolving consensus work into the larger community these days, working with professional and cooperative groups in our bioregion and looking for entryways into local business and government. The recently elected U.S. Senator from North Carolina made a major point of his campaign his ability to "build consensus." I believe the concept is catching on—it's consensus or chaos!

Now I can go on to applaud your brilliant essay and your call for more inner work among those of us who have applied ourselves permaculturally to the outer world. Your image of "a world in which our inner selves, spiritual hearts, and activist hands [are] united" seems to be the exact point where the spirit of the intentional community movement and the soul of permaculture activism converge. If I could, I'd have folks read from your essay at the start of every permaculture course and conference for a few years into the future!

Thank you for your enlightened viewpoint. I hope I get a chance to shake your hand someday soon.

Sincerely,
Arjuna da Silva
Earthaven Ecovillage
Black Mountain, North Carolina

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II, 1 Feb. '86 Garden Design
II, 2 May '86 IPC 2 & PC Design Courses
II, 3 Aug. '86 Int'l PC Conference Program
II, 4 Nov. '86 Fukuoka; Keyline; Genetic Cons'vn; City Farms; Oceanic PC
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
III, 4 Nov. '87 Trees for Life
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, 1 Feb. '89 Permaculture:A Designer's Manual; Tree Bank; Water in PC
V, 2 May '89 Plant Guilds; Roof Gardens; Small Livestock
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#23† May '91 **Politics of Diversity;** Greenhouse Mkt Gdn; PC in Nepal
#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'ty Dsgn; LETS; Industry; Strawbale/Timber-frame Bldgs.
#29/30*July '93 **Networks:** Special Media Rvw; Rural Reconstr'n; Leaf Conc.; Comm'ty Food Initiatives; Pc in Palestine; Do-Nothing Ed'n; *Feng Shui;* Companion Gdng; Nature Spirits; Wilderness; Biogeog.; Network Theory; Pc Acad.
#31* May '94 **Forest Gdng:** Energy & Pc; Mushrm Cultn; Robt.Hart's F.G., Spp for N. Cal.; Alders; Agroforestry in Belize, China; Honeylocust; N-fixers
#32 April '95 **Animals & Aquaculture:** Rare Breeds; Animal Polyculture; Small-scale Cattle; Goat Dairy; Keyline; Ramial Woodchips; Feral Chickens; Bee Plants; Constructed Wetlands; Reed Bed Sewage Treatment
#33 Dec. '95 **Cities & Their Regions:** Green Cities; Independent Regions; LA Eco-Village; MAGIC Gardens; CoHousing; City Markets; City Animals; Micro-Enterprise Lending; Suburban conversion; Rails-to-Trails
#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; Earthaven, NC; Design for Catastrophe; Youth; Vill. Economics; EcoForestry; Natural Bldg.
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CALENDAR

July 6-14. Black Mountain, NC. Permaculture Fundamentals. Culture's Edge, Earthaven Ecovillage, 1025 Camp Elliott Road, Black Mountain, NC 28711. 828-669-3927 or culturesedge@earthaven.org www.earthaven.org

July 6-August 18. Black Mountain, NC. Village Living Residency. Culture's Edge, 828-669-3937. culturesedge@earthaven.org

July 7-12. Vrable, SLOVAKIA. 6th European Permaculture Convergence. Permaculture Institute of Europe, Istedgade 79, 1650 København V, DENMARK. +45-3331-5694, fx+45-3325-7179. vestergror@dk-online.dk www.Permaculture-Europe.org

July 12-20. Orangeville, ON, CANADA. Permaculture Fundamentals Course. Ecology Retreat Centre, RR #1, Orangeville, ON L9W 2Y8 Canada. 519-941-4560, ecorc@ionsys.com

July 13-21. Summertown, TN. Permaculture Practicum. Ecovillage Training Center, 931-964-4475, fx/-2200. ecovillage@thefarm.org

July 20-August 10. Orcas Island, WA. Permaculture Design Course. Douglas Bullock, PO Box 107 Deer Harbor, WA 98243. 360-376-2773 or Bullockspring2001@hotmail.com

July 21-August 5. Shreveport, LA. Permaculture Design Course. Northwest Louisiana Commerce Center, 102 Louisiana Blvd, Minden, LA 71055. 877-459-5875.

July 22-August 4. Tlaxco, Mexico. Traditional and Experimental Building Ianto Evans, PO Box 123, Cottage Grove, OR 97424. 541-942-2005

July 28-August 3. Glendale, OR. Permaculture Teacher Training. Heather Coburn, 541-459-0966 foodnotlawns@yahoo.com

August 1-21. Hawai'i. Permaculture Design Course. La'akea Permaculture Gardens, 808-965-0178 programs@permaculture-hawaii.com

August 2-5. Black Mountain, NC. 8th Annual Permaculture Summer Gathering. Culture's Edge, Earthaven Ecovillage, 1025 Camp Elliott Road, Black Mountain, NC 28711. 828-669-3927 or culturesedge@earthaven.org

August 2-12. Summertown, TN. Natural Buildings Immersion. EcovillageTraining Center, P.O. Box 90, Summertown TN, 38483. 931-964-4475, fx/-2200 www.thefarm.org/etc ecovillage@thefarm.org

August 3-12. Vermont. Intensive Studio in Planning and Design. Institute for Social Ecology. 802-454-8493 www.social ecology.org

August 5-19. Sandy Lake, Pa. Permaculture Design Course. Darrell Frey Three Sisters Permaculture, 134 Obitz Road, Sandy Lake, PA 16145. 724-376-2797 or defrey@bioshelter.com

August 10-18. Black Mountain, NC. Village Design Practicum. Culture's Edge, 828-669-3937. culturesedge@earthaven.org

August 10-20. Williams, OR. Advanced Permaculture and Keyline Training. Seven Seeds Farm, 3220 East Fork Rd., Williams, OR 97544. (541) 846-9233. sevenseeds7@hotmail.com

August 24-26. Louisa, VA. Women in Community Gathering. Twin Oaks Community, 138 Twin Oaks Rd., Louisa, VA 23093. gathering@twinoaks.org

September 7-9. Eugene, OR. Women's Design Workshop. Jude Hobbs, 1161 Lincoln St., Eugene, OR 97401. 541-342-1160 hobbsj@efn.org

September 1-7. New Brunswick, Canada. Fundamentals of Permaculture Design. Sara Shima, 506-375-4795 sarah@fallsbrookcentre.ca www.fallsbrookcentre.ca

September 15-28. Occidental, CA. Permaculture Design Course. Occidental Arts and Ecology Center, 15290 Coleman Valley Rd., Occidental, CA 95465. 707-874-1557 oaec@oaec.org

September Sept 21-23, Dexter, OR. 5th Annual Regional Permaculture Gathering Lost Valley Educational Center, 81868 Lost Valley Lane, Dexter, OR 97431. 541-937-3351 info@lostvalley.org

September 21-30. Near Austin, TX. Permaculture Fundamentals. Mary Talbot 512-894-3605 or peacefulhill@earthlink.com

September 26-October 2. Parthenon, AR. Women's Earth Building Experience. Candace McGee, HCR 72 Box 67C, Parthenon, Ar 72666. Oz@jasper.yournet.com

September 29-30. Salina, KS. Prairie Festival at The Land Institute. 785-823-5376 theland@landinstitute.org

October 6-14. Black Mountain, NC. Permaculture Design Practicum. Culture's Edge, Earthaven Ecovillage, 1025 Camp Elliott Road, Black Mountain, NC 28711. 828-669-3927 culturesedge@earthaven.org www.earthaven.org

October 15-21. Ontario, CANADA. Strawbale Construction. Ecology Retreat Centre, RR#1, Orangeville, ON L9W2Y8 CANADA. 519-541-4560 ecorc@ionsys.com

October 17-21. Summertown, TN. Ecovillage Design. Ecovillage Training Center, 931-964-4475, fx/-2200. ecovillage@thefarm.org

October 19-27. Near Austin, TX. Permaculture Design Practicum with Patricia Allison and Dick Pierce. Deborah Vigliano 512-301-2890 dvigliano@juno.com

November 9-11. Occidental, CA. Introduction to Permaculture. Occidental Arts and Ecology Center, 15290 Coleman Valley Rd., Occidental, CA 95465. 707-874-1557 or oaec@oaec.org

November 11-12. Point Reyes Station, CA. Pattern and Design. PINC, 415-663-9090. pinc@svn.net

November 12-18. Point Reyes Station, CA. Starting a Permaculture Consultancy. PINC, 415-663-9090. pinc@svn.net

November 24-December 8. Tlaxco, Mexico. Sustainable Rural Development Ianto Evans, PO Box 123, Cottage Grove, OR 97424. 541-942-2005

December 2-15, Dexter, OR. 11th Annual Permaculture Design Course. Lost Valley Educational Center, 81868 Lost Valley Lane, Dexter, OR 97431. 541-937-3351 info@lostvalley.org

The Permaculture Activist
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