

# Permaculture

20th Anniversary Issue

## Activist

Looking Back

20 Years

2005

Looking  
Forward

21st  
Century

Where do we go from here?

[permacultureactivist.net](http://permacultureactivist.net)

Autumn

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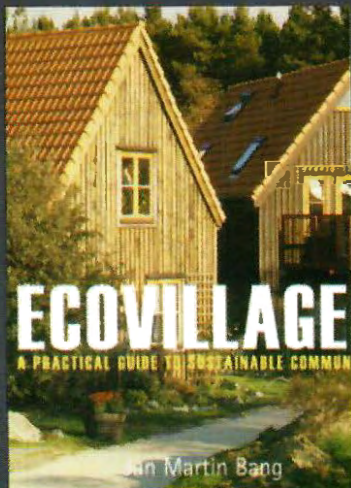




# Ecovillage

*A Practical Guide to Sustainable Communities*

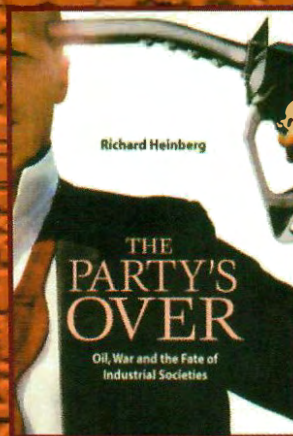
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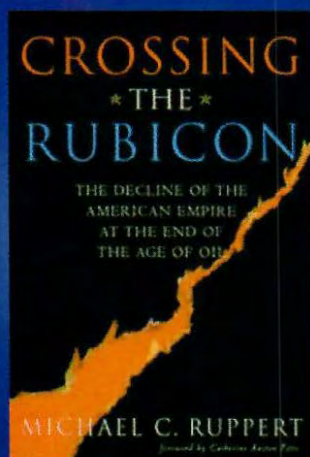
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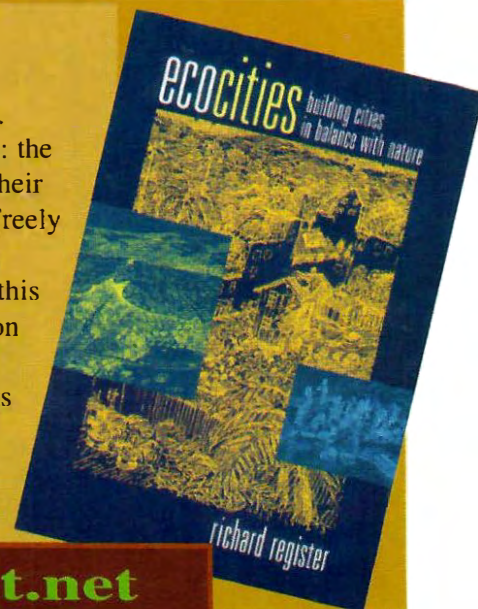


## eco- cities

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balance with nature**  
by richard register

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The Permaculture Activist  
Post Office Box 1209  
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(828) 669-6336 voice, 669-5068 fax  
pcaactivist@mindspring.com

**Publisher**  
Peter Bane

**Guest Editor**  
John Wages

#### Editorial Guild

Keith Johnson Arjuna da Silva  
Lee Warren Scott Horton

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

## Editor's Corner

# The Permacultural Eye

John Wages, Guest Editor

I feel like a bit of an imposter. When Peter Bane invited me to edit Issue #53 on Education last year, my new teaching position at a local community college made it seem like a reasonable undertaking. Pulling together this issue whose theme was the history of the permaculture movement in North America was much more daunting, considering my recent introduction to permaculture. When Gwen and I moved back home to Mississippi from northern California four years ago, I bought a complete set of back issues of *The Activist* and read the *Design Manual*. But, I'd never actually taken the Permaculture Design Course. That situation stands to be rectified this August with the first installment, the Fundamentals course, at Earthaven.

It seemed appropriate to include in this Anniversary issue a few selected archival clips—the Best of *The Activist*. You'll find these scattered throughout the issue, usually on the right-hand page. There are many, many more that we could not run due to space. We contacted many people who were active in early North American permaculture; due to time pressures of teaching and the IPC-7, some could not write; the names of others came to our attention much too late in the game to ask them for their thoughts. Sego Jackson and Will Carey graciously provided the wonderful photos that will bring back memories for many readers. Others of us can relate to the experience of being involved with something new in its heady early days: a young company, a group of committed activists, or even graduate school. We toyed with the idea of writing a short History of Permaculture in the US that collects all the bits and pieces from various sources in one place, but questioned its real value (nor did we have space). Much more important is the reflection on what we've learned from experiences like PINA and where the design principles inform fields like Natural Building (as Ianto Evans describes "permatecture"). Thanks to all the writers who contributed their memories and perspectives for this issue. There were additional articles we could not include for lack of space. We hope to see those other worthy articles in future issues.

The first issue of *The Activist* was published in Summer 1985 as the newsletter of the Permaculture Institute of North America (PINA). An early name of PINA's journal was *The Permacultural Observer*, but it was never published due to limited funds. This name echoes Eric Stewart's imagery of the "permacultural eye" in this issue, as he exhorts us to observe ourselves. Others have hit upon the same theme in the course of their ruminations about the past and future of permaculture: just as a good designer observes and refines his design, so too should the Movement observe the successes and failures of its varied approaches to select what works. In the end, it won't matter what we do if the wider principles of ecological design, Care for Earth, and Care for People aren't put to wider use.

Wes Jackson's musings on an "ignorance-based world view" resonate with Masanobu Fukuoka's "do-nothing" farming, as well as the Green's Precautionary Principle. Implicit in mainstream environmentalism is the idea that we know enough to achieve sustainability. Realizing that our knowledge has limits is the core of ecological wisdom. Our efforts also have limits: We can minimize those limits by a careful analysis of the best place to apply force, as Ianto Evans intimates in his analysis of energy use by farming and the construction industries. If only we had a long enough lever and a place to put it, we could change the world. But, of course, there is that matter of limited data (ignorance) and the temporary nature of windows of opportunity.

Expectations are like wishes—they're not always granted, nor do we necessarily achieve our highest goals even though we try our best. For every Jefferson or John Muir who brought positive change, there are countless others who died trying, and Muir suffered the defeat of Hetch Hetchy, among others. The founders of PINA envisioned being the catalysts of a sea change in American culture; instead, we see ripples radiating to every corner of the society, often "under the radar," as Eric Stewart says. E.F. Schumacher summarized the role of the activist in an essay, "Toward a Human-Scale Technology" that is part of the collection *Good Work* (1979):

"So I certainly never feel discouraged. I can't myself raise the winds that might blow us, or this ship, into a better world. But I can at least put up the sail so that, when the wind comes, I can catch it."

We are fortunate indeed to have several articles on Peak Oil and energy descent. The end of cheap oil has made it into the mainstream discourse through the writings of Richard Heinberg and others and has become real for Everyman in the form of gasoline prices. These shudders of the Machine are like the lights that flicker before the power goes out or the car that hesitates and shakes before it stalls. Even though liquid petroleum appears to be a special case—because of the unprecedented social complexity and population of our petro-civilization, many previous societies have found that "The end is always near," when they over-relied on limited resources and over-shot their lands' carrying capacities. For American consumer culture, the writing is on the wall. But our apocalyptic expectations should be tempered by our ignorance: we don't know for sure how long oil will last—five years or fifty years, how much of a fight the dominator society will put up to avoid losing its privileges, or how resilient global ecosystems really are.

Permaculture proves that fish do discover water. The sometimes conscious primate that dissected phloem and xylem using scientific method, and occasionally glimpsed the forest itself, has now discerned the web of interconnections, dependencies, and overlapping functions that is the forest ecosystem. Science (hypothesis-experiment-results-refine hypothesis) has taken us a long way by a reductionist approach; permacultural thinking is holistic thinking—a complement, rather than an alternative, to scientific method. Whether we can "see the forest for the trees" is no longer the most important question. The questions on which our survival depends may not be answerable in binary fashion using scientific method to give a thumbs up or thumbs down to one hypothesis at a time. Instead, we need a new method that expands the options through a more holistic, but no less rigorous, approach modeled after biological evolution: observe, design, and re-design. This permacultural knife can release us from the Gordian knots that are too complex to resolve using reductionist thinking.

When we speculate on when the future will arrive or what it may be like—the opportunities and the dangers for us and the wider human society, we should remember, "The best defense is a good community."

## — Future Issues: Themes and Deadlines

#58 Urban Permaculture  
#59 Land Use Past & Present  
#60 The Unseen Kin-doms

September 1  
December 1  
March 1



# Reflections on the Permaculture Institute of North America

## Permaculture Challenges

Sego Jackson

**F**or those of us working on *The Permaculture Activist* and the fledgling Permaculture Institute of North America (PINA) in the 1980s, an early challenge was how to expand the applications of permaculture as widely as possible, while restricting use of the term "permaculture" to those that had been certified through very specific design courses. This tension pulled several of us much deeper into permaculture activities and leadership in the US permaculture movement.



*Sego Jackson with rhea egg at Willapa Hills Hatchery*

### **Launching *The Activist* and PINA**

Before the advent of permaculture, I was involved with Tilth Association in the Northwest. I and others had been thinking along some of the same lines as Mollison and Holmgren. I remember feeling absolutely ecstatic when I first read about permaculture: "at

last, a name and principles that provide a home and structure for my own thoughts and observations."

Having heard that Bill had been to the US and was "not coming back," we set out to discover the translation and application of permaculture to our own bioregion. We invited some interested colleagues to join us in that vision and endeavor; the Maritime Permaculture Institute was meant to be a long-term bioregional exploration. Our new venture was reported in *Tilth* magazine, which was exchanged with many other newsletters and organizations. It was shortly thereafter that John Quinney, who was Director at the New Alchemy Institute at the time, contacted us and paid a visit. John had attended one of Bill's Design Courses.

John was fabulous in sharing his knowledge and very supportive of what we were doing. He also gently slipped the bad news to us: "You aren't supposed to use the term permaculture if you haven't been certified through a design course." Oops!

And of course, Bill was "not coming back" to the US. This set me and the Maritime Permaculture Institute on a different path: getting my friends and others certified through a course, so we could continue on. I was obsessed with this: we had to be able to explore these concepts so close to our hearts and thinking.

I no longer recall all the details, but we got Andrew Jeeves over

### **Why "The Permaculture Activist"?**

Sego Jackson

Vol. I No. 1, Summer 1985

There are several reasons why we have named the Institute's newsletter the "Activist". We are all witnesses to the environmental devastation going on around us. Most of us understand that this is primarily a result of the misuse of resources and inappropriate landuse practices, including forestry and agriculture systems that are unsustainable. An awareness of this situation is not enough unless actions are taken.

Individual activism starting with careful design, leading to regeneration of evolving life support systems, is our goal. Activism can take many forms. Seed saving, reducing personal energy consumption, environmental political work, socially responsible investment, buying locally grown organic produce, commercial organic farming, home gardening, and tree planting are all forms of personal activism that can help move us toward a sustainable society.

We feel that the practice of permaculture should be more than mental exercise and theoretical manipulations of abstractions. This newsletter will have news of the activities of the Permaculture Institute, its members, associates and people from around the world who are actively working in permaculture. Our desire is that 100% of the membership of the Permaculture Institute become activists.





*Sego Jackson and John Quinney at the Chinook Learning Center*

from Australia to lead a team to teach a course for us. Unfortunately, many of our group could not attend the entire course because they were farming full time, had their own landscape design companies, or were otherwise professionally engaged. We let these friends drop in and out as they could, to network and learn the information, but it created strains between some of us. It made us question how to be inclusive while having the "portal" to permaculture be so restrictive. While providing us with more focus, structure and information, that course cut out some creative energy and excitement, and established some

barriers: between those that had taken the course and were certified, and those that had not taken the course and were not certified. The dynamics of this group of friends and professionals shifted.

Of course, Bill did come back, several times to the Northwest, thanks to the Chinook Learning Center on Whidbey Island. That stirred up a lot more interest in permaculture. John Quinney and others taught some abbreviated courses, and our group started giving presentations and workshops. We had access to the term *permaculture* now. We also were in the awkward position of wanting to expand awareness of permaculture while having to explain the restrictions. This continued to not sit well with some of us or those newly introduced to permaculture, who also wanted to embrace it as part of their professional work.

A lot happened quickly, and I probably don't remember the details accurately. A group associated with Chinook Learning Center (now Whidbey Institute) invited Bev Reed and me to locate to a property on Whidbey Island and set up a permaculture education center in 1984. An early attempt to establish a national permaculture organization had not taken root, but the non-profit status was intact; basically, the organization was sitting in a shoebox in California. At the 1st International Permaculture Convergence, Bill Mollison asked Bev Reed, Guy Baldwin, and me if we would reconstitute the organization in the US. Upon our return from three months in Australia and New Zealand, we began the process of relocating to Whidbey Island and re-establishing what we renamed as the Permaculture Institute of North America (PINA). Guy Baldwin took the lead and did all the heavy lifting to launch *The Permaculture Activist* in 1985; the first issue included what we saw and learned touring Australia.

One of our first tasks at Bill's request: get certificates out to everyone who had taken authorized permaculture design courses. While this recognition and attempt to bring some order to things was probably warranted, I again felt that the "us" and "them" dynamic would be amplified—it was.

We were fairly young (I was 29), broke, disorganized, and ill-prepared—but committed to the vision. During that amazing time, we launched *The Permaculture Activist*, PINA, and Permaculture Resources; we struggled with finances for PINA, the land, and ourselves; and we convened many, many educational programs in a variety of formats. Within two years, we had sponsored several design courses with instructors from all over the world. At Bill's suggestion, I did a three-month lecture tour in Europe to help stimulate and respond to permaculture interest there. PINA held specialty permaculture design courses: For Women (Lea Harrison and Robin Francis from Australia), For Those Interested in Working in the Third World (Andrew Jeeves and Ianto Evans), For Architects (Margaret and Declan Kennedy from Germany), and a standard permaculture design course with Bill Mollison. We sponsored a Native American and Arid Lands course. We had planned to team an Australian Aboriginal instructor with a Native American instructor, but were unsuccessful. We put on the 2nd International Permaculture Conference in Olympia, Washington, for the public, and Bill Mollison, Masanobu Fukuoka, and Wes Jackson met and lectured together for the first time. The 2nd International Permaculture Designer's Convergence was held in conjunction, at Breitenbush Hot Springs in Oregon. Guy Baldwin took the lead in organizing Masanobu Fukuoka's subsequent California tour, beginning with a farm field day at Lundberg Family Farm (organic rice); over 200 people attended—the line of cars driving across the dikes through the rice fields was at least half a mile long. And we held short workshops on Feng Shui, aquaculture, edible landscaping, and many other subjects.

We experimented with the program themes, content, and duration to try to include more people and more diversity, while incorporating the



*Guy Baldwin, first editor of *The Activist*, hitchhiking in Tasmania*





*Sego and Bev mingle with the locals*

permaculture principles and information throughout. The many programs also provided more opportunities for overseas instructors, so they could teach in the US and share their wealth of knowledge with us.

Our experiments with course duration, format, and information did not sit well with some parties, and we received some relatively harsh



*The Homestead, temporary home of newly hatched PINA. Photo by Joyce Moulton.*

criticism, as well as challenges to our legitimacy. Meanwhile, more professionals who wanted to embrace permaculture were talking to us about feeling excluded due to the course requirements. Of all the challenges that came along with the wonderful developments during those years, these conflicts were what I found most disheartening.

Ultimately, we found PINA not sustainable, and we did not have the personal energy or skills to salvage it. I have thought many times that if I had then the knowledge, skills, and connections I have now, PINA would still be flourishing somewhere. Fortunately, Guy Baldwin did have that energy and the skills to maintain and grow *The Permaculture Activist*, which allowed it to evolve to its present form, 20 years later.

## **Lessons and observations**

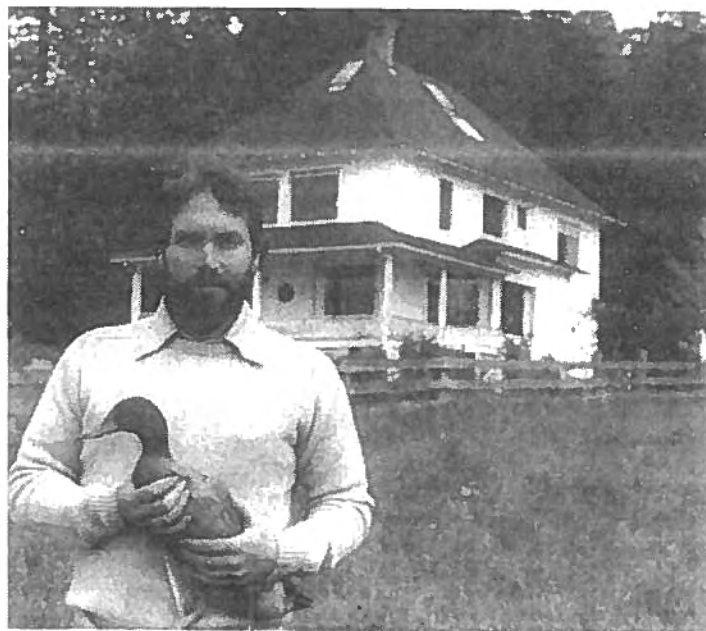
Even though PINA did not last as an organization, it stimulated and supported a lot of other activities across the US that were already in process or began subsequently. It also brought information,

connections, and legitimacy to quite a number of instructors, practitioners, and their “downstream” students, clients, and work.

What interests me most today is the utility, application, and potency of permaculture in a broader realm—planning, service provision, design of systems, policy, etc. We can consider “green building” a subset of permaculture that we as permaculturists incorporate. Or we can understand that there is a surge in work regarding “green building” and offer permaculture principles and approaches to improve that work, which is going to be implemented by a much broader group than those who have taken certificate courses spanning several weeks.

Where PINA failed is that we were not successful in helping the US permaculture movement expand into something more populist and embraced and utilized (as principles) by a wider range of professionals and in policy and planning. We “landed” with the homestead/agriculture/landscape interests, and that is largely where permaculture remained in those early years. As sustainability, the Natural Step, Biomimicry, and other terms and sets of principles have been alternately embraced and given limelight, the very powerful general principles of permaculture have not been set forth in a way as to guide businesses, policy, and design of systems\*. I believe this is one of the next steps for the evolution and utilization of permaculture. David Holmgren’s outline of the 12 Permaculture Design Principles in *Permaculture: Principles and Pathways Beyond Sustainability* could set the stage for more widespread use of the principles.

After PINA began to unravel, I worked full time at Penn Cove Sea Farm until it was sold, and then worked to expand my local permaculture design consultancy. Anyone who has developed a consultancy understands the challenges. One day in 1989, after working with a young family on their property in a suburban subdivision, I began to feel great distress, instead of satisfaction from their obvious appreciation of my work with them. As I left their home, I realized that I had just spent an entire afternoon at one house out of probably 250 in that subdivision, and that there were probably 250 more identical subdivisions in the area. I felt that I was having too small an impact with my time, considering the state of the world. Within six months, I landed a job with the local county government, with my first assignment being to establish curbside



*Sego and a Khaki Campbell at the Homestead. Neither looks very happy.*





Bill Mollison, second from right, at Chinook Learning Center, Whidbey Island, Washington, early 1980s. Discussions at workshops like these led to the creation of the Permaculture Institute of North America (PINA). Photo courtesy of Sego Jackson (left).

recycling services for its 220,000 households—"No Waste."

I've just completed my 15th year with Snohomish County, now as a Principal Planner in the Public Works Department. All along the way, I've incorporated permaculture principles into my program designs, planning, and strategy—often in the most simplistic ways, yet with profound results. I don't identify "permaculture principles" in my work. I simply use them, often unconsciously because they are now deeply ingrained.

## Open-source permaculture

For the last few years, I have been working nationally on producer responsibility for electronic products, representing local government interests to corporate business leaders at the Vice-President level of many of the electronics retailers and manufacturers, to design new take-back systems for their products. While the concept of product take-back itself responds to several permaculture principles, I have found many of the principles of use in the *design* of the actual system(s), rather than the specific details. The corporate leaders, lacking these principles, initially promoted linear, monotypical, and what would be very ineffectual system options. Slowly, they are coming around.

I've watched others who were involved in permaculture in the Northwest in the early years move into large-scale system or policy positions and be very effective. I've often wondered what impact we could have had, if in the mid-80s, we had found a way to effectively reach out to the hundreds (probably thousands) of professionals working at that time in the Northwest on all sorts of policies and systems. Could we have reached out in a way that embraced them and their skills to give them permaculture principles as new tools for their work in a sort of "open-source" permaculture? Perhaps now is the time.

I would credit the use of permaculture principles for bringing me much recognition and many awards for my work. Recently, I was inducted into the Washington State Recycling Hall of Fame (a bit esoteric, eh?) and my bio, including a note on my permaculture background, was given to each banquet attendee. A number of uniformed military were in the audience because the Everett Naval Station was also receiving an award for its extensive recycling program. Afterward, two large, uniformed men approached me. The first, David Sturgell, told me how excited he was to learn of my permaculture background, and told me the last time he was

deployed, he took two books with him: Mollison's *Permaculture: A Designer's Manual* and Holmgren's *Permaculture: Principles and Pathways Beyond Sustainability*. The second told me he didn't know what permaculture was, but if it had anything to do with worms, he was interested, as he was having great success using worm compost tea on his plants.

## Next steps

Here in Washington State, several of us are taking advantage of David Holmgren's tour and his articulation of the 12 permaculture principles. We have arranged local government sponsorship of an afternoon workshop for environmental professionals with David Holmgren on the 12 principles, to discuss their application to a wide range of disciplines. We are inviting key policy and program staff and consultants working on product stewardship, green building, land use, water management, energy, sustainability, and other resource management areas. I'll be inviting David Sturgell too. The workshop will be held in the largest conference room of a LEED-certified (Leadership in Energy and Environmental Design) 10-story office building in Seattle, complete with rooftop rainwater catchment, reused carpet-tile floor covering, non-toxic coatings, and so on. Our greatest concern is how to deal with the demand after the 110 available registrations are filled.

While practicing the principles, I've been out of the "movement" for the last 15 years, so can make no claim to know the current pulse of permaculture. I do know that more widespread use of the principles here in the Northwest is possible and much needed, on a variety of levels and in a diversity of disciplines. The Seattle workshop is an experiment and hopefully a contribution to filling that need. △

*Sego Jackson was formerly the Program Director of the Permaculture Institute of North America. Currently, Sego lives and works in the Seattle area.*

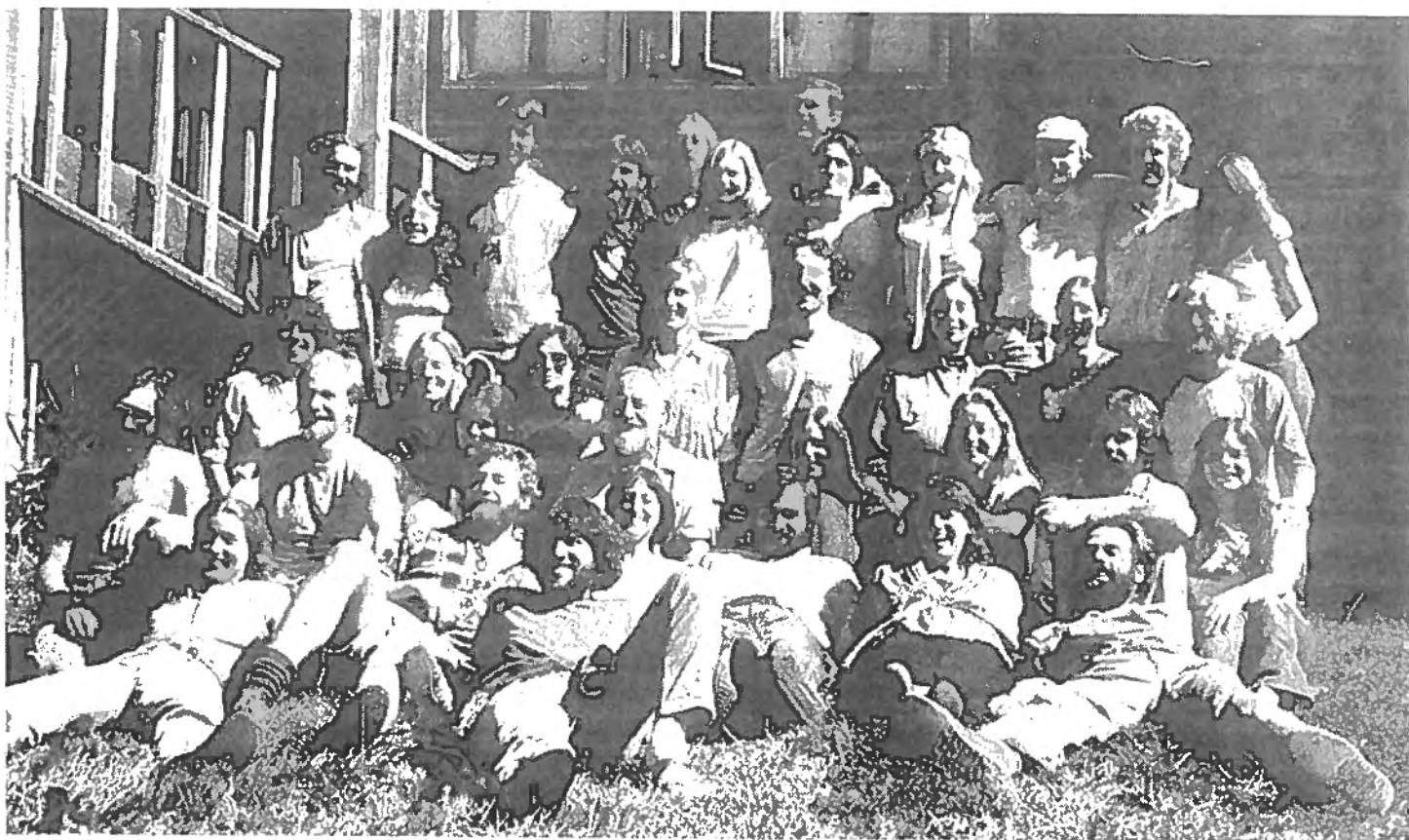
*Guy Baldwin contributed his valuable recollections of the early days of PINA and Masanobu Fukuoka's tour of the California Central Valley.*

\* It's not that the permaculture principles need to prevail against other concepts or principles. Each should be compared to the other, adapted/expanded, used to strengthen and clarify each other, put into the toolbox, and promoted together when appropriate. One of the problems with permaculture is its exclusivity.

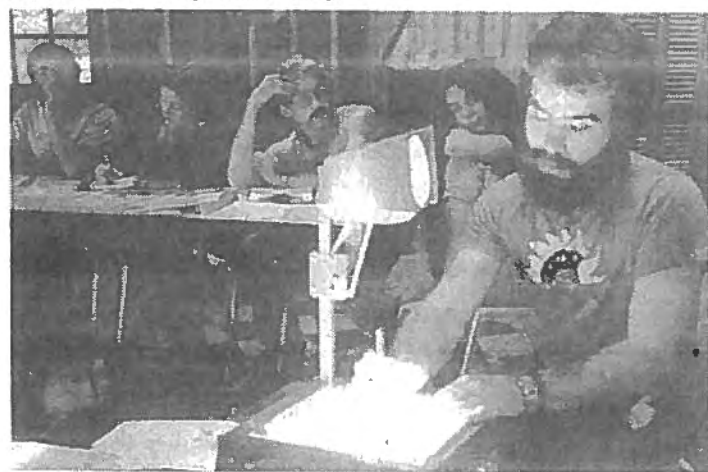


# A Permaculture Remembrance

Will Carey



Bill Mollison in the midst of the "Class of '82" PDC. Among the graduates are Susan Davidson, just to the left and above Mollison, now of Fraser Common Farm in Vancouver, BC; Bev Reed, far lower left, did so much to help make PINA a reality; Lea Kouba ran the kitchen at PINA's Whidbey Island farm and served as liaison with the Chinook Learning Community; Anya Woestwin, formerly Sheri Litwin, sitting in front of Mollison, edited *The Future is Abundant* and developed the Northwest species matrix; Maia Maisson, extreme upper right, author of *Agroforestry in Northern California* and co-teacher at the '82 PDC; Barbara Snyder, cook for the class of '82, at the lower left of Maia, co-editor of *The Future is Abundant*; Larry Korn, extreme upper left, edited *The One Straw Revolution*, bringing Masanobu Fukuoka's Natural Farming philosophy to the West; Tom Ward in back row, just below window, is southern Oregon's pre-eminent permaculture teacher; Will Carey, just to the right of Tom; and many others who have contributed in some way over the years, often without the full recognition and thanks they deserve. Photo by William Carey.



Andrew Jeeves begins the first lecture on Day One of the 1982 PDC at Evergreen State College. Students included (left to right) Michael Pilarski, Bev Reed, Sego Jackson, and Maia Maisson. Photo by William Carey.

**Permaculture is the Barefoot Doctor's Movement of Earth healing.**

Sego Jackson, 1985



Masanobu Fukuoka chose to lecture on "wild gardening" in the Breitenbush Community's organic garden during the 1986 International Permaculture Convergence in Oregon. Photo by William Carey.



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# A 25-year Perspective

## Permaculture in the USA

Michael Pilarski

**P**ermaculture has come a long way since I was introduced to it in 1981. I took my first permaculture design course in 1982, and it was a life-changing experience, as it is for so many. It was taught by an Australian, Andrew Jeeves, with a guest appearance by Bill Mollison. It was one of the first courses taught in the US, and back then, the permaculture movement was in its infancy. Although the movement has grown a lot since then, it has had trouble coalescing and organizing itself. It has not become as potent a force for change as many of us would like to see. Is this because its tenets of local self-reliance, independence, and decentralization have flowed over into organizational structure? Is it because most of us in the US are so individualistic that we have a hard time working cooperatively?

### *Some numbers*

About 12 years ago, I published a list of how many permaculture courses had been taught in the US, state by state. I also estimated how many courses had been taught internationally, country by country. Alas, I don't have those figures at my fingertips, and I would not be able to make a reliable estimate of those figures today. As I recall, back then there had been approximately 300 permaculture design courses (PDCs) taught in the US. It must be somewhere in excess of 600 PDCs by now. With an average of 20 students per course, that would mean 12,000+ PDC graduates. There are still some states which have not had a PDC taught in them. For instance, here in the Northwest, there have been no courses in Idaho and only one in Montana.

On top of this, there must be tens of thousands of people who have taken short workshops or read permaculture books in the US. The number of people who have a general understanding of permaculture must be in the hundreds of thousands. Millions would recognize the word. There are probably several hundred people (in the US) who have taught PDCs. Some people have taught only one course. Others have taught dozens. I have taught 19 so far (in Washington, Oregon, California, Colorado, Wisconsin, British Columbia, Nova Scotia, Belize, and Nepal).

### *Regional gatherings*

Over the years, there have been regional permaculture gatherings in various parts of the country. In the 1980s, the Pacific Northwest Permaculture Rendezvous were held at the Bullock Brothers' homestead on Orcas Island, as well as other venues. These have not been held for some time. The slack was taken up by a series of regional permaculture gatherings held at Lost Valley Center in Oregon. These were still continuing in 2003. Several West Coast permaculture gatherings were held at Sandy Bar Ranch in northern California. There was a long-standing series of Northeast permaculture gatherings in the 1980s, but they too ended. The Southwest also had its share of regional gatherings which too ended after a while. Currently one of the longest running regional permaculture gatherings is in the Southeast.

### *National conferences and convergences*

Australia has a long tradition of holding an Australian Permaculture Convergence and Conference every other year. Originally, they were in the odd years between the International Permaculture Conference and Convergence (IPCC). But the IPCC have been held irregularly for some time. The 7th IPC is being held this year in Slovenia and Croatia. The convergence is for people who are PDC graduates, and the conference includes the general public. It is interesting that there has never been a North American (or US) Permaculture Convergence or Conference. However, the 2nd IPC, in 1986 in Olympia, Washington, brought together permaculturists from around the US as well as the world. Seven hundred people attended the conference. The convergence was held at Breitenbush Hot Springs in Oregon. It is surprising that no one has ever organized another US-wide permaculture event. It would obviously be a lot of work and would call for a team effort. What would be the value of doing one? It would require a lot of fossil fuel to bring together participants from around the country. Even so, I toy with the idea of helping organize such an event, but at this time, my busy schedule would not allow me to do it. I imagine most of the capable organizer types are also running at full capacity. It would be interesting to hear a full discussion of the value and feasibility of organizing a North American permaculture gathering. The North American Bioregional (Turtle Island) Gatherings (NABG) are an example of this sort of event. In fact, the NABGs always attract a strong permaculture contingent, and in 2005, the 9th Continental Bioregional Congress is being held at Earthaven Ecovillage, the permaculture center in North Carolina. It will be great to hear a report after it happens.

### *Permaculture organizations*

Permaculture organizations have also tended to come and go. There is currently no US-wide permaculture organization with strong regional chapters. The Permaculture Institute of North America (PINA) functioned from about 1986 to 1990. It slowly withered away when the main organizer, Sego Jackson, left the helm. This happens to many organizations when the main founder leaves. There are many regional, state, or local permaculture organizations that have started, flourished, and then faded away. There are also some that are still ongoing.

### *Permaculture periodicals*

*The Activist* is the only permaculture periodical that has existed for more than a decade (that I am aware of). *The Drylands Permaculture Journal* out of the Southwest was a great publication for the years it existed. For a number of years in the 80s, I published a small periodical called *Pacific Northwest Permaculture News & Gossip*. It would be interesting to see a list of all the US permaculture publications that have existed.

*The Permaculture Activist* is the best way to stay abreast of these



changes. It is the main publication that links North American permaculturists. It would be horrible to contemplate the void if it stopped publishing. Its subscriber list is probably the most comprehensive list of permaculture people around the US.

### **Permaculture design courses**

I have written about the wide diversity of permaculture courses held in the US. I won't repeat that material here, other than to say there is indeed a wide range of types of permaculture design courses that vary in their length, formats, foci, instructors, etc. Most of them are good value, but I will repeat again, "Buyer beware." Do your own research when shopping around for a course to take. Only a few US teachers have offered advanced teacher training or advanced design courses, mostly in the Southwest or Northwest.

### **On-the-ground models**

Talk is good, but action is better. A well-functioning model permaculture site is better than a thousand words. There are undoubtedly thousands of sites in the US where permaculture principles are being applied on the ground. There are many thousands more good models where the people have never heard of permaculture. Permaculture does not have an exclusive on good design. It would be great to see a list of the best permaculture sites existing today. Our loose-knit network and anarchistic ways mean that it would be impossible to do a comprehensive list. Again, the *Activist* articles are one of the better ways to find out who is out there doing it. Regional gatherings are another good way. Here in Washington, some of our best models include the Bullock Brothers' homestead on Orcas Island, Michael Dolan's property (Burnt Ridge Nursery) in Onalaska, and Wild Thyme Farm in Oakville. My two-acre site near Twisp, Washington is getting better every year.

There have been two editions of the *North American Permaculture Directory* published to date. Guy Baldwin (the first editor of *The Activist*) put out the first one, *Permaculture Designers Directory*, in 1987. John Irwin put out the 2nd edition in 1992. We badly could use an updated edition. Anyone want to take it on?

The permaculture movement as a whole has done a tremendous amount in the world and in North America since it began a scant 30 years ago. It has influenced millions of people. I do believe that permaculture is one of the best analysis and design tools available to the human race at this time. It could bring humanity and the Earth into ecological balance. By working in cooperation with the Earth and all its life forms, we could see a world of peace where hunger and starvation would cease. Once the essence of permaculture is grasped, it is easy to see how the world's problems could be fixed, although the enormity of the problems we face means that we will be lucky if we succeed. Major cataclysms are in the offing, but let us go forward, one day, one tree, one person at a time.

David Holmgren's *Permaculture: Principles and Pathways Beyond Sustainability* is a great book on how permaculture can help humanity survive the peak of world oil production and energy descent. See the Calendar in this issue of *The Activist* for his US summer tour schedule.

Good luck to all of you in your endeavors for a greener and more peaceful world. Let's see what unfolds during the next 25 years of permaculture. Δ

Michael Pilarski is the founder of the Friends of the Trees Society ([www.friendsofthetrees.net](http://www.friendsofthetrees.net)). Contact him at P.O. Box 253, Twisp, WA 98856, 509-997-9200 or [friendsofthetrees@yahoo.com](mailto:friendsofthetrees@yahoo.com).

## **Permaculture Definitions**

Guy Baldwin

Vol. V, No. 4, Autumn 1989

Permaculture is PERMANent CULTURE or PERMANent agriCULTURE.

Permaculture is a philosophy of working with, rather than against nature; of protracted and thoughtful observation rather than protracted and thoughtless labor; and of looking at plants and animals in all their functions, rather than treating any area as a single-product system.

From *Sustainable Living in Drylands*:

Permaculture: the use of ecology as the basis for designing integrated systems of food production, housing, appropriate technology, and community development. Permaculture is built upon an ethic of caring for the earth and interacting with the environment in mutually beneficial ways.

From Maritime Permaculture Institute:

Permaculture (permanent agriculture) is a new word coined by ecologist Bill Mollison, of Tasmania, Australia, to describe the conscious design of agriculturally productive ecosystems which have the diversity, stability, and resilience of natural ecosystems. It is a harmonious integration of people into the landscape, done in such a way that the land grows in richness, productivity, and aesthetic beauty. Permaculture is more than just a design process, however, it is also a philosophy and a lifestyle. Living within a permaculturally designed ecosystem brings one into constant awareness of the amazing forces and relationships in the natural world.

From Jamie Jobb:

Permaculture is an approach to agriculture and human settlement which seeks a harmonious balance among all forms of life in an ecosystem....Permaculture—a wholly systematic approach to ecologically benign design for mutual habitation by many species, including our sapient one. Permaculture provides environmentally sound and humane responses to profit-oriented land uses.

From Gus and LaNada James (Tribal Survival Ecosystems):

Permaculture combines current technology with aboriginal cultural knowledge collected over generations: to create self-contained, self-perpetuating ecological systems. This includes growing edible (and nutritious) plants, fish & animals, as well as the application of appropriate technology to create energy from solar, wind, water, and compost.

From Bill Mollison:

Permaculture seeks the Garden of Eden, and why not?

From Nathan Alexandra:

A permaculture only happens where land and people are one.

From *Permaculture*, Journal of the Int'l Permaculture Assn., Autumn 1980:

The overall aim of permaculture design is to produce an efficient low-maintenance productive integration of plants, animals, structures, and man; with the ultimate result of on-site stability and food self-sufficiency in the smallest practical area...

(continued, from Tagari manual)...The aim is also to plan for craft or other products on larger areas, that yield a trade or commercial potential for clients, again as diverse product resources. The design should aim for a total, secure, long-term integration of all elements; stability and diversity are the keywords. Conservation of soil, water, and energy are central issues.

The system combines rational landscape design, organic gardening methods, and alternative energy systems into a unified design encompassing many trades, skill, and disciplines.

From *Permaculture News of England*:

Permaculture is the name that has been given to the design and creation of self-sustaining productive landscapes which, once established, will need the minimum of human intervention. A permaculture design incorporates a diversity of species and inter-relations between species, and allows for the continuous evolution that occurs in Nature. There is a succession of species, each preparing the environment for the next, and all moving towards a climax state.



# A SECOND CHALLENGE TO THE MOVEMENT

Eric Stewart

**A**lmost three years ago, Michael Kramer wrote an article in this journal about the state of permaculture in the US ("A Challenge to the Movement," Activist #49). He suggested that US permaculture suffers from a lack of visibility in the larger culture. In addition, Kramer articulated problems with the education of practitioners and instructors, leadership, funding of developmental projects, and poor channels of communication with potential allies. The article resonated with my own sense of permaculture's health at that time.

*It seems to me that permaculture houses two virtually polar impulses....*

Permaculture is one of the few bodies of information available that offers skills and solutions for people to deal personally and communally with the coming shock of oil scarcity. We urgently need to disseminate this knowledge more widely in order to provide people with skills to enhance their well-being and survival, and to call for a more sane, compassionate, and informed society.

## *The view from outside*

The evidence I present is by no means thorough or exhaustive; much of it is anecdotal, derived from personal observation and communication with others. While quantitative statistics of the permaculture population would be valuable to this analysis, such figures are hard to pin down. Instead, much of my inquiry focuses on interactions with populations that are unfamiliar with or just learning about permaculture. This outside view presents an opportunity to see ourselves as others see us.

I am a yoga teacher; one of the branches of my work involves the integration of yoga with ecological design practices including permaculture. I travel to teach on a regular basis and meet people from all over the US and the world; most are initially not familiar with Permaculture at all; few have a vague or possibly inaccurate awareness of what it involves; rare is the student who has a basic grasp of the fundamental tenets of permaculture design. The people I teach represent a cultural segment (cultural creatives with alternative lifestyles and concern about environmental issues) that should embrace permaculture. Yet overwhelmingly, they don't know about it at all.

I find that this is also true outside the context of teaching yoga. When I talk about issues related to Peak Oil, I'm amazed by how few people are aware of permaculture. Again, these are most often receptive audiences. If such people are consistently unaware or uninformed about permaculture, it's easy to infer the degree of awareness of the larger population. The people who are informed about our movement are a small sliver inside the slice of a more general alternative demographic that itself is currently marginalized in relation to the larger society.

## *The view from inside*

Regardless of whether permaculture has grown or become more visible to the greater culture, it can be argued that the people

engaged in permaculture and related practices as a way of life have strengthened the roots and branches of the system; in many instances, permaculture is creeping into communities under the radar. Pockets of people have seen the repercussions of consumer culture, and they are doing something about it through local food movements, CSA farms, and other positive endeavors. The learning and experience of the people who have been involved with such initiatives over the past decade and longer is an important resource for the culture as a whole. In this regard, we can describe local food

systems, ecovillages, and permaculture education itself as facets of the invisible structures component of permaculture design. Any manifestation of such invisible structures—including the knowledge and

experience gained in creating them—should not be overlooked. Nor however should their influence be overestimated—my guess is that it is tiny in proportion to the mass of Americans badly positioned to cope past the peak of oil. Further, even those people participating in such initiatives may be more tied into the petroleum infrastructure than they would like to admit.

The more cynical among us may say, "Too bad, those who don't have such knowledge and skill are going down." This sentiment resonates with the self-reliance and independence that are woven into the culture of permaculture. Taken to extreme, such a perspective can become isolationist and parochial. Kramer writes, "...insistence on autonomy, based on anti-authority complexes and fear of being co-opted, has isolated permaculture and its proponents, minimizing the productive edges of the movement." It seems to me that permaculture houses two virtually polar impulses: one involves removal from larger society; the other involves working for the transformation of society. While the case can be made that removal from the larger society represents action that is transformative of society, I believe that there is an imbalance within the cultural manifestation of permaculture that has favored isolation over interaction. The cultural shift we need depends on increasing interaction to increase the availability of the resources permaculture offers.

As the price of oil increases in the next few years, people may look to systems like permaculture for answers. In our daydreams, we may imagine that, as crisis approaches, our practices and ways of life will be vindicated. But, has anyone done anything to catch this potential resource stream? If farmers in the middle of a drought wish to harvest enough rain when it finally arrives, they'd best have ponds, or at least tanks, and not just one 55-gallon barrel. My concern is that our community's ability and capacity to draw and sustain potentially interested people is at the scale of a rain barrel when we need lakes. How many websites are available that articulate our movement in a clear and jargon-free manner? How many examples of sound, economically viable permaculture development are accessible for people to witness?

There may be a point when people come knocking at



permaculture's door. If initial interactions are convoluted, disorganized, or verging on nonexistent, they will go elsewhere for answers. What kind of answers will they get elsewhere? Simplistic answers and answers based in fear seem to be the emerging pattern.

### *We have met the enemy, and he is...*

Why aren't more people drawn to permaculture? The most obvious answer to "why" rests with American society. How does one keep people down on the farm once they've seen the lights of New York, L.A., and that 40-inch plasma-screen TV? This is the easy answer: Americans are hypnotized, drugged by entertainment, and blinded and burdened by debt. It is extraordinarily difficult to see, feel, or think clearly in such circumstances. Permaculture seems drab, weird, and inaccessible in this context. In fact, context ensures that few people will even encounter permaculture.

While the easy answer contains some truth, it is of limited usefulness. If we stop here in our analysis, then exclusive fault is applied to our society, the corporations, or the politicians, and there's nothing more to be done. In contrast, I believe that a significant responsibility rests with the culture of permaculture. If we assess our side of the equation, our observations may reveal tendencies that restrict the flow of information to other groups of people.

### *The permacultural eye*

Observation, the skillful gathering of information, is crucial to the success of any design. The process of maintaining a design that has been implemented is a kind of feedback loop created by the dynamic tension between the design itself; and the observation and action of the designer. That is, design (action) arises out of concerted and thorough observation. Once a design has been implemented, the designer again observes, gathers information, and takes further action based on such observation. This is an ongoing process of refinement based on the related responses of the designer and the implemented design.

It seems to me that permaculture itself has not undergone this process with respect to its relationship with the larger society. My observation indicates that the methods and avenues utilized by the US permaculture community to grow and draw people to the practice have stayed more or less the same over a long period of time, despite their relative ineffectiveness.

When I talk about permaculture, I observe people's reactions to it. There are common threads in many of the responses. It is striking that when people look at even a basic book such as *Introduction to Permaculture*, the most prevalent feedback is information overload. If the design manual is the first encounter, such a reaction is even more likely. Some among us may say that this scrambling and overload is a necessary step in the process of disentangling from the destructive patterns of consumer culture. My response is that if a person turns away from permaculture due to such information overload—which seems common, then the strategy is not working. To overwhelm can be a useful teaching tool, but only when people are at a point where they can absorb it or react positively, rather than dissociate from it.

In my work as a yoga teacher, I find it crucially important to meet people at the level of their experience—not just their level of

skill, but also the level of their relationship with the world. If most of my class is deeply fatigued, it's probably not the best idea to immediately put them through a series of highly vigorous and demanding poses. Similarly, a class of beginners should work with material that is not so difficult that they are overwhelmed; at the same time it must be challenging enough that they stay engaged. If many people turn away from permaculture because of the way it is organized and conveyed, this is information that must be digested rather than ignored.

Kramer speaks to some of the manifestations of this when he states, "The language of permaculture remains too abstract, and its concepts too distant from the average American lifestyle to catch on, and so the term and the design methodology are still largely a secret." I have observed many people turn away from permaculture, even though they may possess a nascent interest. As best I can tell, they turn away because it is cumbersome; to the superficial glance, it involves a complexity that is not clearly explained.

Furthermore, the American permaculture community is largely comprised of a particular privileged—not necessarily wealthy but nevertheless privileged in terms of education and access to cultural resources, largely white segment of society. Permaculture's language resonates with this group of people. It does not necessarily resonate in the same way with other groups. This difference in language is a real barrier. Coupled with the modes in which it is presented, it is fatal in terms of bringing people on board.

### *Small is beautiful*

One of the basic tenets of our system is that it is essential to start small, to work within one's means. This can be seen in the sequence of designing and developing zones: the dwelling and immediate surround should be the first priority; design and implementation proceed outward in roughly concentric zones. The importance of starting small can also be seen within the precept that small changes

## **Challenge to the Movement**

*Michael Kramer*

*#49 Where is Permaculture? Winter 2002/03*

Permaculture has not had a significant impact on American society, despite 20 years of courses and information dissemination. Why? Perhaps because its dissemination has followed a scatter pattern. There is no systematic permaculture movement in North America, but a rather slow and fragmented process serving 20 students at a time. With approximately 25 courses a year, Permaculture graduates may number 500 a year. If that number is too conservative, double it, triple it, multiply it by 10, it's still not making much impact. Of those graduates, perhaps 50% go on to apply permaculture, and only a tiny fraction of those become permaculture teachers or activists.

Any changes to the mainstream consciousness, to the fate of this society and the planet, will better occur if permaculture infiltrates the public sphere. But with perhaps 100 experienced teachers in this country, permaculture still remains a marginalized and misunderstood approach to regenerative living. Are we ahead of our time? Or are we just unwilling or unable to sell permaculture in a way that Americans can adopt? I think it's both.

almost always have a much higher cost-to-benefit ratio than large changes. Thus, small actions should always be considered before large ones.

However, this is not generally the primary message that gets conveyed as a person learns about permaculture. What is usually conveyed in one way or another—or several ways at once—is staggering complexity. I believe many novice designers get the impression from the texts of permaculture that it's about putting together everything, including the kitchen sink. Many of the illustrations in permaculture books inadvertently reinforce this belief. Design becomes something like a kid's drawing for a dream house, but instead of a pool, a huge television, a helicopter landing pad on the roof, and a bat-cave where the submarine and bat-car are stored, there are greenhouses, chicken and rabbit tractors, exotic plants, wind power, and solar water heaters, regardless of how they all fit together and regardless of the means and resources to support the system. This definitely describes my first missteps as a novice designer; from what I can tell, it is a common mistake.

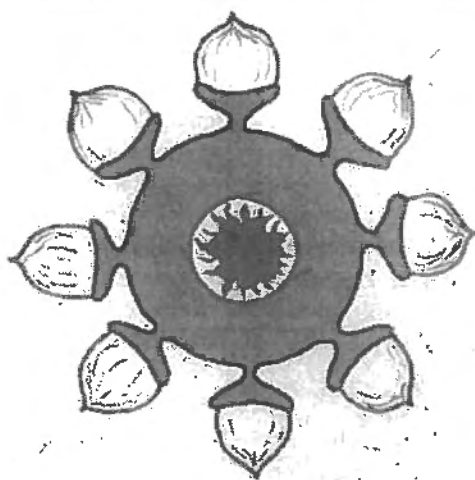
This is unfortunate because that exhortation to start small is—in my opinion—something our whole culture needs. Furthermore, the concept can be articulated easily. What if a system of teaching began with just this concept? What if there were methods and explorations within such a system that served to anchor and build future learning on the embodied understanding of the precept of starting small?

I believe that many people wanting to learn the material contained in the system of permaculture would be better served in the beginning stages by a simpler, more focused body of information. This does not mean more simplistic, watered down, or stupid. In fact, it may be the case that even those novice students who are highly receptive to permaculture as it is currently presented could benefit from such a strategy.

## Keystone actions

Permaculture is a whole-systems approach to ecological design. I have often encountered an assumption (in my own thinking as well as the perspectives of others) that in order to understand and work successfully with something as complex as an ecosystem, large amounts of information are needed. Information is undeniably useful. However, there is a point of diminishing returns where the amount of information begins to restrict the ability to understand or to work skillfully. Thus, the amount of information that a person can take in before he begins to make mistakes in judgment is directly related to experience. A beginning student will become oversaturated with information well before an experienced practitioner. Of course, even the most experienced practitioner has an upper limit and can misjudge due to excess information as much as to a dearth of information.

An ecosystem or even a moderately complex design system is simply too much for any of us to completely understand intellectually. I contend that in order for even an experienced



permaculture designer to work skillfully with a complex system, she must at times work below the conscious intellect to intuitively register and work with parts or “slices” of the system that most fundamentally affect the whole (See *Blink*, by Malcolm Gladwell [2005] for a similar perspective). In his earlier book, *The Tipping Point* (2002) Gladwell calls elements that have a profound effect on the working of the whole system “keystones” (of course, such a term also applies to species whose presence has a primary, systemic effect on the health of ecosystems). I would describe action or behavior undertaken by a person that

relates directly to a keystone in a system as a “keystone action.”

## Simple Practices

My approach with a beginning student focuses on a clearly defined part of a system that reflects its greater whole. Abstractions—which in this context could mean anything from the concepts of zones and stacking to permaculture's catalogue of patterns—are not on the table. An example of a clearly defined keystone of a system is automobile usage. The frame of the educational process might be to substantially reduce driving for a set period such as one month. By engaging in a focused exploration, this person will learn about the interrelation of components in the system of his life. If she follows through and reduces her driving, she will discover how vehicle use is related to physical health, finances, and her relationship with the world. Depending on the context of the person's life, he may gain some insight into the often co-dependant relationship between work and driving. This focused practice offers a clear, practical, experiential opportunity to learn about the elements, relationships, and patterns of systems that permaculture often initially expresses as abstractions at a remove from actual experience. Abstractions are exceedingly useful, but structured, practical experience is a powerful teaching tool for many people, particularly beginners.

I also believe this approach is sensible because of the American cultural context: most of us have been brought up in a culture steeped in oil, and our behavior is patterned accordingly. I believe that many of the mistakes—Type One and otherwise—that are made in permaculture design arise out of this oil-based patterning. When an oil-patterned person finds himself outside the context of oil as the primary energy source—like the realm of permaculture design, he will make mistakes according to his patterning. Starting big and designing beyond one's means are among the most common and disastrous of this sort of mistake. The amount of household debt in this country illustrates the pervasiveness of such tendencies.

The system that I propose teaches people how changes affect systems. It illustrates that small changes produce large results. As it teaches, it produces positive benefits in a person's life. It's contained. And it is a very specific counter-behavior to the overriding societal pattern.

I have been discussing and formulating this approach with friends and colleagues. The essence of the method is to make particular focused changes in the context of one's life and patterning, one



change at a time. Further, it involves observation of the results of such changes. This creates a context of development and support. One small change with a specific focus can support further changes, to the point where such changes can become larger and more complex. With each change however, time is given for observation, digestion, and assimilation. Because any action taken toward change is initially small and carefully monitored, any mistakes are correspondingly small and are regarded as useful information.

We call this system Simple Practices. Its basic premise resonates with permaculture. It serves as essential education for the beginning permaculturist. However it is focused where permaculture is broad, and the initial modes of learning are based in action and experience, whereas the initial modes of learning in permaculture are based heavily—though not exclusively—in concepts. It might be regarded as “pre-permacultural” education because it can provide people with skills and a comfort level useful for understanding permaculture.

Examples of such small initial changes include gardening, mindful cooking of meals at home, increased consumption of locally produced products, basic home energy conservation, reduced driving, and reduction of debt. A person initially chooses one such practice to which he feels most drawn. When one practice becomes comfortable, another is added. As several such ground-level changes are made and mastered, more complex practices are introduced: growing a larger garden, beekeeping, basic home retrofitting for energy efficiency, and community organizing.

The degree to which initial change occurs is based on each person’s ability to sustain the change. Someone choosing to cook meals at home who at present does no cooking whatsoever would not begin by trying to cook dinner seven days a week. These are simple practices, but they are not necessarily easy. Thus, assessment of threshold is vital for success.

## ***Haste makes waste***

It may appear that such small changes are “too little too late,” and that at this point any significant cultural shift with respect to our relationship with the environment needs more rapid, broad-scale change. However, I see small changes as fundamental. Furthermore, one of our most destructive cultural tendencies is haste. Haste crops up in our work, play, driving, and eating. Haste is to be found just about everywhere, especially on the lip of crisis (the moment when haste illusorily appears necessary). We must dismantle haste.

One of the ways that Simple Practices addresses this is that it treats the keystone action (the practice that is being attended to) as a practice of mindfulness. It emphasizes engagement and focus with the practice, while encouraging evenness, equanimity, and detachment such that the practitioner can maintain humility and perspective with success, and self-compassion with failure. Equanimity allows one to be receptive to more of the experience. We can be strengthened and humbled by the perspective that every little change is of value, while at the same time there’s always more that can be done. This perspective arises out of the practice of yoga. While permaculture articulates something like this process, I believe it can be more overt. Attention to the balancing forces of focus and equanimity helps to calm and situate the fluctuations of the over- or under-developed ego. This is useful for doing good work. It is also helpful in getting along with other people.

The method of Simple Practices has been gestating for a few

years. It will develop communally, within a framework of open exchange and communication. I consider it an attempt to build a larger body of people with the necessary knowledge and experience to create positive change in relation to our environment, our ecosystems, our communities, and homes. Considering the downward spiral of current events, it would seem advantageous to try new strategies and for all of us to communicate loudly and clearly about approaches that work. We don’t yet know if Simple Practices will work or if it will offer anything new, but we’re going to find out.

I consider Simple Practices to be a root-level method to build basic skills in ecological- and self-care. Even as it provides basic skills to a large body of people, such a system could also serve as a useful feeder for more rigorous study.

## ***No clear path for follow-up***

When people first see the design manual, they often remark that it obviously takes years to become a skilled designer. Meanwhile, within the structure of Permaculture, what constitutes competency is unclear, long-term support for the development of skill is often lacking, courses offering training beyond initial certification are few, and the process for attaining advanced degrees is murky.

Thus, even a permaculture novice can see that the skills of our method require time and training to develop; yet a person moving through the permaculture educational system with an eye toward professional design will likely end up getting a lot of training from the “school of life,” some of which is undeniably valuable. My guess is that a more developed structure of continuing education might lead to fewer painful lessons and less reinvention of the wheel. If the overall educational structure of permaculture were more clear, this alone would draw more people to the practice.

American permaculture needs a better education system. It needs more rigor. There are few things I can think of that would be more beneficial for the health of the movement. However, this is one of the most difficult changes to make. I can also imagine some resistance based on fears that such an undertaking might standardize, constrain, and stifle the current decentralized approach. The problem is that the current approach is decentralized to the point of dysfunction. It is possible to have mechanisms that ensure a high degree of educational quality while encouraging diversity of teaching styles and innovation. In fact, I believe each side of the issue—rigor on the one hand, creativity on the other—is essential.

To contend that permaculture education needs more rigor may seem to counter my earlier statements that many people are overwhelmed by its complexity. However, I consider disinterest due to the impression of overwhelming complexity to be an issue of presentation.

## ***If it sounds good***

We don’t yet know if the ideas expressed here will be effective. They will be tested; they will evolve, perhaps to become something entirely different from permaculture, or perhaps to something more vital and engaging within the framework of permaculture itself. Duke Ellington is known for saying, “If it sounds good, it is good.” It is crucial to take a similar approach with what works: if it works, it works. Regardless of discipline or ideology, it is essential to find strategies that are effective. That will be the test. Δ

*Eric Stewart is a yoga teacher, permaculture designer, and body-worker who lives in Oberlin, Ohio. He teaches at Oberlin College and is director of Solahuna Yoga Studio.*

# Hawaii Permaculture Retrospective

Michael Howden

**M**ovement in Hawai'i often tends to be somewhat circular, with patterns interweaving back upon themselves in unusual and certainly unexpected ways.

Living in Japan in the late 60s and early 70s, I had the great good fortune to visit Masanobu Fukuoka at his home in Shikoku. Though the visit was brief, he gave me a copy of one of his books (in Japanese). I passed the copy on to our friend Bill Dean in Kyoto, whom I felt could make better use of it. Within the year, a young man from Berkeley named Larry Korn came to visit Bill, learned about Fukuoka and went to study with him, and later prepared *The One Straw Revolution*.... When I returned to the US, I came across a copy of *EastWest Journal*, featuring an interview with Bill Mollison. It made an impression on me and stayed with me. From the early 70s on, based on Maui, I began running a range of seminar/public offerings in Sufism, Tai Chi Chuan, and even dowsing with Jack Livingston. Somehow, we connected with a young man from Findhorn who had been assigned to present OneEarth Two, featuring the Caddys and others, including Mollison. Jay asked us for help, as we had a tad more experience with public presentations; we were happy to help, as The Findhorn Garden and other publications about Findhorn had been very inspirational to us. Toward the end of the process, Jay asked us if we would like to host any of the guests. Of course, I chose Mollison, who, by the time I returned from teaching off-island, was pretty bored with staying in a hotel and listening to rarified discussions about meditation and the devas, so he was easily whisked away into a community of folks much more attuned to what he had to offer. Along the way, without my directly saying anything about it, Bill found out I was associated with Sufism. He had been sponsored by some of the East Coast Sufis, who were considerably more sophisticated and adept at public presentations, and was impressed with their organizational abilities, none of which related directly to us. "Sufis can organize," he said, and though he had declined my previous offer to teach the three-week introductory course in Hawai'i, now said he would be happy to teach here. That was in the late spring of 1981.

We eventually arranged for the three-week foundation course to be given in March of 1982. We had no venue, no running funds other than my personal funds, and very few immediately interested folks. Fortunately, I was teaching on several islands, and would drag along multiple copies of *Permaculture One* and *Two*, to sell or give to interested folks. One evening I was at Jack Lewin's house at Kula San Hospital on Maui, and casually mentioned the process of trying to present Bill. Jack immediately offered his house and the area around it, to be used for the seminar. Eventually, about 30 folks showed up, mostly from Maui.

Other than the depressing first day, folks were delighted to have the opportunity to study directly with Bill. His brilliance, bizarre and ribald sense of humor, sincerity and graciousness, endeared him to his audience. At the end of the seminar, he said we could

all consider ourselves Permaculture Designers, and gave \$1,000 back to us to be used to help get the Maui Permaculture Association moving.

As usual, there were any number of different currents/intentions involved, and few of us ended up working well together. Bruce Beebe ended up creating a 501c3 organization, but that was not generally available to the rest of us. Maryanne Scott who became partnered with Bruce later on, eventually began teaching permaculture at Maui Community College, and created an enormously successful Permaculture Club which had close to 100 members at one point. Several folks began smaller design consultancies with periodic success.

Reny Slay was at the seminar, and later traveled to Tasmania with Bill and became his wife and co-author on the *Permaculture Designer's Manual*, as well as *Introduction to Permaculture*. Also present were two of the Bullock brothers, Joe and Sam, who were part-time, helping in the kitchen with Sam's wife Yuriko.

Through the years, Hawai'i has become a popular venue especially for Australian teachers such as Max Lindegger and Lea Harrison, and through La'akea on the Big Island, for US Mainland teachers too numerous to mention. One worthwhile development, rooted in their Third World experiences, has been the "teach and show" experiential workshops presented by the Bullock brothers, their families, and other close friends. These workshops seem to move in a direction that is immediately useful to those who wish to be engaged in the practice of permaculture, rather than simply the literature about it....

The great potential of Hawai'i, a place where, as Bill pointed out, "anything can be grown," has not been fully tapped. Interface with indigenous Hawai'ian communities has been minimal, as it has been with other ethnic communities such as the Filipino.

Maybe it is just slowly building. Bruce Hill and I were invited

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to work on Kaho'olawe, but that turned out to be pretty limited. Our nursery at Kanahena Farm in 'Ulupalakua has been a valuable resource for other designers, homesteaders, and elements of the Hawai'ian community. We have given weekend seminars in association with John Pollock and Maryanne Scott, and are often asked to do simple consultations and, sometimes, actual designs for various properties.

I often feel we could do so much more, and look forward to interface with the State Department of Land and Natural Resources, which is less and less well funded and staffed, and keeps repeating many of the same mistakes. However, there is an enormous body of concerned citizens throughout the state, who, other than native plant devotees, seem open to working with others of similar persuasion.

And even though we don't have much in the way of formal communication among designers even on the same island, Hawai'i is a small enough community that we often hear what is taking place elsewhere in the islands.

Our farm, Kanahena Farm & Nursery, was designed primarily as a genetic bank, with accessions from throughout Hawai'i, and the Mainland. We have more than 80 species of fruit- and nut-bearing trees and shrubs, and within this assembly, more than 40 named accessions of mangos and avocados, and numerous selections of figs, mulberries, loquats, Burbank spineless cactus, etc. In addition, we have tropical hardwoods, nitrogen-fixing trees and shrubs, native plants, and aquaculture. As a teaching center and what is called in Japan, a "demonstration farm," Kanahena has been ideal.

In the early 90s, Kam Sung, a filmmaker from Honolulu, came to the land, stayed a week, and made a video titled *Permaculture For Hawaii*. It is a great propaganda piece and lots of fun, but is now clearly outdated. It ran for more than ten years on public-access television stations on all of the islands. Where we failed was in human interactions and generally overreaching. We had very little tolerance of so-called environmental studies students sent to us by colleges such as Evergreen who were fundamentally pretty lazy and sometimes slothful. And, though we work just six acres, it took a steady commitment to nourish our establishment phases.

Bruce Hill is presently working on (and becoming part owner of) a permaculture yoga center in Panama, and I have not seen him for the better part of two years. Through word of mouth and personal recommendations, I am working on selected projects, the latest on a property surrounded by land recently purchased by Oprah Winfrey: an interesting challenge, designing an aesthetically pleasing reforestation site, with view planes, wildlife corridors, and so on. Everywhere, the potential for our work is awesome. Maybe we need to be able to better present it, to articulate it in ways that reach the more mainstream communities. And, as Mollison has never tired of pointing out, "we need to work together."

Thank you for this opportunity of sharing part of our oral history in Hawai'i.

△

*Michael Howden was originally trained in permaculture by Bill Mollison and runs Pacific Basin Permaculture Design, concentrating on subtropical agriculture in the Pacific Basin. He is also a licensed acupuncturist and specialist in the traditional Hawaiian healing arts.*

## Start a Nursery—Make an Impact

Douglas Bullock

#37 Tools & Appropriate Technology, September 1997

You may not be able to get the best plants for your site through local or mail-order nurseries. The species and varieties currently in vogue may have been chosen for characteristics such as compact growth, large flowers, or purple foliage. Though these may be considered attractive, they are not necessarily desirable characteristics for your site.

More suited to the permaculture model may be plants that are generally adaptable, nitrogen-fixing, bee forage providers, cold or drought hardy, tolerant of wind or salt, or providers of massive regular yields of a valuable product under adverse conditions. You may be looking for plants that contain strange extractable chemicals, fountain of youth elixirs, or other such qualities or yields that fit your needs and conditions—and you may just have to grow them yourself due to unavailability or extreme prices on the open market.

Nursery work allows us to interact with plants in many ways and learn things we cannot even imagine. It is one of the best ways to learn about and become intimate with plants and their needs. It almost forces you to focus on aspects of these little green beings that often escape notice.

Whether it is their seeds, germination requirements, leaves, flowers, bark, root structure, pests, seedlings, soil fertility, or water needs, you will find yourself studying and observing the plants in your nursery so closely that you won't forget what you're looking at. Latin names will come more easily, family relationships will become apparent, and provocative new planting themes and strategies will drift through your thoughts.

As human beings, we have these great bodies and minds, specifically designed, it would seem, not just to observe, but to interact. Just think, you could have been born as powdery mildew or something nameless, but you ended up human this time around! On a practical level, one of the best ways to interact with the natural world is to start a small nursery.

## New Relationship

Andrew Goodheart Brown

#40 New Forestry, December 1998

The preeminence of forests among terrestrial ecosystems—including their crucial role in generating and conserving clean water and topsoil, is known, and is beyond the scope of this article. But we may acknowledge that a forest is an incredibly diverse, interdependent, and interconnected community of organisms interacting with each other and the abiotic environment. Many of the processes necessary for all life happen in the first few inches of the forest floor (not the least of these is the detritus cycle: the role of the original recyclers).

In our highly segmented North American culture, the care of forests has been delegated to foresters. Yet the term "forester" is a misnomer. Modern "forestry" education is concerned largely with timber extraction—the reduction of trees to wood products. Our present measurements of forest value are limited at best, based as they are on the stumpage price of timber. This approach fails to reflect the true value of trees in a forest community. If we anchor our economics not to profit in the market—an artificial notion, but in the awareness of our belonging to the life community—a palpable reality—and in our ethics of care for that larger body of which we are members, then it makes little economic sense to disrupt the vast and complex beneficial functioning of a forest ecosystem by removing its trees.

A realistic valuation of forests is difficult, but not impossible to state in dollars. According to a recent environmental science text, the overlooked values of an average sized tree—totaled over a 50-year span, add up to \$196,250 in benefits:

- \$31,200 worth of oxygen produced
- \$31,250 for soil additives and erosion control
- \$31,250 for fish and wildlife protection
- \$62,500 for control and reduction of air pollution
- \$37,500 for recycling water, temperature and humidity control, and
- \$2,500 for other minor values.

With this more accurate measurement of dollar value, how many trees can we afford to cut down?

# Permaculture Changes

Kevin Topek

**T**he focus of this issue of *The Permaculture Activist* is "How has permaculture changed in North America over the last 20 years?" My initial response to the question was no response—permaculture has not changed. A few basic rules that we crudely understand still govern the universe, permaculture included. Some of these rules: water runs downhill, plants thrive when clumped together, and biomass addition will increase biomass production. These occurrences seem self-evident, but are really born from observation: probably the most important lesson permaculture has to teach. The other day, I was designing a bog for a nature center and grappling with all the design criteria being imposed by the bird watchers when my wife reminded me, "You know you can't do anything without a reliable base map." Much to my chagrin, she was right. I was so caught up in my ideas, I forgot that they do not matter nearly as much as ground truth. Observe the space you intend to change, and let it dictate what is to be done, not the other way round. From this I realized that the paramount lesson of permaculture, which is to observe your surroundings, has not changed one iota. It is not likely to change soon.

So has permaculture changed in the last 20 years? It most certainly has for us. Twenty years ago, Peter Bane visited our 50' x 100' lot near downtown Houston, Texas, and backhandedly said, "It's very suburban." It was not a compliment, although I took it as one. That was the very effect I was going for: "don't stick out." Twenty years have passed, we are still in the same location, the neighborhood is still suburban, but the yard is not. We stick out. Three years after returning to our home in Texas, we bought the lot next door and removed the uninhabitable house. Next came the digging and planting. Initial trepidation on the part of our neighbors has turned to delight. The smaller children make a beeline to our garden lot and plant whatever they want to find months later, or come and play with the chickens. The pond has not increased the mosquito population, but decreased it radically through the dining habits of amphibians, insects, and fish. Property values have risen, because we did not build a house, an irony here. We literally do eat out of the yard every day, with very little effort. I woke up after 20 years and realized we had achieved our goal of food sufficiency.

On a broader scale, the audience for permaculture has widened. It is no longer solely the realm of the dedicated that seek it out. Most people have at least heard of the concept, and many more ask for it in their horticultural endeavors. Businesses have been established utilizing permaculture principles, and the ones I am familiar with are thriving! The Golden Mean growth spiral seems to apply to invisible structures too. Most importantly, the support network for permaculture has grown. My neighbor in North Carolina a few years ago suggested there might be a need for a permaculture listserv. There was. Now many listservs exist and incubate a variety of

viewpoints. This change is progress. Exchanging ideas and information quickly around the globe may be the most significant and valuable thing to happen to permaculture in the last 20 years. Making the most of the next 20 years requires us to implement what we have learned. With perseverance, permaculture will improve, as will all our lot. Δ

*Kevin Topek graduated from Rice University (1991) and from Bill Mollison's permaculture courses in Glen Rose, Texas (1992-93). He is a member of the Houston Permaculture Guild and owner of a permaculture landscaping company, Permaculture Design, in Bellaire, near Houston.*

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## Holding Back the Water

Peter Bane

#32 Animals & Aquaculture, April 1995

Intensive Grazing Management is a system where large numbers of animals are moved into small paddocks, or grazing cells (typically using movable electric fencing), for very short periods, forcing them to graze everything in the pasture to a near uniform level. IGM, or rotational grazing, based on the original work of Frenchman Andre Voisin, has been widely adopted in recent years both in this country and abroad. It incorporates a number of benefits, while it solves a number of problems associated with static confinement of animals in fixed paddocks. Rotational grazing mimics the action of large herding ruminants in nature. Buffalo, antelope, wildebeest, and other move into an area, grazing everything available and trampling the residues, along with manures, and presumably seedheads of the prairie, or veldt vegetation, into the soil. The herds then move on, not to return for many months. The grassland recovers with vigor. Under intensive grazing pressure, animals eat not just the most succulent plants, but everything in the pasture. This prevents degradation of the sward. Instead of leaving unpalatable plants to grow and seed, increasing their dominance (as in conventional pasture management), uniform grazing followed by a long period of rest encourages the development of diverse forage stands.

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## To Mend the Broken Circles: Thinking Green in City Spaces

Charlie Headington

#33 Cities and Regions, December 1995

It is not hard to imagine cities and suburbs as large gardens. Nature shifts from background to foreground. Each human activity and institution feeds into the loops of natural systems. The *Wall Street Journal* (July 14, 1994) reported front page: "Amid Destruction, Sarajevo Blooms as a Garden Spot: The corn grows tall, beans sprout as residents spread seeds of new civilization." Tragedy has pushed Sarajevo's inhabitants to conserve, grow food, and become self-sufficient. "Beans rise above balcony railings. Tomatoes ripen on rooftops. Onions frame sidewalks. Cows graze on median strips." Former CEOs become master gardeners. Amid the destruction, one can say, "We have all what we need here."

This brings to mind another important practice of urban permaculture: conferring particularity, identity, and conviviality to a place—in other words, making it a "somewhere." Perhaps I should say that one evokes the uniqueness of a place. To convert a lawn into a garden is to give it particularity and, according to the way it is done, an identity.

## City Food—

### Some Benefits of Urban Agriculture

Isabel Wade

Vol. VI, No. 4. Urban Permaculture, November 1990

Urban agriculture produces an economic return from unused or underutilized space that exists in many cities.

Intensive, small-scale gardening is potentially more productive and efficient than traditional farming methods.

Home food production is more likely to supply needed nutrients (essential vitamins, protein, and calories) than the existing market system since the variety of food for sale is often limited and quality and freshness may be impaired.

Many new migrants to cities come from farming areas and already possess agricultural skills.

Food production can employ poor city residents, generating income and fostering a sense of achievement and hope.

In addition to yielding nutritional and economic benefits, urban agriculture can improve city microclimates and conserve water and soil resources.

## Another Look at Invasion Biology

David Holmgren

#54 Fire & Catastrophe, November 2004

In part two of the book, *Invasion Biology: Critique of A Pseudoscience*, by David Theodoropoulos, the author shows how the demonizing of naturalized plants and animals has striking similarities to the methods used by racist, xenophobic and fascist groups to demonize other people. Further he refers to historical evidence that cleansing the homeland of "weeds" of mixtures of colonizing indigenous and exotic plants and animals—that represent new ecosystems that will establish self-replicating dynamic stability over remarkably short periods of time foreign plants—was an element of the Nazi domestic propaganda and program. While I and many others who dare to point out the benefits of naturalized plants and animals have certainly felt the wrath of believers of the nativist orthodoxy, I remain cautious about Theodoropoulos's claim that recognized sociological methods prove that nativism is part of the same pathology as these more universally condemned ideologies. Cautious perhaps because I know nothing of this field of study and am somewhat skeptical that any taxonomy can be used to classify psycho-social phenomena with much certainty. But I certainly support his suggestion that sociologists and psychologists (without strong emotional connection to either perspective) should study the invasion biology literature and the behavior of its followers. To indulge in a biological metaphor, maybe we can hope that nativism is a sign of how xenophobia is being transformed into less pernicious forms prior to its final extinction from the human psyche rather the beginning of a new virulent strain.

## Street Orchards for Community Security

Brad Lancaster

#54 Fire & Catastrophe, November 2004

Over 450 native food plants grow wild in the intact areas of the Sonoran Desert. The velvet mesquite tree is one of the keystone species producing a reliable crop of diabetes-deterring, naturally sweet protein- and carbohydrate-rich seeds and seedpods in both wet years and drought. Thus it used to be a staple of the indigenous people's diets. Yet the vast majority of these trees and the greater ecosystem have been bulldozed within my city to be replaced with a hot and inhospitable pavement of impermeable streets, parking lots and buildings or landscapes of exotic plants dependent upon irrigation from dwindling water supplies. The pavement drains much of our scant 12 inches of average annual rainfall out of the community through runoff and evaporation....

But that can change by turning "wastes" into resources, and turning challenges into opportunity.

# A Brief History of Permaculture in the US

## The Road Less Traveled

William Roley, Jr., PhD

I always say, "You can tell the Scouts by the arrows in their butts." Many of us lived through the 60s and 70s and considered ourselves scouts in the postindustrial era; our derrieres may still feel the sting. We pioneered lifestyles that would pass an ecological audit and granted all living things a right to existence: the Council of All Beings in the Buddhist way. We're now at a point where we can reflect on what we've accomplished, where we are now, and where we're going.

Expanding careers, families, mortgages, and health concerns have spiced the permaculture soup with reality. What can we say as we pass the baton to the next generation? Hope for, faith in, and love of nature still come first, but our socio-political and economic realities have major consequences for our daily lives.

*We're now at a point where we can reflect....*

### A brief history of permaculture

Permaculture was borne of the experimental lifestyles of the 60s. Just weaned, we jumped into revolutionary thought on the politics of society because we realized there was an environmental cost to doing business. We questioned institutional credibility and authority. The 70s birthed David Holmgren's masters thesis and Bill Mollison's mentoring by ingenious storytelling. The brutality of the times mirrored the underbelly of society and led to the atrocities committed during the civil rights movement: the assassinations of Martin Luther King and Malcolm X and the treatment of the Black Panthers, among many others.

Many were psychedelized by Timothy Leary and the Haight-Ashbury counter-culture scene in San Francisco and shocked by the colonial death march of Vietnam. This became a fertile setting for permaculture to sprout its wings in this country. When *Permaculture One* crossed the ocean from Australia, it inspired integrated and applied ecological designs for our own lives and later for human settlements. The youth of our country were on the move. Hippies used their music and the airwaves to spread their message of peace, hope, and more compassionate living. It was the Age of Pericles.

Scott and Helen Nearing's pioneering of The Good Life, John and Nancy Todd's New Alchemy, my Sprout Acres experiments in Laguna Beach, Mexico, and the Lyle Center for Regenerative Studies, Ianto Evans' Third World focus at Aprovecho Institute, and others inspired a back-to-the-land movement and its associated values of respect, preservation, and regeneration. When a friend of mine gave me *Permaculture One*, he said, "These guys are doing some of the same things you're doing. Check it out. You might want to get them over here." We did, and life has been changed by

integrating lifestyle, science, and ethics.

At this time (1978), most people thought of permaculture as simply permanent agriculture—something akin to sustainable agriculture, and permaculturists were thought of as food people. Since many teachers in the early permaculture movement were nurserymen, landscapers, and farmers, the emphasis was placed on designing edible landscapes and, later, food forests. The insightful graphic and ethical integration found in *Permaculture 1 & 2* integrated our disjointed lifestyles, taking root in the "humosphere" of our behavior—that layer that is the basis of all future growth.

These books and journals coordinated a global network of gardeners using bioregional design strategies.

Invited by Andy Lipkis of Tree People, Mollison came to Los Angeles.

When Dr. Jack Lewin,

now the President of the California Medical Association, found out about the philosophy of permaculture, he asked Mollison to his hospital in Maui. The beachhead was established. Initiated Down Under, a budding network now began to take hold around the world.

The Permaculture Institute of North America (PINA) began on Whidbey Island, Washington, in the early 80s. High hopes spread as the first American Conference met at Evergreen College in Olympia. Mollison, Wes Jackson, Alan Savory, and Masanobu Fukuoka were the elders of our tribe and brought a distinctively holistic perspective to the Breitenbush Hot Springs convergence before the US conference.

*The Permaculture Activist* and Guy Baldwin became our US networking tools. Sego Jackson, PINA Director, attempted to herd all the designers and teachers into one focus: sharing their knowledge and walking their talk. As we all have come to understand in one form or another, this was a feat in itself—we are in this together, but we point in individual directions.

The early master teachers were an exciting and idiosyncratic group. We were growing as people as much as the spaces we were developing. Struggling to combine simplicity and complexity in a yin-yang philosophy and modeling regenerative lifestyles in our consumer-dominated society brought us together.

### Regional institutes

Permaculture insights abound in all bioregions, but arid water harvesting strategies and drought tolerant edible landscaping became our most potent offering. After PINA lost its land-based structure and support on Whidbey Island, the movement flowered in the Southwest. The Drylands Institute and the work of many dedicated designers tapped a new vein of creativity. The ideas of Vicki Marvick and Jean Eisenhower, to name only two of many, came to fruition and carried the national permaculture banner for a



time. Our group's individualistic natures and pioneering spirit were a blessing as well as a challenge primarily because we possessed limited business planning skills, funding, or enough females to keep the egotistic male drives cooperating.

Group thinking, teamwork, and collectivism took root but could not hold shade for other species (folks) to propagate; the national organization split into dynamic and self-sufficient bioregional groups. Many influential women came into leadership roles at this time and provided more receptive listening models to foster group progress. We discovered that the applied ecological and technical strategies were easy, compared to the psycho-emotional fractionation of our community.

As we embraced the emergent diversity of the bioregions in this country and their need for grassroots organizations, funding became the dominant and constant issue. The bioregional voices of Institutes supported the survival of these separate groups. With the chokehold of the primary design teachers softened, diversified design courses spread around the country, while some of us went abroad to find fertile ground for our budding design ideas internationally. Classes were given on weekends and in series, as well as the standard two-week design courses format to accommodate people's schedules and economics. Permaculture Designers Advanced Teachers courses were offered by the male-female team of Tom Ward and Jude Hobbs. In 2003, a group of West Coast teachers, including Penny Livingston-Stark, Brock Dolman, Toby Hernenway, Tom Ward, Larry Santoya, Jude Hobbs, and Scott Pittman, met and attempted to organize the West Coast Permaculture Teachers Association to guide and direct some of the variety that was coming into the educational mix. This is still an ongoing labor of love and attention and needs some support if we are to aid new teachers and give vitality to all the design courses.

### Cross-pollination and germination

The *Permaculture Activist* and Peter Bane became our walkie-talkie into the future, providing a substantial model along with the Australian journal and Crystal Waters-type experiments. The oil crisis stimulated our ingenious spirit and architecture. Solar energy with greenhouse and aquaculture technology became part of the standard permaculture curriculum. Urban architecture via the German husband-and-wife team

of Declan and Margrit Kennedy mixed cities and ecovillages into the perma-soup.

Urban planning and architectural design became a part of the curriculum, along with alternative energy and wastewater treatment options. New rivulets of consciousness, such as Richard Register (*Ecocity Berkeley*) brought creeks out of the ground—literally with Strawberry Creek in Berkeley. Ian McHarg's *Design with Nature* exemplifies the mapping of the multi-dimensional factors of natural phenomena that Mollison does so superbly. One of the skills of a permaculture designer is the ability to hold a number of features and indicators in parallel dynamic spaces for a moment and allow creative intuition to claim the space.

The fifth element of the permaculture principles, invoking Shelter and Natural Building, became masterfully displayed through innovative case studies in cob and straw-bale construction. Even though the professional trades were not gifted in permaculture analysis, permaculture has become a household word for those in the know, even if they can't tell you much about it. Many of the technical trades are now integrating insights found in permaculture literature as our designers reach out into the design professions of architecture, engineering, landscape design, and the building trades.

### Are you a pathogen or a parasite?

In the early years, good organic food and unique fruits and vegetables became the "gastrointestinal propaganda" for the dissemination of permacultural ideas, and a cultural shift to holistic ways of living was encapsulated in "Thinking like a watershed." In other words, begin at the top and understand that the shortest distance between two points is not how the water runs in a landscape.

As a professor, I often ask my environmental science students if they are pathogens or parasites? After their initial shock, they start to assess their lifestyle to see how many of the principles of regenerative living—reduce, reuse, recycle, refuse, restore, and respect in their use of food, waste, water, energy, and shelter—they include in their daily lives.

We all live downstream from someone or something, which is the thought that drives the four P's of social activism: Begin your mission with *Passion*, hold the course *Persistently*, and continue to *Preserve*,

while having *Patience* for all things good or bad to pass.

The dreams and hopes of the last part of the 20th Century have now sprouted. We now understand the industrial model based on steel, concrete, and accumulated money and power will not die easily. We need to be midwives to the social organization even while society resists. This is why I refer to myself as a Future Anthropologist or an Applied Ecologist, working on sustainable culture for the 21st Century. Δ

*Bill Roley is founding director of the Permaculture Institute of Southern California and co-founder of the Eos Institute and its environmental journal Earthword. He teaches at the John Lyle Center for Regenerative Studies at California Polytechnic University and also teaches at Saddleback College and Soka University. His design credits include major government and private clients in Southern California, Mexico, Brazil, and Belize.*

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## Permaculture

Ianto Evans

**F**or those who don't know me, I'm co-founder of The North American School of Natural Building and Cob Cottage Company, and also co-originator of the annual Colloquium on Natural Building, an international week-long gathering central to cooperative alliances in the fast-expanding Natural Building movement.

Twenty years ago, I taught one of the very first permaculture courses outside of Australia. I was recruited, I guess, because my background in art, plants, and ecology was thought to be ideal for creating an instant new permaculture instructor. I had been a professor of landscape architecture, had a lot of village experience in Latin America, Africa, and Asia, and was director of a small nonprofit rural research center promoting "Appropriate Technology," that is, low-tech household gadgets. So, for a few years, I was involved in "Third World Permaculture," offering courses in Mexico, Brazil, Ecuador, the US, and Guatemala. Permaculture in the 80s emphasized gardens, food production, trees, water management, and rural living. It still does.

Like most permaculture instructors, I thought permaculture was about better horticulture. Yet I had deliberately chosen to move to the US in the 70s to work on stopping consumerism. Slowly, many of us realized that "perming your yard" is a comforting thought, but it can't save the world. Three things changed my personal path at that point.

First was the competition and infighting that developed in the permaculture movement in the 80s. For example, hate letters from a self-styled permaculture expert to several of us asserted that what we taught wasn't True Permaculture and that we were unqualified imposters posing as *bona fide* Permies. Second was the move to standardize a teaching curriculum and crowd it with so much sit-up-and-listen-to-teacher that the practical expression took second place. My own attraction to permaculture had largely been the emphasis on strength in diversity and treating each circumstance uniquely, to which a standard curriculum must surely be antithetical. Most important, though, was the tendency of permaculturists to neglect an area of great importance: construction and the shelter that we occupy, our homes.

### Assessing our activism

If we are to live better in the future, if we are determined to stop destroying our resource base, and if we will protect other species (and ourselves) from extinction, then in good conscience, we must act now, decisively and with as much leverage as we can find. We know what the problems are, yet most of us find our conscience out of alignment with our actions. Partly, we are held back by the same good conservative values that have helped maintain our culture; partly, we're lethargic because we are so well supplied materially, being in the top 1% of the privileged. But, most of us are ineffective because we don't know where to put our efforts. What is most important to tackle first? What will have the greatest effect for reasonable effort? And what can I do—little me, being so powerless?

Clearly, industrial consumerism and corporate capitalism are at the core of our problems. Huge, cross-reinforced institutions, belief systems, and constraint devices supported by media, schooling, laws, and religious leadership at first seemed so impenetrable that we limited our efforts to

superficial tinkering with these daunting, frightening, and threatening institutions.

By the late 1980s, it was obvious that the scale of action needed to shift. Do we want to be effective by protest or by example? They're different. It's easy to march with a banner on Saturday, but if you go shopping on Sunday and go back to your computer on Monday, will the net result be what you wanted?

The shrewd activist needs to assess two things: 1) big gaps in society's fabric that are rapidly widening and 2) his/her personal abilities and resources. Effectiveness is proportional to how well (2) matches (1). But there's another issue. How consequential is (1)? Your efforts could be wasted if your effects are on a very minor problem. For example, you may well have writing skills to critique the use of pale yellow in modern art, but how much will you affect society's suicidal path? If you move to Ecuador and buy an acre of rainforest, will your protection save a single species? How much of what we do is part of the problem rather than the solution? We need better ways to assess the scale of potential results of our actions.

Some of us took a hard look at the numbers. By late 2000, buildings were using about 50% of US energy, as compared with road transport usage of about 6%. Buildings in the US alone accounted for 10% of global energy use. Between 6 and 10% of greenhouse CO<sub>2</sub> came from cement manufacture. In North America, half to three-quarters of forest destruction was to produce lumber to be buried under sheetrock and fitted carpets in gigantic, inefficient houses. This beautiful wood, after the framers had smacked it into place, would next be seen 40 years later by the driver of a demolition dozer, smashing it out again to be hauled to the dump. Our society counts its success by how fast it can get resources from mine to landfill, and the scale of destruction by the construction industry far outstrips corporate farming or road transport. If we can cut the energy/resource use by North American houses by even 10%, we save 5% of the national energy budget. No more nukes; we can stop trashing Navajo homelands for coal; 5% of the forest—millions of acres—will still be standing. So we began to transform our attitude toward houses. What grew out of permaculture 15 years ago is now the thriving, cooperative, humane, successful movement known as Natural Building. Permaculture principles apply equally to construction, and the effect can be gigantic.

### Permaculture: the architecture of sustainability

Natural Building means a careful assessment of what's needed—minimally not maximally—with a thorough inventory of locally available resources including skills, time, and materials. The frame of reference is always Nature and how she does things. After all, she's totally successful and has a 13 billion year history of perfecting her work. Natural Builders use the laws of Nature.

In case you're confused, Natural Building is not "Green Building," not what's usually labeled "Eco-Building," and not "Sustainable Construction." Green Building has come to imply trading slightly less toxic materials and products for extra cost. I call it "greenwashing." Stuffing the wood frame walls with straw in place of fiberglass won't save the old-growth forest, and doesn't help us question what exactly we need





*Thatching a roof at a natural building workshop*

in a building. Natural Building looks at the whole paradigm, asking what is the least we really need. What will this house use and produce over its lifetime? What damage does each component do and to what? What quality of life do the inhabitants have? Will it be inspiring, joyful, and ecstatic? Can we make it truly The Harmless House? How will the building enhance the neighborhood, can it generate homes for wildlife, and support endangered species?

Natural Building stresses wrapping the building around the activities, rather than making use-neutral containers to be filled with furniture. Minimal buildings snugly enclose use without wasted space, as a bird's nest is just big enough, no more. Structural strength should be enough, without over-building to save the architect's ass against suits. Construction will be cooperative, with designers merely helping clients to realize their needs, and democratic—everyone can take part, no matter their age, gender, or handicap.

Natural Buildings aren't designed for superficial aesthetics—neither is a tree, though both look beautiful and seem perfect if we don't impose a

particular "look" on them. If Nature is perfect, pruning trees always makes them ugly; similarly, buildings will be ugly in proportion to the manufactured materials they display, to how much they cost, and to how excessively big they are.

The real achievement of these 20 years is that we can now quickly teach ordinary people how to build themselves a house. All over North America, middle-aged women are leaving week-long workshops with the self-confidence to build a small home. Within a year or so, many people stop paying rent, quit their dreary jobs, and have the satisfaction of living in a hand-crafted work of art they built with their own bare hands. Often these structures are tiny, but few people go back to the alternative: driving to a job they hate to pay for a house they'll never love.

Dozens of instructors are teaching and constructing now, helping people with a broad palette of natural materials. More important than any technical trick though is the understanding that by changing the paradigm from the War Against Nature to working as her ally, our lives improve all-round.

We live surrounded by depersonalized insincerity and lies where very little makes sense: "Press 1749 for your very own personalized astrology recording." As our perception of government and corporate duplicity, violence, and ugliness expands, we seek refuge in anything that makes sense and intuitively seems honest. Looking back 20 years, it feels as if we're coming from a time of prosperity and hope. As quality of life for most people gets worse, permaculture and Natural Building both appeal as never before. I sometimes marvel at the instant infatuation people show at seeing their first cob building. Coming into my funny little house, often the immediate reaction is, "I love it! I want one! I can afford this. I can do it myself!" At these times, I am reminded of just how impoverished is the physical man-made environment and how much power we wield in offering any alternative to what is available. Let's be sure to use that power responsibly. Δ

*Ianto Evans is co-author with Michael G. Smith and Linda Smiley of The Hand-Sculpted House, 2002. Available from Cob Cottage Company ([www.cobcottage.com](http://www.cobcottage.com)) by mail.*



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## Buildings That Live

Chuck Marsh

#41 Natural Building, May 1999

Winston Churchill wrote that "first we make our buildings, and then they make us." It seems true that the design of our homes and our car-dependent lives are pushing culture and nature further apart. We can begin to redesign our homes and our lives to focus us outdoors as much as possible, to connect us deeply to the living world. In short, let our houses get us back to the garden.

Plazas and courtyards can be busy with the bustle of crossing paths and myriad daily activities or they can be sheltered nooks for contemplation and privacy. Consider thoughtful placement of building fronts, wings, walls, roofs, overhangs, gates, fences, and other elements.

The Dooryard is the hard-packed earth surface where many of the domestic activities take place, from crop and food processing to cooking, washing, relaxing, and playing. The dooryard is a virtual multipurpose outdoor room.

The Covered Porch serves as a transition space between house and garden or street. Porches provide shady, convivial places for observing the surrounding gardens, growing plants, visiting with friends, reading, napping, and dining.

Other potential design options worth exploring are vine-covered arbors, an outdoor kitchen and removable exterior walls. Natural buildings function as living whole systems, homes that invite us back into the living relationship with the natural world. If we address the design challenges creatively, then architecture will become a healing art and the natural building movement can truly help us find our way home—to the Garden.

# An Educational Paradigm for Global Regeneration

# Gaia University

Liora Adler and Andy Langford

**V**isualize the planet, drifting through space. Perhaps you will see astronaut Edgar Mitchell's vision: a sparkling blue and white jewel, a light, delicate sky-blue sphere laced with slowly swirling veils of white, rising gradually like a small pearl in a thick sea of black mystery.

Most likely though, this picture will be marred by the nightmare images of rapidly melting glaciers, skeletal coral reefs and smoking, barren landscapes where once were rainforests. You might project into the future, imagining widespread warfare and desperate ravaging of earth's remaining resources as oil supplies peak and rapidly dwindle.

Look closer. When we do, we will also see a strong, natural impulse toward renewal. In every pocket where the Earth has been left alone, it is regenerating its life systems. And miraculously enough, we'll see that people, too, are actors in this regeneration process, nourishing vibrant human communities and slowly restoring severely exploited landscapes.

Gaia University, a new decentralized, action-learning-based University, was founded last fall in order to support and strengthen these hopeful trends. Permaculturists, ecovillage founders, green technology innovators and other leaders in the sustainability field are now invited to partner with GU to offer Bachelors and Masters degrees, with accreditation formally recognized in both the USA and UK, to the world changers of tomorrow.

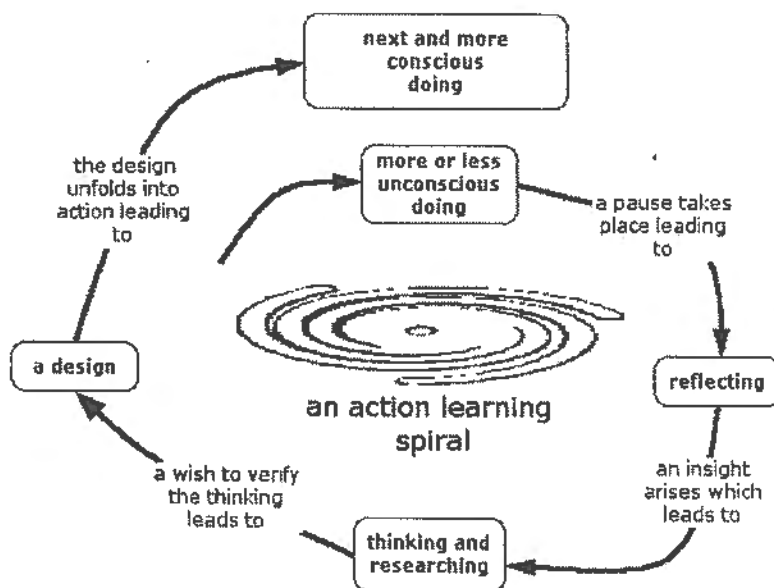
For over ten years, leaders in the permaculture and ecovillage movements have envisioned just such an institution, but it took the joint brainpower of visionaries Liora Adler and Andy Langford to pull it together. The two met at an ecovillage educators forum at Findhorn, Scotland in early 2004. This seemingly chance encounter generated a spirited dialogue around development of a global university, through expansion of the Permaculture WorkNet Diploma Program Andy had initiated 12 years earlier. In the months following, Liora and Andy teamed up to bring what had been a nebulous concept into a serious institution of higher learning.

They charted a pathway to accreditation through IMCA (International Management Centers Association) and Revans University—the only action-learning university in the world. In October of 2004, Gaia University was incorporated in Colorado.

It would be difficult to imagine a better-suited pair to manifest this ambitious project. Liora has over thirty years experience with ecovillages and the establishment of global networks. She was co-founder, in 1982, of Huehucocoytl, an artisan's *ecooldea* in the volcanic highlands of Central Mexico. In 1996 she helped to launch *la Caravana*, a nomadic ecovillage of international artists traversing Latin America from North to South. In the years following, she has played an instrumental role in establishing, promoting, and strengthening both the

Ecovillage Network of the Americas and the Global Ecovillage Network.

Andy initiated permaculture teaching in the UK starting in 1985 and, together with colleagues in the Permaculture Association of Britain, has initiated training of more than 3,000 permaculture designers. Since 1993 he has been developing and refining the Permaculture Diploma WorkNet, which has awarded 160 diplomas to students, mostly in Europe. The WorkNet is widely regarded as the standard for European permaculture education. Andy refers to the Gaia University collaboration as



Version 5.0 of the WorkNet System.

Andy and Liora envision Gaia U's potential curriculum as broad enough to include the following: Permaculture, Ecovillage Design, Peace Studies, Ecocities, Appropriate Technology, Traditional Wisdom, Eco-health, Sustainable Economics, Bioregionalism, Life Transitions, Natural Building, Social Communication, Art for Social Change, and many other as-yet-to-be-developed areas of study.

Action learning is central to Gaia University's methodology. It is a back-to-the-roots alternative to standard University learning. It offers a sophisticated, nurturing framework for students—called associates—to explore their area of interest, without demanding that they know precisely where they're headed from the outset or have any fixed concept of where they will wind up. Within a network of supportive and knowledgeable faculty, students are given the tools to investigate, reflect, and to "crash around a bit" in the classic pattern of inquiry dating back thousands of years (See Action Learning Diagram).

Action Learning Sets of students will have access to a broad range of support consisting of Workshop Providers, Set Advisors, Internal Reviewers, Specialist Advisors and an External Reviewer. A Regional Coordinator develops the overall regional capacity, linking associates with these individuals, many of whom will work in a given region, but



some of whom will likely tutor and mentor from afar by phone and e-mail.

In addition to faculty support, each associate will be part of a Learning Guild of three to five peers, with whom they will meet regularly to refine and deepen their pathway through a system of directed inquiry: what is going well for me as an action learner? What is difficult? What are my long-term goals and visions? What are my next achievable steps?

Liora and Andy's expected students will likely be from the divergent population. Adler sees a portion of this group as young people who are fed up with the traditional, spoon-fed, sit-in-a-classroom-while-you're-being-lectured-to environment.

"Perhaps," she says, "they have another kind of genius that could be cultivated in a different methodology." The population Gaia University is reaching out to will already share much of the vision contained in the sustainability movement. Liora believes that an estimated six percent of the general population fits into this category. "Six percent of six billion is a lot of people—we'll start with those" says Adler.

Students can take an informal or formal route toward their degrees, the primary difference being the commitment to deadlines. Formal learners will be expected to work to a set timetable with their learning group while informal degree earners can work at their own pace.

While degree programs will vary widely depending on area of study and the structure of a given regional center, the basic outline of a formal Bachelors degree should look something like this:

**Year 1:** Associates focuses on theory and coursework and setting up projects. Must acquire 80-100 'classroom hours'—through workshops and study of theory with partners in GU's global network. While students can choose from a near-limitless array of courses, they will be required to take 'Regeneration 101' which will cover core concepts in sustainable design sciences such as peak oil, permaculture, footprint analysis and the ethics of right livelihood. Students will identify projects that meet their own development needs and meet the needs of a sponsoring organization—these projects are the core of an action learning pathway.

**Year 2:** Associates will embark on their action learning pathway, working closely with their Learning Guild, Set Adviser and Internal Reviewer (project mentor), as they begin articulating and engaging with their project design. Students will learn as they go, as progress through the projects that highlight their areas of ignorance. Technical Advisers are on hand to assist.

**Year 3:** Associates' projects will move through implementation towards completion; Project reports (written, videotaped, or maybe sung and danced) will be submitted to an internal reviewer and, finally an external reviewer, both of whom must accept the project as complete in order for

## Webs of Power

Starhawk

#48 Making Changes, September 2002

### *The Movement as Ecosystem*

Radicals often spend much time and energy arguing with each other over what the correct form and aim of struggle should be, who we should associate with, whether we are being co-opted by mere middle-class reformists or led astray by impractical extremists, what lessons we should take from the past. Revolution is not an exact science: we can learn from the past, but we can't rerun any given action or insurgency in a different mode as we could a laboratory experiment. We inevitably draw different lessons from the same events.

But if we were to apply some of the principles of permaculture to the design of the movement, we might see that a movement is like an ecosystem. It needs the full spectrum of diversity. It needs white-haired women in wheelchairs singing "Where have all the flowers gone," and it needs black-clad masked youth calling for class war. Revolutionaries and reformists fill different niches. Unless the niches of reform are filled, revolutionaries can't exist, can't mobilize a base of support for broader and more radical change. And unless there is some group willing to push the edge of the comfort zone, willing to engage the system at a higher level of confrontation, the reformists have no clout. And we might see that reform and revolution march along together for quite a while yet. For however we value or critique that ship, our immediate task is to change its course and prevent, if we can, a crash so devastating that the life systems of the earth will be irreparably damaged.

To do that, we must

- prevent the extension and consolidation of power by the globalizers,
- contest new treaties and trade agreements, laws, policies and practices that extend corporate control,
- delegitimize and dismantle the current institutions, and
- introduce alternatives on whatever scale we can.

In these efforts, both reformists and revolutionaries have important roles. The NGOs, the academics, the writers, thinkers, analysts, and lobbyists can mount cogent arguments against current policies, influence legislation, provide the research that is the basis for the movement to formulate its positions, engage in high-level dialogue, and, at times, succeed in winning reforms that actually mitigate suffering and lessen the damage of the system.

The radicals can mount direct actions that spotlight the system's abuses, attack the legitimacy of its institutions, interfere with its ability to do business, and provide living examples of alternative ways of organizing.

The creators of alternatives can find ways to make their experiments more visible and more known and to push for their adoption on a larger scale.

And we might all shift roles from time to time. The work of creating the alternatives is satisfying and soul-nourishing. The work of contesting the current structure is sometimes exciting, but often hard, grueling, and dangerous. Radicals can have their spirit renewed by working on alternatives. Researchers and academics can be energized and radicalized by occasionally taking to the streets. The permacultural art, of course, is to make our every action serve more than one function. Our organizing a direct action to interfere with a summit meeting can itself be a model of an alternative form of governance. We can seek for ways to let our positive alternatives undermine the legitimacy of the current ways of doing things. An encampment for an action could be a model of ecological design. Every successful solar installation is an argument against the need for oil dependency.



Action learning and nontraditional teaching methods are cornerstones at Gaia.



*Many hands make light work in a community garden.*

an associate to receive their degree.

One potential stumbling block for GU students in the US will be their ineligibility to apply for federal aid, given the fact that accreditation is achieved through a non US institution. To overcome this obstacle, Andy and Liora hope to develop a foundation for students with lesser resources, most of which will be directed toward students in economically impoverished regions of the world. However the fact is that a degree from GU costs substantially less than that acquired through a University in the US or Europe. In addition, the founders are working with the Permaculture Credit Union to develop a student loan facility.

A unique feature of Gaia, which is intended to benefit the many individuals who have already contributed significant time and energy within their organizations yet lack formal accreditation is the credit map system, whereby up to 1/3 of an associate's credits can be derived from previous experience.

Leaders in the sustainability fields who wish to partner with Gaia University are encouraged to utilize the credit map option in order to pursue an accelerated Masters (or potentially Doctorate) degree. Remaining work toward a degree could act as the framework for clarifying goals and objectives, fine-tuning of existing programs, developing regional centers, developing strategic business plans, or playing a role in researching and sharing effective models for the rest of the network.

Andy and Liora both see Gaia University's role in building learning infrastructure for the sustainability movement as vital and expect it to "pulse better focus and performance throughout the networks" They hope to nudge ecovillages, permaculture initiatives, and holistic health centers closer to their full potential.

In April, Andy and Liora traveled to The Farm, a 34-year-old intentional community in central Tennessee, to begin development of the first regional center or 'campus' in Gaia University's global network. In the months following, a flurry of meetings and visioning sessions have taken place, as seasoned pioneers in the fields of permaculture, appropriate technologies, ecovillage design and alternate health are hammering out various curricula, a common legal framework, and faculty structure. GU plans to offer accredited courses starting in January of 2006. Numerous other communities have expressed interest in establishing their own regional centers.

At the recent International Permaculture Convergence (IPC7) in

Croatia there was much support for the development of Gaia University. Bill Mollison, Declan Kennedy, Peter Bane, Ali Sharif, Richard Wade and many others expressed their particular visions of how GU might evolve in their regions and further the growth of the permaculture movement.

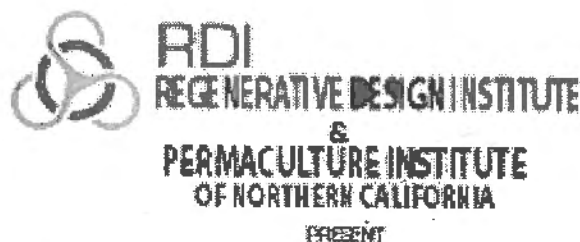
Information about Gaia University is now available on its beta website, [www.gaiauniversity.org](http://www.gaiauniversity.org). Next steps include establishing regional centers; development of 'Regeneration 101' and refinement of the University's organizational structure through the website's feedback system—what Liora refers to as "growing tip led organization where the branches, new-growth and cross-fertilization happen out there"

If you are interested in participating as a workshop provider, associate or funder, or if you'd like to initiate development of a regional center, first carefully peruse the website. Then contact GU directly at [info@gaiauniversity.org](mailto:info@gaiauniversity.org).

"We have all been consistently ridiculed for having visions," notes Andy. "We've been told, 'you can afford to be idealistic when you're young, but when you get out into the real world, you'll forget all that,' So our visions of how we'd like to see the world become a better place get squashed."

"Some of us, though, have managed to re-emerge our idealism and our visioning ability. It is up to us," he says, "to create the safe place for other people to practice. There's the true vision for Gaia University: opening up our visioning capacity, learning the skills we need to meet the coming challenges, creating a sustainable world and allowing the Earth to regenerate." △

*Andy Langford is one of the elders of the British permaculture movement and was instrumental in setting up the Permaculture Worknet for diploma accreditation. Liora Adler is a global leader in the ecovillage movement and serves on the Board of the Global Ecovillage Network.*



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### Patterning as Process

Tim Murphy and Vicki Marvick #39 Knowledge Pattern & Design, July 1998

Our friends who teach permaculture in indigenous cultures tell us that they don't need to teach patterning. Even where Western culture has disrupted other aspects of life, people still speak the language of pattern. As teachers of permaculture in the US, we've observed that some people "get it" immediately, and many others don't. A zonation strategy for developing pattern literacy would build on learning in other areas of our lives where we have retained an intact awareness of pattern. Every cell of our bodies mirrors the mega-pattern of life. We each enter the world fluent in pattern language, and we have within us everything we need to reconnect with that awareness. we need only learn to trust ourselves.

#### *Why are Patterns so Significant?*

The core insight of permaculture is the idea that we can shift from dominance to intimacy with nature through mutually beneficial interaction with the entity of place. This depends of knowing "place" on the level of relationship. Patterns are significant because they reveal relationship dynamics.

All living systems share a common mega-pattern which the permaculture literature calls the "general model." Patterns such as turbulence, spiraling, oscillation, collection and runoff (or distribution), orbit, succession, growth, and decay nest inside it. Because of these properties of living systems, patterns reveal a significant portion of the story of the underlying energy flows and relationships—actual and potential—of a system. Peter Warshall has recently written that four concepts describe how humans and other creatures embed themselves in landscapes: 1) Composition of each governing part, 2) Configuration of the parts, 3) Connectivity between parts, and 4) Community, a boundary defined by geography.

The beauty of patterns is that they simultaneously reveal configuration, connectivity, and community. Patterns stack information—more information than can be described in words or quantified by any number of lists.



# Toward an Ignorance-based Worldview

Wes Jackson

**A**t The Land Institute, several of us get a great deal of joy from looking for the relatedness of the seemingly unrelated. Here is an example: In 1859, Charles Darwin's *Origin of Species* was published. The same year, Colonel Drake drilled the first oil well in Pennsylvania. And John Brown was hanged at Harper's Ferry. Now let's connect the dots.

Darwin's idea of evolution through natural selection was sponsored by coal. If it hadn't been for coal and the infrastructure that gave slack to this country gentleman, the idea would have had to wait. Its refinement was sponsored further by coal, and by oil and natural gas. The important ideas in ecology really took off after 1859.

What about John Brown? Coal again. The industrial North could afford to be pretty self-righteous about opposing slavery in the much more sun-powered plantation South. Before the fossil carbon era, slavery of some form or another was widespread.

The slack from energy-rich carbon pools is what has made civilization possible. First it was agriculture and soil carbon, later the cutting of forests. The king of Tyre struck a deal with Solomon for the cedars of Lebanon to build the temple. The Greeks had already done in thousands of acres of their trees. By the time of Charlemagne, the onslaught against Europe's forests was well under way. Carbon pools exploited. So it went, and so it goes today. Our fossil fuel epoch—some 250 years old—is dependent on highly dense and vast pools of coal, oil, and natural gas.

We tend to think that the ideas of humanity arise rather intrinsically. We seldom pay attention to their sponsorship, to the slack made available by our species skating from one energy-rich carbon pool to another.

Why is this a prologue to what I have to say about ignorance? Simply this: Before agriculture, long before the industrial revolution, we could afford to be very ignorant about what supported us. We didn't need to know about nutrient cycling and energy flow within the ecosystems of the ecosphere. We didn't need to know that the earth goes around the sun—and still don't.

Do we really need to know Einstein's equations? How much do we really need Newton's calculus? A harder question. As creatures of the upper Paleolithic, we certainly didn't need Newton's calculus back then. We don't need to know about plate tectonics now, though I'm glad to know about plate tectonics. In fact, I'm glad to know what's come in from the Hubble telescope.

But as a consequence of scientific and technological tampering, we have created ignorance of things we now do need to know.

This is part of what led to a conference we held in 2004 called "Toward an Ignorance-based Worldview." The inspiration started with a letter Wendell Berry wrote to me in 1982. Here are parts of it:

I want to try to complete the thought about "randomness" that I was working on when we talked the other day. The Hans Jenny paragraph that started me off is the last on page 21 of *The Soil Resource*:

"Raindrops that pass in random fashion through an imaginary plain above the forest canopy are intercepted by

leaves and twigs and channeled into distinctive vertical space patterns of through-drip, crown-drip and stem flow. The soil surface, as receiver, transmits the "rain message" downward, but as the subsoils lack a power source to mold a flow design, the water tends to leave the ecosystem as it entered it, in randomized fashion."

My question is: Does "random" in this (or any) context describe a verifiable condition or a limit of perception? My answer is: It describes a limit of perception. This is, of course, not a scientist's answer, but it may be that *anybody's* answer would be unscientific. My answer is based on the belief that pattern is verifiable by limited information, whereas the information required to verify randomness is unlimited. As I think you said when we talked, what is perceived as random within a given limit may be seen as a part of a pattern within a wider limit.

If this is so, then Dr. Jenny, for accuracy's sake, should have said that rainwater moves from mystery through pattern back into mystery.

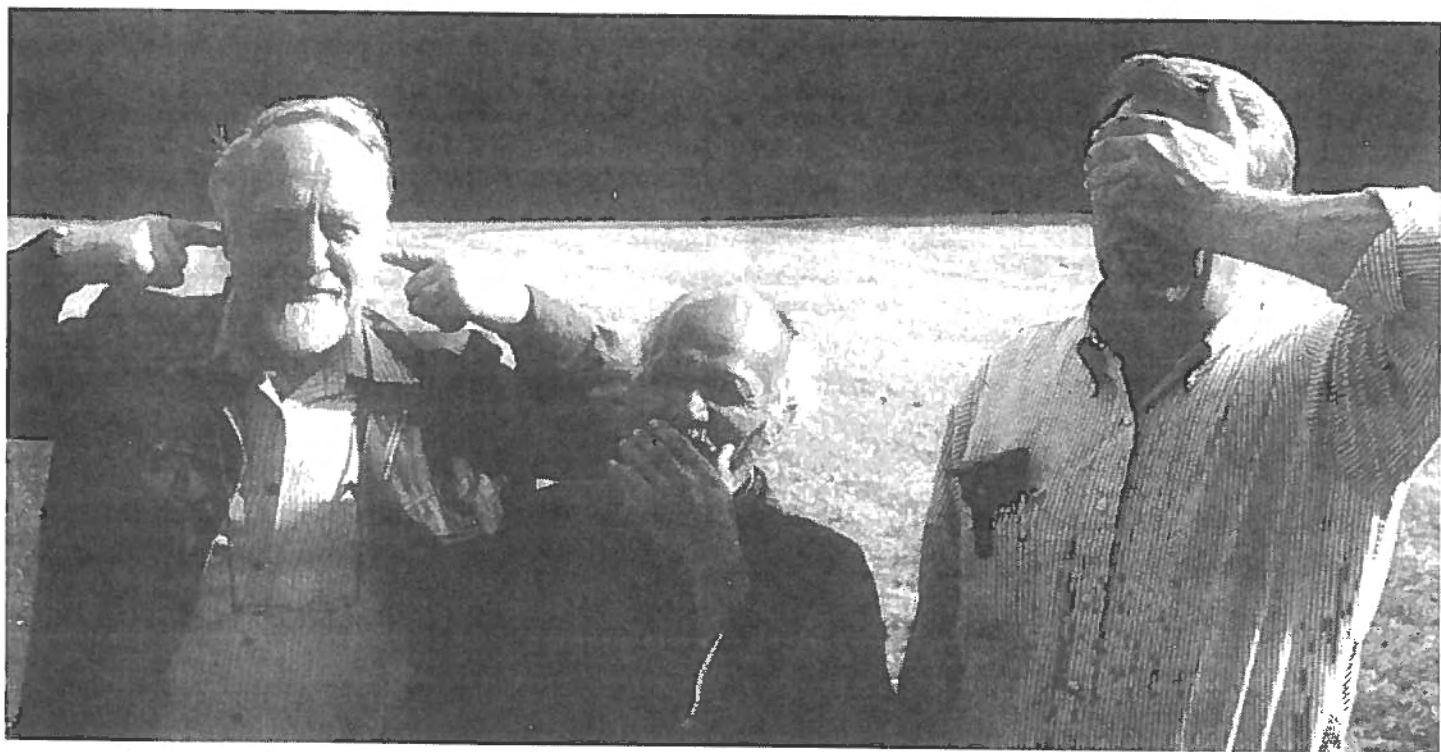
To call the unknown "random" is to plant the flag by which to colonize and exploit the known. (A result that our friend Dr. Jenny, of course, did not propose and would not condone.)

To call the unknown by its right name, "mystery," is to suggest that we had better respect the possibility of a larger, unseen pattern that can be damaged or destroyed and, with it, the smaller patterns.

This respecting of mystery obviously has something or other to do with religion, and we moderns have defended ourselves against it by turning it over to religion specialists, who take advantage of our indifference by claiming to know a lot about it.

What impresses me about it, however, is the insistent practicality implicit in it. If we are up against mystery, then we dare act only on the most modest assumptions. The modern scientific program has held that we must act on the basis of knowledge, which, because its effects are so manifestly large, we have assumed to be ample. But if we are up against mystery, then knowledge is relatively small, and the ancient program is the right one: Act on the basis of ignorance. Acting on the basis of ignorance, paradoxically, requires one to know things, remember things—for instance, that failure is possible, that error is possible, that second chances are desirable (so don't risk everything on the first chance), and so on.

What I think you and I and a few others are working on is a definition of agriculture as up against mystery and ignorance-based. I think we think that this is its *necessary* definition, just as I think we think that several kinds of ruin are the *necessary* result of an agriculture defined as knowledge-based and up against randomness. Such an agriculture conforms exactly to what the ancient program, or



"Seeno evil, hear no evil, speak no evil." Bill Mollison, Masanobu Fukuoka, and Wes Jackson, International Permaculture Conference, Olympia, WA. Photo by Sego Jackson

programs, understood as evil or hubris. Both the Greeks and the Hebrews told us to watch out for humans who assume that *they* make all the patterns.

How'd you like to receive a letter like that? It took 22 years to digest it and to finally put together a conference.

As you can imagine, when we announced "Toward an Ignorance-based Worldview," it was a source of great mirth.

To get ready for this conference, I sent out sort of an invitation. Here's what it said: "Imagine an ignorance-based science and technology in which practitioners would be ever conscious that we are billions of times more ignorant than knowledgeable and always will be."

Now, if you know that knowledge is not adequate to run the world, what do you do? What do you do if you recognize that you are up against ignorance?

You ask before launching a scientific or technological venture: How many people will be involved? At what level of culture? Will we be able to back out? Scientists, technologists, and policy-makers would be assiduous students of exits.

I have spent a fair amount of my life studying exits, starting with classrooms. How are we going to get out of here in case something goes wrong? Such students of exits would want to know not only how to exit, but also how to not leave irrevocable damage.

Knowledge seeking would not stop, but would, as Wendell Berry has said, "force us to remember things, cause us to hope for second chances and provide an incentive to keep the scale small." Acknowledging ignorance might be the secular mind's only way to humility.

Harvard's Dick Levins, a sort of a mathematical modeler ecologist, wrote, "Structured ignorance is a prerequisite for knowledge." Also, "Ignorance is not passive. It requires energy to

sustain it."

By embracing an ignorance-based worldview, at least we go with our long suit. Knowledge and insight accumulate fastest in the minds of those who hold an ignorance-based worldview. Having studied the exits, their imaginations are less narrow. Darting eyes have the potential to see more.

At the conference, Wendell said, "Our purpose here is to worry about the predominance of the supposition in a time of great technological power that humans either know enough already or can learn enough soon enough to foresee and forestall any bad consequences." He said this supposition is typified by *Selfish Gene* author Richard Dawkins' assertion in an open letter to Prince Charles: "Our brains are big enough to see into the future and plot long-term consequences."

Wendell said, "When we consider how often and how recently our most advanced experts have been wrong about the future and how often the future has shown up sooner than expected with bad news about our past, Mr. Dawkins' assessment of our ability to know is revealed as a superstition of the most primitive sort."

Several people brought to the conference something Defense Secretary Donald Rumsfeld said at a news briefing: "There are known knowns. There are things we know we know. We also know there are known unknowns. That is to say we know there are some things we do not know. But there are also unknown unknowns, the ones we don't know we don't know."

Believe it or not, some thought Mr. Rumsfeld was really right on. Mario Rizzo, an author of *The Economics of Time and Ignorance*, said Rumsfeld's distinctions are important: "I know that I do not know Rumsfeld's home telephone number. On the other hand, I may arrive in a foreign country and be completely unaware that there are books or directories available that will tell me where to find other English speakers." So as a result of this uncertainty, the



*Tiffany Stucky emasculates triticale for pollination by a wild perennial relative—part of the Land Institute's work to make our grain crops perennials instead of annuals. The Land Institute is using wild polycultures as analog for a paradigm shift in agriculture.*

poor tourist doesn't know where to search for those English speakers or how long it's worthwhile to keep searching. You can see that soon he'll be wondering how to find the restroom—and studying exits.

The conference then took up a *Harvard Business Review* piece called "Wanted: A Chief Ignorance Officer." It said that ignorance management is arguably a more important skill than knowledge management.

What interests me the most about ignorance is the kind that The Land Institute is willing to embrace as we think about building an agriculture based on the way a natural ecosystem works.

I think I can help you understand by reading from an Aldo Leopold essay called "The Last Stand." It describes a forest in the Alps that had produced quality timber since the 1600s by selective harvesting. A contiguous forest of the same kind of timber was clear-cut in the 1600s and never recovered, despite intensive care. Here's what Leopold says:

Despite this rigid protection, the old slashing now produces only mediocre pine, while the unslashed portion grows the finest cabinet oak in the world; one of those oaks fetches a higher price than a whole acre of the old slashings. On the old slashings, the litter accumulates without rotting, stumps and limbs disappear slowly, natural reproduction is slow. On the unslashed portion, litter disappears as it falls, stumps and limbs rot at once, natural reproduction is automatic. Foresters attribute the inferior performance of the old slashing to its depleted microflora, meaning that underground community of bacteria, molds, fungi, insects, and burrowing mammals which constitute half the environment of a tree.

The existence of the term microflora implies, to the layman, that science knows all the citizens of the underground community, and is able to push them around at will. As a matter of fact, science knows little more than that the community exists, and that it is important. In a few simple communities like alfalfa, science knows how to add certain bacteria to make the plants grow. In a complex forest, science knows only that it is best to let well enough

alone.

What we are acknowledging here is the integration of nature's life forms over a long evolutionary history, and that the entropy law has forced the efficiencies inherent to those natural integrities. We can't keep track of this. We have not even named most of the fungi or bacteria. To plow this information-rich world and simplify it and then treat it as though there's only phosphorus, potassium, manganese, iron, calcium, and so on, and then presume you can just keep on, is acting as though knowledge is adequate to run that world.

We live in a very exciting time, but we need a different way of thinking. That means we need a kind of house arrest on the destructively dominating thoughts from the architects of the Enlightenment and beyond, to the Greek and Hebrew dualists. For example, in the early 17th century Rene Descartes' *Meditations on the First Philosophy* said that we can remake the world in the interests of humanity with no discussion of negative consequences. Imagine if in the 21st century we could see the end of the idea that knowledge is adequate to run the world. This would cause us to feature questions that go beyond the available answers. We would learn patience, and we would enjoy a kind of yeastiness for thought. I think this also would do the absolutely necessary job of driving knowledge out of its categories.

I have an example. Several years ago in the *New York Review of Books*, Harvard zoologist Dick Lewinton told about how he and Carl Sagan visited a church-related college to take the evolutionist view in debate with a creationist. The creationist had a doctorate in zoology from the University of Texas—not a creationist department, but he was teaching in the church school. Afterward they asked for a show of hands, and found that the creationist won overwhelmingly. Lewinton wrote that in the cab going back to the airport, Sagan said this was obviously a problem of education. Lewinton said it was about cultural and regional history. Then he told how Sagan spent his life trying to change things through education.

I've been around a fair number of universities, and I've witnessed friends and the children of friends from creationist homes go to college and graduate, some of them *cum laude*, and they're still creationists. Cultural and regional history overrode education.

I give this example because here is a question that goes beyond the available answers: Why? If cultural and regional history overrides educational power, what do we do? If education isn't good enough, what do educators do?

Well, maybe it's time to start with a certain amount of humility and say we're fundamentally ignorant about the way minds change. Acknowledging that we are fundamentally ignorant, we now can ask a question that goes beyond the available answers, and that's going to force knowledge out of its categories.

We would be fundamentally respectful of our original relationship with the universe. There might even be a more joyful participation in our engagement with the world. Δ

*Adapted from a talk at The Land Institute's 2004 Prairie Festival.*

*Wes Jackson is Founder and President of The Land Institute ([www.landinstitute.org](http://www.landinstitute.org)), a nonprofit conservation, education, and research organization in Salina, KS. His books include *New Roots for Agriculture* (1980) and *Altars of Unhewn Stone* (1987). The Land Institute is developing perennial polycultures modeled on the prairie ecosystem to replace monocultures of annual grain crops. Wes Jackson received the 2000 Right Livelihood Award.*



# The Soft Edge of Permaculture

Robert Silber

Village life is taking shape at La'akea Community on the big island of Hawai'i. In March of 2005, a group of six people purchased La'akea Gardens which has served as a permaculture teaching center for over a decade. In buying La'akea, we took on a challenge to transform a site that already had substantial infrastructure and a partially developed landscape into a functioning intentional community. In doing so, we also assumed a debt of almost \$300,000.



*Winter's here, and the livin' is easy.*

## *The importance of non-material needs*

Yet, as challenging as living off-grid and water catchment can be, the most difficult challenges are in the non-material realm. How often do communities fail because of material needs going unaddressed? Yes, communities can and do go bankrupt, but it seems that people are pretty good at ensuring food and shelter. However, people raised in modern, industrial societies, as I was, have less experience in knowing what their non-material needs are, communicating them to others, and getting them met. This appears to be a significant reason why communities fail. For me, healthy and joyful communities seem to be the "next frontier" of permaculture: not just creating villages that function ecologically, have good design characteristics, and where people's material needs are satisfied, but communities that are truly thriving.

Our community has strong ties to the Network for New Culture ([www.NFNC.org](http://www.NFNC.org)) which has sustainability as a core value and focuses on how we can create and enhance community through emotional, communication, and relationship growth. NFNC, in turn, was inspired by the ZEGG and Tamera Communities in Europe. ZEGG was initially formed in the 1970s by people who were concerned with economic inequalities and environmental destruction. Yet, they found the most persistent problems to creating a healthy community lay in the realm of human relations. This discovery was very appealing to me after over a decade of working for environmental non-profit organizations. I found

that while many in the movement shared a desire for better communications and emotionally healthy working environments, many times we did not do any better than the companies, agencies, and institutions we were fighting against. The desire to prevail over perceived "enemies" often overtook our need to communicate our feelings and to truly bond as a community. Just having the intention of being progressive, ecological, and non-hierarchical didn't mean we had the skills to create a different model of relating to each other.

## *The ties that bind*

To deal with the stresses of community life, ZEGG developed a process called "forum." In our version of the forum, which we do weekly, community members are encouraged to share whatever emotional issues are up for them in the moment. Such transparency is a big part of our community glue. What binds us together is not that we all believe exactly the same things or that we react the same way to similar issues, it is that we have a shared commitment to a general set of values and that we trust each other to share our deepest selves with the whole community. We do assume that we all have the same basic needs, and while we may meet those needs in different ways, we can most easily accomplish that by sharing our deepest selves with each other. In a very real sense, our vulnerability becomes our strength. Men in particular seem to have a hard time with this, as we have been taught for so long to be strong and silent. Even within permaculture circles, men often are mainly focused on meeting survival needs, an alternative "bringing home the bacon" mentality, at the expense of connecting on a deep, intimate level. I believe that just as good design can reduce our material and energy needs, a greater awareness of our emotions and the skills to communicate and understand them, can greatly reduce our material and energy demands.

The process of creating an intentional community can often be a stressful experience. Our buttons related to power, control, money, sex, food, and other issues have and will be pushed; the question is how we deal with them when they are pushed. Do we retreat into ourselves, blaming ourselves or our family of origin? Do we blame those around us, focusing on how others are different from us? Do we just focus on creating systems and rules that will solve these problems? Or do we allow ourselves to be vulnerable, share what's going on inside ourselves, and work cooperatively with the community to find understanding, empathy, and support?

In keeping with the practice of Non-violent Communication as articulated by Marshall Rosenberg, we focus on Observations, Feelings, Needs, and Requests. In a process similar to good permaculture design, a good deal of attention is focused on the lay of land. Rather than imposing a one-size-fits-all solution and telling ourselves and others what to do, at La'akea, we try to hear what is going on for fellow community members without judgment. Our words do make a difference. If we tell someone that they are "making" us angry or sad or that they are disempowering someone, we tend to believe it. If we express how we are feeling in regard to someone's actions or words, we take responsibility for our feelings and allow others to perceive what we are feeling, rather than reacting defensively or aggressively.

Because we are operating out of consensus on important issues in the community, it is vital that we hear, and are heard from, our deepest selves. Our system is not a majoritarian winner-take-all approach, but one that requires all of us to hold the value of the community above our personal preferences. We often talk about issues and say what our personal preferences are, recognizing that we would like our preference to be met, but that each issue is not a make-or-break issue and that we value moving forward with positive consensus more than getting our way on particular issues. This flexibility can be difficult, especially for me at times, as I worked for years fighting environmental campaigns in the political realm, where flexibility was seen as code for selling out or lack of commitment. When we trust each other and the process, we can be much more flexible on specific issues.

### *Morality, moralizing, and eco-purity*

Another issue that I have considered in permaculture communities and ecovillages is the desire for some to make many issues a test of eco-purity. Do we ever use pesticides? Do we ever use treated lumber? Do we purchase soymilk in aseptic containers? What percentage of our food is grown on our land? Do we only run vehicles on veggie oil? People who come from a culture that in general does not share our ecological values are often conditioned to believe others don't share their ecological commitment. It seems important to me that we recognize in our community that we all share a commitment to more ecological living. When I reflect on this, it makes it easier to accept that others in the community may have a different viewpoint on a specific issue. That way, I don't have to be the eco-warrior within our community, but an equal participant in moving the community and our world further along in the right direction.

Brad Blanton in *Radical Honesty* writes about the prison of moralism and how people make themselves miserable trying to live up to some exterior standard. If we simply exchange one type of moralism for another in permaculture, what kind of progress have we made? I believe that ecological moralism can be as destructive to human relations, and ultimately self-defeating as communities fail, as other types of moralism. At La'akea, I am focused on the fact that I am acting from choice and from joy, not from "shoulds."

### *Resilient support systems*

Rosenberg identifies dozens and dozens of different emotions. Becoming skilled at non-violent communication is like learning to play an instrument. Just as becoming sensitive to tone, rhythm, and tempo can result in beautiful music, becoming sensitive to emotional frequencies and learning how to communicate them can help to create a more harmonious community.

One way we meet our need for physical touch and closeness is massage. While in the process of purchasing La'akea, community founders took a Lomi-Lomi massage class together. Not only does massage help to de-stress and detoxify the body and mind, it helps to bring us closer together. A person who does regular yoga and massage may need to eat less (and may get more nutritional value from his food) as he will be satisfying non-material needs in other ways than food. How often do people in our consumer culture look to food to satisfy emotional needs? How is this psychosis played out in our permaculture landscapes?

We have two community meetings each week. One is a business meeting, and the other is devoted to emotional processing, usually forum. Even our business meetings starts with a "check in." As we sit in circle, people relate

## Fairness and the Fourth System Condition

Donal Kinney

#39 Knowledge Pattern & Design, July 1998

The Natural Step, an organization which originated in Sweden, is dedicated to creating a sustainable future. At the heart of the Natural Step are the four system conditions, which were developed in an arduous consensus building process. They are requirements for human survival, or sustainability, that the scientists of Sweden agree upon. They are:

1. Substances from the Earth's crust must not systematically increase in nature. This means: fossil fuels, metals and other minerals must not be extracted at a faster rate than their redeposit into the Earth's crust. ▲
2. Substances produced by society must not systematically increase in nature. This means: substances must not be produced faster than they can be broken down and be reintegrated into the cycles of nature or be deposited into the Earth's crust.
3. The physical basis for the productivity and diversity of nature must not be systematically diminished. This means: the productive surfaces of nature must not be diminished in quality or quantity, and we must not harvest more from nature than can be recreated and renewed.
4. There must be fair and efficient use of energy and resources with respect to meeting human needs. This means: basic human needs must be met with the most resource efficient methods possible, including fair and equitable resource distribution.

The potency of these four systems conditions, that scientists of all disciplines can agree upon, is remarkable. Their relative simplicity and their clarity can revolutionize how we think about and communicate sustainability and Permaculture.

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what is going on for them in the moment and use the opportunity to clear any issues with another person that might get in the way of being present for the meeting. While we often spend 30-40 minutes at the beginning on check-ins and clearings, when we do get business agenda items underway, we are often amazed at how quickly and smoothly issues get decided. It's as if our emotional bodies are satisfied, and our egos can mercifully take a rest. We also do a "check in" most mornings, to find out what people are doing that day and also to connect and share emotionally.

When our emotional needs are recognized and addressed, we can better create conditions that help to satisfy everyone's non-material needs. When I first started talking to clients about plants in their landscape, I would often hear that they wanted this kind of tree or that. When I inquired why they wanted that particular species, it was often because of a strong emotional connection to some other time in their life or some person or place they loved. The clients were trying to meet a non-material need through a physical substance. Often when we recognize this is going on, we can meet such needs in many ways. Needs are not person- or place-specific. We may think we have to have a love relationship with one particular person to have our need satisfied, but we have found our needs can be met in many ways if we are clear about what our needs are. A diverse support system is much more resilient than one that overly relies on only one person to provide that function or need.

How do we deal with the effects of changing relationships within a community? Many communities fail because of jealousy, unrequited love, couples breaking up, and so on. Rather than impose a "should" such as: couples should stay couples, or individuals should not be jealous, or attractions are dangerous and should be kept secret, we simply acknowledge what is going on for each of us, trusting that the community will be stronger as we are vulnerable with each other. We still have all the intense emotions, but by observing them and communicating them to our community, we are released from the need to blindly react to our emotions by repressing or

indulging them.

And while we still have arguments and difficulties with different personalities and egos, the fate of our community does not seem to hang in the balance whenever an issue comes up. Rather each issue is an opportunity to bring us closer, to find out about ourselves and each other. Δ

*Robert Silber is a member of La'akea Community, formerly La'akea Permaculture Gardens, on the island of Hawaii. For more information on permaculture workshops at La'akea, visit [www.permaculture-hawaii.com](http://www.permaculture-hawaii.com).*

#### Lessons in Village Design

Peter Bane

#55 Learning from our Mistakes, Feb. 2005

I live in a new Village called Earthaven. Part art project, part social experiment, part bridge to an unknown future, this place is an endlessly challenging, paradoxical exercise of the imagination. It is also quite real and solid, home to 60 people and a locus of much hope and creativity.

Ten years ago, a dozen of us set out boldly to go where few had gone before: Envisioning a human-scale community designed and built in harmony with the natural world, we wanted to show a healthier way for humans to live with each other while treading lightly on the earth. We thought we could leave behind the greed, selfishness, alienation, and destructive habits of US culture and create a more meaningful life together by living more simply, closer to nature, and by helping other people to make similar changes in their own lives and circumstances.

Our community embraced permaculture from the beginning and it has been a crucial element in our development. In keeping with this approach, we have evolved a culture of experiment, of anarchy tempered by cooperation, and of small-scale, individual action. How has all of this come about and how has it worked to shape the village? And most importantly, what lessons have we learned from our development that may be relevant to other communities?



# Permaculture Successes and Challenges

## The Permaculture Institute of Northern California

Deborah Grace

**Deborah:** *PINC was founded 12 years ago. How did you get started?*

**Penny Livingston-Stark:** After years of working in landscape design and market farming, I took my permaculture design course and then the teacher training in the early 90s. In 1994, equipped with new skills and inspiration, I was busily applying permaculture principles to the land at Point Reyes Station, our original PINC site in coastal Northern California, planting fruit trees, and mulching. The story of how we designed the land is a favorite of many and featured in Toby Hemenway's book *Gaia's Garden*. I would like to encourage people to buy his book, and then you'll get the complete story.



*Permaculture Institute of Northern California*

way while providing a wide variety of nutritious organic foods from rice to coconuts to fruits.

We looked at all aspects of the operation: opportunities and challenges. We examined opportunities in recycling and waste streams and brought in natural building concepts. We asked, "How can the company model natural building that is indigenous to the area and environment?"

We designed grass roofs for the factory buildings and introduced them to cob; the local people were already familiar with mud walls, but those often crack, so by adding sand to the mixture—something they had never done before—we offered them a way of creating sturdier walls without concrete.

By moving the animal pens from near the creek at the bottom of the farm to the top of the farm, we turned a potential problem, pollution of the river, into an asset; the nutrients now washed into and fertilized the garden beds instead.

Our crops included fruit and vegetables as well as coffee, organic Bali rice and fodder for cows and goats. Pigs ate food scraps, and

**Deborah:** *What have been some of the milestones in your permaculture journey? Maybe there have been some challenges or disappointments in working with permaculture?*

**Penny:** I think bringing the permaculture perspective to the mainstream public and working with other design professionals has been both a success and a challenge. Some things like swales, water harvesting systems, and keyline offer great opportunities to individuals and urban planners alike. Working with civil engineers has been particularly challenging with input from the pipe-and-pave "experts" often overriding ideas of slowing water down to infiltrate it into the landscape. I prefer working with hydrologists and biologists. They "get it" more easily than civil engineers do. Some principles and strategies are slowly being adopted within the green building world, but there is a long way to go.

There have been challenges with the fear and reluctance of people with money to fully fund a cutting-edge development model of permaculture and regenerative design. Also, in the professional design system, there isn't a lot of room for the iterative process that permaculture design wisely offers. This is alleviated somewhat if you have a design & build permaculture company, but working with deadlines and time frames that don't allow for the "wait one year" approach is challenging. At least we can achieve these goals on our own projects.

**Deborah:** *How about highlighting a few of your favorite international projects.*

**Penny:** We worked on a wonderful project in Bali with a Western-owned company that designs jewelry and other high-end home wares. It's the largest private employer on the island with 650 employees, and their visionary founder chose to develop a permaculture farm to grow enough food to provide three-course organic meals for their workers. The challenge, of course, was how to do this in an economically viable



*Fresh organic pak choy for chef in Bali*

chickens ran free most of the time. We also made yummy chocolate from some of the cacao with our chocolate-making friends Moth Green and David Brown. There are now some aquaculture systems, including shrimp ponds, as well.

The results have been quite inspiring. Stanford University will be doing a study of how this company applied an innovative, integrated, and holistic business model, which also addressed training employees to develop their skills to an international level that has resulted in higher wages for the employees, rather than exploitation.

Another rewarding international project was co-teaching a course in

Portugal with Phil Hawes, chief architect of the Biosphere II project in Oracle, AZ. The students came through the University of Lisbon and were taking the permaculture design course as part of a Masters Degree in Architecture.

It's always been exciting and an honor to teach in other countries, which for me has included Mexico, France, Costa Rica, Belize, Hawaii, Bali, and an Earth Activist Training (EAT) in England.

**Deborah:** *You mentioned the Earth Activist Training. Tell us more about that.*

**Penny:** The Earth Activist Training is part of the outer aspect of the activism we engage in and foster. It integrates permaculture with global activism, making a positive statement and being solutions-oriented. I have worked closely for some years now with Starhawk, committed global justice activist and organizer.

**James Stark:** In addition to the outer activism, I have been asking, "How can we be more effective in restoring and healing the earth by healing ourselves?" I have just completed my first year of a two-year masters program in Spiritual Psychology in Los Angeles. It is my intention to bring mentoring support to our students, offering coaching tools and processes to empower them and assist them in achieving a balance between inner and outer activism.

**Deborah:** *You have worked with permaculture in contexts other than landscapes and dwellings. Can you give us some examples?*

**James:** Sure. We are continuously exploring how to bring the permaculture model to as many different scenarios and contexts as possible. I have worked on affordable housing issues, initiated school gardens, and co-founded a local radio station—KWMR "Watershed Radio," and I'm also on the board of the Permaculture Credit Union, which combines sound financial business practice with earth-care ethics.

We have worked locally with the county on the county-wide update committee: a two-year process to integrate sustainability principles into the county-wide plan (General Plan). I've also served on two supervisor committees: one on waste and one on affordable housing.

We co-founded the West Marin Growers Group, created to ensure food security in Marin County; growing out of that organization, the community recently introduced the new Marin Organic Food Label. Another project has been Waste Free Now, which is committed to West Marin becoming waste-free and hosts the innovative annual Recycle Circus including a "Stuff Exchange" for people to redistribute community resources.

I am also thankful for another organization that we planted and that has grown strong. In response to gentrification in our community we created The Community Landtrust Association of Marin (CLAM), which now functions as a vehicle for residents to leave their homes to the community when they pass on. We now have an executive director and over \$100,000 in assets and poised to make our first home purchase.

# Congratulations Permaculture Activist on your 20 Year Anniversary



## With Gratitude for Serving the Permaculture Community:

### **Santa Barbara Permaculture Network**

[www.sbpermaculture.org](http://www.sbpermaculture.org)

For regional calendar of Permaculture and Natural Building events

### **South Coast Permaculture Guild of Southern & Central California**

Santa Barbara, San Luis Obispo, San Diego, Santa Cruz, Los Angeles

**Permaculture Teachers** Larry Santoyo, Bill Roley, Loren Luyendak, Scott Horton, Penny Livingston, Marcia Boruta, Dave White, Joanie Stevens

Applying permaculture principles to the so-called "invisible structures" (vs. visible structures) is an exciting challenge. And we continue to seek out diverse contexts to apply the permaculture model as a leading objective, asking: "How do permaculture ethics and values express here?"

**Deborah:** *Could you guess how many courses you have taught?*

**Penny:** I would say I have taught or co-taught about 50 permaculture courses. I did a rough count which count that came close to about 1,500 people we've graduated with a permaculture design certificate.

In addition to the two-week intensive courses, we've also just launched a new year-long weekend course called 4 Seasons Permaculture. The content is the same as our intensive course, but the extended schedule allows people who can't take two full weeks out of their busy lives to take the program. We are reaching home-owners who are ready to implement new ideas, and meeting regularly for an entire year also creates community and deepens the connection of the

local network.

I continue to be impressed with the outcomes of the training courses. I get to work with some very high-level designers, planners, and eco-design firms, and often I find that the designs that the permaculture students come up with at the end of their two-week course are more thoughtful and innovative than those of the other professional designers! Course participants know how to site a building, how to relate it to sun, wind, water, and soil—often architecture programs don't cover this at all.

We have taught or hosted courses and workshops on a wide variety of other topics, such as cob, light straw-clay, and straw-bale construction, pond building, beekeeping, earthen plasters, dowsing, nature awareness, and more. And our new advanced Regenerative Design Training Program has been a special focus for me over the last two years.

**Deborah: Tell us more about the Regenerative Design Program.**

**Penny:** The focus of the one-year advanced training, which we offer through our Regenerative Design Institute (RDI), is to build on the principles and ethics and the comprehensive perspective that students are introduced to in the permaculture design course. Though the impact of a permaculture design course on people is profound, PDC graduates generally do not have the hands-on experience and skills yet. RDI is a hands-on skill-based training devoted to helping people who wish to have a design career develop those skills necessary to further sustainable and regenerative practices and to enter the professional field of their choice.

**Deborah: What are some of your current projects and visions? Are there any special collaborations?**

**Penny:** Last December we moved from our PINC headquarters in Point Reyes Station to a sweet 17-acre farm in the coastal village of Bolinas. We are leasing the land from an amazing organization called Commonweal, which has a retreat center for people who have been diagnosed with serious and potentially terminal cancer. They provide support and education and are also doing very high-end work to connect environmental health with human health.

The Commonweal Garden has wonderful fertile alluvial soil, water from gravity-fed springs, and great wind combs—just a short walk from the beach. Our plan is to create as complete a food system as possible for us, our interns/work exchangers and for Commonweal staff and retreat visitors.

We plan to create an economically viable farm, producing vegetables, fruits, nuts, medicinals, tinctures, salves, soaps, cheese, and a nursery, as well as sanctuary gardens for the public to visit.

Another collaboration is with the Institute of Noetic Sciences (IONS). We are currently running our Regenerative Design Program at the 200-acre IONS campus, growing food for the kitchen as well as doing restoration work on the land. We have designed a cob greenhouse complete with an aquaculture pond and living wall; we'll

be constructing it there this summer.

I am on the site committee for the campus, and we hired William McDonough, architect and co-author of *Cradle to Cradle*, to help us develop a site plan. It was great to help facilitate a design charette with him for IONS staff and supporters.

I am grateful for the opportunity to meet many people who are important players in the world. Last week during World Environment Day in San Francisco (June 1-5, 2005), I met Al Gore and Maurice and Hanna Strong at a private dinner. Maurice Strong is currently the senior advisor to Kofi Annan at the United Nations and is responsible for UNEP, the Earth Charter, and the Kyoto Accord. His new creation

is the Earth Council Alliance, co-founded with Tommy Short, president of the board of IONS. I will also be speaking at the IONS International Conference in Washington, DC, this July. I am finding that permaculture is warmly embraced at these gatherings.

We are currently collaborating with Jon Young and many of his students to integrate the Kamana program, which explores nature awareness, bird language, and tracking, into our permaculture courses. We now include this work in our trainings as much as we can. I feel this is an important union, as the people who study wilderness awareness may

become the best permaculture designers.

**Deborah: How do you think the permaculture movement could be strengthened, given your experience with it for so many years?**

**Penny:** We need more designers with competent drafting skills or knowledge of appropriate protocol for working with clients in a professional manner. I feel it's also important to develop good trade skills and refined craftsmanship abilities to create things that are well-designed and aesthetically beautiful to appeal to the mainstream or high-end public. We need more professional design firms like Sentient Landscapes that was just featured in *Natural Home and Garden* magazine so that permaculture can be a viable option throughout the design industry.

I believe that we are more effective as a movement when we come from an abundance model, transcending competitiveness and supporting and encouraging each other's work.

My dream is that the Permaculture listservs would be a forum to celebrate each other's attributes and accomplishments and explore fully how we can more effectively work together as a community. I would like a person who might visit a listserve to be inspired to join our community because of the love, support, wisdom, and compassion permeating the conversations. We are people living and working with the earth, and our voices can sing the spirit of the earth.

**Deborah: Some final reflections about your work with PINC, encouragements or inspirations?**

**James:** Just doing it has been our mantra, just taking things on, being adventurous with an organization, and exploring diverse ways to move permaculture forward.



*Troweling a plaster coat onto a cob bench*



It's important to analyze our communities to see where the windows of opportunity are; how to get into a conversation with the mainstream and inspire people to see the possibilities that permaculture and regenerative design can offer them.

**Penny:** I am deeply moved by the response from the public who have visited our garden and expressed their desire to connect and participate with the natural world. I see a great need for this curriculum and information to reach the mainstream. As climate change progresses, I see permaculture design as a potential solution for adapting to these new extremes and creating food systems that can be resilient to these changes as we begin our journey back to living in harmony with the earth. Δ

#### Resources

Permaculture Institute of Northern California.

[www.permacultureinstitute.com](http://www.permacultureinstitute.com)

Regenerative Design Institute. [www.regenerativedesign.org](http://www.regenerativedesign.org)

Earth Activist Training. [www.earthactivisttraining.org/](http://www.earthactivisttraining.org/)

Commonweal. [www.commonweal.org](http://www.commonweal.org)

Institute of Noetic Sciences. [www.noetic.org](http://www.noetic.org)

Permaculture Credit Union. [www.pcuonline.org](http://www.pcuonline.org)

*Penny Livingston-Stark and James Stark are co-founders of the Permaculture Institute of Northern California (PINC). Certified as a permaculture designer in the early 90s, Penny specializes in "site planning & design of resource-rich landscapes, integrating rainwater collection, edible landscaping, pond and water systems, habitat development and watershed restoration for homes, co-housing communities, businesses, and diverse-yield perennial farms." James holds a Masters degree in environmental planning, which he applies through PINC and various other nonprofit endeavors, including the community radio station (KWMR, "Watershed Radio") he founded to serve the residents of western Marin County. James also serves on the Board of the Permaculture Credit Union. Deborah Grace lives in Northern California and works with Penny and James at PINC.*

## The First US Conference on Peak Oil and Community Solutions

Becky Elder

A friend and I drove non-stop from Colorado to Yellow Springs, Ohio, for a three-day conference on Peak Oil. Inspired by a recent documentary regarding global oil supply and the dependency of the United States on non-renewable energy sources, we went to learn from researchers, listen to hard facts, and find encouragement from folks who are forging a new direction. We Americans are obsessed with the idea of linear progress and a growth-focused economy. Growth, growth, growth! Edward Abbey once said, "Growth for the sake of growth is the ideology of the cancer cell." The global economy of limitless growth will be no more. Markets will no longer be able to import cheap products from 12,000 miles away. Gasoline and heating oil prices will skyrocket, and we will pay the market price for products in short supply. The new standard of living will be low energy and low consumption.

What can we do to prepare? First and foremost, we can address our individual consumption of energy and begin to conserve everywhere possible. An intimate energy demon is the automobile. Europe has lovely trains, bus systems, and pedestrian-friendly avenues that get folks around without cars. When the bottom drops out on oil, Europe is already way ahead of the game. We need to catch up fast. Industrial, large-scale agriculture is in deep trouble. Big agricultural businesses thrive with heavy use of oil-based fertilizers and pesticides. They tap into aquifers for irrigation of arid lands. Our industrialized food is grown on land that is so depleted, artificially boosted by oil, that the food produced has meager nutritional value and little or no taste. Much of it is processed which masks this unhappy fact. Transportation costs alone will soar with the drop in oil supply, and food will become more and more expensive. Seeking locally produced, and hopefully organic, food is imperative. We need community-supported agriculture, not industrial agriculture. Sustainable agriculture requires protecting the soil. Organic practices can preserve and restore soil fertility. Sustainable agriculture uses limited water, protecting underground water banks. Sustainable agriculture embraces the protection of biodiversity. No toxic substances are used. Alternatives in food production produce healthier, better tasting food while protecting the fragile environment. Organic farmers bioneers who apply their knowledge locally need our support now so they can prepare for future demand.

We can learn to live differently. Of course, we do have much work to do now and a long way to go to this new life. But we must go. Oil will never be cheap again nor will it last forever. It may not even last twenty more years. We must call for our governing leaders to shift funding into energy

alternatives like sun and wind and sustainable practices. Zoning laws should help us get there, not hinder our way. New ideas should be cautiously allowed, not dictated by laws that uphold an energy-dependent status quo. New urbanism, clustered housing, alternative energies, unrelated people sharing expenses, helping each other, less focus on cars should all be encouraged. Eco-cities will be the only cities in the future. For our own personal residences, we can consider getting an energy-efficiency audit. They are free from the local energy company and will offer lots of energy-saving ideas. To the individual seeking sustainability, I would suggest to start now and not to wait for the government. Educate yourself on the current technology, and open your mind to what could be. If you can show the local officials that what you want to do is benign, they should certainly allow you to do it. As the bumpersticker says, "If the people lead, the leaders will follow." In the near future, we will be called upon to think differently. Begin experiencing the local world now. We can inventory the existing assets and resources of our towns. What skills and trades are apparent within the community? What is missing? Small communities need to be as self-contained as possible. The community must support the necessities in anticipation of the coming oil crisis. Do we have among our numbers the skills to survive as a community? Can we grow food? Can we process and preserve that food? Skills we once knew and understood will be rediscovered. Skills in mediation and negotiation will be most useful. Consensus will overtake Robert's Rules of Order and create happier solutions with all in agreement or in agreement to disagree.

Permaculture is a tool kit for this coming cultural change. Let's not strive to sustain the current culture, with its inequality, pollution, and social darkness. Redesigning ourselves will redesign our world. Take time to meditate on what is actually happening in this world of today and to focus on what is truly important. Complex issues call for clear thinking and positive action. There are no painless solutions to our coming energy crisis. Our challenge is to respond with bravery and courage. In Ohio, Patrick Murphy of Community Solutions, spoke plainly, "We need a new paradigm, NOT a new fix." Industrialized, oil-dependent nations are not sustainable. We are using up, eating up, drinking up, and burning up the planet at a rate that Earth cannot replenish. Much of what we use up, like oil, has no replacement. Oil will run out. And if we don't change, our time will run out too.

Community Solutions ([www.communitysolution.org](http://www.communitysolution.org)) will sponsor a second Peak Oil conference September 23-25, 2005.

# Oil Depletion and the Immediate Need for Permaculture Communities

Richard Heinberg

**T**he march of human social organization is essentially the story of how people have found ways to harvest ever more energy from their environments in order to sustain ever more humans. The story began with the harnessing of fire and the domestication of plants and animals, but it took a fateful turn at the commencement of the industrial revolution when we discovered fossil fuels. With coal, oil, and natural gas, we won the energy lottery. Hydrocarbons that had been stored, chemically altered, and concentrated over the course of hundreds of millions of years were extracted and burned in a period of two brief centuries to fuel the creation of by far the most elaborate and extensive society ever imagined by humans.

Of all the hydrocarbons, oil has been the most important. We have used it for transportation and industrial agriculture, which together enabled us to enlarge the human food supply and to deliver food over great distances.

Consequently, our population has grown from fewer than one billion

(when the industrial period began) to well over six billion—almost a seven-fold increase in two centuries.

Nowhere was the impact of fossil fuels greater than in America. The oil industry started in the US, which quickly became the world's foremost petroleum producing and exporting nation. However, discoveries of oil in the US peaked in the 1930s, and extraction peaked in 1970; production has been sliding downhill ever since.

The US is by far the world's most mature extraction province; it is the prototype of oil-producing nations. Thus we should expect to see a similar pattern of production peak following discovery peak elsewhere. And indeed we have. Global oil discoveries peaked in the 1960s, and since 1970, about 20 countries have followed the US in undergoing an all-time peak in production followed by a gradual slide. Most of the oil now being exported globally comes from a few supergiant oil fields discovered decades ago, all of which are approaching senescence. Meanwhile, the quantities of new oil being found today are comparatively inconsequential.

The US has maintained its economic clout (after a fashion) since its oil peak through the strategy of importing ever-larger

quantities of petroleum from other countries—though the exercise has resulted in unsustainable balance-of-trade deficits and worsening foreign policy dilemmas. When the world as a whole peaks, Earth will not be able to import oil from other planets. The party will truly be over.

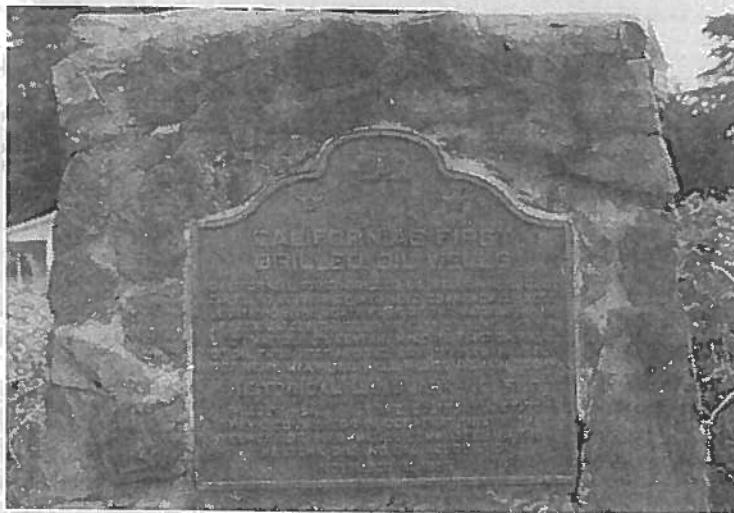
Still, the period ahead could hold opportunities. During times of intense change, people often become open to new ideas that were previously marginalized. In this case, the potential alternatives range from ecovillages and the broad-scale adoption of permaculture principles to small-scale direct democracy and consensus decision-making.

To maximize the two essential strategies—the defensive and the creative, small cooperative communities will be essential. Some communities could focus primarily on preserving what is worth salvaging of our industrial interval (useful scientific knowledge, history, literature, and the arts); others could specialize in the redevelopment of primitive technologies and

skills (fire making, flint knapping, tanning, etc.). Still others could practice and teach permaculture skills. A few such communities already exist—thousands more will be needed.

Those who choose this path are in for a lot of hard work, and survival is not assured. However, if anyone is to survive the coming century, and if humankind is to avoid a descent into fascism and then authoritarian feudalism, new models of social organization will be required—not theoretical ideals, but living examples of service communities that are protected and nourished by surrounding populations because they provide tangible cultural benefits. Such communities will need to be in position to teach survival skills, while acting as repositories of historical and ecological knowledge and as havens for the arts. There is not much time to gather the resources for the creation of such communities, so it is important that efforts along these lines begin immediately. Δ

*Richard Heinberg is a journalist, educator, editor, lecturer, and musician. He teaches "Energy and Society" and "Culture, Ecology, and Sustainable Community" at New College of California in Santa Rosa. His books, The Party's Over and Powerdown, examine industrial society's options and likely choices after Peak Oil. His monthly newsletter is found at [www.museletter.com](http://www.museletter.com).*



*The locals today harvest small amounts of crude oil from old wells in Petrolia, site of California's first drilled oil well.*

# Retrofitting the Suburbs for Sustainability

David Holmgren

**T**he suburbs of our Australian cities have, in the main, become sterile wastelands, lacking in any true spirit of community, impoverished of local resources, and filled with fearful people whose daily efforts are focused elsewhere. What has happened to the



*David Holmgren and Bill Mollison at the First International Permaculture Convergence, New South Wales, 1984. Photo by Sego Jackson.*

Australian "suburban dream?"

To find the foundation of the so-called 'suburban dream' and the reasons why it has proved illusory, we need to look back to the post World War II economic boom of the 1950s. At that time, Australia was riding high on the sheep's back, with wool prices around \$2.40 per kg, and there was also cheap and abundant fossil fuel and timber. Furthermore, the government of the period provided widespread war-service housing, low-interest loans, and substantial public infrastructure such as roads and utilities to facilitate suburban growth.

The typical 'baby-boom' family of the 1950s lived on a single income of around \$50-\$100 per week, with a housewife and three children at home. These home owners, who had grown up through the "Great Depression" and wartime hardships, had an ethos of proud self-reliance and domestic frugality, reinforced by their wartime experiences. Many suburban 'back yards' had an actively worked vegetable garden and one to a few productive fruit trees. Produce swapping and home preserving of seasonal surpluses were common. And this was also the heyday of several great consumer icons—the FJ Holden car, the Victa lawnmower, and the Hills Hoist clothesline.

But there were problems with the suburban dream and the resulting rush of young families to "nappy valleys" on the city fringes, notably "urban sprawl." As the suburbs spread, they displaced important agricultural activities such as the market gardening and dairy farming that formerly provided fresh foods with minimal need for transport. Not only did public infrastructure become increasingly poorly used, but the disproportionate rush to build roads and sell more Australian cars led to a general decline in the use of public transport—leading eventually to the phenomenon we see today, that our suburbs are designed for cars not people.

Along with "sprawl" has developed an increasingly dysfunctional economic situation. We see speculative inflation of land values, capital

invested unproductively, declining household (non-monetary) production of food and "backyard industry," and a massive rise of consumer addiction based on rising household debt.

Large areas of our cities have become "dormitory suburbs." The average household size is declining while ever-larger homes are increasingly empty during the working day. Their blind windows look out onto streets empty of people (but all too often filled with cars). There is an alienating lack of community resulting, ultimately, in increased crime and fear.

The conventional responses to this situation are familiar to us all. The first is a change of planning regulations to encourage increasing density, promoting smaller housing blocks in new developments, dual occupancy infill development, and medium-density redevelopment of older areas.

Residents themselves have responded independently in various ways through their lifestyles. The renovation obsession is frequently directed at producing more high-value house space at the expense of the 'back yard'. Then there is a mobile lifestyle and semi-abandonment of home, when eating out and leisure activities elsewhere compound the daily absence during work hours. There is also the move to get rid of garden maintenance and commuting by moving to inner-city apartment living;



*Community empowerment and engagement through community gardens*



and, at the other end of the scale is the “super-suburb” response of moving to a rural-residential or hobby-farm property beyond the new suburban fringe.

In recent years, as we have become more aware of the negative effects of our high-impact lifestyles, a number of environmental responses have also been introduced—such as building insulation, energy-efficiency requirements, improvements to public transport, conservation of urban green space, and more water-sensitive urban design. We have barely scratched the surface, however, of the profound improvements that the application of permaculture principles and strategies could deliver for the sustainability and livability of today’s suburbs—for example:

### ***Food security based on gardening***

Food security through retention of horticultural production within and close to cities, has barely been on the agenda, while home gardening is largely ignored as irrelevant to the sustainability debate. For many of today’s urban residents, where food comes from beyond the supermarket is barely on their radar. We are still fixated on the high-density European-style city that gets its food from somewhere else. Most are unaware of different patterns of urban living such as those of Japan, China and other Asian countries where cities have traditionally contained interspersed gardens and rice paddies. If food is produced in distant places, its supply is more vulnerable to risks (such as increased transport costs) that we cannot control. For urban residents aware of the fragility of the food supply system, home gardening is a practical activity that can provide much of the fresh food of a family, and also bias the diet away from over-consumption of animal protein and towards vegetables and fruit. Even when the level of production is small, the seasonal garden maintains the skills necessary to produce food and passes those skills on to the next generation.

### ***A culture of home food consumption***

Consumption of *genuinely* fresh fruits and vegetables from a local garden can underpin good health and combat the current obesity epidemic. In the same way that wood warms you twice—once when you split it and once when you burn it—garden produce keeps you healthy when you grow it and also when you consume it.

### ***Economy through home food production***

Growing food at home and preserving seasonal surpluses bypasses the so-called “value-adding” processes of the commercial food chains, and means food is much less expensive—a principle readily understood by families of the Great Depression and WWII years.

### ***Firewood for sustainable and ethical energy***

The permaculture strategy of burning waste wood from landscaping and building for space heating, water heating and cooking allows urban residents to be more energy self-reliant, while keeping a valuable resource from going to landfill (to generate greenhouse-intensive methane) or into inefficient, noisy, fossil-fuel-driven chippers and mulchers. How many of us realize that our cities are actually big forests? The expanding areas of new plantations and natural regeneration within or near cities all need continuous thinning to reduce fire hazard and improve timber and ecological values. With careful management and better education, there is much valuable wood that could be saved for fuel. Wood has a high energy density, is greenhouse-gas neutral, and can readily be made available as smokeless charcoal for city use. With maximum pollution occurring through smoke emission right at the point of use (cf. distant coal-fired power stations), there is a useful negative feedback that controls user behavior.

### ***Passive solar design with natural materials***

Building with rammed earth, mud brick, recycled timber and salvaged joinery, for example, greatly reduces the embodied energy of a dwelling while providing ‘character’ to designs and thermal mass to control temperature fluctuations. This is in contrast to the conventional regulatory emphasis on energy efficiency through insulation alone. Unfortunately, this emphasis often leads to suppression of real innovation even while it “raises the floor” for lowest performance.

### ***Retrofitting attached greenhouses to existing homes***

An attached greenhouse can help capture warmth from the sun while extending the garden growing season.

### ***Water harvesting and natural wastewater treatment***

In many coastal areas of Australia (where the greatest proportion of us live), the rain that falls on the roof should, if used innovatively, be sufficient for at least the majority of home uses, including gardening. Rainwater harvesting can be supplemented by treatment of greywater (from the bathroom, laundry, and kitchen) e.g., through, gravel reed beds, for subsequent use in the garden. Even blackwater (from the toilet) can be treated and reused on site in some circumstances, or a waterless composting toilet can be installed to ensure water goes to more productive uses. Closing the nutrient cycle, from human waste to fertile, food-producing soil is, in the longer term, one of the most critical factors in the sustainability of urban populations.

### ***Animals in productive garden ecosystems***

Hens and ducks are excellent components of a sustainable suburban garden system and can significantly expand the range and value of foods produced at home. They deal with various types of food waste and pests such as insects and slugs, while their manure adds natural fertilizer to the soil.

### ***Reclaiming the streets***

Making greater use of our public space—most notably our streets for walking and cycling—reduces the costs of transport, enhances knowledge of the local area, and contributes to better community. The more we expand these uses, the more the destructive uses of public space (such as excessive car traffic and vandalism) are gradually displaced. It is high time residents reclaimed their suburban streets for *people*. They should again be available for children to play and safely learn their cycling skills.

### ***Creative recycling***

Making creative use of discarded goods and wastes is a classic permaculture strategy that is far more innovative and productive than most industrial recycling systems, such as smashing and melting down bottles. My own 16-year-old son, for example, built himself a fully functional recumbent bicycle from “rubbish.” We have a shortage of innovative skills, not materials. Creative re-use and re-manufacture could greatly extend the lifecycle of many consumer goods.

### ***City farms and community gardens***

Cooperative gardening and farming of city open spaces (allows these productive activities to move beyond backyard scale, opening up a further range of possibilities for food production and community engagement).

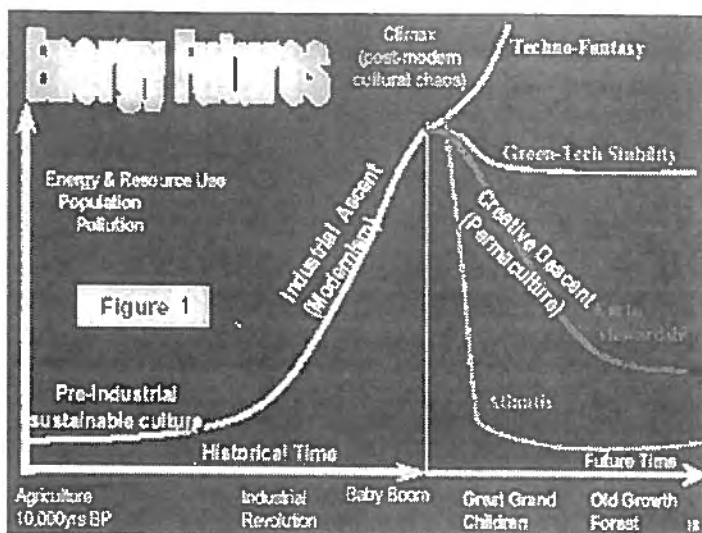
### ***New ways of trading***

Locally based trading systems retain the energy of participants within the local community, rather than draining it away to some different location. LETS systems (Local Energy Transfer Systems or Local Employment Trading Systems) are a good example, some of which may

also have associated local currency or tokens for ease of exchange. Local exchange systems allow citizens to wrest back some control of their economic well being from the increasingly unstable, national and global monetary systems.

### *New ways of sharing land*

Traditionally Australia has acknowledged only two forms of land ownership—fully private and fully public. Recently, however, there has emerged a new option—that of commonly owned land—providing new opportunities for community formation and cultural innovation. Eco-villages and co-housing schemes are beginning to appear which combine ‘ecological’ building with common infrastructure and community governance. The actual housing lots and dwellings in the scheme can be part of the ‘commons’, or privately owned within a broader common title. As we in Australia take the first hesitant steps beyond “rugged individualism” and begin to re-learn the skills needed to govern ourselves in community, the private-within-commons system tends to sit more comfortably with many.



### *Energy futures*

The importance of the above options becomes clear when we ask the question “What if energy availability declines?” Beyond the abundant availability of fossil fuels is an uncertain energy future (Figure 1) that has been pictured in various scenarios that range from “technofantasy,” (e.g., unlimited nuclear cold fusion with no unforeseen negative impacts)—an absurdly optimistic scenario but frightening in its implications for humanity and the planet—to an “Atlantis-like” fate in which our culture “goes under.” Most of the sustainability debate is focused within the “green-tech stability” scenario in which we essentially maintain a steady (albeit somewhat reduced) level of energy usage by progressively moving to renewable sources such as wind, solar, tidal power, etc., as fossil fuel reserves are used up. While permaculture strategies mesh nicely with many of those directed towards this generally accepted desirable future, permaculture in fact defines a creative response to a fourth scenario that I call “Earth Stewardship”—a “creative descent” in which we progressively reduce our energy demands to return eventually to living within the natural energy and production budget of the land we occupy. Elements of all these scenarios can be found in the wide-ranging viewpoints and arguments of today’s “sustainability” debates.

## **And the Creeks did Rise**

*Peter Bane*

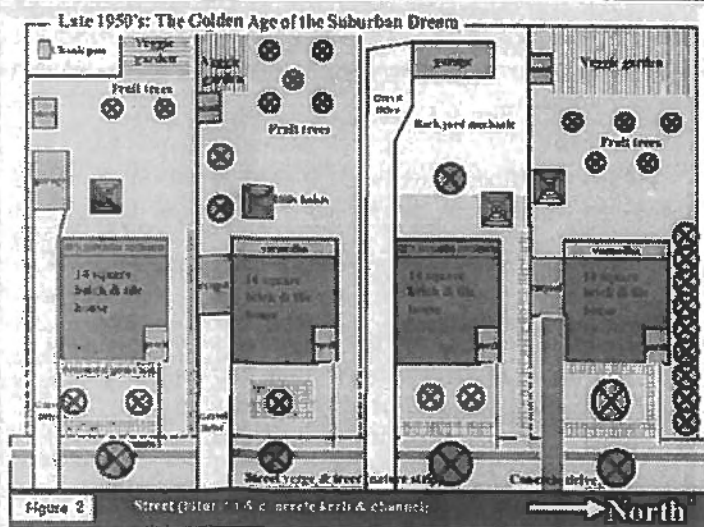
#54 Fire & Catastrophe, November 2004

Historically, floods have been the most devastating of natural disasters, killing more people and causing more damage than fire, earthquake, tornadoes, and volcanic eruptions combined. This comes about because of five interactive factors:

1. River valleys have been the site of civilizational growth since the end of the Neolithic era. Populations are dense along fertile alluvial floodplains. In many low-lying regions there is little high ground, so that almost everything goes under water.
2. Agriculture, and later urbanization, increase runoff dramatically compared to native (mostly forested) landscapes. The channelization of rivers for barge transport and dikes built against flood both exacerbate flooding by reducing the stream’s natural capacity to absorb the shock of high flows.
3. Key infrastructure—public buildings, ports and depots, road and rail lines, power plants, water and sewer systems—is located close to creeks and rivers for reasons of enduring practicality. When floods hit, the loss of support systems creates chaos and throws people back on limited personal resources. Escape routes also become blocked, so that people fleeing the rising waters become trapped and sometimes drown.
4. Flood seizes everything loose and distributes it widely. In particular, water spreads disease organisms by moving manure, nightsoil, and sewage out of confined areas. Rodent populations are disturbed and begin to proliferate. In the modern era the leakage of industrial pollutants can be added to this list.
5. Drinking water supplies are disrupted or contaminated, while medical and emergency services are encumbered.

### *Portent of Things to Come*

To this list of five human-implicated factors in flood damage, we must add a 21st-century sixth: global warming. Climate change brought about by industrial activity has increased both the speed and volume of the hydrologic cycle worldwide. Warmer atmospheres and sea temperatures are resulting in more tropical storms, as evidenced by the increase in superstorms, the lengthening of the hurricane and typhoon seasons, and the spread of severe storms to new areas. Brazil, for example recorded its first ever hurricane-force storm off the South Atlantic last March. Rainfall increases overall. Though its distribution becomes more erratic, bringing drought to many areas, this results in more intense rain events, hence more flooding. This does not bode well for the global economy, already staggering under debt load and resource shortages.



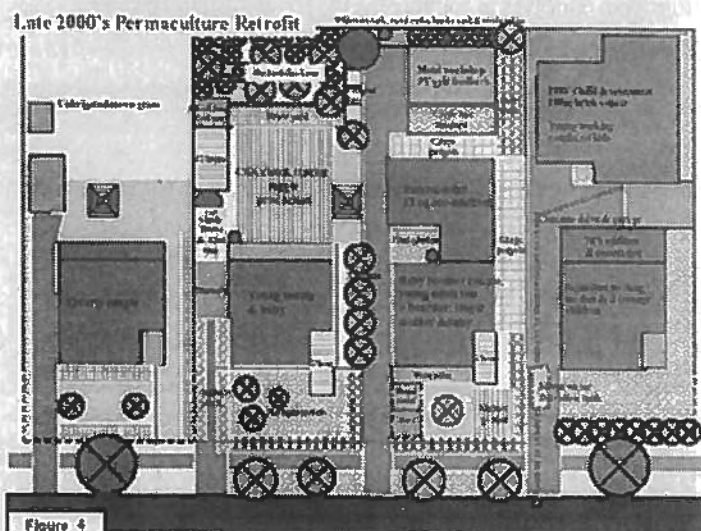
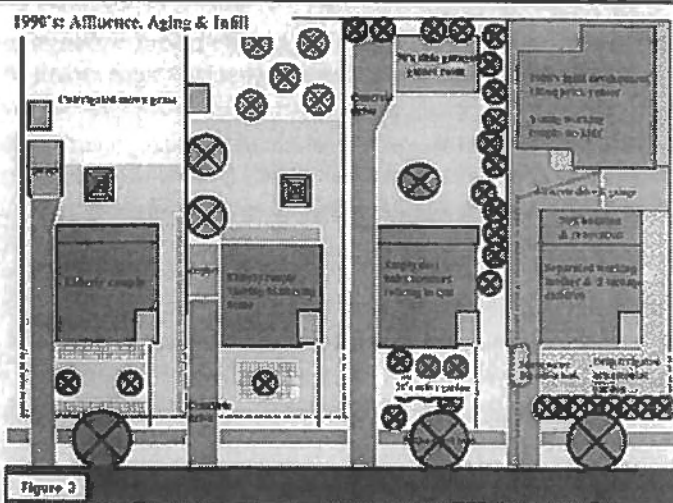
In the Earth Stewardship “creative descent” scenario, which I consider to represent the only truly sustainable future, human society *creatively* descends the energy demand slope essentially as a ‘mirror image’ of the creative energy ascent that occurred between the onset of the industrial revolution and the present day. The actual sustainable plateau is a long way down from current energy demands, but also a long way ahead in time. If we begin our journey now, there is time to use our familiarity with continuous change and creative innovation to avoid bringing on “Atlantis.”

So, in an energy-descent future, what are the prospects close to home—here where we live in suburbia? Will it be the end of suburbia? What if we can no longer afford to commute to work by car? What if we are dependent on food and energy supplies that are transported long distances at increasing expense? What if the services and functionality of our communities decline further so that there is ever-diminishing support from local councils and police, for example? There is a real and viable alternative to this seemingly alarming scenario—a retrofit of suburbia—a remodeling of local neighborhoods and communities for the energy-descent future. The “refit manual” will bring together and integrate features such as:

- Home-based work, telecommuting, and cottage industries serving a local clientele;
- Extended families, lodgers and shared households;
- Recycling of storm water, waste water, and human waste;
- Soils of improved fertility, and the water supply and infrastructure for urban agriculture;
- City farms, cooperative gardening, Farmers’ Markets, and Community Supported Agriculture schemes (CSA)

Let’s paint a specific picture of how this might work. If we return briefly to the golden age of the suburban dream in the late 1950s, a bird’s-eye view of our suburban neighborhood might have looked something like Figure 2, which shows four standard suburban blocks with productive backyards, including one supporting a small service enterprise.

If we move on in time and look at the same small neighborhood in the 1990s, Figure 3 shows the typical effects of affluence, aging and infill. The backyards are now all unproductive as aging original householders are no longer gardening or working at home. The cottage industry workshop has been renovated as an addition to the house space, and one property has been sold for speculative investment and the backyard filled with a second dwelling. How can this decline in productivity be turned



around?

Let’s leap a few years ahead into the late 2000s and imagine what might now have been done with the same four properties (Figure 4). The catalyst has been the sale of the house second from left to an energetic young couple determined to “future-proof” themselves for the energy descent expected in their lifetime. Using permaculture principles, they have restructured their entire block, including its front garden, as an integrated food production system. Seeing this exciting new development on the other side of the fence, the empty-nest baby boomers in the property third from left have aborted their migration to Queensland and restructured their home and lifestyles along lines compatible with the initiatives of their neighbors. They have extended their home with an eco-addition and increased its occupancy with an additional family member plus a young boarder. The 1970s games room has been fitted with a solar PV array and returned to its original ‘backyard-industry’ purpose to house their son’s small metal-working business. The fence between the two properties has been removed to allow the land of both blocks to be farmed cooperatively for the benefit of all the occupants. Shared water management facilities, including rainwater collection and greywater treatment, have been implemented, and productive fruit trees have been planted on the nature strip in front of both houses. The complementary design relationship between the two households is characterized by horticultural skill and youthful energy but not much capital on the left, and



more capital and more interest in the built environment and social strategies of permaculture on the right.

Seeing all these successful communal activities going on next door, the property owners on the left- and right-hand ends of the row are now looking for ways to contribute. The elderly couple on the left need home help (an opportunity for one of the young mothers) in exchange for use of their extensive backyard to expand the cooperative CSA vegetable-box garden.

While the development and neighbors in the right may be slower and more difficult to connect, they have offered their unused back and front gardens to extend the farming system in return for a share of the produce, one of their teenagers is training to help in the metalworking enterprise, and their stormwater detention tank will shortly be refitted as part of the communal water management system. And so it grows!

The bottom line here is that we do not need to wait for policies to change. We can choose today to do this—to create our own small neighborhoods. ‘Suburban sprawl’ in fact gives us an advantage. Detached houses are easy to retrofit, and the space around them allows for solar access and space for food production. A water supply is already in place, our pampered, unproductive ornamental gardens have fertile soils and ready access to nutrients, and we live in ideal areas with mild climates, access to the sea, the city and inland country.

So what do we have to do to make it work? Basically, the answer is “Just do it!” Use whatever space is available and get producing. Involve the kids—and their friends. Make contact with neighbors and start to barter. Review your material needs and reduce consumption. Share your home—by bringing a family member back or taking in a lodger, for example. Creatively and positively work around regulatory impediments, aiming to help change them in the longer term. Pay off your debts. Work from home. And above all, retrofit your home for your own sustainable future, not for speculative monetary gain.

In an energy-descent world, self-reliance represents real opportunities for early adopters of a permaculture life style:

- Rises in oil prices will flow through to all natural products (food, timber, etc);
- Higher commodity prices will be a stimulus for self-reliance and organic farming;
- Local products will be more competitive than imports;
- Repair, retrofitting, and recycling will all be more competitive than new replacement;
- There will be rising demand for permaculture as life-skills education; and
- There will be a resurgence of community life, ethics and values.

There are, however, some real hazards for the greater community in the energy-descent scenario. For example, perverse subsidies and “head-in-the-sand” policies could distort necessary market adjustments (e.g., the end of fuel tax combined with production subsidies to agribusiness). There is a real danger that fascist-style politics could see minorities and those providing for themselves as being to blame for declining social conditions. Sudden economic and environmental shocks could conceivably lead to social collapse, removing even the security necessary for local food

production. We need to understand the energy descent pathway ahead, act to ensure our own longer-term resource security, and keep ourselves informed about the viewpoints and approaches of the greater national and global communities around us. Δ

### **Resources for understanding energy descent**

- Association for the Study of Peak Oil & Gas – [www.peakoil.net](http://www.peakoil.net)
- *The Party's Over: Oil, War and the Fate of Industrial Societies* by Richard Heinberg, 2003
- *Oil: Living with Less* by Bruce Robertson. [www.STCwa.org.au](http://www.STCwa.org.au)
- *Permaculture: Principles & Pathways Beyond Sustainability* by David Holmgren. Holmgren Design Services 2002 – [www.holmgren.com.au](http://www.holmgren.com.au)
- Video Interview of David Holmgren by Adam Fenderson – [www.globalpublicmedia.com/interviews/106](http://www.globalpublicmedia.com/interviews/106)
- Documentary Film: “The End of Suburbia: Oil Depletion and the Collapse of the American Dream.” [www.endofsuburbia.com](http://www.endofsuburbia.com)

David Holmgren, co-originator with Bill Mollison of the Permaculture concept, will present several lectures and workshops in the US this summer. See the Events listing in this issue of *The Activist* for a detailed schedule. This article is adapted from a public lecture given at the Aldinga Arts EcoVillage in Adelaide in January 2005 and has also appeared in the *CSIRO Sustainability Network Update* (Update 49, March 31, 2005, pp. 1-9). Contact David at [holmgren@netconnect.com.au](mailto:holmgren@netconnect.com.au).

### **A Thousand Year Error**

Michael Pilarski

#55 Learning from our Mistakes, February 2005

**TALK ABOUT MISTAKES!** One of the biggest errors our civilization has made is its reliance on petroleum, a non-renewable resource, as our primary energy source. The perils of this mistake are becoming ever more evident. Unfortunately, most people in the US still have to face up to it. The film *The End of Suburbia: Oil Depletion and the Collapse of the American Dream* will persuade more of them. Unfortunately the film does little to elucidate the solutions. Solutions is where permaculture comes in.

One of my worst-case scenarios is a fascist one-world government where all the populations in all the countries are tightly controlled and watched, dissent stifled, and opposition killed—a robot, slave people with consciousness repressed. It appears that there are people in the world who have this scenario as their goal. I doubt they will be able to achieve this due to massive forces afoot within humanity, within the planet and within the solar system itself.

One step at a time. Get a copy of *The End of Suburbia*. Organize a public showing of it in your town, city or neighborhood. Use it as a starting point for discussion. Acquaint people with permaculture as one of the solutions. Here in Bellingham, the film has sparked a new coalition of people to hold a conference in 2005 around the problems posed by peak oil and what can be done to make our county more self-reliant. Local food systems, local economies and local cooperation may be very useful in the not too distant future. Wherever you live, now is a good time to contribute to creating and strengthening alternatives.

# Success and Succession: IPC-7

Peter Bane

Meeting for the first time in nine years, the International Permaculture Convergence drew over 100 designers, teachers, and graduates from 20 countries to the Istrian hill town of Motovun. Jointly coordinated by the Permaculture Institute of Europe and a network of Croatian permaculture activists, the 7th session of Permaculture's governing body was marked by reports of inspiring accomplishment and exciting new initiatives. Europeans made up the greater bulk of the participants, led by a large contingent of British staff and scribes as well as significant Nordic representation. A last-minute loss of promised funding prevented all five African delegates from attending and cut the Nepal contingent from a planned four to two delegates, the same number as were present from all of Latin America. North American and Australasian delegates comprised about a quarter of the total. Missing altogether were any representatives from East Asia, the Middle East, or Russia, even though permaculture has made important strides in those regions.

An atmosphere dominated by bonhomie and goodwill was nevertheless punctuated from beginning to end by strong words that revealed thinly veiled conflicts, a legacy of the global movement's rapid diffusion during a chaotic era.

## Polarities emerge

Together at IPC for the first time since its inception in Australia in 1984, Permaculture's co-authors David Holmgren and Bill Mollison brought the movement's increasingly sophisticated understandings and its sobering future into sharp contrast with the turbulent but creative history of its rise to prominence. Recapitulating for newcomers the origins of permaculture in the urgent 1972 Club of Rome warnings about impending world resource limits, Bill Mollison opened the Convergence's series of lectures by reminding the audience that the design system he helped codify would be judged by its practical outcomes. He went on to demonstrate an abiding faith in anger as the driving force behind earth repair, doing his best to provoke it in a group more disposed to shower him with praise and gratitude for a career of heroic achievement.

In a talk delivered the following day, David Holmgren, permaculture's junior co-originator and a voice for its emerging intellectual as well as practical authority, stepped squarely out of the shadow of his outsized mentor to assume the maturing legacy of a phenomenon he helped launch more than 30 years ago at the tender age of 18. Consistent with his latest book, *Permaculture: Principles and Pathways Beyond Sustainability*, David asserted the primary importance of ecological understanding, design principles, and

ethics as the touchstone for action underpinning permaculture. "Mulching," he said, "has become nearly synonymous with permaculture. But techniques will inevitably vary by climate and culture. What distinguishes permaculture from organic gardening or a fascination with strawbale building is its conceptual system of design."

As a backdrop to this wide-ranging debate about global possibilities and priorities, delegates looked out from the top of a fortified medieval hill town in western Croatia over a lush semi-wooded valley that has been cultivated in vines, wheat, and olives for at least 3,000 years. Snow-capped peaks of the Julian Alps

stretching over the northeast horizon, and silver flashes of sunlight glinting off the Adriatic Sea to the west took no notice of the controversies swirling through the meeting rooms and around dinner tables within the ancient walls, while with equal indifference if more immediacy, boys played soccer before the church, and cherries ripened along farm lanes below the battlements. The triangular Istrian peninsula, a prize of empire since Roman times and ruled variously by Visigoths,

Venetian, Hungarian, Austrian, Italian, and Russian suzerains, escaped the worst ravages of its most recent war, as a polyglot but prosperous Yugoslavia devolved—not without pressure from the great powers—into its constituent republics between 1991 and 1995.

A candidate for EU membership in 2007, Croatia is striving to polish its image as a modern yet deeply cultured facet of the European jewel. Its western coastal regions, stretching from Istria in the north to the fabled city of Dubrovnik near the Bosnian border, have become a focus for war restoration, investment, and tourist promotion.

Over five days, the mixed community of permaculturists from Britain, Denmark, Australia, the US, Croatia, Germany, New Zealand, Sweden, Austria, Czech, Nepal, Italy, Spain, Brazil, Norway, Holland, France, Slovakia, Canada, Ireland, Slovenia, and Mexico heard seven keynote presentations and attended some 30 workshops. Fueled by espresso and natural excitement, conversation ebbed and flowed across the tree-lined terrace at all hours of the day and night.

## Other Keynotes

Following on permaculture's illustrious co-founders, IPC-7 coordinator Tony Andersen of Denmark emphasized the importance of new forms of organization to permaculture's future, setting the stage for the announcement by Andy Langford, a lead teacher in Britain and founder of the Permaculture Academy Worknet, of exciting developments around Gaia University, his latest and now



IPC-7 tour bus loading in Ljubljana, capital of Slovenia

global project. Extending the concept of action learning embodied in the Academy Worknet, Gaia—which has attained early accreditation through Revens University of Boulder, Colorado, and its parent UK organization, a school of international business training and a pioneer in action learning—is now able to grant degrees (bachelors, masters, and doctoral) for self-directed action learning programs originated by its associates.

Langford and co-promoter Liora Adler, a long-time bioregional organizer and a founder of Huehucocoyotl Ecovillage in central Mexico, envision strategic development of Gaia U. to empower permaculture and ecovillage activists. By granting accredited degrees for proven field work and innovative projects on the ground, Gaia can embolden earned authority, accord social rank, and redirect financial resources to the very people who are making possible a regenerative future for the planet.

Reports from Prem Thapa of Nepal's venerable Permaculture Group showed steady and comprehensive progress over 15 years. With 865 graduates and numerous publications, Permaculture has achieved important milestones in that mountainous country, including the hosting of IPC-4 in 1991. The work of NPG is based on its demonstration centers at Jajarkot and Surkhet, with another soon to open near Pokhara.

Ali Sharif, representing Permacultura America Latina (PAL) ([www.permacultura.org](http://www.permacultura.org)), described the meteoric rise of that aid organization to prominence in Brazil. From its beginnings in 1994, PAL has grown to encompass demonstration farms in Brazil's three major ecozones. The group, which maintains a US office in Santa Fe, NM, works through Brazil's national university system, and has launched sister institutes in Guatemala, Cuba, Colombia, Ecuador, El Salvador, and elsewhere in Central and South America. Sharif, a political refugee from Iran in 1979, has marshaled Northern money (some \$725,000 per year from US donors) along with matching local funds and Brazilian creativity to good advantage. Lengthy training programs for social change agents are incorporating

increasingly sophisticated psychological and teaching skills, while funding allows PAL to recruit candidates from within its extensive network and bring them to its Brazilian center at Pirenopolis for up to four months. Their research and development of appropriate technology for extracting fuel from "weed" trees in the ravaged

rainforest lands has attracted positive attention and cooperation from Brazil's military, which, strapped for cash under the Lula government, is also being pushed to add social services and development assistance to its traditional mission.

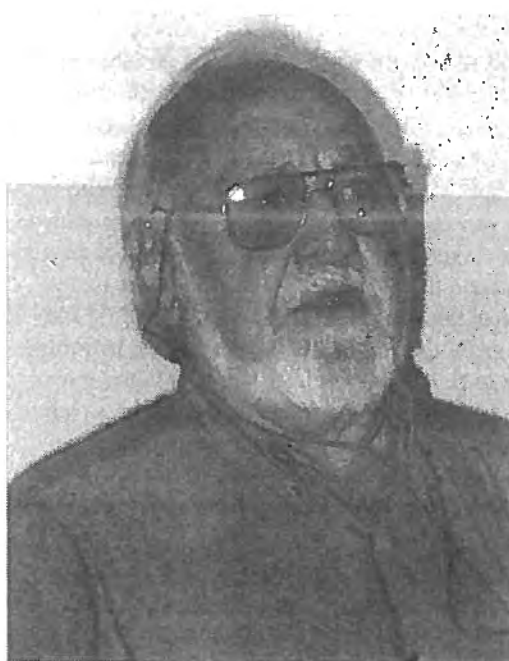
## Frank disclosures

In counterpoint to the buoyancy of the Brazilian report, Marija Heffer-Lauc, a neuroscientist and the 40-years-young "mother" of Croatian permaculture, related the difficulties that ten-year-old group had experienced. She drew some important lessons: The early wave of Permaculture introductions had been based too much on intellectuals and too little on farmers. Centered in the capital Zagreb, it had failed to impact much of the rest of the country. Now, however, a second wave of enthusiastic and younger, politically active people had become involved and was extending Permaculture influence to other regions, witnessed by the hard work of the Istrian group in hosting the international conference.

She went on to share some fruits of her scientific work about how humans learn, how we forget, and what neuroscience can tell us about the cultural project for change (sidebar).

## The sharing circle

It was left for this writer, bringing up the tail of a worthy parade, to break the mold of lectures in a theatre hall, by seating the group in a circle out of doors and orchestrating an intimate encounter among the delegates hungry for connection. With the suggestion that to realize permaculture's Second Ethic, People Care, would be the urgent work of the next decade, I led more than 60 through a portal of silence into a much needed outpouring of the heart. Hushed appreciations, sorrows, and tender pleas bloomed around the loggia like roses watered by tears as the tensions and



Bill Mollison was the first of seven presenters at the Convergence.

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wonderments of the week dissolved into blessing.

Brilliant presentations by Trish and Joe Polaischer of their elegant but low-energy home system at Rainbow Valley Farm, New Zealand; innovative research into soil building with charcoal by Harald Wedig, now living in Holland; reports on the Permaculture Credit Union's expansion from Wes Roe of Santa Barbara, California; an eruption of queer insights from traveling activist Christian Hansen, and dozens of other workshops kept the Convergence popping with action.

A camping site four kilometers from the village drew many of us out into the countryside for glimpses of traditional farming and forestry. But the presence of a host of international colleagues and the charm of the ancient settlement with its commanding views, ensured that the cafe terrace in front of the village square remained the hub of our short-lived world.

That world filled with stories as the lore, learning, and legends of permaculture's visionary activists leapt from every tongue throughout the week. In this glorious firmament, Declan Kennedy, Dean of the European Permaculture movement, but now freed of any formal roles, shone forth as the tireless and essential star. Whether leading us in circle dancing each morning, hovering like a bee at each moment of transition, presiding over dinner conversations, scolding thoughtless partyers, or shuttling between fractious camps like a diplomat, he demonstrated the prescience and vitality that enabled him to launch permaculture in 17 countries. Leaving a professorship of architecture at Berlin in 1980, he traveled to Australia to learn permaculture from Bill Mollison, then carried it back to Europe, where he founded the Pc Institute and later Lebensgarden, an ecological village and reclamation project near Hannover. Turning the European Institute over to Tony Anderson in 1991, he went on to pioneer the Global Ecovillage Network as its European Secretary from 1993 and later its representative at the United Nations. Stepping down from GEN in 1998, but still active on many fronts, he has emerged as a skilled conflict mediator, distance healer, and, along with his wife Margrit, a maven of the complementary currency project. Boyish at 71, articulate in English, German, and Gaelic, the man was an irrepressible bundle of energy, whether telling stories of 'who met whom' in his Steyerberg living room, teasing a shy youngster new to Pc or leading (at a run) a workshop on healing people and landscapes (a dowser since the age of 17 he healed himself from a serious bout of cancer between 1998 and 2002). Himself a liberating model of creative retirement, Declan drew the entire group together during the final night's celebration with a line dance through time. Pushing Bill, now 77, and pulling the rest of us, a sinuous cascade of nearly every age down to 22, plus Florence, 9, and Gabriel, 7, (Andy Goldring and Julie Nutchey's marvelous children), he wove a wild Celtic figure against the already lush tapestry of Croatian food, Istrian wine, riotous laughter, and world-around love.



*The Americas regional caucus during the first day of IPC-7 Convergence. From left: Ali Sharif, Sally Ramsden, Marina Michahelles, Sharon Ferguson, Margie Bushman, Liora Adler, Peter Bane, Wes Roe, Christian Hansen.*

The only formal decision of the week came on Saturday, June 11th, when the delegates agreed to accept Ali Sharif's offer from PAL to host IPC-8 in Brazil, with a target date of May 2007. An organizing committee, consisting of Pat Dare (Western Australia's IPC-6 coordinator), Tony Andersen (IPC-5 and IPC-7), and others was formed to monitor passing of the IPC torch. Though a sizable contingent felt 2007 too soon in view of repeated calls for greater transparency and

more inclusiveness in the organizing process, the need for capacity building among newer Pc groups, and worries about the high energy and money cost of international travel, Sharif, supported by about half the delegates, argued for moving ahead as soon as possible. Timing would be determined by the best choice of a comfortable season in Brazil. Picking up on informal evaluations from this event and previous IPCs, he suggested that the Conference would likely be separated from the Convergence and moved to a city with good international air connections, possible Sao Paulo. The convergence, he asserted, needed to be held in a location where the host organization could control conditions and costs for lodging, food, and facilities. The conference could be held before the convergence and perhaps concurrent with the traditional Pc Design Course held in advance of the event. Freed of the deadline of the conference beginning, the convergence could extend its meeting time if pressing issues were still unresolved at the end. This resonated with the IPC-7 delegates, who had taken three days to develop a consensus about the main issues and found themselves short of time at the end of the event.

Having early resolved with the Nepal delegates a possible conflict with their own offer to host IPC-8, Ali Sharif pressed the case for Brazil with all his personal charm and considerable skill. He held out the prospect that the PDC would be held on a boat steaming up the Amazon to Manaus, where PAL has a major facility. With the location and host organization accepted, only the schedule remained to be resolved as the Convergence closed. We'll have more details as they develop, and additional reports on IPC-7 in future issues.

With participation at this Convergence dominated by First and Second World delegates, the question of its relevance to majority-world countries has to be asked. Nepal's example of home-grown organization suggests that the permaculture model can be effective across cultural settings, but it remains uncertain whether communication protocols can be created to link far-flung efforts around the globe. With the limits of the event apparent to all, much attention went on the future use of a wiki page ([perma.superserver.dk](http://perma.superserver.dk)) maintained by the Pc Institute of Europe. (Wiki is software on the Internet that allows a wide range of independent authors to create a central archive.) Initially these would include IPC-7 contacts and proceedings, which had been well documented by the on-site scribe team. This will help, but as so often in permaculture, individual initiative, face-to-face encounters, and small

group efforts made this event work, and cannot be dispensed with.

Despite small numbers and a long lead time, the logistics of Convergence and Conference taxed the organizational capacities of the Danish and Croatian groups to their limits. Demands for greater participatory input and a basic respect for the enormous energy and time investment of an international meeting both require that we begin preparing much earlier for a collective agenda. The emergence of an educational network supporting excellent achievements holds promise of creating the kind of empowered organization that permaculture so clearly

needs if it is to survive the turmoil of Energy Descent. But this will not be enough. There must be a shift within the curriculum itself to embrace and teach tools for building community. Over the next cycle, we must become as adept at building social (and financial capital) as we have been at regenerating natural capital during the past generation.

Permaculture's genius has always been its cellular nature, but Nature the teacher didn't stop working at the cellular level. Organism and communities emerged to serve higher functions. It's time for us to get in step with evolution. Δ

### Learning and the Brain

*from presentation by Marija Heffer-Lauc at IPC-7*

Memory occurs all over the brain. It is not localized, but is stored near where it will be used. Names for tools are linked with the cells that control fine motor movement, while names for songs are held in the auditory lobes.

2. Recalable memory begins at two, at which age we are essentially building up our mind for life.

3. Memory works in three phases: short, medium, and long. Short-term memory is limited to about seven unrelated items. To stretch it out, we group numbers, words, and things. Medium-term memory encompasses the stuff of only passing importance: the orders for breakfast in a restaurant, the train schedule to Genoa. Long-term memory holds vast amounts of more emotionally significant information. It is essentially indefinite but usually fades over time.

4. Some minds are perfectly preserved into very old age. To keep your mind young, do new stuff. Repetition is the way to ride a bike, but also a recipe for killing your brain.

5. Erase memory daily. Get plenty of good sleep to purge your mind of what it no longer needs.

6. Learn some tricks. If you invite people to forget something, they will. But if you forbid them to remember something, it will be implanted firmly in memory.

7. Find your own way. By following the lead of others, we fail to imprint the data we need to recreate key patterns on our own.

8. Learn the major sins of memory...and their antidotes:

**Absent-mindedness.** Absent-mindedness comes from divided attention. Cultivate stillness of the mind through meditation, yoga, and tantra. **Blockades.** The mind creates a blockade for foreign words and names, but not for faces. You can associate names with vivid images as a mnemonic.

**Misattribution.** Nine out of ten lineup subjects are misidentified. Learn to investigate the real scene empirically; don't depend on the testimony of others.

**Suggestibility.** This is both good and bad. It's how we build civilization, but it also leads to prejudice and conflict.

**Bias.** We can't just forget "evidence" once it has been presented to us. Skepticism is therefore a healthy attitude toward all new information.

**Kids are born liars.** It's one of the ways they learn—by playing with reality. Learn to forgive this by overlooking it. If you make a big deal of it, you injure their imaginative capacity.

## Network & Resources

### Interactive Ecovillage Design Website

Val Oliver

Global Ecovillage Network (Oceania/Asia)

Outside mass-produced computer games, there are few opportunities for beginners to try their hand at designing, building, or governing an alternative society. This site aims to give users a taste of what it's like to build an intentional community—before they buy a block in an ecovillage or a share of a multiple occupancy. Here they'll be able to get involved in debates over land and water sharing, dealing with bad behavior and development of environmentally sensitive areas, and see something of the impact of their part in the process. The site lets users explore the practices and philosophies behind the growth of post-Aquarian intentional communities, and to reflect on the cultural impacts of these communities on regional Australia. It

also showcases the design ethos of people interested in building better communities across the country. They can design their own ideal world on our idyllic block using the site's DIY design map.

This website has been developed to accompany a series of radio interviews with people from intentional communities and ecovillages in Australia ([www.abc.net.au/rn/utopias](http://www.abc.net.au/rn/utopias)). The link for the interactive web site is [www.abc.net.au/rn/utopias](http://www.abc.net.au/rn/utopias). Max Lindegger (our Programme Director and co-designer and developer of Crystal Waters and other projects) has been asked to be involved in the web site, and features in an animated sequence on the web site as well as in the radio interviews.

# REVIEWS

## Can We Learn?

Review by Peter Bane

JARED DIAMOND

### *Collapse—*

*How societies choose to fail or succeed*

Viking. New York. 2005.

575 pp. cloth. b/w plates & maps. \$29.95.

Jared Diamond teaches geography at UCLA. He writes here as an environmental historian. Author of the Pulitzer Prize-winning *Guns, Germs, and Steel*, an examination of the history of European imperialism, he has garnered high and well-deserved praise for his literary forays into the marshes between anthropology, history, and ecology.

*Collapse* examines the failures of half a dozen historical societies, most of them living in marginal environments, to cope with problems of resource collapse. He also looks at some societies that succeeded in the face of similar challenges, and surveys a few conspicuous examples of contemporary societies (China, Australia, Rwanda) facing harsh pressures from environmental degradation. Diamond's explicit intent is to shed light on present and impending resource crises that may trigger collapse or transformation.

The notion that modern industrial society exists in a perilous condition, having outstripped its sustainable resource base, scarcely needs introduction to readers of this journal. In bringing under the scientist's lens the notorious or lesser known stories of Easter and Pitcairn Islands in the south Pacific, the Anasazi and Maya peoples of Mesoamerica, and the medieval Greenland Norse, he lets us examine the incontrovertible and detailed evidence of societies that essentially starved to death after having successfully occupied their territories for hundreds of years.

What caused these paradoxical collapses? Diamond posits a five-point framework for understanding the economic failure of societies: environmental damage—which he further expands into eight classic (soil erosion, deforestation, population growth, overfishing, etc.) and four additional contemporary factors (toxic chemicals, energy shortages, global limits.), plus climate change, hostile neighbors, friendly trade partners, and cultural factors driving that society's response to its challenges. Though he admits to having undertaken the book from a thesis that environmental damage leads to social collapse, his study forced him to broaden this theory. He admits that environmental damage has been in no case the sole determining factor

behind social collapse. This is a remarkable conclusion in itself, into which we must look more deeply.

Modern industrial society appears to differ in many aspects from the isolated societies revealed in *Collapse*. Some of these aspects may mitigate the likelihood of collapse; others heighten them.

Climate change is a major contemporary concern and it has global impacts that support the comparisons Diamond draws between vanished societies and our own. After all, the global cooling that set in about 1300, known as The Little Ice Age, had impacts across the world. The increase in sea ice and shortened growing seasons that led to the unraveling of Norse society in Greenland also caused crop failures in Europe and may have contributed to the devastating spread of the Black Death. The same global climate shift disrupted rainfall patterns in the American Southwest, which led to failure of the Anasazi society. Yet not all societies extant in the 14th Century suffered collapse of the sort that wiped out the Greenland Norse and the Anasazi. So we may imagine that the consequences of 21st Century resource contraction will be felt differently in southern Africa, in China, and in North America.

This leads us to look at Diamond's other factors: hostile neighbors, trade partners, and cultural response.

Hostile neighbors were a factor in the downfall of the Maya, among whose competing cities warfare was rife, and of the Greenland Norse, who experienced hostile pressure from the more environmentally adept Inuit hunters moving south and east out of Arctic Canada during this period. Do modern societies face hostile neighbors? Apparently the current obsession with terrorism and with so-called "rogue states" stands to mark the existence of hostilities in a cyber-wired, jet-propelled world where neighbors are everywhere.

Yet the challenge of globalization is also to realize the dual nature of hostile neighbors/friendly trade partners, who are often one and the same peoples or nations. Which is China; which Saudi Arabia? Try, for instance, to place Iraq in this continuum, in 1981, 1991, 2001, and today: first ally, client state, and beneficial trade partner, then opponent in warfare, then clandestine trade partner, and now again both ally AND opponent in warfare and simultaneously trade partner, though to whose benefit we may wonder. Perhaps other nations

than the US have less convoluted relations with other societies.

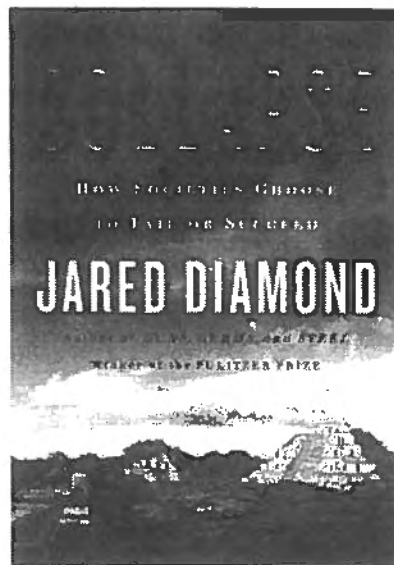
Still, the sleeper in this group of suspects, if you haven't already guessed it, is the importance of cultural response to crisis. The stone-working, monumental clan enthusiasts of Easter Island are the most mysterious (and the most isolated) of

the peoples the book examines, for they knew well they had no escape route, yet proceeded to chop down their forests, on which they depended for canoes to fish the deep ocean waters around them. That they did so in order to continue transporting 10- to 200-ton stone effigies across the island for religious purposes is damning testimony to the dominance of meaning over survival in the human animal. A similar case emerges from the story of the Greenland Norse.

Greenland in 1300 presented a harsh and

demanding environment, but the Inuit peoples of Canada survived and spread there even as the centuries-old Norse settlements began their decline to a horrible end. Wearing their warm clothing, fishing from waterproof and seaworthy kayaks, and with physiological adaptations (hyperextended forearms for throwing harpoons) cultivated from early childhood, the Inuit made effective use of the ocean resources. Culturally developed access to these resources helped them prevail against the worsening climate of an ice-bound land. The Norse, whose very identity was bound up with European, Christian civilization, and who saw themselves as pastoralists and farmers, died after eating their last newborn animals while refusing to eat the abundant fish all around them. The medieval Norse settlers in Greenland were people not unlike modern Europeans and Americans. They had less iron than we do, but no less superstition and stubbornness.

Yet Diamond regards himself a cautious optimist. He also writes of the successful adaptations of New Guinea highlanders in coping with the challenges of deforestation and soil erosion. Twelve hundred years ago they learned to cultivate fast-growing, nitrogen-fixing trees among their garden plots to provide fuel and fertilizer, and to stabilize the steep mountain slopes. Is it an accident that the cultural traits Diamond attributes to the New Guinea peoples (he has done extensive field work among them) are openness, curiosity, and empiricism? That their society is not significantly hierarchical? That resources are evenly distributed across the region?





Another case of successful adaptation is that of the island of Tikopia in the southwest Pacific. About 1,200 people live there in balance with their natural environment on 1.8 square miles of coral atoll some 140 miles from the nearest larger islands in the nation of Vanuatu. They've done so for over 3,000 years! Virtually every square foot of walkable land on the island is cultivated. In the course of their history, the Tikopians have made a number of dramatic shifts in cultural practice. Repudiating a core talisman of their cultural identity as Polynesians, they chose to exterminate every last pig on the island some four centuries ago when it became apparent that these animals were maladapted to a densely gardenized landscape. They carefully monitor their population to limit total numbers on the island. And, while they periodically suffer from devastating typhoons, they have learned a suite of highly successful strategies for deriving food from their land and sea environments and storing it against lean times. A key to their success, Diamond suggests (and we would echo), is the high level of awareness of the environment available to all members of the society, combined with a physical situation that levels differences between elites and common people. All are in the same boat, and they know it. Problems emerge immediately and can be dealt with because of the face-to-face nature of the society.

To put the population problem in sharp, modern perspective, Diamond examines the case of Rwanda during the past 25 years. The world was shocked to witness genocide erupt there in 1994 and claim a million lives, but there has been little widespread understanding of its causes. We learn here that Rwanda and Burundi are the most densely populated nations in Africa, rivaling the most densely settled nations in the world: more than Bangladesh, a little less than Holland. Yet these tiny African states depend almost solely on a rich but dwindling agricultural base for their subsistence. A significant contributing factor in the genocide, perhaps the driving force if not the proximal cause, was shortage of land exacerbated by significant perceived differences of income and wealth among large sectors of the society. Vengeance killings and a motive to reduce the population were widely acknowledged among Rwandans if not by outsiders who looked on in horror as neighbors hacked each other to death with machetes.

The environmental devastation facing the modern world is more profound and widespread than any previously experienced by human societies. The earth's population of humans is beyond all known precedents. The technologies and the impacts of contemporary societies are orders of magnitude greater than those of stone-age Easter Islanders, Maya, or Greenland Norse (starving North Koreans with the nuclear bomb, for instance). The integration of the global

economy means enormous differences of wealth and poverty and also a huge capacity for the masking and denying of problems as resources and the consequences of their extraction are hidden on the other side of the planet. Is there cause for hope?

Diamond holds out for a better future, citing increasing environmental awareness, but he is no Pollyanna, nor could any serious observer of the human scene be so today. While his historical and contemporary explorations are fascinating and highly relevant, I must admit that I found his conclusions less compelling. Certainly his successful examples of adaptation support the thrust of permaculture and ecovillage development: societies in close touch with their resource base and largely free of pernicious hierarchy, with cultural values of openness, curiosity, and empiricism have done the unlikely and persisted in challenging environments for millennia. They have done so most evidently when they have operated on a human scale, in village-sized communities.

But in a world dominated by machine technologies, vast urban concentrations, and with enormous separation between elites and the mass of society, it is hard to imagine an outcome not clouded by catastrophe.

The author's examination of First World societies (in Montana, Australia, and Holland) places his own values and his life pursuits in the context of his intellectual work. This honesty and vulnerability is also meant to make more relevant the lessons of history he so carefully unveils. The book offers a tremendous banquet of food for thought. I know it's not yet done working on my mind. Provocative and unsettling, written with passion and clarity, *Collapse* should be required reading in every modern home. △

## Trout for the Table Review by Peter Bane

LAURENCE HUTCHINSON

### *Ecological Aquaculture: A Sustainable Solution*

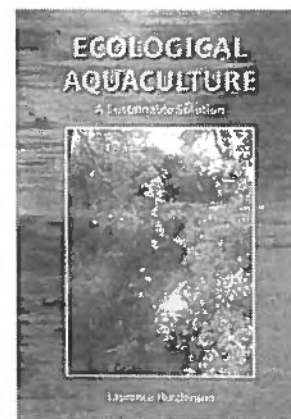
Permanent Publications, East Meon,  
Hampshire, UK. 2005.

149 pp. hardcover. illustrated + color  
charts appended. \$45.00

Too little has been written about small-scale fish production; much of the existing literature has been directed toward development workers and covers tropical conditions. *Ecological Aquaculture* fills an important gap in addressing home and small-farm fish culture in temperate climates. This attractive, large-format (A4) volume has been produced to Permanent Publications' usual high standard. Clear editing, a spacious layout, numerous crisp, well-composed photos, and comprehensible charts combined with high-quality paper and a full-color hardbound cover make this a worthy addition to the permaculture bookshelf. Two large, laminated color fold-out charts

provide a key to freshwater invertebrates and a guide to many common water plants.

Laurence Hutchinson has written a detailed and thorough template for raising trout and other cool-climate species based on his extensive, largely self-directed research and experience over the past 30-plus years. From an interest in fly-fishing, a love of the countryside, extensive world travel, and an entrepreneurial cast of mind, he built a career that now spans several continents and includes consultancy for the government of Canada and the Organic Trade Assn. in the US. He maintains a small farm in Wales where he raises trout according to the principles on which he has based the book. This is not a comprehensive treatment of all types of aquaculture. Rather, it aims to provide the intelligent lay reader with an accessible path from curiosity to successful fish farming. The author has necessarily and wisely limited his scope to well-tested systems for a few species. Nevertheless, this makes an important advance at the frontier of sustainability for all the reasons made clear in our May 2004 issue on Aquaculture (*Permaculture Activist* #52). Commercial aquaculture follows a failed industrial model with attendant waste and pollution; wild fish stocks are in serious decline, yet fish protein and fats remain a valuable, even essential nutritional supplement to the human diet and a major element of life support for present populations. We shall need to grow our own. In a step-by-step manner, Hutchinson provides background, both historical and contemporary, to his own fish-culture methods, then lays out best practices for health and welfare of both fish and the aquatic environment. On these foundations, he builds up the elements of his system: how to sample and test water quality, natural resources for aquaculture systems, and food chains and other aspects of ecological models made practical. He goes on to discuss enhancements to the aquatic environment: the management of genetics, the addition of trees, amphibians, and aquatic plants, restoring water quality, filtration and temperature regulation,



control of pathogens and predators, etc. Remarks are included throughout the text to advise North American and Australian readers of particular needs in their circumstances, as these may differ from British and European

conditions.

Part Two of the book lays out principles and practices for the physical design of ponds and tanks, and for the introduction, management, and harvest of crop species. Much of this section explains the author's system of small ponds in series for production of prey organisms that feed the crop fish. Diagrams help make this clear and logical. The chapter on pollution monitoring includes schematics for making simple instruments. The author includes a short chapter on

crayfish and expands this with an extract on crayfish culture in the US as an example of available resources for extending his system to other species and crops.

Not directly applicable to catfish or other warmwater species, this manual nevertheless provides such a careful and thorough approach to small-scale ecological aquaculture that it should be helpful to anyone attempting to create or take advantage of an aquatic resource, whether an existing pond, a small stream, or an ephemeral source of rainwater. Though Hutchinson doesn't cite it, North American readers would do well to reference William O. McLarney's classic, *Freshwater Aquaculture* (1984), for a more complete overview of the potentials of small-scale fisheries.

Hutchinson isn't a stylish writer, though I detected bits of wry humor under the veneer of utilitarian prose. But I felt a great deal of gratitude nonetheless, for his serious and very practical attitude. Both the author and his publishers want people to raise their own fish. This book should enable many to do so. Δ

## The Tree Cropper's Companion

### Review by Peter Bane

DAVE JACKE

With ERIC TOENSMEIER

*Edible Forest Gardens, Vol. I*

Chelsea Green, White River Jct., VT. 2005  
536 pp cloth. Illustrated. \$75.00.

The term "Forest Gardening" came into use following Robert A. de J. Hart's publication of a small pamphlet on the subject in 1987 and began to achieve prominence when his book of the same title appeared four years later. It became closely associated with permaculture after Hart appeared in a short section of Bill Mollison's popular television series, *The Global Gardener*. The concept, however, is ancient, as Hart took some pains to point out. New Guinea Highlanders have been growing nitrogen-fixing trees among their mixed food gardens for at least 1,200 years, Jared Diamond reports in *Collapse*.

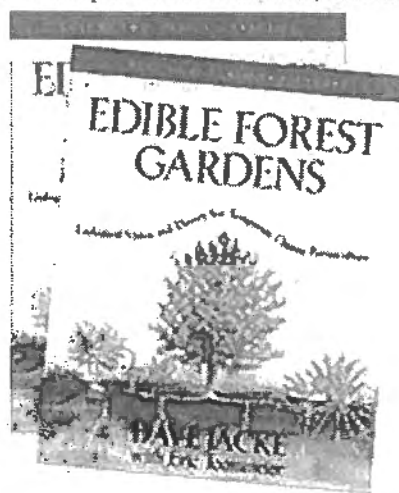
Forest Gardens are, of course, three-dimensional perennial polycultures of food-bearing and other economic plants grown for household self-reliance. They are well-documented from many tropical cultures, including Mexico, Ecuador, the Philippines, Java, and East Africa—by no means an exhaustive list. But the adoption of Forest Gardening in temperate climates has proceeded slowly over the past three decades.

The new book *Edible Forest Gardens* being issued this summer in two large hard-bound volumes, stands to bring a much-deserved spotlight to this indigenous ecological practice. Exhaustively researched and written over the past eight years, the book bridges between Hart's visionary, but primitive, formulation of the concept and the scientific, but often uninspired, descriptions of it which have peppered the literature of ecology and anthropology.

Primary author Dave Jacke and his research partner and collaborator, Eric Toensmeier, traveled to Shropshire, England to meet Hart in the last years of his life. Dave's description of this meeting at the end of Volume II is one of the most poignant passages in

the book. As readers, we have the rare privilege of experiencing, albeit vicariously, a moment of true succession in human and intellectual affairs, as the younger author, looking tenderly, but with open eyes at the older's dotage and the limitations of his reach, consciously takes up the torch. Hart passed away before this book was finished, but I believe he would be proud to see the solidity with which his vision has now been clothed.

Dave Jacke, still a relatively young man, began his career contemporaneously with the introduction of permaculture to North America. A graduate in environmental studies, fresh from college, he took Bill Mollison's second Permaculture Design Course in the US, at Wilton, New Hampshire. He has been hard at work giving flesh to permaculture for the past quarter century. He helped create a land trust community at Jaffrey, NH, and for a number of years ran Gap Mountain Permaculture, where his



research into waste treatment systems blazed a trail for a generation of permaculturists. He also was instrumental in establishing and sustaining the Eastern Permaculture Convergences. A passionate teacher and meticulous designer, Dave's intellectual brilliance has been tempered by his conscious efforts at self-examination. The scientist in his make-up has been dancing an alchemical number with the humanist and the self-critic. We are now seeing some of the finest fruits of this marriage.

*Edible Forest Gardens* is an ambitious work. Dave and Eric set out to write a much shorter book, but Dave's determined sleuthing and intellectual rigor kept him going beyond the scope of a quick, popular handbook. We get a serious and exciting exposition of the science of tree crops and their ecologies. The book dives into the architecture of the root zone to explain how trees and shrubs draw minerals and moisture from soil. To shed light on this, Dave draws on arcane research, much of it done in the 20s and 30s by scientists who carefully excavated fruit trees *in situ* to reveal the mysteries of their below-ground life. Driven by a similar passion for knowledge, Dave and Eric traveled to meet Forest Garden pioneers and asked them hard questions: What worked, what didn't? Do you eat this stuff? How much work was it? What's going on with your soils? And more. The book includes some fine interviews

and case studies, which do much to give vitality and texture to a culture many will yet find foreign.

Volume I of this two-volume work covers theory, while its companion looks more closely into practice. But do not imagine that Volume I is dry and abstract—far from it! Dave Jacke has a lively and powerful mind and he's been grappling fruitfully with the subject matter of this book his entire adult life. The result is a treat for the reader. Mixing wit and insight with passion and integrity, the writing carries us along the author's path of discovery. We are invited to discern the forest from the trees, reminded of the garden as a vision of paradise, and enjoined to "make a living in the dark world of the underground economy." Chapters on forest architecture and social structure provide practical guidance and insightful conceptual frameworks for designers. The book's final chapter on succession works hard to reveal the limits of ecological modeling, not to discredit the models, but to go beyond them toward the mystery of how plants live in community.

Well-illustrated with many high-quality photographs and charts, Volume I also offers a list of the top 100 species for forest gardens in the temperate deciduous forest regions of North America, a selection compiled by Eric Toensmeier. These top 100 species were drawn from the extensive plant species matrix Eric created for Volume II.

Though a short review on cursory reading can scarcely do justice to an eight-year writing project, it's clear to me that this book will define the intellectual territory of its subject for at least a generation. Robert Hart introduced the vision of gardening in the image of the forest and in so doing, captured the imagination of thousands around the world. Patrick Whitefield, a distinguished permaculture teacher in Britain, took Hart's vision and gave it a practical framework so that ordinary people could begin exploring the arts of perennial food systems in cool climates. Dave Jacke has knit an indigenous practice at once ancient and renescent with the mainstream of scientific exploration. He has given us legitimacy—and by us I mean all the ecological agricultural explorers of the epoch—and a cogency that will now be impossible to denigrate or diminish. Permanent agriculture has found a potent and disciplined way forward. Let us seize the moment!

Pricing of the book at \$75.00 for each volume reflects the publisher's assessment of its value, certainly not the author's desire that it should be widely read. No doubt, the price will inhibit sales that the book, on its merits, so justly deserves. I encourage permaculture readers across the country to insist that this book be acquired by libraries so that it can get the appreciative audience its author sacrificed so much to earn. An excellent and essential reference, brilliantly conceived and passionately written, *Edible Forest Gardens* should be on every permaculturist's reading list for the year ahead. Δ

# . . . from the Regions

## A CARBON SOLUTION FOR CATALONIA

Peter Bane

The Mediterranean coast south of Barcelona resembles that of south Florida's Atlantic beachfront: though rockier and with a different vegetation, Spain's Costa Brava has undergone a rapid and recent transformation from wasteland to massive conurbation. Miles of five-story apartment blocks line the seafront many ranks deep, and the sounds of German, Dutch, and English carry through the rail station, while Swedish flags hang from balconies above the street.

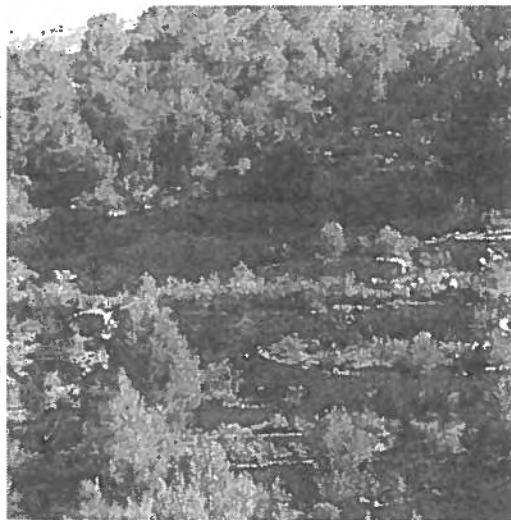
As we journeyed inland from industrial and medieval Tarragona, a port city of some 100,000 people and the provincial capital, toward Reus, a similar-sized but more modern and culturally active city ambitious to supplant its nearby older rival, the landscape began to reveal groves of olive, hazel, and grapes between the steepening hills.

The conventional agriculture of this semi-arid region is already based on these three perennial crops with an admixture of carob and almonds. Permanent plantings of trees and vines can endure the torrid and rainless summers where arable crops would fail or require prohibitive levels of irrigation.

We have journeyed here to visit Richard Wade and his wife Inés Sanchez Ortega, whose small farm lies some 15 km further into the mountains between the small village of Arboli and the nearby town of Cornudella de Montsant. Lying as it does beyond the crest of the first coast range, the *finca* of Permaculture Montsant gains little of the coastal fogs which help sustain the lower seaward slopes during Catalonia's long summer drought. Thus water is the critical limiting factor to agriculture and even survival in this beautiful but harsh terrain.

An Idaho native who emigrated to this most independent and progressive region of Spain some 30 years ago, Richard—whose passions are closely linked to the soil—has led the development of permaculture, not only in Catalonia, but in other parts of Spain, as well as in Italy. Training in England and holding his diploma from the British Academy, Richard has taught permaculture design in many parts of Latin Europe and was also a founder of the Permaculture Academy in Italy. When we met him in Barcelona, he was returning from a meeting of that body in Milan to accredit two new diplomats.

With the challenge of cold winters (to -12°C/10°F), dry summers (<2" of rain between May and September), and winds to 120 km/hr (75 mph), Richard had plenty of



*Stone terraces show evidence of the once extensive agriculture that supported thousands in this now sparsely populated region.*

opportunity to put permaculture strategies to the test over the past 25 years as he has brought the once abandoned terraces of this 750m/2500' hill farm back into production.

Everywhere, limestone rock dominates the rugged terrain. Over centuries past, farmers here created terrace upon terrace with the native stone to provide meager plots for hazels, vines, olives, and vegetables. Richard, who learned to build with wood in the forests of the northwest US, has become an accomplished stone mason over a quarter century, but increasingly he works with discarded tires for new structures and for the repair of retaining walls on the never-ending

terrace reconstruction project.

An impressive amount of work has been done here, including two houses and a number of small outbuildings and water tanks. Richard and Inés, who is an architect and native Catalan, built their first house, now used by WWOOFers and working apprentices, near the property's small spring. As they learned that its western exposure made it more difficult to heat and cool than they hoped, they shifted their building energies to a south-facing site (one of few on the land) up the slope and nearer the road, where they have built a beautiful earth-sheltered stone house. Family quarters upstairs are detached from a large *sala* and dining room, kitchen and pantry, plus an office and a large classroom space on the lower entry level.

Because of the massive stone walls, south-facing windows, earth shelter, and living roof, the house requires almost no supplemental heat. Sunny winter days maintain a constant temperature of comfort within while the cool stone mass regulates summer heat as well. They use a few sticks of tree prunings to heat water from time to time but otherwise seldom need fire.

Gardens irrigated from half a dozen ferrocement tanks were yielding strawberries, snow peas, onions, and copious amounts of lettuce during our brief visit. The harvest of a larger parcel of land nearer Cornudella allows the Wades to obtain their own olive oil and wine and sufficient hazels for home use and to feed WWOOFers, students on programs, and visitors.

Both partners teach—Richard in Permaculture Design and Inés in Natural Building and architecture, and are in the process of transforming their work to emphasize long programs (two months to one year) of apprenticeship taught on the site. Richard, whose consulting and teaching work now takes him away from home many weeks a year, would prefer to spend more time developing



*Front entry and Zone 1 garden*



community on the farm and around Arbolí. In this project, he has been stimulated by recent political developments.

The election of a more progressive mayor after 25 years of obstinate and perverse local administration has encouraged Richard to push forward a scheme for fire prevention in the area that would draw on the insights and experience of Jean Pain in France. The Jean Pain system has proved the necessity and practicality of managing *la garriga*, as the scrubby broom, gorse, pine, and oak woodland is known. Yet the work of enhancing fertility and limiting fire remains undone, as we were to discover on our forward journey. Our train from Cerbre at the French border to Ventimiglia on the Italian Riviera was delayed by hours, waiting for smoke to clear from the many fires along the tracks. An especially dry winter following three years of drought has made the whole Mediterranean littoral of Spain, France, and Italy a tinderbox.

The Mediterranean forest has been managed for over 3,000 years, Richard explained, until late in the modern era when fossil fuels and urbanization destroyed the culture and economy of *la garriga* that controlled the outbreak of fire in this arid and resinous woodland. As he showed us evidence of recent burns through the pines above his house, Richard noted that removal of the lower branches, and their use for fuel, mulch, and utility structures in the traditional economy prevented the periodic fires from doing much damage. Gorse, herbs such as rosemary and lavender, and other flammable

understory plants were browsed, trampled, and mulched by the movements of sheep and goats herded through the woods.

From his years of teaching experience, Richard has drawn two conclusions that contribute to his projected design for continuing education and land management in the region: firstly, that college students, before they complete their degrees, are in the most intellectually and socially open period of their lives. Thus, training in permaculture design will be most effective if delivered at this point as it can then inform whatever career direction they may take. Secondly, that an additional step is needed to transform volunteers and trainees into competent designers; this involves their engagement over time with a real project and the exercise of self-discipline and responsibility.

With this in mind, Richard and Inés are beginning in September of this year to bring college students to Montsant for the first of these apprenticeship sessions. In the European Union generally, there is strong government support for "Europeanization" so that work and study links between countries are encouraged, not only for college students but for business employees and professionals in all stages of life. With institutional support, and the strong likelihood of a serious project undertaken while there qualifying for substantial college credit, they expect to draw a good stream of participants.

The Montsant apprenticeship would incorporate the Permaculture Design course curriculum – taught over a month with much more opportunity for field work – and would

also embrace projects for which Richard is presently consulting, such as the creation of wastewater treatment systems using innovative techniques to create living "baskets" of woven willow filled with soil. Students would be able to construct these systems from start to finish, thus gaining much needed professional experience of wide applicability.

It is Richard's hope that with the cooperation of Arbolí's new mayor, the village can provide some basic funding for fire control that would also enable him to employ his apprentices in a long-term project to transform the dangerous fuel load of the mountainside around into a source of soil fertility so desperately needed by the ravaged hills.

Like the soil out of which it grew, the old stone village of Arbolí has eroded socially as well, so that among its seasonally fluctuating population, there are few able-bodied workers and almost no children. Year-round residents are mostly pensioners who lived their working lives in the area, while in summer, families of former residents return to occupy their ancestral homes for the holidays. The opportunity in Arbolí, however, is to grow the village with new houses, for which planning permission would be easily obtained from the Ministry of Urbanization. Conversely, such permission is granted only with difficulty in the countryside itself. This conservative approach to land use may be frustrating to the new settlers of an agrarian bent, but Richard concedes that it protects the area from rampant sprawl as might be its fate without tough laws. More new building is going on in Spain than anywhere else in Europe, he tells us, hinting that the source of all this capital influx may not be entirely within the formal economy.

Richard and Inés agreed that their highest hopes for the future rest in the expansion of a permaculture-informed community around Arbolí and Cornudella de Montsant. Inés brings a keen interest in social dynamics and group process to their joint work—the invisible structures of community—a field in which she has considerable training. Together these two have a tremendous wealth of knowledge and experience to offer students and a splendid physical setting and infrastructure from which to expand. The opportunities abound for a vibrant settlement in the area, and with the burgeoning of trans-European contacts, they have good reason to believe that the Montsant region can become the center of a rural renaissance in Catalonia that will bring life back to the soil, the forest, and the ancient villages. ▲



One of half a dozen ferrocement water tanks on the property hold winter rainwater through the long, dry summer. The region is in the third year of a harsh drought.

Visit Permaculture Montsant on the Web at [www.permaculture-montsant.org](http://www.permaculture-montsant.org).

# The English Countryside—Old and New

Peter Bane

Walking the grounds of Dartington Hall, resplendent with spring blossoms, one is filled with a sense of deep time. The oldest parts of this Norman-era manor outside the south Devon town of Totnes date from the 12th century, while the park and gardens surrounding the Hall are dominated by towering English oaks, pines, and sycamores. Some of the trees may be as old as the Hall itself—notably a pair of yews, each more than 30 feet in circumference and so grown into itself as to defy the imagination. Could these

We had come to Totnes and Dartington, however, not to rub shoulders with colleagues and mentors in the struggle for cultural transformation, much as that might have lifted our spirits, but to visit the Forest Garden of the Agroforestry Research Trust (ART), nestled into a protected two-acre site to the side of the great Hall.

As he walked us through one of the best developed forest gardens in the temperate world, ART Director Martin Crawford explained that the managers of the Dartington

Forest Garden from surrounding areas of the park and provides special habitat for young grafted nut trees and other plants that Martin sells for part of his livelihood. An adjacent building used by the Hall for recycling doubles as a classroom on five or six weekends a year when Martin presents workshops on Forest Gardening. Six participants from England, Scotland, Poland, and Russia were expected the weekend following our mid-May visit.

The Forest Garden is filled with specimens of nearly every kind of useful perennial plant Martin has identified as adapted to this mild English seaside climate (zone 8-9). An overstory of Italian alder (*Alnus cordata*) provides structure to the garden while also fixing nitrogen in the soil.

We wandered through the young, semi-open woodland, amazed at the extensive ground cover of Nepalese raspberry (three varieties) and mint. Very little grass remains,

Trust had responded to his 1992 request for a plot of land by offering him his choice of any site on the 800-acre estate. They view his project as furthering their mission to support a rural renaissance. He



*A shrub elderberry is just one of hundreds of edible species at the Agroforestry Research Trust forest garden in Southwest England.*

immense and grotesque sculptural forms really be alive? Might they not reach out to swallow the unwary traveler?

Site of a major school for the performing arts, Dartington is also home to Schumacher College, whose programs spotlight many aspects of the civilizational crisis facing the world today. Named after British economist E. F. Schumacher, the college promotes localization, appropriate technology, and sustainable community development as it hosts notable lecturers, artists, and scientists from around the world. Here one might expect to meet the likes of James Lovelock, Vandana Shiva, Wendell Berry, or Helena Norberg-Hodge around the next corner.

selected this south-facing rectangle near the Hall's utility buildings because it was bordered by a tall planting of mixed conifers to the west, that blocked the near constant winds off the Atlantic and afforded ready-made shelter for his young fruit and nut trees and shrubs.

A greenhouse at one end separates the



*This ancient yew tree at Dartington Hall park near Totnes may be nearly 1,000 years old.*

apart from a few maintained pathways. A catalog of the plants present would run to several pages of small type, but Martin was familiar with them all, and had propagated many from seed, including dozens of trees nearing 30 feet in height.

At the center of the garden, we explored an old building foundation which Martin had elected to leave intact rather than remove. He treats it as a special habitat for drought-adapted species and other plants suited to rocky environments with little soil. Some plants were in pots there, including a few hardy citrus. He explained that many of the plants were able to send roots through cracks in the slab so that eventually they would break it up, a job he had no desire to do.

A bit further on, we came to a low drainage where, in the mid-90s, Martin had dug a small pond that is fed by periodic runoff. After digging the pond, he had come across some medieval maps in the library of the Hall showing a fish pond in just this area. Grinning as he explained the irony, he related that the National Historic Trust had placed the site on its register recently so that he would now be prohibited from carrying out the "restoration" he had unknowingly undertaken.

In explaining his planting strategies, Martin emphasized how his approach differs from the more conventional ecological thinking. Britain is a nation of gardeners, and its many lovers of the countryside find common cause with environmentalists in seeking to protect and restore habitat for threatened native species and plant communities. In the ART garden however, Martin is deliberately planting many Asian and American exotics, as well as economic plants from other parts of Europe because he is aware that climate

change will dramatically alter the familiar English landscape.

More than perhaps any other part of metropolitan Europe, Britain is vulnerable to global warming. As we were to learn later that week in the offices of *Permaculture Magazine*, where editor Maddy Harland struggled with her editorial on a sombre theme, Britain's Dept. of the Environment is already mapping the coastal areas they will not attempt to protect, while H.M. Meteorological Office says failure of the West Antarctic ice shelf is more than likely within 50 years, and that it will result in a 16-foot rise in sea levels. This will inundate large populated areas, including much of London in the Thames Basin, while vegetation regimes will shift more dramatically than at any time since the end of glaciation some 8,000 years ago.

The contrast between small-group and individual efforts of great insight and disciplined persistence, and the dithering denial of government in the face of imminent disaster could not have been more vivid, nor the importance of permaculture's central message of self-reliance and ethical responsibility more clear.

Martin is deliberately introducing and testing as many economic plants as he can against the impending need for rapid and large-scale conversion of agricultural landscapes. *Agroforestry News*, ART's quarterly journal, carries these findings to a small but critically important audience around the world. (For information on subscribing or obtaining back issues from the 13 *Agroforestry News* volumes, see pp. 65-67 of this issue, or visit [www.permacultureactivist.net](http://www.permacultureactivist.net).)

After viewing the Forest Garden at Dartington, we went with Martin in the afternoon to a larger field of some eight acres about a mile distant on the estate, where he grows many plants for sale and trials larger plantings of chestnuts, walnuts, oaks for acorns, and many fruits. This site affords ART considerable room for expansion, though its openness poses other challenges. Initially,

there was no wind protection so that growth of the first plantings was slowed. Now, a hedge of 20-foot Italian alders that Martin grew from seed break the constant westerly winds. More recently, introduced North American grey squirrels, a broadscale pest in Britain, nearly destroyed a grove of young walnuts by eating the bark, until Martin began trapping and shooting them.

In visiting the Forest Garden, we were reminded constantly of the perversity of our habitual thinking. The weather was cool: frost nearly struck both nights we visited in mid-May, and rain had been scant for weeks, yet the research underway before us spoke of calamities of an entirely opposite nature for which we must all make the most urgent preparations. Unlike George Bush and his demented advisers, Martin Crawford is not waiting for more evidence of global warming, but is acting today for a future we can scarcely imagine. Δ

*Peter Bane visited several permaculture sites in western and southern Europe en route to the 7th Intl. Permaculture Conference in Croatia in June 2005.*



*Turkish rhubarb is one of many herbaceous understory plants that are filling in niches under Martin Crawford's maturing canopy.*

## Mondragon and the Future of Cooperation

Brendan Conley

#42 Self-Reliance & Community Cooperation  
December 1999

We dream of building a cooperative society. But what would that look like? For an answer, we might turn to Mondragon, a system of cooperatives in the Basque country of Spain. Mondragon is nothing less than a cooperative economy. It includes industrial factories, employing thousands of workers, that produce machine tools, furniture, bicycles, stereos, refrigerators, construction equipment, buses and small ships. A retail cooperative has 270 stores and hundreds of workers, with sales in excess of \$300 million.

There are housing co-ops which total over a thousand apartments. Mondragon includes a system of cooperatives schools, from primary education to colleges and technical schools. There are agricultural and service cooperatives, a cooperative bank, and an independent social security system. All of these institutions, and the system as a whole, are democratically controlled by the workers. In all, the system employs over 20,000 people, with sales of \$1.6 billion a year. It grew to this size in just over fifty years, and much of its growth took place when Spain was under the repressive control of Francisco Franco. How was this system created? How does it work? Let's look.



# Original Permaculture

Peter Bane

The IPC-7 Tour, which Keith Johnson and I were privileged to join at its outset in Ljubljana, Slovenia encompassed sites in four central European countries. Though planned through a fog of organizational confusion and therefore rough in its details, the tour was a social success in bonding some 40 participants, most of whom went on to form a heartfelt core at the Convergence.

By any measure, a highlight of the six-day journey through Slovenia, Croatia, Hungary, and Austria came near the end when we arrived in the Lungau Valley of central Austria. With the addition of some dozen extra visitors from the

Slovenian permaculture group, about 50 of us met Sepp Holzer, the creator of the Krameterhof, on his home ground for a guided day tour through one of the most spectacular permaculture sites in Europe.

Well displayed by the videos *Farming with Nature* and *Aquaculture*, Sepp's work was, if possible, even more impressive in life than on film. The man himself is a legend in his region and beyond, and it is easy to understand why. Burly and brusque, he's a self-made success, and his landscape a brilliant example of agricultural



Sepp Holzer was born at the Krameterhof 63 years ago.

innovation. Without guidance from its authors, Sepp has developed his 50 ha mountain property along true permaculture lines. He was amazed and heartened to come across the Permaculture literature some six years ago, and was deeply touched to meet David Holmgren among our group.

The Krameterhof extends from 1100m/3600ft to 1500m/5000ft, and though blessed with abundant water flows, has a challenging climate. In an admittedly cool spring this year, Herr Holzer related that he had gone through two frosts in the two weeks before our visit (-5C/23F on May 23rd and -2C/28F May 27th). Snow was predicted down to 1300m/4300ft for the day after our visit (June 7th) and two friends who stayed behind the tour in the nearby town confirmed that the forecast had been accurate.

Sepp's central strategies for achieving amazing yields in this nearly vertical landscape are to create and use microclimates; to plant diverse economic species in a matrix of natives; to circulate fertility by careful timing of grazing and rooting animals amidst heavy mulches (think wind-thrown tree trunks), and to encourage hardiness and adaptation by all his plants and animals through local collection and broadcast of seed, a regime of no pruning for fruit trees, and manmade cave-style housing for his traditional breeds of livestock, which are outdoors in all seasons.

Over the 40 years of his management of the family property, Sepp has expanded its acreage and built 72 interconnected ponds covering four hectares. He has also used natural stone outcrops and other masses in the southeast-facing slope to capture solar gain and create sun traps. His obviously happy pigs root through the young orchards in small herds of 20-30, turning up abundant cobble- to bowling ball-sized stones that also hold heat in the soil.

In testimony to his natural approach, we saw yellow gentian (*Gentiana lutea*), a native alpine herb that is on the Red List of endangered or threatened species, growing like a weed on his terraces. Sepp has encouraged its spread by including its seed in pelletized mixes of 50-60 species he broadcasts throughout his huge forest garden.

Controlled by movable electric fencing, hardy Scottish Highland cattle grazed in the forest while Sepp used Mangalitzas and other local breeds of pigs to cultivate his orchards. The results were impressive: healthy trees and friendly, happy animals without stress. The pig tractor system in particular appeared to be the best demonstration of this type of rotational management any of us on the tour (from ten countries) had ever seen.

Despite a growing global reputation, much of what we saw appeared to be less

than ten years old and Sepp was still actively extending his cultivation over the mountainside. Cherries, pears, apples, and much more flourished at altitudes the experts had dismissed as unfit for fruit. In favored niches, he was obtaining figs and trialing citrus.

The farm produces all its own electricity from hydropower, and the Holzers give regular tours for several thousand visitors each year, though this is slated to end next year with access restricted to student workers and professional cooperators on long stays. In addition to Sepp and his wife Veronika, three staff work on the farm and in the office. During our visit, we enjoyed a superb home-style meal at their self-built cafe, much of the food coming from the farm itself.

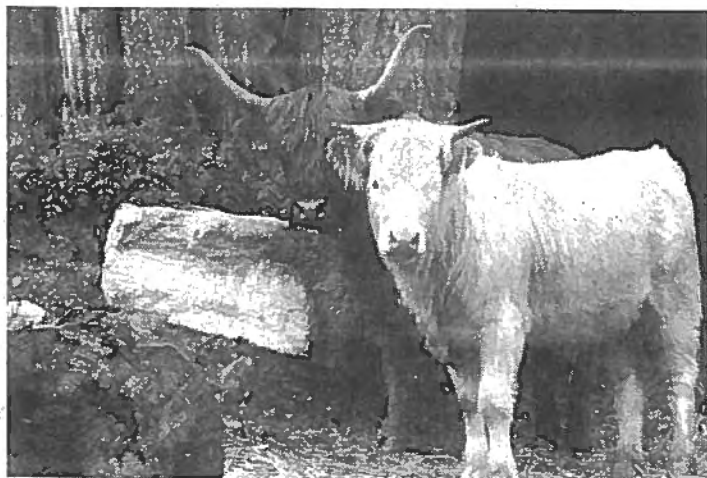
Publication of two books in German and English (*The Agricultural Rebel* and *Sepp Holzer's Permaculture*) would seem to have been beyond the means of such a small enterprise, yet more titles are in the works.

Sepp also manages to travel and work overseas, having recently consulted on large projects in Scotland and Brazil. He has created high level academic relationship with universities in Spain, and shows no sign of letting up his energetic program of terrace development at home.

Sepp Holzer has been the center of numerous controversies with local and national agricultural bureaucracies, and has drawn criticism from some in Pc circles because of his appropriation of the word to draw attention to his own work. But in the considered opinion of our experienced group of designers, including Pc's co-author, Sepp has earned his right to claim Pc through original invention and creative experimentation. His love of nature abundantly clear to all of us, we were pleased to acknowledge and learn from this gifted man. Δ



Grow bags on this tree trunk at the Krameterhof take advantage of the microclimate created by the tree's thermal mass.



Scottish highland cattle shelter in these earth and log stalls during the long alpine winter. Living outdoors at all seasons, they graze the forest, their movements controlled by movable electric fencing.

# Movement Musings

## Nature as Wallpaper

Thomas J. Elpel

Nature exists as little more than wallpaper in most people's lives. In the modern world we are surrounded by pretty green foliage with a few flowers for splashes of color, plus birds chirping pleasantly nearby and manicured ponds with ducks looking for breadcrumbs. It is all very quaint, but who really pays much attention to wallpaper? Sure, we are sometimes so taken with the scene of a rainbow after a storm or a butterfly visiting a flower that we pause for a moment to admire the walls of our world, but that is about as far as it goes. Only a few inspired individuals appreciate the scenery enough to seek out narrow wilderness paths where they can get a completely unobstructed view of the walls. But very few people ever make it beyond the paper. The real world, as people experience it, is the world of people and culture. It is a world that we have built and it has real substance and action—buildings, cars, movies, parties, song and dance, and an endless stream of newsworthy events. With so much going on, why would anyone ever stop to

investigate mere wallpaper?

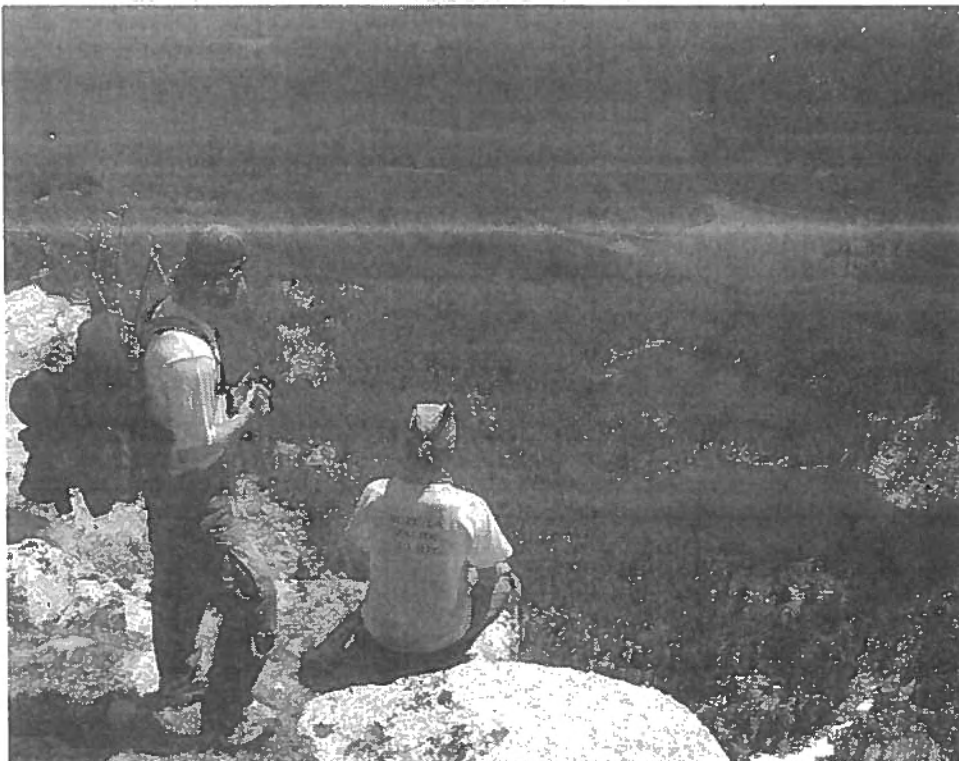
Nature remains a two-dimensional pretty picture in our lives, only rarely broken by the magnificent buck that unexpectedly comes crashing through the walls to stand in front of us. For a second the world takes on an undeniable three-dimensional aspect, hinting that there is more beyond the walls. But the moment passes as quickly as it came, and nature returns to its two-dimensional normality. We look at our watches and continue on, eager to keep our appointments in the real world. But what might happen if we stopped to investigate the wallpaper?

When you learn the names of a few wildflowers and birds and rocks, then you will simply pay more attention to them. You will recognize the flowers and trees when you pass on the street or in the woods. No longer will you be able to ignore them as mere splashes of color on the walls, but as something you are familiar with, like seeing an old friend. The natural world becomes a bit more interesting, if only because you know something about it.

It is when you stop to say, "Hello" to this old friend that you begin to notice more of the wallpaper. "Who is this?" you wonder, and "Who is that?" Soon you may find yourself making herbal tea from some of those wildflowers, or adding edible greens to your salad.

But there is so much more to explore. Try learning to start a fire-by-friction using wood from the local trees, or making pots from clay you have dug up by the side of the road. Go camping without a sleeping bag or tent and make a warm shelter from the available sticks and grasses and bark. Make your own moccasins from animal skins you have tanned, and walk quietly through the woods feeling the earth beneath your feet. Catch a fish with your bare hands, or run down a mountainside just for the fun of it. The more you discover the natural world, the more you become a part of it.

The gap that separates people from nature is both immense and imaginary. It can take decades to bridge the gap, to truly know and feel that you are one with the earth. But in due time you may just wander off the beaten path and right into the wallpaper, meeting friends and neighbors as you go, until you are immersed knee-deep in a swamp catching bugs, following the birds to their hiding spots, and wondering what in the heck that unusual plant is just a little farther over there. Years later you may find yourself in a meadow of wildflowers and wildlife—even if it is just an vacant lot in the city—surrounded by friends you have seemingly always known, only to look back and realize how far you have come. There in the distance is what you once called the real world, the world of people and culture. But now it seems like a house of smoke and mirrors, a place with bright lights and loud sounds, full of self-importance but empty of substance. The real world, you have discovered, was in the wallpaper all along. Δ



*Adapted from Participating in Nature, 5th Edition. November 2002. Thomas J. Elpel is the director of Hollowtop Outdoor Primitive School in Pony, MT, and the author of three other books, including Botany in a Day, Direct Pointing to Real Wealth, and Living Homes. For more information on his classes and books, please go to [www.hollowtop.com](http://www.hollowtop.com).*

# Sustainable Buddha

Austin Stewart

The Buddha lived long before the need to live in a sustainable way was recognized, and he never spoke of humanity pushing the planet to the brink of livability. He did speak about the duality of desire and aversion, but on a more personal scale. On the one hand, our desire to live in material comfort is never satisfied, and on the other, our aversion produces weapons capable of eradicating most of life from the face of the planet. The first is the product of greed, and the second is the product of hatred. We bend logic and reason to justify our greed and our hate. These three qualities exist in all of us to some degree, and they reside at the core of the Buddha's teaching.

The Buddha taught that this universe is conditioned. That is to say, all things arise and cease, and the arising and ceasing of things occurs because of the arising and ceasing of other things. In Buddhism, ignorance of the nature of the universe is the cause of suffering, and wisdom regarding the nature of the universe is the cause for the cessation of suffering. Ignorance of the way of the universe produces three "evils": greed, hatred, and deluded thinking. When we are ignorant of the way of the universe, we look in all the wrong places for a lasting and permanent "self." This wrong view about self gives rise to greed and hatred. As long as people exist, there will be greed, hatred, and deluded thinking. It is the nature of the universe. These evils will always poison the human mind, but antidotes to these evils exist.

The antidote to greed is generosity. Acts of generosity are a direct challenge to accumulation and ownership. Living a life of generosity requires a shift of perspective. Instead of asking, "what can I take from the world?" one asks, "what can I give to the world?" Generosity involves not only material goods, but also time, personal sacrifices, and teaching younger generations what one has learned. Through accumulating experience with our experiments in sustainable solutions, we give the next generation a foundation from which to build. Sustainable living is an act of generosity and selflessness because it breaks from the standard self-serving human cycle. Undertaking the path of sustainability shows that one is willing to do without all of the luxuries that one could have in order to leave enough resources for coming generations.

The antidotes for hatred are loving-kindness and compassion. The less we look at the world from a selfish view, the better off the world is. Loving-kindness is a transcendent love. It does not mean that you have to like someone who is attempting to harm you, but you can refrain from wishing that person harm, and can even wish him/her well. This is not easy to do — we need a place to start. It is helpful to cultivate an attitude of non-harming, or to consciously intend to harm no beings that are alive now or will arise in the future. When practicing non-harming, not harming others is the bare minimum—one should help other beings whenever possible. The implications of this practice are vast, pointing us to ways to act, speak, and live.

Compassion is the other part of the antidote for hatred. It arises from the understanding that all beings are inherently motivated by desire and aversion and that to rise above those basic motivating forces takes a lot of work. It is an active quality in that it motivates one to desire to help others. However, compassion without wisdom can be harmful in itself. Telling others that they are wrong and you are right usually doesn't make much headway with them, but it is surprising how often compassion expresses itself in that way.

The antidote to ignorance is wisdom. Wisdom is an intuitive understanding of the nature of the universe. With that understanding comes the freedom of knowing the world directly and being at ease with the arising and passing of all things. That is the goal of the Buddhist path. Though few aspire to reach the ultimate goal and even fewer succeed, we all are capable of acting wisely. The difference between foolishness and wisdom is the difference between staring at our toes and gazing at the horizon. Science provides evidence of the consequences of our actions over the last few thousand years. To live sustainably means to pay attention to our mistakes of the past and to change our behavior accordingly.

The theories on which the global economy is based are showing their age. Similarly, our understanding of the ecology of the planet is much deeper than it was when the theories were first presented. Old theories work for a time, but they err in ways that become more clear each day. So why are people so resistant to change? In Buddhism, we speak a lot about letting go because humans are always clinging to impermanent objects and ideas as if they were permanent. Why do we cling to wrong ideas? No one enjoys admitting he is wrong—especially when he stands to lose a lot of money. The Buddha said that to be free from our views and opinions is to be truly free.

The question may have arisen in your mind, "Why is this man relating spiritual practice to sustainable living?" Our understanding of the interrelatedness of all things has become more refined. We see the impact of an intention in the mind at a sub-atomic level, at a chemical level, at a social level, and at an environmental level. We know that if you introduce a substance that is undetectable to human senses into an environment, it can result in detectable changes in the beings in that environment. Sustainability requires an awareness of action and an understanding of consequences. It requires the withering of greed and the sprouting of generosity. Sustainable living is one of the requisite conditions for peace. As long as there are those who consume more than their share, the conditions for strife exist. Sustainability is spiritual practice for the body. Spiritual practice is sustainability for the mind.

Austin Stewart is spending the summer walking from New Orleans to Thunder Bay, Ontario, on a pilgrimage for peace. Read about the journey at [www.abhavagiri.org](http://www.abhavagiri.org). Austin received his BFA from The School of the Art Institute of Chicago. When not walking, he works a variety of odd jobs in Gunnison, CO.

# Global Culture Rising

*Listen to the Weeds' Stories*

Frank Cook

Our world is in the midst of a macro-species die off—the sixth in the history of the earth. The human species is collectively responsible for the accelerating rates and deep impacts of these mass extinctions due to our demands upon the planet. Our modern lifestyles estrange us from the natural world. We have had 100 years of accelerating consumerism all about us. I read recently when I was in London that each person there is exposed to over 1,600 advertisements a day. That's enough to make one feel like a pincushion. But more of us are seeing through this masquerade of created needs. We are coming to see that everything originates from somewhere. And though our consumption is removed from the places of production, we are beginning to acknowledge the hidden costs of pillaging the earth and enslaving people. As our freedoms allow us choices, we are learning to assess more deeply the costs. Freedom comes with responsibility.

I have been exploring the planet for ten years meeting plants and hearing their stories. In recent years, I've seen part of my work as gathering the plant knowledge of the indigenous peoples. Most recently I spent five months in southern Africa doing this work.

Whether we will survive this latest world shift is less my focus than looking at how we are now living and comparing it to other ways we have lived (and still do in some areas of the world). Sometimes I see more wisdom in the old ways as seen in pre-industrial gardening techniques. Other times I lean toward the virtues of contemporary ways as with our modern forms of transportation. Occasionally they are the same, when age-old knowledge survives the test of time.

Humanity is feeling the growing pains from becoming aware of our one-world-ness. Much of our older knowledge is being lost each day as the elders die without passing on their experiences. Though there is notable work being done by ethnobotanists all over the planet, more efforts need to be made in deciding what to introduce to this growing world culture.

Every region has its unique treasures. We each need to take responsibility for keeping alive our cultural heritage. Which stories have been passed on to you? Learn and record the plant stories in your community. There is certainly much more to discover than potential plants for pharmaceutical exploitation. Every aspect of our modern ways needs to be scrutinized for much of our personal and global "dis-ease" comes from lifestyle habits.

If our world culture is to be balanced, it needs to re-introduce, re-search, and re-member the



plants that have been our allies since our beginnings. Indeed there are stories of how we humans were created by the plants to be their caretakers and seed distributors. As we look deeper into this growing world view we may be drawn to ask which plants optimize our survival ("thrive"! ) and who are they to us?

That is a much easier question to ask than to answer. Of the more than one million species of life on the planet, nearly one-third are plants. (Remember we humans are only one species!) With this incredible number of plant species I study them more at the genus level (around 5,000 groupings) looking for commonalities and new insights as I travel about meeting healers, gardeners, and other plant people. There is a lot of work to do to compile, compare, and apply to our lives the many options of how to live a healthy life.

At some level, I have known *Bidens* all my life—from its seeds clinging to my socks as a kid. I learned about *Bidens* (also known as beggar's ticks) as medicine in herbal school as an antihistamine. I kept it in my herbal chest especially for allergies. In my recent travels in Africa, I came across several species of *Bidens* commonly used as food, though people there were unaware of its medicinal uses.

This plant exemplifies some very important work ahead: in this case, educating people of the West to use this composite as food and the people of Africa to use it as medicine, thus reminding us of Hippocrates' comment, "Let your medicine be your food and your food be your medicine." This globalizing of regional knowledge is some of our most important work in becoming one world.

The streams of humanity are drying up quickly as the hundreds of our most resilient cultures face the tsunami of modernness washing over the earth. Picture a bushman in jeans and t-shirt sipping on a soda. The plants that still exist and have moved with us about the planet are here to (once again) help us through these hard times.

A few springs back I walked for a month from the tidewaters of the Atlantic to the North Carolina mountains. This journey signified for me a rite of passage in applying my knowledge of plants in practical ways. Each day, I relied on the land to supplement what food I carried on my back. Each morning and evening on my little fire, I also made teas from the herbs growing around my campsite (anywhere from 10-25 herbs). I grew to relish those pots of tea—not only did they hydrate me, but also they left me feeling fully satisfied. Throughout the days I would nibble the plants I knew. This changed me in profound ways.

I have heard that we use about 10% of our brains. Maybe the other 90% represents the pathways for our connection to the rest of the universe. By nibbling plants, I am opening those pathways and gaining insights from what these ancient species have to share. (Humans have been here 100,000 years; plants have been here

hundreds of millions of years. When did we decide that we were evolved beyond plants, rather than descended from them? It's time to look again.) I know that as I nibble along (and smell and touch and really look at the plants), I feel a wonderful sense of connection and groundedness. I become a part of this earth trip in a very real way.

Recently, I was doing research on the flora at a remote retreat center in South Africa. The closest stores were an hour away by car (which I did not have anyway). At this center, there is an amazing garden abundant in all respects. I figured it was a good chance to put more deeply into practice my beliefs in eating out your back door. In the ten days I was there, I happily foraged most of my food from the garden, making soups, salads, stirfries, steamed greens, and so on.

I was largely a student in Africa being exposed for the first time to a rich diversity of flora. But when I entered gardens, I would immediately feel right at home amongst the international cultivars and weeds. If you learn the garden weeds and cultivars, you will never be without friends around the globe.

You may be wondering where to begin? Get out there with people who know more than you do and start tasting. Once you start to get to know the plants, prepare them in various ways. Share what you learn with others. Follow your passions with the plants. Record in various ways what you know and what your family and community knows. Reference books are valuable to have around but nothing teaches like experience.

We of the modern culture must not get stuck in our minds being fed, clothed, and cured by unseen sources. For that is surely our end. Ironically as we have evolved into concepts we have lost touch with the weeds. I ask you, have you eaten nettles soup or steamed dandelion greens? Nettles are high in iron, protein, and vitamins A and C. Dandelions are also full of nutrition as well as many medicinal properties.

Why is it that every culture before the industrial era that lived around oaks consumed acorns as a major part of their diet (not surprising given that it is 43% fat, 45% carbohydrates, and 5% protein. Two handfuls of acorns provide most of your daily needs!) And yet they are thought to be little more than an annoyance littering our lawns in the autumn.

The famous wise woman herbalist, Susun Weed, declares that what we need most grows right out our back door. Let's start there—satisfying our needs—before becoming slaves to our desires and fears. We have forgotten how much plants have helped us all along the way. Use the ubiquitous weeds daily; use the scarce plants rarely. Within these weeds lies the abundance to meet all our needs, wants, desires. We need the weeds!

So much effort goes into growing exotic foods—clearing land, prepping soil, weeding (god

forbid!), protection of crops from opportunists. Yet, weeds are the beings thriving in these challenging times. Why don't we cultivate them? Why push against the river? Why not surrender and go with the flow. Harvest, don't weed! The sacred weeds are our envoys to the world culture. I am at home in any garden anywhere in the world. Within the gardens, we greet those who can thrive the world around.

Remember there is a spectrum of food from medicine to poison. Learn where each plant fits along this line. Get to know families (only 500 of these in the world) and learn general rules about who they are to us. Every plant has stories to share. Every green being has some positive relationships to us. They have nurtured us since our beginning.

And yet, surprisingly, in the last fifty years (closely paralleling the introduction of television and later computers) we, as a culture, have all but forgotten the plant stories that have kept all the human generations before us alive. Instead of listening to the elders we've locked them up in retirement homes. We have lost the voices of experience around plants. Many of the stories that remain have become impotent mind fillers like "Indians used this plant to treat headaches" without any details, or "This plant was used as a coffee substitute" belittling its more significant contributions. Every plant species has a full story to share from the millions of years of living here.

Too many people maintain only an intellectual knowledge of plants. But the real walk is knowing them in every way. Plants are a part of our lives. Not until we fully acknowledge them can we fully appreciate them. *Echinacea* in a bottle can only do so much good if a person's lifestyle depends on modern ways. *Echinacea*'s ability to help is limited if the person taking it only sees this medicine as pill or potion, not knowing it as a living being. Even as I write about *Echinacea*, I can visualize its big orange cone of flowers surrounded by pink on a long stem with sandpapery, toothed leaves so typical of this tribe of composites. This plant lives in me. The consumer feels none of this, having never grown it or watched the bees buzz hungrily about it. The time has come to choose your path—on the earth or in the parking lots of malls; in the garden or on the channel of the home shopping club; exploring the woods or punching the clock. Every day a plant species is going extinct. It is time for you to take the path or the sidewalk. You decide.

The plants have stories. Listen to them and come to know our green allies. May you come to know the true abundance of nature, never knowing hunger or suffering. Feel our growing world culture through knowing the weeds. May you feel joy and love.  $\Delta$

Copyright 2003 Frank Cook

Frank Cook teaches the identification of plants and their use as food and medicine at Earthaven, Wildroots ([wildroots.org/frank](http://wildroots.org/frank)) and other centers throughout the world. Frank has walked eastern North America, California, Peru, South Africa, and India, studying local plants and traditional healing.

# EVENTS

## Permaculture Design Course Central America

**Dates:** February 6-19, 2006

**Location:** Toledo, Belize

**Description:** Join us at Maya Mountain Research Farm, a family homestead on 70 acres of tropical ecosystems with seven acres of stacked polycultures and hundreds of species of food, fiber, and medicinal plants. Learn the principles that make ecosystems self-sustaining and apply them to your designs for integrated homes and gardens, energy and water systems, thriving communities, economies, and global political movements. Applicable to both tropical and temperate climates, this certification course will offer exposure to Maya and other local cultures, birding, river swimming, examples of eco-building, local cacao and coffee, and home-grown organic food.

**Instructors:** Toby Hemenway, Penny Livingston-Stark, and local guests.

**Cost:** \$1200 includes indoor lodging and meals. \$100 non-refundable deposit due upon registration.

**Contact:** Dawn Dean  
[ddean@mmrfbz.org](mailto:ddean@mmrfbz.org)

## Natural Building and Ecological Living Highland Mexico

**Dates:** November 22-December 3

**Location:** East of Mexico City

**Description:** Learn about the design of natural buildings, soil conservation, sustainable agriculture, reforestation, and erosion control while you practice working with natural building materials (cob, strawbale, lightclay, abode, rammed earth, bamboo, roundwood and wastewood, thatch, natural floors, earth and lime plasters, natural paints). An opportunity to experience the land, language, and culture of the Mexican highlands while improving your Spanish. Workshop income contributes to a local alternative grade school emphasizing ecology and culturally-appropriate education.

**Instructors:** Alejandra Caballero, Paco Gomez, and others.

**Cost:** \$1200 includes meals, lodging, and field trips. \$300 non-refundable deposit hold space. 10% discount for full payment 60 days in advance.

**Contact:** The Cob Cottage  
PO Box 123  
Cottage Grove, OR 97424  
541-942-2005  
[www.cobcottage.com](http://www.cobcottage.com)

## Permaculture Design Course Island of Hawai'i

**Dates:** January 5-17, 2006

**Location:** Pahoa, Hawai'i

**Description:** Taught at a mature 20-acre tropical food forest on the Big Island of Hawai'i, this certification course will cover design methods, observation skills, annual and perennial food production, waste and water management, energy and shelter, village design, sustainable economics and much more. Strategies and methods will be applicable to both temperate and tropical climates.

**Instructors:** Toby Hemenway, Jude Hobbs, and local guests.

**Cost:** \$1300-1450 includes indoor lodging and meals. \$100 discount if registered by 10/1. \$300 deposit upon registration.

**Contact:** Biko, 808-443-4076  
[bikobikook@hotmail.com](mailto:bikobikook@hotmail.com)

## Permaculture Teacher Training Southern California

**Dates:** August 15-22

**Location:** Idyllwild, CA

**Description:** Come learn a revolutionary new way of teaching: apply the principles of permaculture to the teaching of permaculture. In this fun, interactive class you will learn powerful techniques gleaned from the wisdom of experienced teachers from around the globe. We will cover every aspect of being an exciting and effective permaculture educator. Some of what you will learn: a) Building confidence through practice and supportive critique. Everyone will have several opportunities to teach in this workshop, to see themselves on film and improve in a supportive environment. b) Teaching methods that work—you will learn at least five new teaching techniques, and will develop new creative ideas of your own! These innovative teaching methods work, and they teach permaculture while modeling permaculture principles. c) A simple technique to help you prepare quickly and thoroughly. We will cover the preparation techniques that professional teachers and consultants use to quickly organize their thoughts and materials. The prerequisite for this course is a certified Basic Permaculture Design Course. Course attendees will be eligible for Permaculture Teacher Certification.

**Instructors:** Michael Kramer and Kat Steele with guest presenters Scott Horton and Sebastian Bacharach.

**Cost:** \$750-900 (sliding scale).  
**Contact:** 510-547-7889  
[kat@urbanpermacultureguild.org](mailto:kat@urbanpermacultureguild.org)

## Permaculture Design Course Southern California

**Dates:** August 20-September 4

**Location:** Idyllwild, CA

**Description:** This design certificate course brings together instructors and experts from across the United States and abroad in the beautiful San Jacinto Mountains, the only range in North America to encompass five of the six bio-climatic zones on the continent. The locale makes this the ideal course in which to learn and begin to master observation and practical hands-on skills in a variety of terrain and climates. This intensive includes the complete Design Course curriculum plus field trips and in-depth segments on community, eco-villages, native perspectives on ecology, urban permaculture, and more. Participants will plan and design real-time, on-site permaculture projects as part of the course.

**Instructors:** Albert Bates, Scott Horton, Kat Steele, Diana Leafe Christian, Sebastien Bacharach and guests.

**Cost:** \$1,400 includes dormitory or camping, organic meals, and course materials. \$1,200 if registered and paid before July 15.

**Contact:** Scott Horton  
San Jacinto Mountain  
Permaculture Institute  
P.O. Box 1762  
Idyllwild, CA 92549  
951-659-5362  
[LaSemillaBesada@hotmail.com](mailto:LaSemillaBesada@hotmail.com)

## Year-long Permaculture Design Course Northern California

**Dates:** July 23-24 and one Saturday each month until June 2006.

**Location:** Bolinas, CA

**Description:** During this year-long course, the curriculum and the hands-on aspect of the course will be integrated into the seasons and provide participants with the experiences of winter pruning, spring planting, summer and fall harvesting, food preservation, and other activities that relate to the seasons.

**Instructors:** Penny Livingston-Stark, James Stark, and guests.

**Cost:** \$975 if paid by May 31st. \$1200 if paid by July 15th. \$100 non-refundable deposit due upon registration.

**Contact:** Regenerative Design Institute  
Permaculture Institute of  
Northern California  
PO Box 341, Point Reyes  
Station, CA 94956  
415-663-9090

[info@permacultureinstitute.com](mailto:info@permacultureinstitute.com)  
[www.permacultureinstitute.com](http://www.permacultureinstitute.com)

## David Holmgren North American Tour

David Holmgren, co-originator of Permaculture will be in the US this summer. Please check the website ([holmgren.com.au](http://holmgren.com.au)) for current information.

### July 30. Black Mountain, NC

Permaculture—A Response to Peak Oil

Contact: The Permaculture Activist  
[peactivist@mindspring.com](mailto:peactivist@mindspring.com),  
828-669-6336

### August 2&3. Santa Barbara, CA

Program and booksigning

Contact: Santa Barbara Permaculture Network  
[sbpcnet@silcom.com](mailto:sbpcnet@silcom.com),  
805-962-2571

### August 6-9. Point Reyes Station, CA

Workshop at IONS

Contact: Permaculture Institute of Northern CA  
[info@permacultureinstitute.com](mailto:info@permacultureinstitute.com)  
415-663-9090

### August 13-14. Dexter, OR

Introduction to Permaculture

Contact: Lost Valley Education Center  
[sustainability@lostvalley.org](mailto:sustainability@lostvalley.org)

### August 15. Portland, OR

Evening Talk

### August 16-17. Portland, OR

Advanced Permaculture Principles and Ethics

Contact: [PJLEITCH@aol.com](mailto:PJLEITCH@aol.com)

### August 18. Olympia, WA

Permaculture Solutions for the World

Contact: [queenbee@herbnwisdom.com](mailto:queenbee@herbnwisdom.com)

### August 20-21. Bellingham, WA

Northwest Herbal Faire

### August 27-28. Twisp, WA

Two one-day Workshops: Permaculture Principles and Ecosystem Restoration

Contact: [friendsofthetrees@yahoo.com](mailto:friendsofthetrees@yahoo.com)

### August 29. Seattle, WA

Evening Presentation

### August 30. Seattle, WA

Presentation for Professionals

Contact: [sego.jackson@co.snohomish.wa.us](mailto:sego.jackson@co.snohomish.wa.us)

### August 31-September 1. Seattle, WA

Advanced Permaculture Principles Course

Contact: Michael Pilarski  
[friendsofthetrees@yahoo.com](mailto:friendsofthetrees@yahoo.com),  
509-997-9200 or 360-927-1274 cell

### September 6-8. Vancouver Island, BC

Advanced Permaculture Principles Course

Contact: [earthcaredesign@peacemail.com](mailto:earthcaredesign@peacemail.com)

### September 10. Vancouver Island, BC

Public Lecture

Contact: [haroldw@alternatives.net](mailto:haroldw@alternatives.net)

## Permaculture Integral: Returning the Surplus Northern California

**Dates:** September 19-23

**Location:** Real Goods Solar Living Center, Hopland, CA

**Description:** Creating a healthy culture starts with ourselves. In this transformational five-day session we'll share in the grand exploration of the inner and outer landscape through permaculture design. An overall hands-on approach to learning; yet we incorporate a myriad of different learning techniques. We will harvest, store, save, return, and plant again. In this very dynamic workshop we will explore the fundamental practices of sustainability and regenerative design with an emphasis on abundance and the art of returning the gift. Our focus will be on the harvesting of the summer garden, how to store and preserve the seeds and fruits, as well as planting out the fall and winter crops. Fun exercises in group process and restoration will leave you charged up for the winter months to come.

**Instructors:** Benjamin Fahrner, Erik Olson, and Kat Steele.

**Cost:** \$480 or \$99 per day

**Contact:** 707-744-2017

<http://urbanpermacultureguild.org/slipcflyer2005.pdf>

<http://store.solarlivingstore.com/peha5inthres.html>

## Urban Permaculture Weekend Design Course Northern California

**Dates:** Weekends Sept 9-11, 16-18; Oct 21-23, 28-30; Nov 11-13, 19-21.

**Location:** Alameda Point, CA

**Description:** This urban-focused, 72-hour Permaculture Design Course is held at an emerging urban ecovillage site. Topics include Permaculture Ethics and Principles, Pattern Recognition and Application, Zone & Sector Analysis, Mapping, Design Process Methodology, Water Harvesting, Dryland & Humid Strategies, Climate/Micro-Climate (Windbreaks & Hedgerows), Soils, Plant Guilds, Beginning Botany, Propagation & Seed Saving, Forests (Urban and Rural), Passive Solar Design, Natural Building, Bio-Remediation, Myco-Remediation, Pond Building & Earth Works, Renewable Energy, Appropriate Technology, Eco-Village Design, Animals & Aquaculture, Tropical/Global and Inter-Cultural Permaculture, Land Trusts & Group Process & Decision Making, Economics/Alternative Currency, Ecological Economics, Assessment Exercise, Social Justice Issues (Community Design).

Continued to the right

## Permaculture Design Course Western Oregon

**Dates:** November 27-December 11

**Location:** Dexter, OR

**Description:** This fourteenth winter course, offers the PDC curriculum with diverse teaching modes and a thoroughly facilitated design practicum which builds through the standard subjects. There will be particular emphasis on urban situations and ecovillage design in a course which promotes participants' abilities in functional teams. We have fun while learning together. College credit can be arranged in advance. Limited to 23 students.

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

**Cost:** \$1050-\$1250 sliding scale.

Discount for early registration.

**Contact:** Lost Valley Educational Center  
81868 Lost Valley Lane,  
Dexter, OR 97431  
541-937-3351  
[www.lostvalley.org](http://www.lostvalley.org)

## Natural Building Intensive Northern California

**Dates:** September 10-16

**Location:** Boonville, CA

**Description:** Introduction to the practice and theory of natural building including straw bale, cob, straw light-clay (slipstraw), wattle-and-daub, earthen floors, natural plasters and paints, passive solar design, and more. Hands-on practice in at least eight different building techniques is supplemented with lecture and discussion, tours, slide shows, and videos.

**Instructors:** Michael G. Smith, Darryl Berlin, Sara McCamant.

**Cost:** \$500 includes camping and food. Discounts for early registration and for Mendocino County residents. Group size limited.

**Contact:** Emerald Earth  
707-895-3302  
[www.emeraldearth.org](http://www.emeraldearth.org)  
[workshops@emeraldearth.org](mailto:workshops@emeraldearth.org)

Also, field trips to Green Fairy Farm and Oakland Permaculture Institute.

**Instructors:** Christopher Shein, Kat Steele, Nik Bertulis, Scott Horton, Babak Tondre, Rain Geesler, Debbie Collins, Bonita Ford, Josho Somine, Rico Zook, and many more local guests.

**Cost:** \$700-\$900 (Sliding Scale)

**Contact:** 510-547-7889

[www.apcollaborative.org](http://www.apcollaborative.org)



## Design for Sustainable Community Washington State

**Dates:** September 20-25

**Description:** This design course is the place where permaculture meets social ecology through a wholistic approach to sustainable community design. The curriculum balances and integrates cultural/social/economic design with environmental/physical design, to give participants sufficient knowledge and skills to facilitate community building as well as comprehensive concept designs for urban neighbourhoods, cohousing, rural communities, and ecovillages.

**Instructors:** Robina McCurdy, Huckleberry (Neil) Leonard, Tyrone LaFay.

**Contact:** Selma Ruth  
510-759-4607

[selmaruth@hotmail.com](mailto:selmaruth@hotmail.com)

[www.greenworld-earthcare.org](http://www.greenworld-earthcare.org)

## Earth Spirit— Wilderness Nature Connection Washington State

**Dates:** September 9-18

**Location:** Olympic Peninsula, WA

**Description:** Earth-Spirit is a shared and guided experience of immersion into the natural world, within a supportive group culture—deepening and empowering personal connection with nature and imparting practical skills enabling people to be co-creators of sacred land spaces and effective social change agents, guided by the underlying wisdom of Nature.

**Instructors:** Robina McCurdy, Huckleberry (Neil) Leonard, Barefoot Mick, Kailash Kokopelli.

**Contact:** Selma Ruth (see above)

[www.greenworld-earthcare.org](http://www.greenworld-earthcare.org)

## Total Immersion Program in Sustainable Design Southwest US

**Dates:** August 29-December 16

**Location:** Prescott, AZ

**Description:** An opportunity to prepare yourself as a designer for the 21st Century. This curriculum is for those who are looking for an in-depth experience at a deeper level of knowledge than is offered in shorter programs.

**Instructors:** Edward Mazria, Sandra Mendler, Glenn Murcutt, Paolo Soleri, and Sim Van der Ryn.

**Contact:** Ecosa Institute  
212B South Marina Street  
Prescott, AZ 86303  
(928) 541-1002  
Fax: (928) 776-8086  
[www.ecosainstitute.org](http://www.ecosainstitute.org)  
[info@ecosainstitute.org](mailto:info@ecosainstitute.org)

## Permaculture Design Course New Mexico

**Dates:** August 27-September 9

**Location:** Santa Fe, NM

**Description:** Students learn the basics of site assessment and design, as well as the many topics and techniques used by permaculture practitioners worldwide. Scott Pittman, senior teacher, long-time collaborator with Bill Mollison, and internationally acclaimed permaculture designer has taught or consulted in over 25 countries on five continents. He shares his impressive portfolio of stories and examples of projects ranging from backyards to thousand-acre farms all over the world.

**Instructors:** Scott Pittman

**Contact:** EcoVersity  
2639 Agua Fria Rd  
Santa Fe, NM 87505  
505-424-9797 extn. 10  
[www.ecoversity.org](http://www.ecoversity.org)  
[info@ecoversity.org](mailto:info@ecoversity.org)

## Certificate Program in Earth-based Vocations New Mexico

**Dates:** August 27-November 18

**Location:** Santa Fe, New Mexico

**Description:** This comprehensive, hands-on curriculum includes the Permaculture Design Course, followed by a 10-week mentored internship with working professionals. Students participate in hands-on projects and group exercises, visit working sites, and complete and present professional design projects. Earth-based Vocations students may be seeking to build homesteads or farms, to gain vocational skills and professional contacts, or to dream up careers and solutions that address today's complex issues. Graduates leave with livelihood skills for living on the land, working with earth-based enterprises, regenerating the earth, and revitalizing the spirit. Application deadlines: December 15 for spring course and June 15th, 2005 for fall course.

**Instructors:** Bristol Stickney (Renewable Energy), Joel Glanzberg (Permaculture), Chrissie Orr (Community Arts and Activism), Scott Pittman (Permaculture), Alfred von Bachmayr (Natural Building and Architecture), and others.

**Contact:** EcoVersity  
2639 Agua Fria Rd  
Santa Fe, NM 87505  
505/424-9797 extn. 10  
[www.ecoversity.org](http://www.ecoversity.org)  
[info@ecoversity.org](mailto:info@ecoversity.org)

19th Annual

## Permaculture Design Course Colorado Rocky Mountains

**Dates:** August 22-September 3

**Location:** Basalt, CO

**Description:** At 7200' elevation in the Roaring Fork Valley, CRMPI's 25-year old site features maturing forest gardens, commercial greenhouses, small livestock, and a useful plants nursery. Excellent organic food, a superb site, and an all-Colorado teaching team make this a unique experience. Learn practical permaculture from Colorado's most experienced designers.

**Instructors:** Jerome Osentowski, John Cruickshank, and Becky Elder.

**Cost:** \$1100 includes meals and camping, \$100 discount for early registration or for signing up with a friend.

**Contact:** Central Rocky Mountain  
Permaculture Institute  
POB 631, Basalt, CO 81621  
970-927-4158  
[www.crmapi.org](http://www.crmapi.org)  
[jerome@crmapi.org](mailto:jerome@crmapi.org)

## Ecovillage Apprenticeships Middle Tennessee

**Dates:** Sept 2-Sept 29

**Location:** Summertown, TN

**Description:** Learn organic food production, natural building, and permaculture. This year we will be continuing work on our 11,000 sq.ft. constructed wetlands, our cob visitors center, our cob, strawbale and earthbag sauna roundhouse, unique "hipitats" and compost toilets, and many other interesting projects within the Farm community.

**Contact:** Ecovillage Training Center  
The Farm [www.thefarm.org](http://www.thefarm.org)  
[ecovillage@thefarm.org](mailto:ecovillage@thefarm.org)

## Natural Building Immersion Middle Tennessee

**Dates:** September 9-18

**Location:** Summertown, TN

**Description:** Intensive instruction in straw, cob, wood, and other natural materials. Other topics include: wattle and daub, adobe, earthbags, earthships, traditional Mexican styles, bamboo, slip-clay, domes and arches, earthen floors, earth plasters and alis, passive solar, foundations and drainage, living roofs.

**Instructors:** Howard Switzer, Katey Culver, Albert Bates, Matthew English, and guests.

**Cost:** \$800 for 9 days, \$100 per day, or \$175/day for couples—includes meals & lodging.

**Contact:** Ecovillage Training Center  
The Farm [www.thefarm.org](http://www.thefarm.org)

## Permaculture Fundamentals No. Carolina Blue Ridge Mountains

**Dates:** August 12-20

**Location:** Earthaven Ecovillage  
nr. Black Mountain, NC

**Description:** This eight-day intensive presents the principles, elements, and examples of permaculture design. Enjoy the setting of North America's first permaculture designed ecovillage. Systems are in place demonstrating natural building, ecological site design, cooperative business, renewable energy, sustainable forestry, cohousing, wastewater treatment, useful plants nursery, and much more. Our team of internationally experienced instructors has taught dozens of successful courses since 1992. Completion of this course and a design practicum leads to the Permaculture Certificate.

**Instructors:** Peter Bane, Chuck Marsh, and guests.

**Cost:** \$675 incl. meals and camping.

**Contact:** Earthaven Learning Center  
1025 Camp Elliott Road  
Black Mountain, NC 28711  
866-666-9935 toll free  
828-669-0012 fax

[info@earthavenlearningcenter.org](mailto:info@earthavenlearningcenter.org)  
[earthavenlearningcenter.org](http://earthavenlearningcenter.org)

## Village Design Practicum No. Carolina Blue Ridge Mountains

**Dates:** September 23-30

**Location:** Earthaven Ecovillage  
nr. Black Mountain, NC

**Description:** Part Two of the Permaculture Design Course. Combining the larger subjects of the permaculture curriculum, you will work in teams with a focus on the design of Earthaven village landscape and culture. Experienced designers lead small groups in design projects. Students will develop skills in: Mapping, Field Survey, and Drawing, Pattern Languages and Meta-Systems, Economic, Social, and Community Design, Broadscale Landscape: Agriculture, Wildlife, Earthworks, Restoration Forestry, Interview, Presentation, Project Management & Earning a Living.

**Instructors:** Peter Bane, Chuck Marsh, and guests.

**Cost:** \$675 incl. meals and camping.

**Contact:** Earthaven Learning Center  
866-666-9935 toll free  
[earthavenlearningcenter.org](http://earthavenlearningcenter.org)

Send Calendar Announcements  
to [pcactivist@mindspring.com](mailto:pcactivist@mindspring.com)  
with "Calendar, Attn: Lee"  
in the subject line.

## Internship in Ecovillage Living and Permaculture Design Earthaven Ecovillage

**Dates:** August 12-October 2

**Location:** nr. Black Mountain, NC

**Description:** This group of men and women are immersed in permaculture through an eight-week internship which includes the eight-day Permaculture Fundamentals and the eight-day Permaculture Practicum as well as the following weekend programs: Earthaven Experience, Edible and Medicinal Plants, Starting an Ecovillage, Earthen Plaster and Paints, and Ecovillage Planning and Design. Between weekend programs, interns are provided with the opportunity to explore many aspects of life in a developing ecovillage through hands-on work experience which also serves to ground their permaculture training.

**Cost:** \$2400 includes camping, meals, materials & tuition. Apply early; space is limited to 12 interns.

**Contact:** Earthaven Learning Center  
866-666-9935 toll free  
[earthavenlearningcenter.org](http://earthavenlearningcenter.org)

## 12th Annual Southeastern Summer Gathering Southern Appalachian Mountains

**Dates:** August 5-7

**Location:** Celso, NC

**Description:** Workshops on Thursday and open-space affinity circles Friday through Sunday, with good food and celebration throughout. The Permaculture tribe and organic farmers from throughout the Carolinas and the Southeast gather to share stories, music, learning, and lots of fun. Botanizing, displays, crafts, mushroom walks, dancing, and more. Children with parents welcome.

**Contact:** Rhea Ormond  
828-682-1630  
[rheaormond@excite.com](mailto:rheaormond@excite.com)

## Biodynamics Training Upstate New York

**Dates:** September-June 2006

**Location:** Chestnut Ridge, NY

**Description:** Learn the basic principles in this one-year, part-time training in biodynamic farming and gardening. The course consists of six Saturday workshops, two Friday and Saturday workshops, and a final three-day intensive workshop.

**Instructors:** Steffen Schneider, Jennifer Greene, Craig Holdrege, Mac Mead, Hugh Williams, and Pfeiffer Center Director Gunther Hauk.

**Contact:** The Pfeiffer Center  
845-352-5020 x20  
[info@pfeiffercenter.org](mailto:info@pfeiffercenter.org)  
[www.pfeiffercenter.org](http://www.pfeiffercenter.org)

## Starting a Successful Ecovillage or Intentional Community No. Carolina Blue Ridge Mountains

**Dates:** September 9-11

**Location:** Earthaven Ecovillage  
nr. Black Mountain, NC

**Description:** Diana Leafe Christian, author, *Creating a Life Together: Practical Tools to Grow Ecovillages and Intentional Communities*, and editor, *Communities* magazine, presents with experiential exercises, musical skits, role-playing, and step-by-step practical advice based on insights and experiences of successful community founders. What works; what doesn't work. Handouts and information not available in Diana's book. Typical time-frames & costs; "Ecovillage Timeline Game"; vision documents; decision-making; legal entities; finding & financing community land; sustainable site plans; communication, process, dealing with conflict.

**Instructors:** Diana Leafe Christian

**Cost:** \$250 incl. meals and camping.

**Contact:** Earthaven Learning Center  
866-666-9935 toll free  
[earthavenlearningcenter.org](http://earthavenlearningcenter.org)

## 10th Annual Permaculture Design Course On-line

**Dates:** September 15

**Location:** On-line

**Description:** Our 10th annual, six-month long course includes reports, weekly reading assignments, and participation in questions and discussion via email. The heart of the course is The Permaculture Design Course CD-ROM, which includes more than 300 files including several "posts" of course notes and readings for each of the 21 course modules, numerous papers and pamphlets, at least one sample of a full permaculture design, sample standard designs, databases, and other resource materials including a full-length book. New in Cycle 9 of the course will be the first installment of a course index, which already includes more than 1,000 indexed terms. The course CD, now in enlarged and improved Version 3, is also available in a self-study edition and an economy edition that includes only the weekly posts and course tools, but not any of the additional reading materials. Purchasers of the full self-study edition may monitor the course at no tuition charge.

**Instructors:** Dan Hemenway, Cynthia Hemenway, and Willern Smuts.

**Cost:** \$1200

**Contact:** Barking Frogs  
Permaculture Center  
[barkingfrogspe.tripod.com/frames.html](http://barkingfrogspe.tripod.com/frames.html)  
[BarkingFrogsPC@aol.com](mailto:BarkingFrogsPC@aol.com)

## Ecovillages: New Frontiers for Sustainability Scotland

**Dates:** October 1-8

**Location:** Findhorn Community

**Description:** This event will include four dimensions: 1) An up-to-date profile of the global ecovillage movement, that has been called the 'habitat revolution.' 2) A showcase of sustainable communities and ecovillage projects, both rural and urban, which have taken the quest of sustainability to heart and hand. These are projects which contribute not only to environmental health and well being, but also to strengthening local economies and healthy communities. 3) The official launch of a new global education curriculum for sustainable human settlements—Ecovillage Designer Education (EDE) endorsed by UNITAR. Attendance to this event will count as the introductory week of the four week EDE Certificate Training taking place in different ecovillages worldwide. 4) An open forum of ecovillagers and sustainability designers, especially those who were present at the launch of Global Ecovillage Network ten years ago, as well as those who have come on board since, where we will be exploring the new frontiers for sustainability.

**Cost:** Based on income of participants: £ 345, for low income; £ 385 for medium income; £ 485 for high income.

**Contact:** The Findhorn Foundation and GEN - Europe [www.findhorn.org](http://www.findhorn.org)  
[enquiries@findhorn.org](mailto:enquiries@findhorn.org)

## Permaculture Design Course

### India

**Dates:** October 5-19  
November 16-26

**Location:** Kalimpong & Sikkim, India

**Description:** Experience local life and work with respected international NGOs. Contribute to the enrichment of this site and each of its participants. In addition to the standard PDC, topics include: Pattern Literacy and Application (physical and invisible), Permaculture and NGO's, From Your Doorstep to the World, Permaculture in the Developing Countries, Village Economics, Village Empowerment, FHG Self-help groups, Micro-loans, Disaster Preparedness, Political policies, Alternative Economics and much, much more.

**Instructors:** Rico Zook, Josho Somine', and local teachers.

**Cost:** \$450-650 (Sliding Scale).

Airfare not included.

**Contact:** 505-586-1269

[richard@lamafoundation.org](mailto:richard@lamafoundation.org)  
[www.urbanpermacultureguild.org/](http://www.urbanpermacultureguild.org/)  
[india-1-flyer2005.pdf](#)

## LETTERBOX



### Fire & Catastrophe Testimony

Hi Peter,

Some stunning stuff in your latest *Permaculture Activist* (#54 Fire & Catastrophe)!

Toby Hemenway's editorial was inspirationally insightful, and an honest eye-opener for the dreamy peak oil people I know (not all are dreamy) who seem to believe when the big systems go down the country folk will thrive. Hemenway's description of people in the distant country not doing so well in the Depression and his own experience with the same sort of harsh and crude people I came to know in rural locations, all toting guns, was a little flash of reality. I say we need to do all we can to keep the best of the larger systems as viable and humane as possible in the coming disasters. And we need to reshape those that need reshaping, and reshape them on, as Hemenway hints, the permaculture/ecocity principle of "access by proximity."

The notion that we need cooperation and mutual respect is one of the keys and I realize that even in Portland there is a ghetto nearby. As someone who heard my first machine gun battle here where I live in downtown Oakland at 3:00 a.m. a couple months ago; who has lived in the "out of control area," in the Watts Riots, where Black folks threw stones at me and I ran away; and as someone who was stabbed through the stomach and diaphragm—six-inch knife sliding over my spleen and missing my heart by half an inch—in the slummy but balmy beach community of Venice, California, I take violence and disaster very seriously.

Remember, they burned down Watts, and just a few days before I was stabbed, Bobby Kennedy drove by and was shot that very night, in front of that very location. I take seriously that the great vegetables of permaculturists are, in both rural and urban areas, quite more likely to be harvested by heavily armed, hungry young neighbors living close by.

I find Hemenway's thinking a start in the direction of designing ecological cities, but as usual, he takes the existing infrastructure pretty much for granted. Permaculturists should never do that! If you say, "you know this can be designed too, this whole city," you come up with even more interesting ways of cooperating. Ecocity Builders did it in '94 and '95 when they restored a creek and planted the

only public orchard in Berkeley and Albany and at the same time got more housing built near transit and a few other things. This helped by compounding the benefits and, as Hemenway says, shortening all those lines of linkage (pipes, wires, streets) and travel (facilitating transit, bicycles and just plain walking).

The other article I wanted to comment on is the "The Oakland/Berkeley Hills Fire," by Paul Teague in the same issue. A fascinating article for sure. But check out my book, *Ecocities*, for another perspective on that, including how to build a replacement community that's defensible. I talk about the fire within the internal combustion engine. Paul Teague and company talk about the fine grain realities of fire preparedness and fire dynamics but don't talk about the cause of the whole banana: building in a totally car-dependent area, and even calling it part of the "city." There were 3,375 residences destroyed—an amazing amount—and not a single building hosted any other use! Talk about single-use, car-dependent development! Without the fire in the car, that other, much smaller, even if wildly dramatic and deadly fire, would not have happened.

I was there in the hills that day and watched the whole thing from very early in the morning when the fire wasn't strong enough to even produce a tendril of smoke. I went to the hills specifically because it was such a hot, dry, strange day, with leaves swirling, rasping, and sounding more like rattlesnakes warning than anything else I could think of as an analogy. I saw the whole thing, evacuated my daughter from her place, got my family pictures and slide show materials from mine, and went back up the hill to watch the fire again, just before the police barriers went up. Our houses made it because the wind changed.

The causally connected and much bigger fire, global warming, is mainly caused by the fire that drove those cars up and down into that '700 acres that burned. That's the fire that's going to kill many, maybe most species alive today. By the way, the damage was far less systematic in the Oakland/Berkeley Hills fire than Teague said. It was wildly random and he underestimated the obvious extent of the damage done by gasoline in the cars. At one location when I was walking there two days later I found a melted pyrex pet watering bowl with "pyrex" written clearly on it and a wooden garage door 30 feet from it across the street.

Interestingly, the big fire that's happening unnoticed as such is global warming and it is caused more than anything else by the way we build our cities, towns, and even scattered villages.

Hang in there,  
Richard Register  
Author of *Ecocities*



# CALENDAR

**July 30. Black Mountain, NC. David Holmgren: Permaculture—A Response to Peak Oil.** The Permaculture Activist. [pcactivist@mindspring.com](mailto:pcactivist@mindspring.com). [www.permacultureactivist.net](http://www.permacultureactivist.net).

**August 2-3. Santa Barbara, CA. David Holmgren Program.** Santa Barbara Permaculture Network. 805-962-2571. [sbpcnet@silcom.com](mailto:sbpcnet@silcom.com). [www.sbpermaculture.org](http://www.sbpermaculture.org).

**August 5-7. Celo, NC. 11th Annual Southeastern Summer Permaculture Gathering.** Rhea Ormond. 828-682-1630. [rheaormond@excite.com](mailto:rheaormond@excite.com).

**August 6-9. Point Reyes Station, CA. David Holmgren Workshop.** Permaculture Institute of Northern California. 415-663-9090. [info@permacultureinstitute.com](mailto:info@permacultureinstitute.com). [www.permacultureinstitute.com](http://www.permacultureinstitute.com).

**August 7-26. Coquille, OR. Cob Start to Finish for Owner Builders.** Cob Cottage Company. PO Box 123, Cottage Grove, OR 97424. 541-942-2005. [www.cobcottage.com](http://www.cobcottage.com).

**August 10-14. Port Angeles, WA. Introduction to Cob Workshop.** House Alive. [welcome@housealive.org](mailto:welcome@housealive.org).

**August 12-15. Twisp, WA. Growing & Wildcrafting Medicinal Plants.** Friends of the Trees. 509-997-9200. [friendsofthetrees@yahoo.com](mailto:friendsofthetrees@yahoo.com). [www.friendsofthetrees.net](http://www.friendsofthetrees.net).

**August 12-15. Bellingham, WA. Earth Attunement Workshop.** Allison Weeks-Ewold. [allison@reststop.net](mailto:allison@reststop.net).

**August 12-20. Black Mountain, NC. Permaculture Fundamentals.** Earthaven Learning Center. 866-666-9935. [earthavenlearningcenter.org](http://earthavenlearningcenter.org). [info@earthavenlearningcenter.org](mailto:info@earthavenlearningcenter.org).

**August 12-October 2. Black Mountain, NC. Internship in Ecovillage Living and Permaculture Design.** Earthaven Learning Center. 866-666-9935. [earthavenlearningcenter.org](http://earthavenlearningcenter.org). [info@earthavenlearningcenter.org](mailto:info@earthavenlearningcenter.org).

**August 13. Freeland, MD. Natural Building Workshop.** 410-343-3478. [info@heathcote.org](mailto:info@heathcote.org). [www.heathcote.org](http://www.heathcote.org).

**August 13-14. Dexter, OR. David Holmgren—Intro to Permaculture.** Lost Valley Educational Center. [sustainability@lostvalley.org](mailto:sustainability@lostvalley.org).

**August 15-22. Idyllwild, CA. Permaculture Teacher Training.** 510-547-7889. [kat@urbanpermacultureguild.org](mailto:kat@urbanpermacultureguild.org).

**August 16-17. Portland, OR. David Holmgren—Advanced Permaculture Principles.** Portland Permaculture Institute. 503-293-8004. [www.portlandpermaculture.com](http://www.portlandpermaculture.com). [info@portlandpermaculture.com](mailto:info@portlandpermaculture.com).

**August 17-21. Port Angeles, WA. Introduction to Cob Workshop.** House Alive. [welcome@housealive.org](mailto:welcome@housealive.org).

**August 18. Olympia, WA. David Holmgren—Permaculture Solutions for the World.** [queenbee@herbnwisdom.com](mailto:queenbee@herbnwisdom.com).

**August 19-21. Bellingham, WA. Northwest Herbal Faire.** [www.nwherbalfaire.com](http://www.nwherbalfaire.com).

**August 20-September 4. Idyllwild, CA. Permaculture Design Course.** San Jacinto Mountain Permaculture Institute. Scott Horton, P.O. Box 1762, Idyllwild, CA 92549. 951-659-5362. [LaSemillaBesada@hotmail.com](mailto:LaSemillaBesada@hotmail.com).

**August 22-September 3. Basalt, CO. Permaculture Design Course.** Central Rocky Mountain Permaculture Institute. PO Box 631, Basalt, CO 8162. 970-927-4158. [www.crmipi.org](http://www.crmipi.org). [jerome@crmipi.org](mailto:jerome@crmipi.org).

**August 27-28. Twisp, WA. David Holmgren: Two one-day Workshops.** Michael Pilarski. 360-927-1274. [www.friendsoftrees.net](http://www.friendsoftrees.net). [friendsofthetrees@yahoo.com](mailto:friendsofthetrees@yahoo.com).

**August 27-September 9. New Mexico. Permaculture Design Course.** Ecoversity. 505-424-9797 x10. [www.ecoversity.org](http://www.ecoversity.org). [info@ecoversity.org](mailto:info@ecoversity.org).

**August 27-November 18. New Mexico. Program in Earth-based Vocations.** Ecoversity. 505-424-9797 x10. [www.ecoversity.org](http://www.ecoversity.org). [info@ecoversity.org](mailto:info@ecoversity.org).

**August 29-December 16. Prescott, AZ. Total Immersion Program in Sustainable Design.** Ecosa Institute. 212B South Marina Street, Prescott, AZ 86303. 928-541-1002, fx/ 928-776-8086. [www.ecosainstitute.org](http://www.ecosainstitute.org). [info@ecosainstitute.org](mailto:info@ecosainstitute.org).

**August 30. Seattle, WA. David Holmgren—Presentation for Professionals.** [sego.jackson@co.snohomish.wa.us](mailto:sego.jackson@co.snohomish.wa.us).

**August 31-September 1. Seattle, WA. David Holmgren—Advanced Permaculture Principles Course.** Michael Pilarski. 360-927-1274. [www.friendsoftrees.net](http://www.friendsoftrees.net). [friendsofthetrees@yahoo.com](mailto:friendsofthetrees@yahoo.com).

**September-June 2006. Chestnut Ridge, NY. Biodynamics Training.** The Pfeiffer Center. 845-352-5020 x20. [info@pfeiffercenter.org](mailto:info@pfeiffercenter.org). [www.pfeiffercenter.org](http://www.pfeiffercenter.org).

**September 2-11. Coquille, OR. Complete Cob.** Cob Cottage Company. 541-942-2005. [www.cobcottage.com](http://www.cobcottage.com).

**September 3-4. Black Mountain, NC. Growing & Using Edible & Medicinal Plants.** Earthaven Learning Center. 866-666-9935. [earthavenlearningcenter.org](http://earthavenlearningcenter.org). [info@earthavenlearningcenter.org](mailto:info@earthavenlearningcenter.org).

**September 3-5. Occidental, CA. Permaculture in the Kitchen.** Occidental Arts & Ecology Center. 707-874-1557. [www.oaec.org](http://www.oaec.org). [oaec@oaec.org](mailto:oaec@oaec.org).

**September 6-8. BC, CANADA. David Holmgren—Advanced Permaculture Principles Course.** [earthcaredesign@peacemail.com](mailto:earthcaredesign@peacemail.com).

**September 9-11. Black Mountain, NC. Starting a Successful Ecovillage or Intentional Community.** Earthaven Learning Center. 866-666-9935. [earthavenlearningcenter.org](http://earthavenlearningcenter.org). [info@earthavenlearningcenter.org](mailto:info@earthavenlearningcenter.org).

**September 9-11. Williams, OR. Earthen Plasters and Floors.** White Oak Farm. [www.whiteoakfarmcsa.org](http://www.whiteoakfarmcsa.org). [info@whiteoakfarmcsa.org](mailto:info@whiteoakfarmcsa.org).

**September 9-18. Summertown, TN. Natural Building Immersion.** Ecovillage Training Center at The Farm. 931-964-4474, fx/-2200. [ecovillage@thefarm.org](mailto:ecovillage@thefarm.org). [www.thefarm.org](http://www.thefarm.org).

**September 9-18. Olympics, WA. Earth Spirit Nature Retreat.** Selma Ruth. 510-759-4607. [selmaruth@hotmail.com](mailto:selmaruth@hotmail.com). [www.greenworld-earthcare.org](http://www.greenworld-earthcare.org).

**September 10. BC, CANADA. David Holmgren—Public Lecture.** [haroldw@alternatives.net](mailto:haroldw@alternatives.net).

**September 10-November 13. Portland, OR. Permaculture Design Course, Modular Format.** Portland Permaculture Institute. 503-293-8004. [www.portlandpermaculture.com](http://www.portlandpermaculture.com). [info@portlandpermaculture.com](mailto:info@portlandpermaculture.com).

**September 10-16. Boonsville, CA. Natural Building Intensive.** Emerald Earth. 707-895-3302. [www.emeraldearth.org](http://www.emeraldearth.org). [workshops@emeraldearth.org](mailto:workshops@emeraldearth.org).

**September 13-17. Coquille, OR. Lime Plasters, Mortars, and Paints.** Cob Cottage Company. 541-942-2005. [www.cobcottage.com](http://www.cobcottage.com).

**September 15. On-line. Permaculture Design Course.** Barking Frogs Permaculture Center. [barkingfrogspc.tripod.com/frames.html](http://barkingfrogspc.tripod.com/frames.html). [BarkingFrogsPC@aol.com](mailto:BarkingFrogsPC@aol.com).

**September 16-18. Twisp, WA. Growing & Wildcrafting Medicinal Plants.** Friends of the Trees. 509-997-9200. [friendsofthetrees@yahoo.com](mailto:friendsofthetrees@yahoo.com). [www.friendsofthetrees.net](http://www.friendsofthetrees.net).

**September 16-18. Black Mountain, NC. Southeast Women's Herbal Conference.** Earthaven Learning Center. 866-666-9935. [earthavenlearningcenter.org](http://earthavenlearningcenter.org). [info@earthavenlearningcenter.org](mailto:info@earthavenlearningcenter.org).

**September 17-18. Black Mountain, NC. Earthen Plaster & Paints.** Earthaven Learning Center. 866-666-9935. [earthavenlearningcenter.org](http://earthavenlearningcenter.org). [info@earthavenlearningcenter.org](mailto:info@earthavenlearningcenter.org).

**September 17-18. Summertown, TN. Field Day and Open Gardens.** Earth Advocates Research Farm. 931-964-4151. [www.growit.com/bamboo](http://www.growit.com/bamboo). [BambooInstTenn@aol.com](mailto:BambooInstTenn@aol.com).

**September 18-23. Portland, OR. Permaculture Design Course, Part Two.** Portland Permaculture Institute. 503-293-8004. [www.portlandpermaculture.com](http://www.portlandpermaculture.com). [info@portlandpermaculture.com](mailto:info@portlandpermaculture.com).

September 19-23. Hopland, CA.

Permaculture Integral:

Returning the Surplus. 707-744-2017. <http://urbanpermacultureguild.org/slipcflyer2005.pdf>.

September 20-25. Olympics, WA. Design for Sustainable Community. Selma Ruth.

510.759.4607. [selmaruth@hotmail.com](mailto:selmaruth@hotmail.com).

[www.greenworld-earthcare.org](http://www.greenworld-earthcare.org).

September 23-30. Black Mountain, NC.

Village Design Practicum.

Earthaven Learning Center. 866-666-9935.

[earthavenlearningcenter.org](http://earthavenlearningcenter.org),

[info@earthavenlearningcenter.org](mailto:info@earthavenlearningcenter.org).

September 24-October 7. Occidental, CA.

Permaculture Design Course. Occidental Arts

& Ecology Center. 707-874-1557.

[www.oaec.org](http://www.oaec.org), [oaec@oaec.org](mailto:oaec@oaec.org).

September 24. Freeland, MD. Natural

Building Workshop. 410-343-3478.

[info@heathcote.org](http://info@heathcote.org), [www.heathcote.org](http://www.heathcote.org).

October 1-2. Black Mountain, NC.

Ecovillage Planning & Design.

Earthaven Learning Center. 866-666-9935.

[earthavenlearningcenter.org](http://earthavenlearningcenter.org),

[info@earthavenlearningcenter.org](mailto:info@earthavenlearningcenter.org).

October 1-8. SCOTLAND. Ecovillages: New

Frontiers for Sustainability. Findhorn and GEN.

[bookings@findhorn.org](mailto:bookings@findhorn.org), [www.findhorn.org](http://www.findhorn.org).

October 5-9. INDIA. Permaculture Design

Course. 505-586-1269.

[www.urbanpermacultureguild.org/india-1-](http://www.urbanpermacultureguild.org/india-1-flyer2005.pdf)

[flyer2005.pdf](mailto:flyer2005.pdf), [richard@lamafoundation.org](mailto:richard@lamafoundation.org).

October 8. Black Mountain, NC. Growing

Edible Mushrooms.

Earthaven Learning Center. 866-666-9935.

[earthavenlearningcenter.org](http://earthavenlearningcenter.org),

[info@earthavenlearningcenter.org](mailto:info@earthavenlearningcenter.org).

October 9. Black Mountain, NC. Integrated

Mountain Farming and Agriculture.

Earthaven Learning Center. 866-666-9935.

[earthavenlearningcenter.org](http://earthavenlearningcenter.org),

[info@earthavenlearningcenter.org](mailto:info@earthavenlearningcenter.org).

October 12-17. Port Townsend, WA.

Intentional Medicinal Mushroom

Conference. Fungi Perfecti. POB 7634,

Olympia, WA 98507. 800-780-9126.

[mycomedea@aol.com](mailto:mycomedea@aol.com), [www.fungi.com](http://www.fungi.com).

October 14-16. Red Boiling Springs, TN.

Biodynamic Conference. Long Hungry Creek

Farm. 615-699-2493. [www.barefootfarmer.com](http://www.barefootfarmer.com).

October 21-23. Occidental, CA. Intentional

Communities Course. Occidental Arts &

Ecology Center. 707-874-1557.

[www.oaec.org](http://www.oaec.org), [oaec@oaec.org](mailto:oaec@oaec.org).

October 29. Summertown, TN. Shiitake

Mushroom Growing Basics.

Ecovillage Training Center at The Farm.

931-964-4474, fx/-2200.

[ecovillage@thefarm.org](mailto:ecovillage@thefarm.org), [www.thefarm.org](http://www.thefarm.org).

October 31-November 11. AUSTRALIA.

Ecovillage Design Course & Practicum.

EcoLogical Solutions. 59 Crystal Waters,

65 Kilcoy Lane, Conondale Qld 4552,

Australia. +61 (0)7 5494 4741, Fx/-4578.

[info@ecologicalsolutions.com.au](mailto:info@ecologicalsolutions.com.au),

[www.ecologicalsolutions.com.au](http://www.ecologicalsolutions.com.au).

November 11-13. Occidental, CA.

Introduction to Permaculture. Occidental

Arts & Ecology Center. 707-874-1557.

[www.oaec.org](http://www.oaec.org), [oaec@oaec.org](mailto:oaec@oaec.org).

November 12-14. AUSTRALIA. 2nd

International Ecovillage Designers

Conference. EcoLogical Solutions.

+61 (0)7 5494 4741, Fx/-4578.

[info@ecologicalsolutions.com.au](mailto:info@ecologicalsolutions.com.au),

[www.ecologicalsolutions.com.au](http://www.ecologicalsolutions.com.au).

November 16-26. INDIA. Permaculture

Design Course. 505-586-1269.

[www.urbanpermacultureguild.org/india-1-](http://www.urbanpermacultureguild.org/india-1-flyer2005.pdf)

[flyer2005.pdf](mailto:flyer2005.pdf), [richard@lamafoundation.org](mailto:richard@lamafoundation.org).

November 21-December 2. SRI LANKA.

Permaculture Design Certificate Course &

Cultural Immersion. EcoLogical Solutions.

+61 (0)7 5494 4741, Fx/-4578.

[info@ecologicalsolutions.com.au](mailto:info@ecologicalsolutions.com.au),

[www.ecologicalsolutions.com.au](http://www.ecologicalsolutions.com.au).

November 22-December 3. MEXICO.

Natural Building and Ecological Living.

Cob Cottage Company. 541-942-2005.

[www.cobcottage.com](http://www.cobcottage.com).

November 27-December 11. Dexter, OR.

Permaculture Design Course.

Lost Valley Educational Center. 541-937-3351.

[www.lostvalley.org](http://www.lostvalley.org), [sustainability@lostvalley.org](mailto:sustainability@lostvalley.org).

December 5-15. INDIA. Permaculture

Design Certificate Course & Cultural

Immersion. EcoLogical Solutions.

+61 (0)7 5494 4741, Fx/-4578.

[info@ecologicalsolutions.com.au](mailto:info@ecologicalsolutions.com.au),

[www.ecologicalsolutions.com.au](http://www.ecologicalsolutions.com.au).

December 5-9. BELIZE. Solar Installation.

Ecovillage Training Center at The Farm.

931-964-4474, fx/-2200. [www.thefarm.org](http://www.thefarm.org),

[ecovillage@thefarm.org](mailto:ecovillage@thefarm.org).

January 5-17, 2006. Pahoa, HI.

Permaculture Design Course.

Biko, 808-443-4076. [bikobikook@hotmail.com](mailto:bikobikook@hotmail.com).

February 6-19, 2006. BELIZE.

Permaculture Design Course. Dawn Dean,

[ddean@mmrfbz.org](mailto:ddean@mmrfbz.org).

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### Contacts

Seeking Permaculture designers in Saskatchewan or north-eastern Montana. Will at 306-627-3779. -57

PC Support Group forming in greater Cincy Area. Call Barb at Marshwood 877-355-5942. -57

### Education

Patagonia Permaculture—October, on exciting Estancia in Argentina. Led by GAIA, part of Patagonia Catharsis, [www.ranquilco.com](http://www.ranquilco.com). -57

### Internships

Position Available for Bamboo Intern: 2-6 months, stipend, rustic accommodations, middle Tennessee. Adam, 931-964-4151. Earth Advocates Research Farm. -57

Internship in natural building and sustainable community living. Freeland, Maryland. May to November 2005. Minimum one-month commitment. Gain experience in construction and natural building techniques including strawbale, cob, natural plaster, earthen floor, and natural paint. Work 40 hours per week on our new strawbale residence in exchange for room and full tuition to our natural building workshops. Interns will pay \$150/month for food and participate in community life. For more information see our website [www.heathcote.org](http://www.heathcote.org) or contact Heathcote Community, 21300 Heathcote Road, Freeland, MD 21053; call 410-343-3478; email [info@heathcote.org](mailto:info@heathcote.org). -57

### Land

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is an initiative to create an online database of ecological relationships for purposes of guild design. Instead of offering information solely about individual plants and other organisms, PIW will focus on the relationships between them. Users will be able to, for example, enter the plants growing in their gardens, learn about their interrelationships, understand which functions are being or must be satisfied, and discover how native species may be substituted by edibles, medicinals, or others. With your participation, PIW can become an incredibly rich informational resource. Its content will be contributed by members of the Permaculture community with valuable information about ecological relationships. We encourage your participation. To get involved, please join our listserv at: <http://lists.ibiblio.org/mailman/listinfo/piw> or visit our website: [www.permaculture.info](http://www.permaculture.info) or contact Stephanie Gerson: [sgerson@stanfordalumni.org](mailto:sgerson@stanfordalumni.org).

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# LETTERBOX

*continued*

## Goose Praise

Peter.

I'm almost at the 'cover to cover' point with #55 (Learning from Our Mistakes) and I just read 'Lessons in Village Design.' It's the best you've ever done. congrats! The line "imprinted on suburbia like goslings on a goose" is priceless.

Rick Valley

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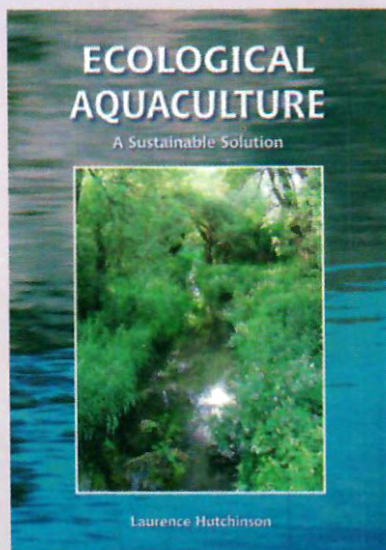
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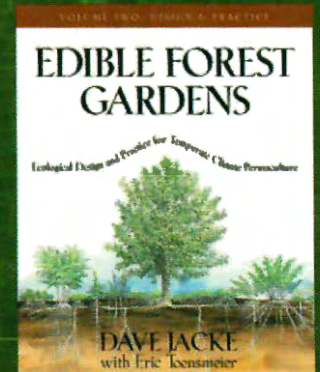
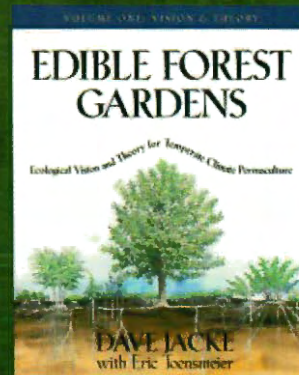
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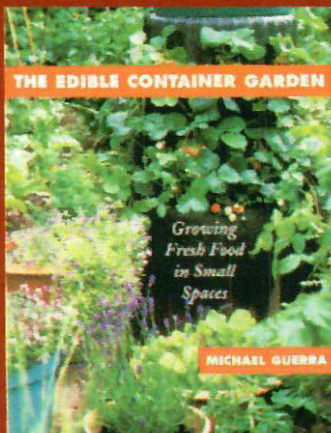
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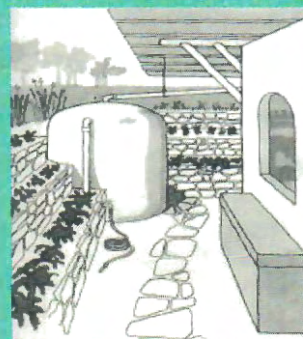


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