

RAISE THE STAKES

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RAISE THE STAKES Anthology II

- Kat Anderson • Peter Bane • Peter Berg • Morris Berman • Marc Bonfils •
- Murray Bookchin • Ernest Callenbach • Marti Crouch • Jim Dodge •
- David Morris • Gary Snyder • John Trudell • Donald Worster •

**Eco-Realism
about
Water,
Food,
Cities**



SHAMAN'S DREAM, LITHOGRAPH BY DANIEL O. STOLPE

Celebrating 20 Years of RAISE THE STAKES!

RAISE THE STAKES Did Just That

This is the last *Raise the Stakes*. After thirty issues—which we hope have been as challenging to your imagination as they were to our resourcefulness—the original purpose of *RTS* has been fulfilled.

Begun in 1979, six years after the founding of Planet Drum, *RTS* was intended to respond to groups that subsequently began to emerge with a “vision of communities living within the natural cycles and energy flows of their particular bioregion.” It had two aims: serve and report on the far-flung bioregional movement, and give voice to new activities and possibilities.

Over a hundred bioregions in North America provided reports—Cascadia on the Pacific Coast to Gulf of Maine on the Atlantic, and Oak Ridges Moraine (Toronto, Canada) in the north to Cuauhanuac (Tepoztlan, Mexico) in the south. Europe supplied perspectives from Scotland to Catalonia to Samiland, and most notably the Italian Bioregional Network. Australia and Japan each recorded reviews of several bioregions, and others came from South America, Hawai’i, and the Indian subcontinent.

The pages of *RTS* were the original source for learning about the concept of bioregions for many readers, but featured even more articles on how other ecological alternatives could be related to the natural characteristics of life-places. Permaculture, renewable energy, indigenous culture, education, economics, and arts of all kinds received this unique sort of coverage. Political applications of bioregionalism were explored extensively, ranging from decentralism and regional autonomy to separatism, watershed governance, multiculturalism, local currencies, and local as well as continental bioregional gatherings.

We made the case for raising the stakes higher than environmentalism had envisioned. Opposition to economic, political and cultural globalism was continuous from the first issue. On the proactive side, *RTS* gave early prominence to the necessity for both ecosystem restoration and sustainable green cities, out of the conviction that these are the two most important directions for future ecological activism.

Bioregional thought and practice are a clear departure from traditional environmentalist and conservationist directions, and at first they occupied the fringe of earth-related endeavors. Now they have begun working into the mainstream. *Raise the Stakes*

articles and essays have been reprinted in dozens of journals and books, and are found in school and university curricula for several different fields. Some NGOs such as the World Resources Institute have adopted the bioregional perspective outright. Others have been influenced to create “ecoregion” programs and projects that have a similar place-located focus. Government institutions such as The Resources Agency of the State of California and the City Council of Barcelona find the term *bioregion* to be the most appropriate term for describing their administrative areas. Awareness of the importance of watersheds, which is intrinsic to the bioregional perspective, has spread from creek-scaled community groups (“Not in my watershed you won’t!”) to a widely attended U.S. Library of Congress event titled “Watershed” that featured fifty or so poets and writers.

Raise the Stakes never carried paid advertising! We were concerned with presenting the profound and far-reaching considerations of human interdependence in the planetary biosphere. Ads might have confused or diverted our goal, and the prospect of a bioregionally conscious future was thought to be too important and urgent to be linked to sales promotion.

Planet Drum Foundation will continue to publish the *Pulse* newsletter with additions such as reviews and articles. PDF’s web site at www.planetdrum.org already features news, some previous articles, regularly updated reports, and publication lists. It will soon be expanded to include features and other information formerly available in *Raise the Stakes*. A Planet Drum Books publication about greening cities through Education+Action projects carried out in schools is in preparation, and a compilation of dispatches from ecological restoration efforts in the Rio Chone Bioregion (where we have just opened PDF’s first field office) and other areas of Ecuador is likely. Answers to inquiries, networking services, and references to expertise are available through telephone: (415) 285-6556, fax: (415) 285-6563, and e-mail: planetdrum@igc.org.

We are inexpressably grateful to the many generous and talented people who lent their artistic and practical energy to producing *Raise the Stakes*. Their contribution will be a touchstone for everyone who joins us in creating innovative forms of reinhabitory communication in the future.

by Peter Berg

I S S U E S / I N S I G H T S

High Quality Information

by Jim Dodge

RTS 4, Winter 1982



PETER DANAHAR

In Communication Theory (one of the flashier new industrial arts) information is defined as “that property of a signal or message whereby it conveys something unpredictable yet meaningful to the recipient, usually measured in bits.”

Unpredictable, yet meaningful bits. A bombardment, merciless crossfire, a veritable fusillade of bits: from the long gray columns of type, the soft electronic hum of the radio, the ashen light of the TV: news, data, facts, claims, tips, assertions, hints, advice, suggestions, pieces, bits. We are living in an ingravescent glut of information, information that is quickly rendering its definition obsolete—for while the bits remain unpredictable, they are becoming increasingly meaningless. “Unpredictable meaningfulness” is a fair definition of the absurd, and while absurdity is essential to refresh the spirit, prolonged exposure will turn the sense to mush and make it impossible to sustain a mood.

The signals lately seem desperate in their rationality, as if everything was being thrown from a sinking boat. It seems to me the only way to survive the current paralyzing mash of information, to escape the frozen circuits of its bogus factuality, is to seek and insist upon high-quality information. What con-

stitutes “quality” is, undoubtedly, subjective, but it seems to me that high-quality information generally shares three characteristics: it is direct; it is deep; and it is durable.

Direct sensual apprehension is information’s clearest route. The hoot owls calling in the pepperwood trees. The first drop of rain on your forehead. The taste of your lover’s mouth. The axiom here is simple: accuracy increases as you move toward the source. The hoot owls calling in the pepperwood trees are clearer—both audibly and emotionally—when you hear them from your back porch than when you hear them on a record.

High-quality information strikes deeply in the psyche. There is a cellular thrill of recognition, a loop of delight, a sense of both completeness and opening. The recognition resonates in the subjective contours of our being, exciting the imagination.

It is durable because it integrates other informations, thus complementing their powers (in the shaman’s sense of the word “power,” not the politician’s). High-quality information is also durable because it invariably proves useful, whether it be in splitting posts, analytical hair-splitting, or splitting town. It is durable, moreover, because high-quality information tends to be shared when possible; it, like joy, seeks expression. Whether it takes the form of gossip, book, or kiss, high-quality information moves through, not to. Like a bell-note traveling through the air, or a wave through water.



Originally published in *Reinhabiting a Separate Country: A Bioregional Anthology of Northern California*, Planet Drum Books.

Recreating Urbanity

by Peter Berg

RTS 17, Winter 1991

The following has been excerpted from Peter Berg's essay "A Metamorphosis for Cities: From Gray to Green" and is available in its entirety in City Lights Review #4, or as a xeroxed reprint from Planet Drum for \$5.00.

The first step toward reconceptualizing urban areas is to recognize that they are all situated in local bioregions within which they can be made self-reliant and sustainable. The unique soils, watersheds, native plants and animals, climate, seasonal variations and other natural characteristics that are present in the geographical life-place where a city is located constitute the basic context for securing essential resources of food, water, energy and materials. For this to happen in a sustainable way, cities must identify with and put themselves in balanced reciprocity with natural systems. Not only do they have to find nearby sources to satisfy basic human needs, but also to adapt those needs to local conditions. They must maintain natural features that still remain and restore as many of those that have been disrupted as possible. For example, restoring polluted bays, lakes or rivers so that they will once more be healthy habitats for aquatic life can also help make urban areas more self-reliant in producing food.

Different geographical areas have different conditions depending on their natural characteristics. Bioregionally-founded values that are appropriate to each place should be agreed upon and then used to direct municipal policies. Guides for doing this can be transferred over from some basic principles that govern all ecosystems.

Interdependence: Heighten awareness of interchanges between production and consumption of resources so that supply, reuse, recycling and restoration become more closely linked. Reduce inequitable exploitation.

Diversity: Support wide ranges of means to satisfy basic human needs and a multiplicity of cultural, social and political expressions. Resist single-interest solutions and monoculture.

Self-Regulation: Encourage decentralized activities carried out by groups in neighborhoods and districts. Replace top-down bureaucratic agencies with grassroots assemblies.

Long-Term Sustainability: Aim policies to work under various conditions and for several generations. Minimize short-term programs and patchwork remedies. When interdependence, diversity, self-regulation and long-term sustainability are consulted, it is possible to make much more ecologically coherent and therefore more practical decisions than are generally seen today. Applied to the cycle of food production and consumption, for example, they could lead to these beneficial features: more small-scale farms and gardens near or in the city that employed greater numbers of people, preserved and restored

green spaces, reduced transportation costs and provided fresher produce; wider use of permaculture (permanent agriculture) and native food plants to conserve and build topsoil, lower water use and maintain natural habitats; subscription buying by institutions and groups of individuals who spend a yearly amount to receive a specified quantity of produce—thereby stabilizing farm incomes and levels of food production; collection of tree and yard trimmings, food scraps and other organic wastes to create compost fertilizer; reuse of urban grey water on farms and in gardens to reduce fresh water consumption; and some type of food production on everyone's part, ranging from backyard, rooftop, window box, and community garden to work-sharing on farms.

For a Green City Program to succeed, there also needs to be a radical new consciousness about living in cities on the part of individuals. City-dwelling has traditionally been easier and more luxurious than country life. Residents have been accustomed to services and amenities that were relatively inexpensive and whose continuous supply was not their responsibility. People still assume that water, food, and energy will continue to flow into cities as effortlessly as in the past even though they know that the places where those resources originate have been severely degraded. But the realities of urban life are changing rapidly and will change more drastically in the near future. Since mid-century, utilities, health services, food prices, and housing costs have increased many times over. They will rise even more sharply as cities continue to expand and compete for resources that are diminishing in quantity and quality. Presently, travelers return to comparatively prosperous countries like the United States shocked by the desperate conditions in places like Calcutta, Rio de Janeiro, and Nairobi. They believe that their own communities are immune to the spectrum of problems ranging from inflation and endless delays to widespread diseases and abject poverty that they find there. Soon it will become clear that although these calamities have struck Third World countries first, parallel developments are due for many other urban areas. There simply aren't enough basic resources, even in developed countries, to sustain the huge urban populations that are accumulating. The abundance of oil, electricity, foodstuffs, and fresh water they enjoyed in the '50s and '60s will be seen as an anomalous historical period when precious commodities were lavishly consumed, in the same way that we now view the high quality of wood and stone used to construct ordinary buildings in the last century.

City life was once mediated and stabilized by social and cultural groupings that occupied particular districts. Established historic and ethnic communities often played the largest part in fostering an individual's sense of identity and personal angle of perception for relating to the city as a whole. These zones of security and belonging have been seriously eroded or completely destroyed and replaced by growing wastelands of anonymity and fear. Their loss is a main reason why cities are less convivial and more threatening.

Although cities as we know them are on the verge of collapse, people aren't aware of the great changes that are coming. Media coverage is restricted to isolated situations like the plummeting decline of Detroit or abysmal lack of public services in East St. Louis, and politicians are reluctant to air the bad news even as they quietly move to the suburbs. In fact, the city is at a point of major transition. We are beginning to see an historical shift comparable to the birth of the modern industrial city in the late 18th Century. Urban people will be obliged to undergo a thorough transformation. To reclaim a positive outcome from deteriorating situations, city dwellers have to become "urban pioneers" in a concrete, steel and

glass wilderness, developing new urban forms and remaking their own lives as they simultaneously recreate the urban landscape. To do this they need to learn new skills, redirect their energy and inventiveness, and align their efforts with the more self-reliant and sustainable vision offered in a Green City Program.

The profile of an urban pioneering life includes these elements: working several part-time jobs rather than a single-employment 40-hour week; growing some food on a continuous basis; recycling household wastes and water; refitting dwellings for energy conservation and maintaining some means for producing energy from renewable sources; restoring wildlife habitats; reducing or eliminating the use of a personal automobile; developing new cultural expressions that reflect bioregional and planetary themes; and participating in a neighborhood council to decide everything from planning and justice to social services and celebrations. It will replace the often deadening escape-seeking urban existence of the present with stimulating, highly varied and creative pursuits that are more related to artists and naturalists than to factory and office workers. Even in a densely populated metropolis, these new urbanites will be able to claim personal home-neighborhood-villages and be fully involved with them. Many people are already doing some of the things that lead to this transformed urban life. When most people are doing all of them urban dwelling will be much richer and more livable.

In a municipality dedicated to carrying out a Green City Program, the citizenry could have much greater interaction with government than at present. To accomplish recycling goals, for example, people wouldn't merely put out materials to be collected. They would expect the city help create jobs by assisting groups and businesses who remanufacture products from those materials, and to purchase them whenever possible (with preference for, etc.) preferably from neighborhood-based companies and cooperatives. The government would be viewed as an instrument for carrying out the residents' intention to make the city self-reliant and sustainable.

The future prospect for cities is at a critical juncture. If allowed to continue in their present course, the detrimental effects on people, bioregions, and the planetary biosphere will soon reach an intolerable point. Currently, 850 million urban people worldwide are squatters: 50 percent of Third World dwellers have no plumbing or electricity. By 2000, the number of squatters will more than double to over 2 billion with a similar acute increase in those living without rudimentary necessities. A nightmarish scenario with billions crowded into urban heaps and living in despairing poverty has already begun. It will surely proceed to even worse stages of routine breakdowns in production and distribution of essential human requirements, collapse of basic infrastructures, extreme conflict between social and economic groups, and governmental chaos.

There is a saving alternative to this painful outcome but it requires a thorough transformation in the purpose of cities and the ways that people live in them. Bioregionally-oriented governments and ecologically-conscious residents carrying out Green City Programs can end and even reverse the present ruinous trends. Rather than destroying the bases for obtaining resources, we can develop renewable energy, recycle materials, and water, and produce food within cities themselves. Rather than destroy natural areas, we can maintain and restore habitat for native plants and animals and increase the number of green spaces. Rather than watch urban areas become more anonymous as they become larger, with more violence, lack of jobs and homelessness, we can empower neighborhoods to carry out community services on a local, personalized and mutual basis.

Cities must change soon and in profound ways, and this huge metamorphosis can be the occasion for a positive shift in consciousness that harmonizes the needs of society with those of the natural systems that ultimately support it.

Abandoned car on Maui.



JUDY GOLDBAFT



The Green City as Thriving City

Implications for Local Economic Development

by David Morris

RTS 13, Winter 1988

In discussing the greening of cities, one is reminded of the slogan that the French students used in 1968. On their posters they said "all that we want to change is everything," which comes from that famous ecological dictum, "everything is connected to everything else." When we pull a thread, we may in fact unwind a sweater.

The two fundamental assumptions underlying the way we've designed our communities are the assumptions of cheap energy and cheap disposal costs. In constant dollars, a barrel of oil that cost five dollars in 1910 cost a little over a dollar in 1965. The cost of throwing away a ton of garbage remained pretty much the same from 1900 to 1960. We could therefore ignore the operating inefficiencies and wastes of the systems that we developed.

Cities reflect that inefficiency and waste. Our cities are dependent creatures. A city of 100,000 people imports 200 tons of food, 1,000 tons of fuel and 62,000 tons of water a day, and dumps 100,000 tons of garbage and 40,000 tons of human waste a year. We've accepted long distribution systems as the price we pay for progress and development. Indeed, we've elevated separation to the status of virtue and internalized those principles into our way of thinking about our local economies.

I was recently reminded of how much we take that state of affairs for granted when I was in a St. Paul, Minnesota, restaurant. After finishing lunch, I got a toothpick, and of course all toothpicks now have an obligatory plastic wrapper. The word Japan was printed on the wrapper. Now, I thought to myself, Japan has no wood, but it had been considered economical to take pieces of wood and send them to Japan, wrap them in plastic and send the whole thing back to Minnesota. That toothpick embodied 50,000 miles within it. Well, not to be undone, Minnesota just set up a factory. It's producing chopsticks and it's sending them to Tokyo.

This brings to mind an image of two ships passing each other in the Pacific, one carrying little pieces of wood from Japan to the United States, and the other carrying little pieces of wood from the United States to Japan. That is economical only if one accepts the twin assumptions noted at the outset—those pillars upon which our economic system has been established.

This import-export paradigm is the way our economy runs. It is also the way our waste economy runs. Washington, D.C., for instance, was becoming overwhelmed by its human wastes, and paid a consultant \$150,000 to come up with a solution. He suggested they barge them to Haiti. That recommendation was approved by D.C., but Haiti vetoed the idea. Haiti decided though they'd been offered the wastes of the capital of the Free World, they preferred not to be shat upon.

The integrated planetary economy was supposed to make us more secure, but has it? Global trade expands and so do planetary tensions. For example, developing countries are now exporting more and more food to the developed countries to earn the hard currency necessary to repay debts that they incurred primarily to build up their export industries. Industrial development and utilization both have increased. The developed countries are in an interesting protectionist free trade dance, a pas de deux of late planetary economics, in which each country tries desperately to preserve at least some amount of its sovereignty and its productive assets, at the same time trying not to interfere with free trade and the mobility of resources.

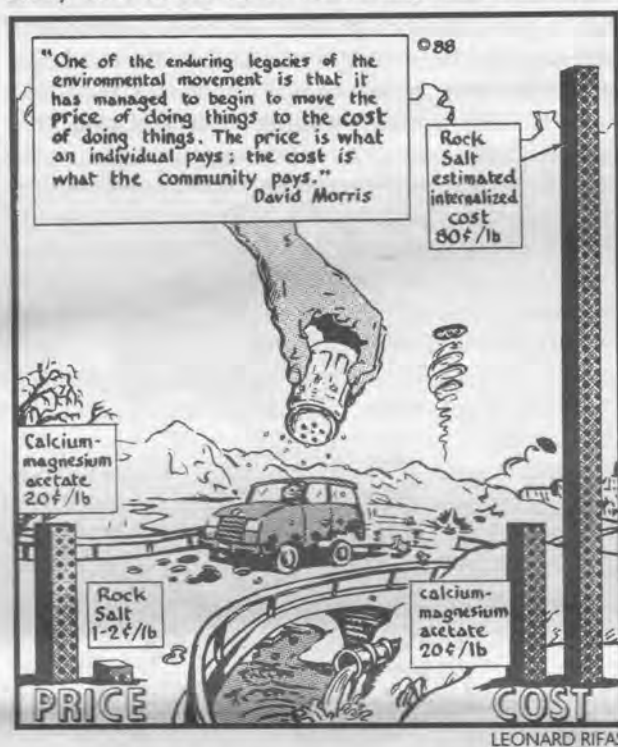
Capital has become the lubricant for the planetary economy, the grease that lets the planetary machine function. We fervently believe that capital should flow at least as freely as raw materials and products. Last year twenty times more currency was traded than was needed to underwrite world trade.

We are more reluctant to embrace the unimpeded mobility of the third factor of production: labor. But

we're inching up to it. Six months ago the Council of Economic Advisers recommended abolishing all barriers to migration in order to improve the economy.

We've lost sight of the underpinning of a society—the sense of community. Mobility is not synonymous with progress. We've ignored Benjamin Franklin's advice: those who would trade independence for security usually wind up with neither. We have made that trade and in the process have become an increasingly dependent and insecure people.

But now the rules have changed. Cheap energy and cheap disposal are no longer available. Despite the recent drop in oil prices, the cost of energy has risen more than 1,000 percent in the last 15 years. Disposal costs have risen even more dramatically. In 1975 it typically cost about \$3 to \$5 to dispose of a ton of



garbage. Today in the U.S. it costs between \$30 and \$50 to dispose of that ton of garbage. In 1970, to dispose of a barrel of hazardous waste cost between \$5 and \$10 a barrel—although most companies just spilled it on the side of the road. Today, to dispose of hazardous waste costs about \$300 a barrel, and for many companies the disposed hazardous waste now has a legal liability attached to it that is potentially enormous.

What's important to note about these price changes is that they have changed not because of the real world exhaustion of supply, but because of a change in political attitude. The rising price of oil did not occur because oil began running out, but because OPEC artificially limited the supply. The cost of waste disposal did not rise because we suddenly ran out of dump space but because communities, by establishing new disposal rules, artificially limited the supply. We consciously and willfully changed the cost of doing things the traditional way.

One of the enduring legacies of the environmental movement is that it has managed to begin to move the price of doing things to the cost of doing things. The price is what an individual pays; the cost is what the community pays.

Let me give you a specific example of price versus cost. Rock salt is used to de-ice roadways. Its price is very cheap: one to two cents a pound. There is at least one alternative to rock salt, made out of plant matter: calcium-magnesium acetate. It can be produced at present for about twenty cents a pound—ten to twenty times more than rock salt. That's its price. However, rock salt has some problems. It corrodes the underbody of cars, it corrodes bridges, and in New York City, Consolidated Edison has found that it causes a great many problems in the electric supply system which runs through the sewers.

Sewer water, carrying dissolved rock salt, can corrode insulation and lay bare wires. A neoprene gas can be generated and if a spark occurs, the explosion can send manhole covers flying. By one estimate Consolidated Edison spends \$75 million to repair damage caused by rock salt. That's part of the cost of rock salt. Another cost is polluted groundwater and the devastation of vegetation. New York

State has made an informal estimate that the actual, internalized cost of rock salt is eighty cents a pound. Which de-icer should you buy?

The individual is unaware of this cost. It is the responsibility of the community to make price and cost similar.

Even though the rules have changed, we haven't yet adopted a new paradigm, a new way of organizing our knowledge and our information. One of the principles of that new paradigm should be to extract the maximum amount of useful work ecologically possible from the local resource base. That sounds like a very modest proposal, but it has profound repercussions. As we begin to obtain more and more useful work, we find that we've begun to be more and more self-reliant and self-contained.

Is self-reliance economical? What do we mean by economics? What do we value in our economic system? Those who praise the global economy and trade as the underpinnings of our economic health invariably point to the benefits of comparative advantage and just as invariably point to the example of bananas. Surely local self-reliance does not mean raising our own bananas in the United States when the climate is so much more favorable in Guatemala.

It may be cheaper to import those bananas, once again, depending on what the price is versus the cost. Bananas that come from Central America come from countries that do not permit unions, are produced by companies that do not pay any taxes, and are grown by production methods that have no environmental regulations. I submit that if you calculated the number of dollars that have been spent by the United States in military intervention in Central America, and divided that by the number of bananas that are imported into the United States, you would find that it's very costly to import bananas rather than to grow them yourself.

When we look at economic signals, we need to look at them in a holistic sense. First, we are learning, as our systems get ever-larger, that the downside risks get correspondingly greater. Twenty years ago when we talked about a catastrophe, it meant a flood or an earthquake. Today when we talk about a catastrophe we mean the end of the ozone layer, the end of the human species. Local self-reliance also has a downside risk: you could try something and it might not work, but the risk is modest.

Second, local self-reliance leads to a diversity of experimentation. As communities experiment with different technologies, we advance on the learning curve. Third, local self-reliance by definition reduces pollution by improving efficiency. Fourth, local self-reliance is economical because it recycles money internally for more productive purposes that would otherwise have to be spent on maintaining the system. A crude estimate that I made recently suggested that 15 years ago the United States was spending between 1 and 3 percent of its overall income for system maintenance and cleanup. Today we're spending almost 15 percent of our income for that purpose.

And finally, an advantage of local self-reliance is that we begin to channel our ingenuity into developing new bodies of knowledge that may be appropriate to a world that is in a very different condition. The technologies that we're developing in North America, for example, are technologies appropriate to nations that are resource-rich and people poor. But 80 percent of the world's population lives in countries that are resource-poor and people-rich.

If you try to make the United States self-sufficient or self-reliant, the technologies you develop to do so will be neither appropriate nor compatible with the needs of developing nations. But if you move toward making our densely populated and resource-short cities self-reliant the technologies developed will be appropriate to a resource-poor world. The knowledge generated can become a major export commodity.

But the primary benefit of local self-reliance is not economic; it's psychological and social. It improves decision making because the costs of the decision fall on the same community. We do not separate the productive process over long distances. Psychologically, we improve the self-confidence and security of our

See *Thriving City*, page 5

Cities: Salvaging the Parts

Morris Berman, Gary Snyder, Ernest Callenbach, and Murray Bookchin

RTS 3, Summer 1981

The contemporary megalopolis is in trouble. Social services are deteriorating, housing is increasingly unaffordable, crime and pollution are up. Fear, apathy, and alienation pervade the air. One response, in the United States at least, is that many people (and their problems) are moving out of densely populated urban centers and into smaller, semi-rural towns. For the first time in a hundred years—according to the 1980, census—we are experiencing a net urban decline. Still, there is no doubt that the majority of us will continue to live in urban landscapes for the foreseeable future. What the nature and possibilities of a reconstituted city life might be, as well as what models the recent past might have to offer, is the subject of the transcribed and edited panel discussion that follows.*

Morris Berman: We've talked about the whole question of backing-off from a high-tech society. Sometimes, in our discussions, I have the sensation of pastoral romanticism. The attempt to capture a society, a golden age, where people lived happily in community environments and never fought and there was no alienation. How much of bioregionalism or the movement for an ecological anarchy involves a rather utopian attempt to turn the clock back: to get out of an age that's become too complex, too frightening, too difficult?

Gary Snyder: David Brower of the Friends of the Earth is commonly asked the same question. This is the "we can't go back to the Stone Age" ploy and it's one of the simpler diversions used to oversimplify what is clearly a serious question. David Brower used to answer that question by saying "I don't want to go back to the Stone Age, I'd be satisfied with the twenties." If you recall living in the twenties, the population was half of what it is now and there was a working system of public transportation in this country. It would not, however, be shameful to say "go back," nor would it necessarily be utopian or romantic since utopia is a word which implies a future-projected, ideal society, and the past happens to be real and not ideal. So talking about the past is by definition not utopia. It simply is talking about the causes that lie behind us and it might be useful to consider some of those rather sophisticated pre-fossil fuel technologies as models of what we could do after we run out of fossil fuels.

Oddly enough, we are so spaced out in our condition as of this decayed twentieth century that we literally do not know how our grandparents got along. How did they keep the food from spoiling? So the past is actually useful to us as a body of information about alternative transportation, technologies, and diversified and sophisticated agricultures which kept cultigens growing that, were appropriate bioregionally before they were washed out by agribusiness. There were, for example, 300 species of apples around the year 1900 and now you're lucky if you can buy more than five kinds of apples at the market. (There are nurseries that will supply 25 or 30 varieties of apples. There's one nursery in upstate New York that deals with what it calls antique species, if you want to get some of those earlier ones like Northern Spy.)

I could go on at some length but the point that I'll make, and I'll quote Wendell Berry, is "the first prin-

ciple of intelligent tinkering is to save all the parts." The past happens to be a parts bin and we have actually lost some whole bins with those parts, and we don't know which we're going to need. One of these days we may have a real need for some little old part out there in an old parts bin underneath a blackberry bush that we forgot all about.

From there, then, we do indeed look forward. So, to talk about "contemporary bioregional, decentralist, anarchist, alternatives," one cannot help but mean that you look at societies that *were* bioregional, that *were* decentralist, that did not have States, class structures, or taxation, or kings, or priests. These societies may not have been precisely ideal according to some suburban liberal's notion of values, but they were real. They were not utopias, but they were real and in some cases they might have something to teach us. In fact, a good deal of 17th and 18th century democratic and also Marxist thought is informed by the mind-boggling discovery by mercantile Europeans that there were societies out there without priests and kings. The noble savage was a very revolutionary injection of

biological view, which is where quite a lot of scientific and population ecology type people come from.

The fact that most of us, in our society, are now urbanites is very scary to me. It seems to me that it leads us away from a trust in the land. It's hard to have a feel for a bioregion if you haven't really lived in contact with the earth, or what we can legitimately call an agricultural way of life. Ultimately all societies are agricultural. This morning somebody was saying that only 4 percent of our population produced all the food to feed the rest of the 96 percent of us. This seems to be a very perilous situation; psychologically, morally, and politically. The consequences of that are one of the reasons why a conference of this kind is necessary. The rest of us in alienated urban life have to get back into thinking about the real problems, which are essentially solar. All organic things on the earth are produced from solar energy; they're inevitably agricultural and come from plants.

Audience: I came from a city in Texas and the only thing I could think of when I was about thirteen was how to get out of there.

Morris Berman: That's a good question. How many people want to go back? The community that I came from in upstate New York was really stultifying, really repressive. Everybody knew what everybody else did. And if I hate the anonymity of the large city, there's a positive trade-off as against living in a community that's very claustrophobic. On the first day of the conference, Ray Dasmann gave an address, in which he said, "you know, traditionally, city air may be polluted, but the air is free air, it's the place of culture and contact and change and excitement." I agree with what Ernest said about a certain urban cut-offness and a perilous situation. But my mind is embedded in asphalt and steel and I have a hard time seeing through these things to the grass. There's a loss of freedom in a recovery of community and I sort of fear that stultifying claustrophobic environment.

Murray Bookchin: I am going to make a defense of the city, even though I don't believe we have cities anymore. That's an important point. I came from New York. I'm 58 years old, and in the 1920s and '30s we had a life, an energy and a vibrancy (and also an agriculture), which has been totally destroyed since the end of the Second World War. I still recall the Italian gardens and the goats in the North Bronx. I recall the ease with which we could use that system of public transportation, to which Gary alluded earlier, and go to the end of the city in a matter of about a half hour and go out into the green space that separated one community from another around New York. I can recall the beautiful wild meadows that have now become mercury mines. I can recall the small neighborhood grocer who gave us credit and the shoemaker who knew us. I can recall the druggist we called "doc," who took out whatever alien body that got in our eye. I can recall the physician who sat by our bedside and nursed us and just didn't simply diagnose us and give us a shot. I can recall some of the rich experiences in which villages existed within New York City to form a rich, varied, composite of communities. And finally, I can recall the extent to which the largest amount of food we got was grown *within* a fifty mile radius of New York City. And it's now totally gone. We were not dependent on an Imperial Valley or anything like that.

It's not that urban life has become more complex, but that it's become grossly simplified. The horrors of New York today, and of the areas around New York, are the huge shopping malls in which you can't buy what you want or what you're looking for because



NANCY VON STOUTENBERG

alternative possibilities into Western thought. That's actually part of the history of thought. It's up to us to make good use of the information of the past.

Ernest Callenbach: I'm curious how many people in the room grew up in a small town or a rural area? A third maybe. How many of us still have the kind of folk society origins that make it easy to understand the kind of thing that has been talked about here? At the risk of being immodestly autobiographical, I would say that I'm one of those people too. I come from a town that had about 300 people in a good year, about ninety miles downwind from Harrisburg and Three Mile Island. I think that it is hard for people who grow up in cities to have what you might call a fundamentally, biologically-oriented way of looking at people. To me the reason why anarchism makes sense goes from biology towards anarchism. If we look at ourselves as an animal species and ask what a decent state of welfare comparable to that of happy wild animals would consist of, we have to start thinking about something that looks like anarchism. So you can come at this structural question, this organizational question, from both ends. You can come at it from politics, as Murray Bookchin does; or you can come at it from a

* Transcribed from a panel discussion on April 10, 1979, at the Planet Drum sponsored *Listening to the Earth Conference*, San Francisco, California.

everything is packaged in plastic. Everything is mass-produced and everything is mass-consumed. And everybody goes through a form of mass transportation that massifies them. In the subways and the trolley cars, we used to talk to each other. On those forms of transportation there was a vibrant rich life. Now we have urbanization. It's flat, it's grey, huge shopping malls, immense roads, people holed up in cars. People talking to each other and no longer writing. Actually, not even talking to each other but communicating through electronic devices of one sort or another. This absolutely horrifies me, that we have now lost our sense of what constitutes a city. I really think that is one of the things that has to be recovered. As Gary pointed out, I'm not afraid of going back and picking up to go forward again. I don't want to start from where we are. That's futurism. I'm a utopian and there is a difference between the two. I want to go back and start all over again to go forward and at that particular point I would redeem the city. Remember just one thing, the greatest works that came out of Florence in the Renaissance, came out of a city of 40,000 people.

Gary Snyder: I'd like to carry on just a little bit more with the direction that Murray is going. What is it that we like about cities? What is it that we want from cities?

Audience: Culture. A whole lot of culture at once.

Gary Snyder: A whole lot?

Audience: Variety.

Gary Snyder: Culture with a capital "C". How many times have you been to the opera in San Francisco? (NO RESPONSE) Well, we're going to start out with language and the way people use it. How many times have you been to the ballet? (NO RESPONSE) O.K., you don't need a city that has opera or ballet. Next, you want to have a place where you can hear someone play guitar in a coffee shop maybe. Is that it?

Audience: How about opera in a coffee shop?

Audience: Libraries.

Audience: Other people.

Gary Snyder: Now the number of people in this room isn't much. You can round up this many almost anywhere. In the middle of Utah you could round them up. What we want out of cities is some culture, some diversity, and some conviviality. You can't find it in most American cities. As it happens already, what you're looking for when you come to town or live in town is a network of probably not more than five hundred or six hundred really sympathetic people. Murray gave the figure of 40,000 for Florence as the total back-up and support system and beyond that a watershed of farms. You will have cities by the river crossings, by the mouths of the rivers, where agricultural fields and forests come together, and you'll always have a few cities that are there because it's a site of religious pilgrimage. But what we look for in the city does not require one-tenth of what is invested into what we call cities now. That should be clear. Secondly, there is no reason why a city can't be within three days walking distance from wherever you are. In fact, we can describe the city as no more than a function. It does not require permanent buildings or permanent locationing. What it requires is a gathering of people and a sharing of skills. It requires a deference to culture, a number of people who can play musical instruments, a number of dancers, and a number of storytellers. That's culture.

Audience: What about money?

Gary Snyder: That's not culture. They had big cities before there were monetary systems. Nomadic herding society, for example, generally moves in bands of twelve people or less. Once or twice every year these bands have a gathering by the banks of the river where they put up the tents and have two weeks of market, music, storytelling, exchange, and gene-pool scrambling. That makes a city for them. That's really what it's about.

Audience: What about restaurants?

Gary Snyder: I'll describe all these other possibilities; we know they're there. If you want restaurants, you go to someplace in Asia or Europe where there are hundreds of little restaurants and a street life. You can walk around to eat fifteen different things in one

block. That's a city. In bioregional, ideal, Northern California utopia, there will be by the shores of San Francisco Bay, some little Japanese-style bars. Each one will hold about eight people and there will be about a hundred. Each one will serve some different seafood delicacy out of the Bay.

I'd also like to make a little clarification about the stultification and the deadliness of turn-of-the-century, American, small town, farm life. It is commonly the experiences we hear from our parents and grandparents about the farm: "I slaved all day over that hot stove" or "over the laundry in that wash tub and I wouldn't go back to *that*." It's not a satisfactory sample to reject small-town, rural life on. You must realize that rural life at the turn-of-the-century was already a hard, alienated life that was suffering under Bible-belt Christianity and a very difficult economic system with interest rates and bank loans dominated by Wall Street. There was no tradition of agricultural culture to make life delightful. There were no get-togethers of adolescents with lots of music and a little sex and a little fun that made it delightful to stay home on the farm. So people went to the cities.

If you want to look at alternative models you can pull out fifty or sixty. I'll just mention one. Indonesia. Indonesian village culture. Three rice crops a year and lots of people. Everyday after work the people congregate down to the little pavilion in the center of the village and they practice music and dance until eleven or twelve at night. The people who are good at certain instruments work with those and little girls start learning their dance steps. They do this seven nights a week. They are rehearsing for the ballet or opera. Once or twice a year the whole village puts on an elaborate dramatic musical production. For themselves. No spectators. Now that is what you call Culture. The stultification of turn of-the-century American life was part of 18th and 19th century colonial, capitalist, imperialistic value systems. You have to go out further and back farther to see what the delights of rural small town life might be. We have to remind ourselves that

THRIVING CITY—continued from page 3

communities. We begin to miniaturize the economy. It means achieving what Fritz Schumacher, one of the great economists of our time, dreamt of: local production for local markets from local resources.

Is that theory or is that practice? Well, it turns out that in the scrap metal industry, the scale of production is much smaller than in the raw materials industry. The best example I know of is the steel industry, where the newest technology is called the mini-mill. They used to be called neighborhood mills, but the industry decided that that would raise the image of Mao Ze-dong's backyard furnaces, and they didn't feel this was good advertising.

Mini-mills use 100 percent scrap, and are very small—200,000 tons a year average production. A raw ore-based, vertically integrated steel mill produces between two and three million tons a year. The healthiest, fastest-growing part of the steel industry is based on scrap that comes from regional markets and products often sold regionally.

Another example is the chemurgy movement, created fifty years ago by scientists from around the world concerned with using the then-large agricultural surpluses as industrial products. In 1932, the Italian ambassador to Great Britain arrived at the Court of St. James dressed in a suit made of milk. That is, Italian scientists had discovered how to weave the casein in milk into clothes.

In 1941, Henry Ford, a devotee of the chemurgy movement, unveiled his biological car. The car body was made of soybeans, the fuel came from corn, and the wheels were made of goldenrod. The soybean plastic body weighed half as much as a steel-bodied car, so the car was more fuel-efficient. If you dented it modestly, the dents could be knocked back out. The car was warmer in the winter and cooler in the summer, and it was quieter—if you knock on steel and then knock on a soybean, you understand the sort of deadening characteristics on the inside of that car.

The dreams of Henry Ford and the rest of the chemurgy movement were postponed, but they seem to be resurfacing again. Russell Buchanan, a scientist in Maryland, envisions the rise of botanic-chemical complexes, as he calls them, rather than petrochemical complexes, as we learn to extract from cellulose the same things that we can extract from petrochemicals. One is a hydrocarbon; the other is a carbohy-

in viable living communities, where people are practitioners and not spectators, you're never very far from a musician, a dancer, or a storyteller. Much of what we seek in the city as culture we don't have at home or in ourselves, which is where we should have it.

Murray Bookchin: I'm one of those characters that lives on the dark side of the moon and the voice that you're going to hear is the haunting voice of the dark side of the moon. I have a close association with Puerto Ricans in New York. And you can't hit the bottom of the social and economic ladders lower than that, other than the blacks in Harlem and other parts of Bed-Stuy. These are the people who are not ever going to go near a place like Scarsdale, who won't even be admitted into Scarsdale. Not many of them are even aspiring for a piece of the pie, which is a mythology about them. They're aspiring for the dignity that comes with that, and most important, they're aspiring for power over their lives. That's what they feel more than anything else. They feel the agonies of powerlessness.

And it's been possible working amongst these groups to encourage not only a belief in something more than a piece of the pie, but in an ecological awareness of the most beautiful sort on the Lower East Side. They are building solar collectors and windmills on top of New York City tenements, growing gardens, developing and living in communities, and developing a deep sense of commitment to their own culture. They call themselves *New Yoricans*. Because they're not accepted by Puerto Rico, since they're living in New York, and they're not accepted by New Yorkers, since they're regarded as Puerto Ricans. Their community has come about from not only an acute ecological consciousness, and a social consciousness, and a moral consciousness, but also an intense political consciousness. If we don't learn from them, and they have a lot to teach us in this respect, we will not be the force in this society we should be for deep-seated change.



drate. Compare these words and they're basically the same. One of the differences, however, between a botano-chemical complex and a petrochemical complex is that it's easy to transport oil over long distances, whereas it's not easy to transport plant matter over long distances. So botano-chemical complexes will tend to be locally based and rurally based near their sources of raw materials and supplies.

Local self-reliance can become an economic development strategy, and cities are the best place to try it out, for several reasons. Most of us live in cities. Cities tend to be large enough to have an internal market, and can in fact become laboratories. Cities are concentrations of science and technology. They have the ingenuity, the expertise and the machine tool shops to build prototypes and try them out. But what is your nearest city's research and development budget? It's probably zero.

The local self-reliance scenario is not inevitable nor is it even probable. It depends on political decisions. Economic development must be seen as a means to an end and not an end in itself. Albert Einstein once said that perfection of means and confusion of ends characterize our age. We're so mesmerized with technology and development that we forget to ask, "Technology for what?" and "Development for whom?" We have become consumers of change, but we don't know the difference between change and progress. To Bertrand Russell progress is ethical and change is scientific; change is inevitable, while progress is problematic. In other words, progress is value-laden and as we change, we need to ask ourselves, "Will we progress?" We can have a green city within a brown world by moving all of our production and disposal systems very far away from our city. But to truly embrace the ecological motivation behind a green city, we must become responsible for the wastes that are generated for our convenience. And the only way to do that is to begin to return that loop of production, use and disposal, back to the community.

Marcel Proust once said that the voyage of discovery consists not in seeking new lands but in seeing with new eyes. It is in seeing our communities and our cities with new eyes, in pursuing a globe of villages and not a global village, that we begin to create a new paradigm.



The Flow of Power

by Donald Worster

RTS 7,
Spring 1983



Throughout history people have been following one river or another, settling here and there along its banks, telling stories about it, revering and fearing its power, and in some places trying to bring it

under their rule, making it serve their ambitions. What they did not realize was that the river was themselves. Their lives, their freedom, their instincts were flowing there too. What they did to that river they did to themselves. Whenever they conquered it and turned it completely from its course, managing it with elaborate means, they subjugated themselves. Their power over the river turned out in truth to be a power of some people over other people.

One of the latest such efforts has been made in the American West. From the wilderness time in 1804 and 1805 when Lewis and Clark followed the Missouri, the Snake, and the Columbia to the ocean, up to the present, the West has been a Garden-of-Eden dream in many people's eyes. Could we but divert those rivers and turn them to our advantage, men have said again and again, this dry wasteland would flourish and would make us rich. Some of the dreamers have been farmers and agribusinessmen who have demanded irrigation public works and flood protection. Others have been promoters in Phoenix, Los Angeles, or Denver who have pushed through diversion tunnels, aqueducts, and dams to water their cities. Now that almost every western river has been controlled from head to mouth in some fashion, it is time to ask what kind of Eden we got. And ask not only in the West, but wherever rivers and other forms of natural water have been intensely managed.

Paradise in the United States has usually meant, among other things, a place where democracy can thrive, where everyone can have an adequate share of resources, where the common people can make the important decisions. Somehow in its practical working out, the democratic ideal has also come to involve the technical manipulation of nature. And that has been one of our most persistent, serious errors of judgment. Democracy does not come from dominating nature, as we have thought; it never has, never will. On the contrary, the more we have dominated, the less democracy we usually have seen. There was more real democracy in the West before Hoover Dam or the All-American Canal. Ironically those water-management projects were promoted as part of a larger design to makeover the West to provide an independent existence for ordinary folks. But if democracy means an individual possessing a large measure of autonomy and exercising genuine control over the decisions that affect one's life, as I think it does, then it has been made harder, not easier, to

achieve, by conquering the Colorado River and other streams.

The reason for this outcome is clear: water control requires capital, and Big Water Control requires Big Capital. The grander the dreams, the less capable most people are of participating in them. They get shut out, or have to take whatever dribbles to them at the end someone else's pipe. Big Capital ends up doing the controlling and enjoying the benefits. The river is made to flow into the pockets of the few.

Early on in the history of the West, about a hundred years ago, a few perspicacious observers understood at least some of this threat to democratic values. One of the most prominent of them was John Wesley Powell, a highly placed government official. Powell had made history by being the first white man to float down the mysterious, awesome Colorado, a feat he carried out seated in a chair lashed to a boat deck, his one good arm clutching tightly, the other arm left behind in a Civil War hospital. He fell in love with the canyon lands, the river, and the West. Later he described this region thus:

*Its mountains gleam in
crystal rime, its forests are
stately, and its valleys are
beautiful; its cañons are
made glad with the music of
falling waters, its skies are
clear, its air is salubrious....*

He wanted to make that beauty accessible to millions of Americans, to see them create homes there and own it. But he understood how easily that hope might fail.

Like almost all of his fellow citizens, Powell, having once seen a river, could not leave it alone. He itched to stop it from wasting its current in the sea. No individual, acting alone, had the means to do that. The "redemption" of those beautiful lands (when had they sinned and against whom?) will involve, he wrote in 1878, "extensive and comprehensive plans, for the execution of which aggregated capital or cooperative labor will be necessary. Here, individual farmers, being poor men, cannot undertake the task." To irrigate a hundred million acres would require, say, a billion dollars. The return on such an investment would be enormous, but first there had to be the investment. And "if you ain't got the do-re-mi, boys, better go back to beautiful Texas, Oklahoma, Kansas, Georgia, Tennessee."

Already at the time Powell wrote, corporations were moving in on western rivers, intent on grabbing the water for their own use. Farmers living down river, where there was abundant flat land to irrigate, found their water sucked off upstream in an expensive game of leapfrog. Powell had, he thought, a fairer approach. He would have the government survey entire watersheds and identify a series of irrigation districts within them. Some would be up in the headwater area, others down on the river's trunk. Each would be a natural district, following as much as possible the drainage patterns rather than arbitrary survey lines. Then Powell would turn those districts over, not to corporations, but to groups of small farmers organized into colonies of settlers. The western rivers would be developed communally and democratically by cooperative labor rather than by aggregated capital.

The irrigation district was to be at once an ecological unit and a self-governing community. It would include public mountain forests, which the farmers would locally own and protect for the sake of their water. It would also have pasture lands where cattle could be raised, supplementing the

watered row crops and forming a diversified agriculture. Each farmer in the district would own no more than 80 acres of irrigable land. The community would draw up its own rules and regulations, raise money to develop the valley, and divide the water. Neither corporations nor government would be needed by the district; it would govern its affairs as an autonomous unit. Here then was a blueprint for a small-scale, decentralized plan of settlement that would be shaped by the western rivers' own dynamics.

It was never adopted. Powerful forces in Congress listened to Big Capital and blocked the Powell proposal. In fact the man had the entire matter taken from his hands and assigned to another official—someone safer who could be manipulated by corporate interests. Then when those interest had grabbed all they wanted, or at least had built all the works they could afford, the federal government, through the agency of the Bureau of Reclamation, stepped in, provided the next round of capital, and began to pour concrete. That has been the story throughout the 20th Century: federal funds, federal engineering, centralized decision-making, more and more grandiose projects, and entrenched private interest who continue to get most of the benefits. The more we dominate nature, the farther we move away from small-farmer democracy.

Though better than any other ideas of the time, Powell's proposed watershed districts had a few flaws. The worst flaw was that he expected his irrigated communities to be wholeheartedly in the marketplace, buying and selling their produce. The predictable outcome of that involvement would have been precisely what we have now. Sooner or later the districts would have expanded their acquisitive drives beyond their technological means and would have called in bigger money to build bigger works, maybe to divert water from the next valley over, and then the next and the next. Start with the idea of manipulating rivers to make money, and there is no end until complete domination, complete utilization of every drop, complete tyranny is achieved. Powell was a man caught between two irreconcilables: his populist sympathies for the people and his technologist dream of possessing those beautiful landscapes. What he needed was an understanding of how the fate of the people and the fate of nature are linked.

We are in a better position today to think bolder, more radical thoughts. More people now realize the dark consequences of all dreams to subdue and master the earth—the dream humans took with them out of Eden. More are able to see their own reflection in the river than a century ago; they understand that we cannot create vast structures of power without ourselves being caught in them. We are more ready, consequently, for a fresh approach to society and politics, one based on a just distribution of welfare, on a more decentralized authority, and on benign technology that settles harmoniously into nature.

The obstacles to a new relationship with water remain formidable, of course. We will have on our hands for a good while yet the old structures of power. Hoover Dam and its companions have many years left before they decay and fall down, liberating the river and opening new possibilities of social organization. That will happen someday—make no mistake about it. None of the monumental river works built in ancient times—on the Euphrates, the Nile, and the like—lasted forever. Nature has a way of eventually reasserting itself even in the face of such seemingly solid barriers. The Taoists of China understood that way: they knew there is nothing more powerful or more irresistible in the long run than running water. If it carved the Grand Canyon, it can wear down a few BuRec dams. But the long run can seem very, very long if you want another America tomorrow. We are going to have to wait some. While waiting, we can get our ideas together and voice them persistently. We can help the river do its work by offering our sympathy and encouragement to it. And we can be patient.



PHOTO COURTESY OF SIERRA CLUB



Water Is Life

An Open Letter to the People

by John Trudell

RTS 7, Spring 1983

John Trudell is an exponent of and notable diplomat-poet for Native American rights and cultural identity. In response to his initiatory move to widen the basis for sharing objectives among Native Americans, bioregionalists, and others, we have devoted this issue of Raise the Stakes to "What's Happening to the Water Web." Trudell's appeal to involve ourselves with the reality of water for survival follows, as the foundation piece of this issue, and, hopefully, the bonding of a new alliance of spirit.

—Peter Berg

The Mother Earth gives us all life. Governments and economic systems manipulate and distribute the resources of life, but Mother Earth provides all these things in the beginning. In order to protect the wellbeing of the children seven generations from now, we must examine our relationship to Mother Earth.

The water is Mother Earth's milk of life for all of the natural world. Life came from the water. Life is not possible without water. We must be aware of how important water is.

The current political-economic conditions are affecting our vision of the real world. The corporate greed and political manipulations of today are creating chaos economically and racially. The end result of this chaos is usually corporate expansion and harder economic conditions for the people. This sometimes makes the people forget the sacred things in life.

In this generation nuclear corporate expansion is dependent on corporate-federal control and domination of the water. The nuclear industry cannot exist without tremendous amounts of water. The chemical industry uses water for dumping grounds. This poisonous attack against the water is murder. We must not murder the water. We must not forget water is sacred. We need water more than profit. We are all affected: men, women, children, elders—all of the natural creation.

We must carefully consider our use of the water. We must seriously consider the impact of unchecked nuclear growth and the increasing shortage of usable consumptive water for the people. Less than 3 percent of the earth water supply is fresh water. For most of our history this 3 per-

cent supply of fresh water has been a renewable resource. This is no longer true. Man and business have created new forms of pollutants that affect the water and environment in ways never before experienced by human society. Nuclear and chemical poisons contaminate the entire water supply cycles. Acid rain, radioactivity, and toxic chemical wastes spread their poisons to all water and food chains.

The people are now competing with the technology for use of the water. The water is necessary for our survival and we cannot afford to allow the nuclear chemical industries to pollute it at will. After these industries use the water, we cannot. The technology will not share the water with us. The new pollutants make it unsafe for our use in the *real* long term. We must truly consider the lives of our children and their children's children, for they too need water for life. We are avoiding our responsibilities if we do not consider the long term affects of this radioactive chemical attack on our water. What is needed is rational, sensible considerations for the water and life itself. We understand we are using up nonrenewable resources but we must understand that water is the main resource we are using up. We have turned water from a renewable to a nonrenewable resource in this century. The rate of this abuse must be stopped. It is suicidal for our society to act in this manner.

We are concerned about life. Life is the beauty of this world. We want life, we are for life. Of all the abuses of the environment currently taking place, we feel that by protecting this most sacred and most necessary element of life we can begin to put some stop to the accelerating rate of destruction of earth resources.

Before this can happen, we must remember the water; we must raise the consciousness about water for life. The misuse of our environment is directly connected to our abuse of the water. From all phases of nuclear spread to chemical creations water is a main ingredient. In the food and thirst cycles of our lives water is the main ingredient. We must realize the new technological methods will not share this water with us.

We have many varying political social perspectives which at times keep us divided, perpetuating this cycle of destruction. It is our feeling all of our needs can be met if we will remember the water and will protect the water for life. We seek your aid in helping to raise this awareness. Water for life is not a political thought, nor is it an organization. Water for life is survival.



BANA Update

The BANA board had a very rewarding meeting in mid-January. We board members who were able to attend are returning home with a renewed connection to each other and to fulfilling our mission of serving as a hub to a vibrant, diverse, autonomous movement.

Much time was spent on facilitating communication and decision making between board meetings. Since board members come from places far and wide on the continent, and we all have busy lives with our commitments to our home bioregions, this has been difficult. It is clear, however, that this is where the strength of a Bioregional Coalition lies. So there is shared excitement in figuring this key piece out. We continue to adjust our working model.

The role BANA is to play in networking a coalition of diverse autonomous bioregional groups was an alive topic. The two-part mission is complex: 1. To serve members with access to tools and information for projects in their home bioregions, such as access to non-hybrid native seed sources; 2. To make Bioregionalism a powerful, unified voice countering the tide of globalization that threatens all bioregions and life itself.

The board is deeply committed to thoughtfully fulfilling this mission. Now that many of the structures of the board are underway, as works in progress, we look forward to taking action to fulfill this vital mission.

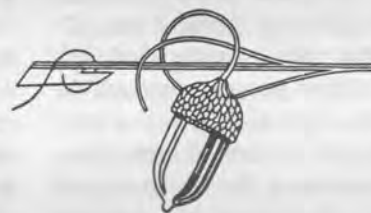
The long awaited BANA web site is scheduled to go on line in February! You will be able to locate it at www.bioregional.org. The original site will be basic, but we look forward to expanding the site to fulfill all sorts of services to the Bioregional movement. Give it a look and let us know if you have any input or ideas. We'd love to hear from you. Mail: BANA, P.O. Box 31251, San Francisco, CA 94131, telephone: (415) 285-6556, fax: (415) 285-6563, e-mail: bana@igc.org.

We are ready to distribute two book packages, one on facilitation and one on bioregional mapping. Check out the Flyer with this mailing! This initial offering is to explore membership interest in this service. We are open to expanding this aspect of making Bioregional information and tools available to you.

Plans for a general membership meeting are underway. The meeting will be a fun and rewarding time for bioregionalists to gather and network. It will be a time to give input to the board and to hold BANA board elections. Reports from bioregional groups will be incorporated along with music, fun, and a day of local restoration. Look for a weekend date in early summer in the Piedmont of North Carolina. Call us if you have ideas or would like to help. We'll see you there!

Agenda items for the next board meeting include a discussion on how BANA can support bioregional oriented projects and groups with an endorsement. We also will address ideas on how to make resources available to members, i.e. making materials available in both Spanish and English.

For Wild Diversity,
—Acasia



Memoriam

Holbrook Teter was a friend of Planet Drum Foundation. He expressed his friendship by offering to print one piece of each Bundle on his letterpress and also to typeset other pieces on his linotype (hot type) press (e.g., *Living Here*).

Holbrook had extraordinary social and political acumen, lovely design sense and an amazing and totally iconoclastic sense of humor (e.g., Gary Snyder® Brand Pine Nuts). He suggested using Michael Myers' graphics in the publicity and program of the *Listening to the Earth Conference*, and on a cover of *Raise the Stakes*. (The only cover reputed to have caused Ozarks neighbors to shoot up someone's mailbox.) With him around, the Establishment was never safe.

Multi-talented, deeply and practically compassionate, Holbrook provided light and sustenance to many. His life was a casualty of the system he was improving. Thanks, Holbrook, for sharing time with us.



TURTLE SHEETS

Hand-pulled prints of
a zinc blocked impression of the top of our turtle shell
emerge from the letter press,
each uniquely inked from golden brown to military green.
Between it and a photo reproduction of the underside of the shell,
lies Peter Blue Cloud's poem raging for Turtle Island.
Two sheets stitched together with handspun Peruvian alpaca yarn.

—Judy Goldhaft

CATHERINE ROSE CROWTHER



by Marc Bonfils

RTS 16, Spring/Summer 1990

The following is excerpted from an article on the agro-history of Neolithic Lacustrine civilizations found northwest of the Alps in Switzerland, Southern Germany and Eastern France from 3500 to 4000 B.C. This entire article can be obtained by writing: Permaculture Pyrénées, Bourlière 11300 LIMOUX, FRANCE.

Toward 6000 B.C., peasant communities originating in the valley of the Danube and its tributaries had settled the area from Hungary to the Oder and the Ukraine to the Hesbaye. These communities were grouped in large villages with substantial houses and wooden barns. They cleared the densely covered valleys by systematically searching for loessic soils which are more favorable to pastures and cereals. Over time they advanced westward in search of new fields and pastures.

Archaeologists call the first phase of the Danubian Civilization "The Ribbon Civilization" because the pottery of this era is frequently decorated with spiral incisions. By the time these ribbon people appeared on the eastern edges of France, they already had a long history and a highly advanced system of agriculture. These first French farmers crossed the Rhine around 4500 B.C. then colonized the Paris basin and the Loire country toward 4000 B.C.

Soil type often initiates the type of vegetation. There are soils favorable to trees and those favorable to grasses. The fine loessic soils deposited on the plateau are fairly hostile to penetration by tree roots, and therefore formed natural clearings favoring prairie grasses and cereal cultivation. It has often been observed, notably in Southern Germany, that Neolithic settlements correspond with the loessic soils forming natural clearings. Those of the great Russian forest were called *polies*; and Moscow itself developed in the center of one such *polie* at the heart of the Muscovite state.

The cultivated plants and domestic animals of Neolithic farmers came from the steppes and needed open spaces. As for villages, they must have fluctuated between 100 and 300 inhabitants. The houses were 10 to 40 meters long by 6 to 8 meters wide, with a wooden frame and roof covered with *pisé*, a mixture of clay and straw. The *pisé* was made with soil from the site and hay straw trod by feet in nearby ditches. Once dry, these walls are very resistant. The ditch from which the soil had been taken to coat the walls was often found close to the huts. The brush covering of the roof was stitched in sheaves several layers thick.

The axe, with its long ash handle and polished stone blade, was the basic tool of the Neolithic cultivator. The handle was resistant to bending and shocks, and the polished stone blade was attached by a sheath of stag horn. This axe served essentially as a felling tool to open the forest before burning it. It was used first and foremost to open up areas of thick beech foliage—these trees were then used for house construction. Oaks, with their lighter foliage, were felled less extensively; thinning enabled them to develop fully and their soft shade did no harm to crops. Acorns from the oaks were eaten by pigs and people in the form of a gruel.

Neolithic Land Management

A study of the trees chosen to supply house poles indicates that those with a diameter of more than 35 cm were usually left standing and were ringbarked. This is done by making a deep gash around the base of the trunk to interrupt the circulation of sap so that it dries as it stands. This method was still widely used in 19th Century Central Europe in the Vosges, the Jura and Scandinavia where slash and burn agriculture was widespread. Felling took place in winter, a period when the circulation of sap slows down and there is no agricultural activity. Wood-eating insects and micro-organisms develop much more slowly in wood cut when the sap is not moving. This extends the useful life of the wood and makes the framework more resistant to shrinkage and fire.

Even with stone tools, the work of slash and burn is not hard. With a polished stone axe it takes one to five minutes to fell a pine tree with a diameter of 17 cm and one hour to fell an oak tree of 23 cm. Only trees with a diameter of less than 30 cm were felled, the rest were either spared or well ringbarked as in the case of associated species such as beech. Researchers found that a one hectare forest could be felled and cleared in 560 hours with stone tools. Neolithic farmers certainly worked much faster. Taking into account that the biggest trees were not felled and that stumps were not removed, preparing a field was not a long and exacting job, the trees were cut one meter above the ground—well above the stumps.

Due to the absence of herbaceous carpet under the dense forest cover, slash and burn did not necessitate any working of the soil. The settlers merely cleared. That is they felled trees, left the wood to dry, burned it and spread the ashes just before a rainfall which then diluted the ashes; the sowing of cereals was carried out right afterwards in weed-free soil. It is therefore much easier to clear a forest than to clean and plough weed-infested land. This type of slash and burn culture demanded only very simple hand tools; the swing plough and the double plough which enable the turning of heavy soils and pastures were completely unknown in these regions.

Two types of hoe were used: 1) the furrowing stick, a kind of small hand-swing plough used to trace straight, shallow and widely-spaced furrows which promoted germination, and 2) a mattock with a cutting edge made from stag horn or stone which destroyed self-seeding weeds in spring. Grain was cut with a sickle at harvest time just under the head to avoid spillage. These lightly curved sickles had wooden handles and fixed fragments of flint, sawtooth fashion, by means of birch bark.

Finally, pestles, millstones, and cutting wheels were widely used to grind flour. The hand grinder weighed up to 100 kilograms and consisted of a fixed, circular or oval stone and a turning stone or granite roller; cereal grains were ground by a back and forth motion of the arms and body. The turning stone had small bumps in its underside which prevented the grain from slipping. Various cereal cakes were then cooked on flat stones or slabs of schist or *mollasse* placed on embers. Gruels of cereals and acorns were made by introducing hot quartz pebbles into clay pots filled with water.

Organization of Settlements

Land was organized in concentric fields, progressively less intensively cultivated further away from the village. A similar type of collective organization is found among African peoples. Such a system is composed of the village and its arable clearing, the edge of the forest, and the forest itself. This is of course a system of collective soil appropriation by the entire village.



The Village and its Arable Clearing.

The village was at the center of the cleared land and consisted of houses—each with permanently enclosed gardens and encircled by a closed belt of thorny hedges and pens in which animals were kept overnight. Houses were scattered in a central copse of useful trees (domestic plum, apple, dogwood, pear, oak, and cherry). The copse was also a sacred wood where ancestral founders of the village were buried. Various types of vegetables and fodder were also cultivated under the cover of orchard trees: strawberries, raspberries, vetch, goosefoot, burdock, large nettle, wild cabbage, bear garlic, shepherd's purse, peas,

marigolds, poppy and other herb sources for pharmacological oils and condiments. The zone next to the dwellings was fairly well enriched by domestic wastes.



The Immediate Periphery of the Village: the Infield.

This area was individually cultivated with summer crops; especially millet of the *panicum miliaceum* variety which is very rich in proteins. Then came textile crops; flax in particular for its fibers and oil-producing seeds which exhausted the soil and could therefore only be returned to the same plot once every seven years. These annuals grew in the cover of a fairly dense stand of oak. Common millet has the interesting characteristic of growing and bearing fruit even under a relatively dense cover. As for oak, it is a very sociable species with light shade and deep roots and doesn't compete with the crops it overhangs. It also furnishes acorns—a useful food complement rich in vitamins that are a perfect supplement to a cereal-based diet. Moreover, oak provides an organic waste supply through the decomposition of its leaves and roots into humus. In fact, the deep root system of the oak promotes recycling of leached mineral elements which would otherwise be lost by cultivation. Other minerals dissolved from bedrock are brought to the surface by oak roots and can then be used by millet grown in association with it. Oak roots also permit efficient drainage of water which would otherwise stagnate in the subsoil: the result is a faster warming up of the soil in spring—a further advantage when sowing millet.

The infield was cultivated continuously, fertilized intensively with oak waste and rotated. The transfer of fertility within the space was carried out with manure accumulated in stock pens and gathered plant residues from the outfield.



The Outfield.

This was a zone of semi-forest, collectively used and composed of coppice, moor or *garrigues*, depending on the stage of regrowth in the long fallow period. It was an area of temporary slash and burn cultivation; after clearing by felling and burning of coppices, stumps were left in place in order to promote rapid regrowth. A field thus prepared was cultivated for two years (three maximum) before returning to the coppice state; that's the forest fallow period. Winter cereals were cultivated by hoe in the outfield, wheat the first year, then barley the second. Two years of cultivation would be followed by a 25 year fallow period—the annual clearing involving less than 1/25 of the total open field space. This outer ring was primarily pasture for cattle, horse, pigs, and sheep. Animal wastes from grazing in the outfield were used to fertilize the infield.

The outfield was a gathering area when lying fallow. Such an area is quickly invaded by hardy perennials, rye grass, couch grass, brome grass, *moene*, etc. (which are grazed by animals) then by shrubs and creepers such as bramble, dog rose (a wild rose), sloe (blackthorn), dogwood. Then bushes, young trees and other full light species such as birch appear and are followed by hazelnut and oak which produce useful fruits. These thickets (recolonizing forest) are mostly shrubs with fleshy edible berries.

In the Neolithic agricultural economy of woodland and pasture, the gathering of wild plants and berries had a considerable secondary function. Neolithic farmers never ceased to gather. On the contrary, the rotation of reforestation, crops and deforestation greatly increased the number of wild edible species; it created humanized and more varied pastures with meadows, fallow fields, woodlands, and coppices.

The Legacy

The main characteristic and charm of early agriculture is the happy mix of cleared glade land and the perfect integration of trees in the agro-silva-pastoral system. The extent of the clearing allows us to perceive the peaceful greatness and the antiquity of this rural civilization in which a system of equality favored great social stability both in time and space. The scope of this culture's material realization proves its effectiveness over an incredible amount of time.

Translated by Marc Bonfils, Françoise Boucher and Judy Goldblatt.



Linking Plant Homelands and Human Homelands

Horticultural Practices of California Indian Tribes

by Kat Anderson

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Knowing a plant in all its dimensions means knowing it not only in our home, but in its home as well. Historically, plants were truly integrated into indigenous people's lives in California.

They knew plants in the *cultural* context, where plants were brought to the village site, and people participated in soaking, drying, trimming, cooking, dying and transforming those plants into useful medicines, baskets, foods, building materials, games and clothing. They understood the creative transformation of the plant into useful items.

Equally important, California Indians knew plants in the *biological* context, visiting plants where they grew naturally—in the overflow channels of streams and the nooks and crannies of steep rock walls, or at the edge of dry montane meadows. Plants were met on their own biological and ecological terms. Indigenous people formed and answered a myriad of inquiries through keen observation: When does this plant ripen? What kind of habitat keeps this plant healthy? What animals compete with humans for this plant? What insects pollinate it? How is it adapted to fire?

By harvesting continually from the same gathering sites over time, California Indians began to understand plants' needs in a deeper way. Memory of the plant and its ecological requirements were enriched with each successive visit, and by each new human generation using ancient knowledge. They developed harvest limits and techniques that ensured a plant's continued abundance in the future.

Today, a few people from different California Indian tribes still gather and tend wild places, adhering to ancient rules and techniques that allow for resource use while keeping the resource base intact.

Continual harvest, transformation and use of plants fostered an intimate relationship between California Indians and nature, unattained by the modern-day botanist, ecologist (who knows the plant only in the natural world), silviculturist (who only knows how to grow the plant), craftsman (who only knows how to shape the plant for human use), or the average homeowner (who uses plant products).

The Complexities of Harvesting and Tending the Wilds

Unlike the modern absentee timber or agricultural landowner, California Indians were rooted in places. Tribal territories were limited, with impressive population densities. They often did not have the luxury of abandoning degraded gathering sites and moving on to new areas. Frequent and constant use of areas over hundreds, if not thousands, of years enabled people to observe changes in the plant community and rectify unwanted alterations in the land. By harvesting directly, without a middleman, California Indians could sense when gathering methods were detrimental or depleted plant and animal resources.

California Indians ensured sustained yields from many different plant species through sophisticated harvesting strategies, and a variety of horticultural techniques such as burning, pruning, sowing of seed, selective harvesting, coppicing, and tillage. Hupa and Tolowa gatherers in Northwestern California still practice tillage, as they collect wild edible bulbs, corms and tubers. Western Mono and Foothill Yokuts weavers in the Sierra foothills still carefully prune native shrubs to encourage growth of long, straight sprouts for basketry.

Properties of resource plants might be altered or destroyed by animal competition. For instance, animal grazing of young shoots for basketry causes unwanted lateral branching, while egg-laying in acorns by filbert weevils and filbert worms renders the nut inedible. Therefore, California Indians cultivated an elaborate understanding of plant and animal interactions. They timed collection to successfully compete with other animals, and used horticultural techniques to reduce insect competition.

The harvesting and manipulation regime was crucial to continued plant use and survival, and was consciously adjusted to maintain, increase, or decrease a plant population. There are at least seven components: **harvesting tools, pattern of harvest, scale of harvest, intensity of harvest, season of harvest, frequency of harvest** and **horticultural techniques**. Unfortunately, while there is a great deal of anecdotal information on Indian horticulture, there has been very little academic investigation in the field.

Harvesting tools: The tools used in California, such as the deer antler, digging stick, knocking stick, seed-beater and obsidian knife appear primitive and unlikely to affect vast areas. However, investigations show that their power to transform landscapes has been underestimated. For instance, underground swollen stems (bulbs, corms, and tubers) were harvested extensively by California tribes for food and medicine. Indians today assert that, along with natural disturbances (such as landslides and rodent activity), digging bulbs enhanced productivity at gathering sites. Digging may have "thinned" the number of bulbs, severed the bulblets and cormlets to activate their growth, aerated the soil, lowered weed competition, and prepared the seedbed to increase seed germination rates. Use of the digging stick may have increased the distribution, quality and quantity of bulbs, corms and tubers on traditional gathering sites in many areas.

Tools appropriate to the task were used by native people. These "means" were purposefully designed not to destroy the "ends." For example, *seedbeating* was a common technique used all over California to harvest seeds from grasses and herbs. Rather than uprooting whole plants or breaking off the seed-heads, seedbeating kept perennial plants in place, while ensuring that a certain proportion of seeds fell to the ground, perpetuating the plant in the area. It allowed for repeated harvests, maximizing the number of ripe seeds gathered, and minimizing the vegetative part detached with the seed.

Pattern of harvest: In most parts of California, tribal groups gathered vegetation in special areas, keeping with patterns and principles passed down from generation to generation. These areas, shaped by long-term use, were designated for basketry materials, bulb gathering, seed collecting, cordage harvesting, or greens picking. They contained the best plants for the intended purposes, and were continually, carefully and intensely managed and harvested.

Scale of harvest: According to Indian elders, collection sites were frequently small-scale, and plant populations existing there naturally were gathered and managed in "patches," maintaining the general character of the natural habitat. Thus, these areas appeared "untouched" to outside observers.

Intensity of harvest: Gathering strategies employed by California Indians allowed for a sustained-yield production of wild plants. Frequently, individual plants and parts were left behind to ensure future populations. Examples include leaving part of the stipe behind (to not disturb the mycelia) in the harvest of fungi; leaving parent plants and/or bulblets, cormlets, and the tuber fragments of wild onions, brodiaeas, wild carrots, and lilies behind in the loosened earth to grow the following year; gathering sea lettuce and leaving the holdfasts; and harvesting sedge and bracken fern rhizomes for basketry, leaving the perennial plants in place, and stimulating continuous rhizome production.

Season of harvest: The time of year that plants are harvested affects the longevity and productivity of plant species. For example, severe pruning of dogwood during the summer months can drastically decrease plant vigor. Instead, California Indians often would (and still do) prune in the fall or winter, *after* the leaves drop, "when the sap's down." Pruning young shoots or branches during this dormant period is probably the least detrimental to the shrub species (dogwood, buckbrush, redbud,

sourberry, mock orange, buttonbush) that were used for arrows, baskets and other cultural items.

Frequency of harvest: Different plant populations were harvested at different frequencies, allowing gathering sites to regenerate. For example, bracken fern and sedge rhizomes were gathered for basketry material, and then not harvested for a period of two to three years, until new rhizomes were of the proper length and quality.

Horticultural techniques: Many plant species reach a degenerate or senescent stage in their life cycle, unless subjected to periodic disturbance. Indians used a variety of horticultural techniques to stimulate asexual and sexual reproduction, such as burning, pruning, weeding, tillage, irrigating, sowing of seed, and selective harvesting. Burning was probably the most widely employed, efficient and significant management tool utilized in California. Pomo, Modoc, Achomawi, Cahuilla and Diegueño people burned large areas of herbaceous plants, after collecting their edible seed and scattering some to maintain productive areas. Older woody stems of gooseberries, chokecherries, manzanitas and other berries were fired by the Wukchumni Yokuts, Pomo and Achomawi tribes to encourage thick berry crops. Hazelnut and willow trees were fired to encourage the long sprouts so prized in Yurok, Karuk, Hupa and Wiyot basketmaking.

By understanding these seven elements, one can see that landscape compositions and patterns were not purely happenstance, nor incredibly rich solely due to the "natural" bounty of California, but rather were at least partly attributable to the sophisticated environmental management of Indian tribes. Landscapes in California are dependent on periodic human disturbance—they have coevolved with human interaction.

Transforming Wild Plants into Cultural Items

California Indians sought out plants' *potential properties*, experimenting and transforming them into useful items. When a plant becomes a vehicle of expression for human creativity, it invites intimacy. By being actively involved in shaping plants for human needs, native tribes had an immediate stake in the well-being of plants. The links between plants and survival were reinforced daily. California Indians cared about the source of their existence: the health and longevity of plant populations and communities. Western utilitarian views of nature often are concerned with what the land can produce, without regard for its long-term ecological health.

Knowing how to transform a plant into a useful item means knowing its useful characteristics. These might include: color and flexibility for basketry; or straightness, less pith and uniform cell structure for arrow making. Transforming plants into different items requires intimate knowledge of their anatomy, physiology and morphology. For example, modern Indian weavers from different tribes use the wine-red bark of redbud for basketry design work. They know that redbud must be gathered in the fall or wintertime, when bark adheres to sapwood. In springtime there is too much moisture, causing the bark to slip and rendering the material unusable for creating red designs in baskets. Old branch growth is unsuitable for designs, as the red pigments occur only in the epidermal tissue of the juvenile growth.

Wild Plant Use and Reinhabiting Nature

Flora were intricately interwoven into California Indian life. Sprouts were used to stir seedmeal in plant-fiber baskets. Plants adorned the hair and body in ceremony, were used as offerings made to the funeral pyre, cured ailments, poisoned enemies, were converted into storage granaries, family dwellings, ceremonial houses, and warmed hearths, and cooked food.

See *Homelands*, page 13

WENDY WELLS



by Marti Crouch

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"If I follow your argument to its logical conclusion, then as bioregionalists we wouldn't be able to eat bananas in the Midwest. Do you really mean that?"
Question asked by a student after a seminar on bioregionalism at a college in Iowa, 1992.

A pawpaw pie is baking in my oven, and its tropical odor fills my house. This year there is a bumper crop of these native fruits, sometimes called Indiana Bananas, free for the picking in the forests surrounding Bloomington. While peeling and mashing, I began thinking about the profound differences between eating a pawpaw pie and a banana pie. By eating one and not the other, I am literally a different person. I know different things. The knowledge I gain by eating local food may be vital for me to become native to this place. Conversely, eating food from far away may actually prevent assimilation into my local environment.

A comparison of pawpaws and bananas will serve to illustrate my point.

Who Are the Pawpaws?

The pawpaw tree belongs to the custard apple family, denizens of the New World Tropics. Of the more than one hundred species in the family, the pawpaw is the only one to have migrated this far north. The fruit has a heavy perfume and large drooping leaves that invoke the tropics. In fact, summers in the central hardwood region of the United States are tropical, with moist air from the Gulf of Mexico creating a warm, humid climate, ideal for lush growth of southern creatures. The pawpaw just had to figure out how to survive the brutish winters up here.

Pawpaws do not survive in the extreme northern parts of this continent, nor do they grow in the dry West. They are most likely to be found in the bottoms of ravines, as thickets in the understory of deep woods, and planted in yards in town. Pawpaws have not been domesticated, and vary greatly in tree-size, color of fruit, time of ripening, flavor, etc. They are native, wild and free.

Who Are the Bananas?

Edible seedless bananas were domesticated from wild bananas in southeastern Asia, probably over ten thousand years ago. They only grow in frost-free tropical climates, and are propagated by cuttings. Bananas were taken by humans to other parts of tropical Asia, Africa, and islands in the South Pacific. Some escaped back into the wild, and exist in feral colonies.

In many cultures, bananas are a major food source, and the whole plant is used for fiber, animal fodder, medicine, dyes and so on. The versatile domesticated banana has demonstrated its ability to fit into local, tropical agriculture throughout the world. There are now hundreds of different varieties, many specific to particular locales or with specialized uses.

However, the bananas we eat here in Indiana bear little more than superficial resemblance to their locally-consumed tropical relatives. The first bananas came to Latin America from the Canary Islands, brought by the Portuguese in the early 1500s, and grown for local consumption and trade. In the late 1800s companies began shipping bananas to North American markets, and advances in transportation technology accelerated the economic success of large plantations.

Growing large tracts of one crop—a monoculture—is hard on the soil, and creates serious disease and pest problems that are met with chemical warfare. Bananas grown for export are cloned from just a few varieties, and thus are particularly susceptible to diseases and pests.

Eating Our Teachers

Local Food, Local Knowledge

Replacing local food production with export-oriented agribusiness has been devastating to tropical peoples, and to wild lands displaced by expanding monocultures. The bananas we eat are not only domesticated and alien to this hemisphere, but they have also been enslaved to the needs of global corporations at the expense of local communities.

Learning from Fruits

Your interactions with pawpaws and bananas take very different forms. In the case of the pawpaw, I go out into the woods close to home and find trees to pick fruit. The pawpaw is a free organism, reproducing and living according to its own needs. I meet it as a whole being, in its own world, interact with it, and observe its life. As I pick fruit, I brush against the leaves and absorb their unique molecules into my skin (a potential cancer-fighting agent has recently been identified in pawpaw leaves.) I can notice whether the tree looks healthy, and what has happened to it since the previous season; what other kinds of organisms are around it; whether it is growing singly or in a group; and how it smells. Are the fruits ripening earlier or later than in the past, and are they more or less abundant? By observing, I learn about the limits and cycles of this place.

The fruit is free for me to take, and for foxes, possums, raccoons, squirrels, coyotes and yellowjackets. I absorb information that nature is abundant, and that I am related to all the other animals that share my food. When I eat the fruits, the complex mix of molecules has a myriad of effects on my body, from supplying energy and building blocks for my tissues, to stimulating my bowels (there is a mild laxative in pawpaw fruit). The chemical composition of the fruit varies with season and individual tree, also. Most of the pawpaw fruit molecules are undescribed, and their influences in my life when I eat them are unknown. If I pay close attention, I may be able to learn how I feel after eating them. From my interactions with pawpaws I know more about this particular place, and can use that knowledge to act locally.

On the other hand, the bananas I buy at a grocery store have already been severed from their original environment. They are out of context, or rather, in a new one. This interaction teaches me that food, although alive, is part of the industrial system, and bananas are units of production. They cost money, and thus teach me that nature operates out of scarcity rather than abundance. The bananas are also available year round, so I come to expect everything all of the time. The chemical composition of the bananas I buy is likely to be uniform because of the genetics and production methods used in plantation agriculture. All of the processes of growth and transport that got them to me are invisible, hidden by time and distance, and I am thus shielded from both positive and negative aspects of banana production by being alienated from the whole.

This allows me to unknowingly participate in practices that I abhor, such as poisoning of the land and air with pesticides and diesel exhaust, or support of oppressive political and economic regimes. Out of sight, out of mind.

Combined with lack of seasonality, these monocultural practices mean that I absorb a sameness as I eat bananas day after day, all year. Thus the banana is a good teacher for me if I want to learn how to fit into a global industrialized world.

You Are Who You Eat

One of the most powerful kinds of knowledge from eating is gained from the relationship with other beings. Eating is one of the most intimate interactions that we have with others—to reach out and grasp another being, kill it, and take its body inside our own, to gradually assimilate the other into ourselves. Babies imprint on flavors of food their mothers eat while suckling, and the aromas of cooking are among the most powerful evocators of home and culture. Many cultures identify themselves by what their main foods are: "We are the salmon people"; "Corn is our mother"; "We are the Pepsi generation." We reflect and are reflected by the food we eat, and the way in which we interact with food organisms.

You Are What You Eat

Another source of knowledge from food involves a flow of material. Water, minerals, energy from sunlight and molecular or chemical information move back and forth across the ephemeral boundaries of individuals. Our bodies are renewed with the bodies of organisms we eat, and the soil, water and air that they and we consume.

Because of the dynamic nature of this transmutation of beings, our bodies are receiving new information about the world via food. For example, if the water in a nearby river is polluted, fish may accumulate toxins, which are transferred to us when we eat the fish. If we then become sick, the toxins in the water have been lodged directly into our bodies and become a source of knowledge. We don't have to do fancy measurements or statistical analyses—vomiting can be an educational experience. The eater now wonders what in the fish and water is wrong, searches for answers, and attempts remedies. There is strong incentive to clean up the river when we depend on it for sustenance.

Sometimes actions are "informed" by components in food without conscious knowing. In Australia there is a kind of clover that makes an estrogen precursor in its tissues. During periods of adequate rainfall hormone levels are low, but during drought the hormone accumulates at high levels. Many mammals and birds eat this clover, and their reproductive cycles are affected by it, so that during drought periods the birds and mammals have fewer successful pregnancies. Thus, when the food and water supply is low, there are fewer organisms competing for those resources.

Response to the drought was mediated by interaction with food organisms, not through conscious design, but through complex feedback mechanisms. By eating local food, we may be allowing ourselves to be influenced by many such unknown interactions.

Adaptive characteristics have been shown to be acquired by eating. For example, reindeer eat lichens and mosses that survive the cold Arctic climate in part because of lipids in their cell membranes. These lipids are transferred to the reindeer and become part of the reindeer's adaptation to cold. Similarly, people who inhabit extremely cold climates may be better able to live there by eating other cold-dwelling creatures, such as seals and whales. Not only does such a high fat, high protein diet result in higher metabolic rates, but the unsaturated fatty acids in these foods are incorporated into human lipids with little modification. This may allow people to function more smoothly in the cold, as is the case for whales and seals.

Since the challenges of a particular place—climate, pathogens, predators—are shared between many species, it makes sense that some strategies for coping will be similar between them, and that some adaptive information will travel through the food web. Few of these kinds of interactions are well known to science, although some cultures are more aware of the possibilities than others.

I was not able to find information about these kinds of material flows of knowledge between pawpaws or bananas and humans. Food is not commonly considered a source of knowledge about local environments, so questions that would lead to examples have not been asked.

Eating Appropriate Teachers

If we are who and what we eat, and we have choices available to us, then perhaps we can choose to be particular kinds of people by eating different foods.

If we want to be wild, diverse and free, then eating enslaved, uniform bananas may not allow it. Maybe when we eat food from far away, we cannot learn from the interaction between our bodies and food, because the feedback loop between cause and effect is too long. If we don't know what river the toxic fish came from, how can we use our illness to figure out what to do about it?

Maybe the knowledge we receive from that food is horrible: greed, repression and imperialism from plantation-grown fruits; fear, degradation and poison from factory-farmed meats; and so on. Maybe this kind of knowledge makes us crazy.

See Teachers, page 13

A Garden Growing Wild

The Promise of a Bioregional Agriculture

by Peter Bane

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Walk out your back door and take a look around. What do you find to eat? A few wild herbs struggling for a place in a neglected corner of the lawn? Have some squash seeds in your compost pile escaped oblivion, sending their adventurous tendrils over the fence? Maybe an old apple tree down the alley—planted forty years ago—is still bearing, or a moist, shady spot in the back might be sprouting some mushrooms. And then there are those pigeons roosting under the garage eaves...

Nonsense, you say? "Herbs won't feed me. And food growing out of garbage? Wormy apples, poisonous fungi, polluted pigeons. Better get on down to the supermarket and rustle up some grub."

Bioregional agriculture begins with a vision of abundance. We must imagine, and then create, a world in which there is enough for everyone. A world where cars and refrigerators are small, shared and not essential, but where dinner is growing in the backyard, company is across the street, and work is around the block or down the lane. If we stop paying for our standard of living with our quality of life, we'll have time to celebrate the recurrent excesses of nature, time to mark the passage of the seasons and the cycles of human life. If food grows on trees, we'll have the leisure to dance, sing, paint, weave, and embrace our friends. We'll also have the makings for a rich and abundant cuisine.

Before the industrial era, all food was regional in origin. There was little choice. Preservation technologies made storage problematic, while bulk transport was confined to seacoasts and navigable rivers. Cultures were dependent on the vicissitudes of weather and landform, on carefully nurtured skills and studied observation of natural excesses.

Population densities remained low. Two centuries of industrial growth have changed all that.

While we can learn much from traditional cultures, particularly how to cultivate wild gardens, we cannot meet our needs in the same ways. Not only do our numbers exceed by an order of magnitude the pre-industrial population of the planet, but the natural capital which sustained our ancestors has been seriously depleted: soils are wasted, forests leveled, crop plants made extinct, aquifers and rivers drained, dammed or polluted. Fisheries and game stock are strained, if not exhausted.

We cannot continue the mechanical exploitation of nature. Even if the raw material for continued economic growth/waste were available, the biosphere can't absorb the quantity of pollution which would accompany its extraction and processing. We must find a new way forward.

We can meet our needs if we are willing to adopt three aims:

1. *Design cultivated landscapes which mimic nature.* Agriculture must become small, local and diverse. Healthy ecosystems are composed of many functional interactions between plants, animals, soil and trees. Wastes of one element become nutrients for another. Healthy agricultures work the same way.
2. *Grow food everywhere people live, especially in cities.* People do best when they have access to the resources to provide for themselves. It starts with clean air, water and wholesome food. Intensifying production where we live minimizes transport and energy costs and reduces our impact on the rest of nature.
3. *Live within our solar energy budget, cycle all nutrients, reduce consumption, and use everything at its highest potential.* Design for durability—not disposal—is the answer. Ultimately our

entire industrial system must enter an ecological cycle with nature, where all costs and processes become internal. Pollution indicates some yield of the system isn't being used. Mountains of human shit flushed into the sea should be directed back to the soil. We can begin by making our agriculture a net producer of energy.

Return now to the backyard where we began and observe some of the elements of appropriate bioregional strategies:

The wild herbs are useful native plants that sow themselves. The typical Cherokee woman of Tennessee two hundred years ago knew 800 edible and medicinal plants and their uses. We can begin to recover this knowledge and make a place in our gardens for these allies.

The squash growing out of the compost heap is a native American food plant which is widely adapted and often seeds itself. Dumpheap gardens not only demonstrate the recycling of nutrients, but are generous collections of diverse and locally adapted useful plants. We can select these traditional garden varieties and save their seed in every region, exchanging those seeds with our neighbors and others to ensure their survival. There are a number of seed companies that specialize in open-pollinated (true to type) and traditional varieties. Most of them contract with small growers around the country. The Seed Savers Exchange coordinates a network of heirloom gardeners who make many such varieties available for sale or trade. And of even greater importance, new regional exchanges are developing, such as the Southern Grasslands Seed and Plant Exchange in Texas. Similar networks are needed in every bioregion. Begin to save seed and you will soon find others who share these concerns.

The old apple tree represents the work of previous gardeners—work to be conserved and respected. It's also a perennial plant which bears reliably over many years. Because they are more energy efficient, requiring less work and yielding more each year for decades after planting, we should emphasize trees and shrubs in our gardens, parks and farms. Trees also form the central elements of assemblies, or *guilds*, of plants, animals, insects and fungi. By observing these assemblies in nature, we can mimic them in our gardens by substituting domesticated or useful relatives of the wild plants.

The mushrooms are a neglected food and medicinal resource. Many of them can be cultivated, and they make direct use of wood fiber and detritus which would not otherwise be edible. By converting waste into food and accelerating the nutrient cycle, mushrooms play a key role in cultivated ecosystems in any humid temperate environment.

Pigeons are nearly perfect livestock. They can live anywhere people live and thrive with minimal input; indeed they are often considered a nuisance in cities. If only people knew. Pigeons harvest seeds and insects from far and wide, incorporating nutrients from neglected sources, their manure is of great benefit to the garden, and they give us a meal-sized piece of meat, with no leftovers. We need to expand our range of protein sources: backyard poultry, fishponds and insects are all good choices.

In sum, our backyard garden represents a nascent polyculture waiting to be developed. Emphasizing native herbs and leafy greens, hardy crops, perennials, fungi and small animal protein, we can meet our most important dietary needs in our own neighborhoods with very little work. By careful placement of the elements we can increase our cropping efficiency by synergetic relationships. With proper selection of species, varieties and breeds, this system can be adapted to any climate or amount of space available. The keys are density, multi-functional diversity, and proximity to the caretakers (ourselves).

A small, local, diverse agriculture lends itself to different types of behavior than that of a global monoculture.

See Garden, page 13

A Visit to the Supermarket

If you're like most of us, your last meal came from halfway across the continent, an average of 1,300 miles, and cost ten times its food value in energy to produce. It was grown in denatured, overworked, eroding soils, propped up with chemical fertilizers and a host of poisons, picked underripe by underpaid migrant labor and swathed in old-growth forest and Persian Gulf oil (boxed up and trucked away). Our food passes through dozens of hands to reach us, none of which belong to anyone we know.

Millions of animals are born, raised and slaughtered without ever seeing the light of day, in order to feed us a diet so rich in fat we die in droves of heart attack and stroke. Crowded into battery hen houses and feedlots, the poultry, pigs and cattle we eat end their stressful lives deep in their own manure and mad from confinement. They often eat their own kind reprocessed as feed. We get the parts that aren't cancerous. When the slaughterhouses can't keep the filth out of the flesh, people die. So the government wants to irradiate the meat to kill the stink.

In the anonymous marketplace, appearances make the difference. Perfectly cosmetic fruits and vegetables have become the indicator of our alienation from nature and each other. Of our twenty major food crops, a handful of hybrid varieties of each have been selected for size, response to fertilizer and irrigation, durability in transport, ease of mechanical processing, and resistance to yesterday's pests. These make up the increasingly narrow genetic base of our industrial agriculture. A swelling human population is balanced precariously on a tiny fragment of the earth's immense diversity of plants and animals, while the non-commercial is bulldozed out of existence.

But hybrid seeds, and the chemicals which grow them, cost dearly. The corporations fatten up while every year more smaller farmers go broke. They

leave the land, and with them goes a wealth of knowledge of place, of weather and soil and the intricate dance of season and sequence which kept life coming back to the fields.

The land, now a commodity and no longer a place to live, passes into the hands of big farmers and corporations. Fields get bigger and the demand for uniformity increases. As the skills for managing complex interactions are lost, plants are separated from animals, landscapes are simplified, forests cut and wetlands drained. Wildlife disappears, while pests increase. People crowd into the cities or flee to the human monocultures of the suburbs.

This spiral of destruction is driven by cheap energy and the demon of development—which means converting the commonwealth of the many (clean air, water, fertile soils, forests and genetic diversity) into the private profits of the few.

Our present system of agriculture is dependent on oil, highways, trucks, steel mills, phosphate mines, nuclear power plants and armies of police, soldiers, inspectors and bankers. All to provide us at great and untold cost with something that ought to be right outside the back door, freely available to everyone. What we eat, and how we get it, is unhealthy, and leaves us dangerously dependent on an unsustainable system.

Modern industrial agriculture has driven us to the brink of destruction for the sake of *control*. We must create an alternative to this nightmare, or we'll be forced to live and die with it! If global industrial food production based on the violent control of nature has become the problem, then bioregional agriculture working *with* nature is the solution. Reflected in every threat to diversity, local autonomy, health and prosperity we can see the outlines of a vibrant and colorful cultural renewal—if we choose to.

—Peter Bane

Ecuador Green City Revisited, August '99

When the people of a small urban area decide to pass a law declaring an "ecological city," it is an unusual and laudable act of public dedication. If there are already some extensive reforestation projects immediately nearby, and a non-profit estuary protection agency that employs local residents along the river as workers and guides, this city could strive to actually become harmonious with its surrounding natural systems. And if it is located in the "undeveloped world" and thereby offers a working model for the entire planet (including the "developed" world), it presents a glowing vision of sustainability to tempt any fervent reinhabitant, an irresistible opportunity to help create the first truly bioregional Green City.

Planet Drum Foundation (PDF) has begun a long-term partnership with Bahia de Caraquez, Ecuador, a community devastated in 1998 by El Niño mudslides and a severe earthquake. The city decided to rebuild itself as a "Ciudad Ecológica" and passed a by-law to that effect in February 1999. As PDF's Director, I was invited to assist and spent a month there organizing community consciousness through strategy meetings, talks, interviews, media appearances, workshops, and planning sessions aimed toward an Eco-Gathering for the Bahia de Caraquez Ecological City Declaration and International Mangrove Day Celebration (described in *Dispatches from Ecuador*, available from Planet Drum Books).

After the inspiring success of those events, it was evident that for any future work in Bahia, PDF needed to define a direction of its own. We decided on developing a proposal to create a consultancy of skilled practitioners who could focus on finding ecological solutions for major problems in the city's infrastructure. Areas examined by this study include: biological waste treatment facilities, renewable energy power installations, reforestation of the dry tropical vegetation near the city, public transportation alternatives, retrofitting buildings for alternative energy use and water reuse, community-wide recycling, and other beneficial innovations. For each of these the consultant group would research working examples in other places, propose several possibilities, and draw up final plans. The consultancy is envisioned as the first step toward realizing a series of major long-range transformative public works projects.

While we sought funding for the consultant team from sources outside of Ecuador (where no financial support exists on a national or local level because of the current severe economic crisis), we decided to undertake a survey of positive activities that had already been started by Bahians themselves, what support they needed, and how their projects could be tied to large-scale infrastructure improvements. In order to get a first hand view of the situation since the Eco-Gathering, a second visit to Bahia was made the following August, accompanied by Judy Goldhaft, Planet Drum's Managing Director.

First Days as an Eco-City

There has been a considerable improvement in public awareness of the need for sustainability in Bahia and other Canton Sucre communities in the five months since the Declaration. A profound symbol of this is the new municipal government sponsored housing project for hundreds of people made homeless by 1998's mud slides and earthquake. It is now completely designed, ground has been cleared, and construction will hopefully begin by 2000 on the bayfront in Leonidas Plazas. In keeping with the spirit of the Ecological City Declaration, it is named Los Mangles 2000 (The Mangroves 2000). Planned as a large community of individual small houses, it features some built-in environmentally beneficial aspects such as bicycle paths and mangrove restoration on the bay side. A thorough information campaign will teach new residents about recycling, water conservation, alternative energy, composting and gardening, and mangrove protection so that Los Mangles can progressively become a more ecological neighborhood.

In the temporary housing community of Franca, a children's "Club Ecológico" of about two dozen members has planted hundreds of mostly fruit trees in the settlement and on some hillsides. They also recycle trash and clean up the streets. Club members hold regular meetings to learn and exchange information about other aspects of ecology and plan further projects. They publicize their efforts by wearing specially designed club t-shirts.

The new non-profit Eco-Bahia Centro de Educación Ambiental (Eco-Bahia Environmental Learning Center) has about 100 members who come from a wide range of social sectors including workers, students and homeless as well as professionals, business people and activists. The current president is also an agriculture teacher at Colegio Técnico San Vicente. He arranged a presentation by Judy and myself to over fifty students from his classes and a tour of their hands-on demonstration projects including a tree nursery with native species. Activities of the Centro so far include sponsorship and training of an eco crafts learning group which is developing hand-made recycled paper products of various kinds. It also carried out two small-scale mangrove reforestation efforts, one near the plot that Actmang, the Japanese mangrove reforestation group, started near Bird Island and another to ameliorate the effects of sewage runoff into the bay from some houses in Leonidas Plazas. Still in its early stage, the Center continues to reach out for new members in an inclusive democratic fashion, and intends to become an organizational "umbrella" for grassroots citizen-generated projects by any of the organizations and individual citizens in Bahia. The municipal government has just given Eco-Bahia Centro land to construct a building near Los Mangles 200 to serve this purpose.

Nicola Mears and Dario Proano-Lerouz have maintained the recycling program officially begun on the day of the Ecological City Declaration at the main marketplace to recycle organic waste and make compost. This remarkably industrious pair also directs Rio Muchacho Organic Farm, runs a business to recycle paper as stationary and other items named Eco-Papel, assists in developing the first certified organic shrimp farm, guides "ethical tours," and teaches sustainability directed activities. They aim to provide self-reliant working models while educating both locals and visitors. I visited Rio Muchacho and was struck by the vision and strenuous effort that has been employed there. The farm has been completely converted to organic status, growing bananas in circles rather than rows so that they provide their own mulch and compost from dead leaves, using "chicken tractors" whereby moveable poultry cages fertilize and turn over arable land in small sections at a time, and pioneering other techniques of tropical permaculture. The beautiful grade school that they initiated nearby has a strong ecological thrust and is teaching local children how to appreciate and improve their land-based heritage.

Actmang's mangrove restoration efforts are yielding an encouraging 75 percent successful growth of plantings. It was a pleasure to boat back out with Taka Tsuji to the spot in the bay where we had worked before and see young trees which have grown at least a foot high in just half a year. Residents who live nearby along the banks of the Rio Chone are now growing mangrove seedlings for Actmang as well as collecting seed pods.

The Coastal Resources Management Program (PMRC) has rebuilt the boardwalk and observation tower on Heart Island, a mangrove information center, and plans to employ up to thirty local inhabitants there. They will be trained as guides who can teach visitors about marine resources and traditional sustenance methods and skills. PMRC works extensively with the estuarine community and will create employment for hundreds more through a dozen new self-help projects related to preserving the environment, agriculture, education, aquaculture, and fisheries. It is an undeniably vital force for reinhabiting the Rio Chone Region.

We were fortunate to meet Alejandro Bodero Quintero while he was visiting Bahia. A forest protection advocate from the city of Esmeraldas, he has visionary plans for new cottage industries and eco-tourism in the Majaqual estuary. I'll probably make a visit to that area during the next visit to Ecuador which will also be an opportunity to see Actmang's elaborate mangrove restoration work there.

Emergence of Cotacachi Eco-Canton

Ecuador has a surprising amount of locally generated ecological activity, especially in Cotacachi Canton (County) where there was an inter-city meeting in September 1999 to discuss making an Eco-Canton Declaration. A popularly elected committee will discuss by-laws for six months before reconvening to approve them. Bahians Patricio Tamariz and Jacob Santos went to observe the meeting through an arrangement that I had previously discussed with Mayor Auki Tituaña Males to begin a relationship based on mutual interests

of the two eco-governments. Auki will pay an exchange visit in November to observe sustainability projects in Bahia de Caraquez.

The canton of Cotacachi is an extremely significant ecological area because of its proximity to the large Cotacachi-Cayapas Biosphere Preserve established by the United Nations. The territory covered by the Eco-Canton Declaration can be considered as part of a potential unified buffer zone to protect the unique biological richness of the preserve. Judy and I traveled through this zone which also includes the famous indigenous market city of Otavalo, the large Intag area of farmland cum wilderness, and the truly remarkable small Reserva Los Cedros administered by the Center for Investigation of Tropical Forests.

Inside a Cloud Forest

Reserva Los Cedros is within the "choco" cloud forest vegetation formation in the western foothills (Pacific side) of the Andes. It is extremely steep country and mules are required for a six hour trek to the reserve over a mountain trail that is "camel backed" with long sections of corrugated ruts a foot or more deep. Starting from Quito, we were guided by Jose Decoux, the Reserva's founder and manager, in his vintage Land Rover that I christened "Excuseless" after the jolting trip over progressively worse roads to a back country rancheria where we spent the night. The mule-back journey began the next morning by crossing a swaying narrow plank suspension bridge high over the rocky rapids of Rio Magdalena. We next wound through banana plantations with "living fences" of thorny cacti and corn fields that ran nearly to the tops of the surrounding peaked hills. Farms and infrequent houses fell away as we climbed higher to places where the trail measured only a foot wide with the mountain face like a wall on one side that fell away on the other in a sheer drop to the Rio Magdalena—now visible as a thick blue and white cord more than 500 feet below. (The concerned attention I paid at those moments to every step by the mule I rode was laughably over-absorbed compared to the truly keyed-up encounter on the return trip when in a similar place we met another mule train in the opposite direction. Our party had to turn around in that incredibly narrow space to retreat and clamber up forty five degree angled gullies while a dozen mules squeezed by.)

A cloud forest is lush beyond anything I've seen in the northern temperate zone: green walls, green ceiling, green floor. Because of the steep foothill terrain, my visual perceptions were permanently confused since the view in every direction was nearly always of roots, trunks, branches, and tops of trees appearing at any height and all at the same time. Every part of a tree is completely covered with mosses, air plants, vines, ferns, and other growth so that it feels like the middle of a cloud of leaves. Plants growing on plants, and the trail is only discernible where it isn't overgrown because some of its leaves are brown. Climax "choco" forests date from the Pliocene Era and although they are so dense that glimpsing a distant vista through the trees is rare, most of the ground area away from the trail is clear enough to be traversable (albeit slowly) without chopping a path. Butterflies are encountered constantly, and incredibly, each new one is usually a completely different looking species than the last. One of them is transparent winged except for a small dot of red at one side resembling a speck of dead leaf, making it invisible on most surfaces from only an inch away. Another has thick horizontal blue and black stripes that are a startling as face paint. The chatter of birds such as toucan and parrots is frequent but it usually takes prolonged observation to see them through the vegetation. If they do appear, their sharp color and distinctness of design tends to be sumptuous. The unique Cock of the Rock has a large flaming orange knob on top of its head with a cape of the same color extending partway down its back above an otherwise dark brown body.

Jose begged off providing a name for anything we saw during the week that we explored different trails because "choco" species are so numerous as well as not completely listed. But he asked to hear about anything interesting that we might see because it could possibly be unknown to the Reserva staff. When I returned from a walk and described a thick braided-looking mass about three inches wide, two inches high and a foot long consisting of hundreds of small black larvae that lay along in the middle of the trail, there were blank stares from Jose and other Los

Cedros regulars followed by acknowledgement that another previously unseen "choco" phenomenon had been found. Some of the few studies of biota that have been undertaken in this region reveal the reason for difficulty in knowing it well. There is a greater diversity of species here than in the Galapagos Islands which are celebrated for their uniqueness, and far more of them are endemic. Vascular plants alone number over six thousand species with over one thousand occurring nowhere else on earth. All of the endemic plants and animals are especially threatened by logging, mining, and increased settlement since only about one-twentieth of the total forest of western Ecuador remains intact, protection through reserves like Los Cedros and the rest of the potential buffer zone around Cotacachi-Cayapas is urgently essential to save and learn about exceedingly rare forms of life.

Expanding Planet Drum's Role

We are attempting to raise about \$70,000 for the consultancy to determine which projects are the most appropriate for making major municipal infrastructural changes in Bahia de Caraquez. Planet Drum sent a proposal to two dozen major US and international foundations, and we are waiting for responses. In the meantime, consultancy participants are being lined up to meet in the San Francisco Bay Area and later travel to Bahia to carry out site research and make recommendations. Our intention is to generate the most practical suggestions for solutions, create public enthusiasm for them, and help raise more funds to eventually carry them out. The consultancy phase can be completed within the next year if it is funded soon. The actual projects could easily take five to ten years and run to tens of millions of dollars. (In the case of a sewage system, for example, even the present unfunded municipal plans calling for a conventional type of sewage plant that would continue to empty pollutants into the bay is budgeted at \$1.3 million.)

During the first visit last January, I became aware of a municipality master plan for reforesting hillsides immediately adjacent to Bahia that had originally been designed by PMRC. The City Planning Department chief stated that it would cost \$210,000 and that he had applied for an inter-Andean agency loan (not Ecuadorean funding) and hoped to receive it soon. In August I learned that the needed funds hadn't been allocated and would not be in the foreseeable future. I offered to try to raise money for incremental work on those sections of the master plan that were scheduled solely for native vegetation and didn't require new landscaping (those sections are the most bioregionally significant).

The city planner agreed, and both he and Municipio Mayor Cassis wrote letters authorizing PDF to carry out part of the reforestation plan, and the Bahia Rotary Club agreed to sponsor it as well. Since then, we have written a \$24,750 budget for this project, and are actively seeking full funding support. Cottonwood Foundation has started the project fund off with a grant of \$1,000 which is already planned for use in acquiring seedlings and planting them during my next visit in January 2000.

There are plenty of tie-ins for the revegetation project with ongoing local efforts. Determining the proper mix of native dry tropical forest plants and drawing up a working ground plan can be done by groups that have had success with smaller revegetation activities. Seedlings of native trees can be grown at Colegio Tecnico San Vicente. Paid workers can come from barrios near the reforestation sites, and volunteers from various community groups.

With approval for this project already won from so many parties, PDF needs to have a field office in the municipality to oversee future work. I signed an agreement with Eco-Bahia Centro's acting secretary, Jacob Santos, to find a suitable space in Leonidas Plazas, a predominantly working class district. Our hope is to obtain an office with a small living space, possibly with additional room for temporary use by Eco-Bahia Centro or other groups. Planet Drum staff, interns or volunteers expect to visit Bahia for a few weeks twice a year. When the office is unoccupied by us it can possibly be used by other non-resident organizations such as Actmung.

Although the Ecuador projects involve different places and conditions, this isn't a total change for Planet Drum. We have always advocated recreating urban environments so that they can become sustainable within the restored natural systems of bioregions. Now we intend to help design and build a practical model that will embody this vision.

—Peter Berg

Planet Drum PULSE

During the last months, Planet Drum has been busy traveling and reorganizing the office. In June Peter Berg gave a talk that was followed by a discussion that included Stephanie Mills at the Traverse City, Michigan Public Library. He was also interviewed by the local radio station. In August, Judy Goldhaft accompanied Peter on a month-long trip to Ecuador (see accompanying report for a full description of the trip). October found Peter participating in an intergenerational symposium, *Environmental Legacy: Seeking the Wisdom of Youth and Elders*, at Antioch New England Graduate School in New Hampshire. He gave three other talks in the area and then joined Judy at Cornell University for a talk, workshop and performance of *Water Web*. Back in San Francisco, they both participated on the same panel as part of the San Francisco Mime Troupe's 40th Anniversary

Celebration. Peter described efforts to reclaim public territory and Judy also performed *Water Web*.

Planet Drum held a benefit to celebrate the new Green City Center in San Francisco's Mission District in December. Green City moved from being a Project of Planet Drum to independent non-profit 501c3 status in 1999, and then moved to their own office in July. During the summer, intern Bernice Hwang helped with the move and did research for the forthcoming book, *Greening the City Through Education Plus Action*.

At present Peter Berg is again in Ecuador, opening a field office for Planet Drum. With involvement in the sustainability project in Bahia de Caraquez continuing indefinitely into the future, this was a necessary step. Intern Carey Knecht will be living and working there for two months on revegetation of the slippage prone hillsides. The office will be shared with various projects of the Eco-Bahia Learning Center, a hard-working and popular non-profit set up to help realization of the eco-ciudad (eco-city). Check the website, www.planetdrum.org, to read up-to-date Ecuador Dispatches for continuing news of this project.

—Judy Goldhaft

B I O R E G I O N A L A G

HOMELANDS—continued from page 9

California Indians understood plants' needs and habits. The common assertion among Indian cultures in California today is that plants yearn to be used, and that in the absence of human use, plants and animals are offended and consequently disappear. The understanding that certain plants were honored through human use reinforced the feeling that Indians belonged to a place. Indian cultures acted out this feeling by leaving offerings for plants, asking permission to use them, and thanking them for their bounty.

In sharp contrast, most Western wants and needs put pressure on natural resources. Development is viewed as necessarily destructive or exploitative, ultimately exhausting the resource base.

Native American Indians never lost the connection between a plant resource and the natural world

it came out of. Plants were not commodities or objects, but rather part of vibrant, living communities. When this connection is lost, it is easier for a culture to overexploit and damage the natural world.

California Indians today still choose the tools, frequencies, scale, and kinds of harvesting and horticulture in wild places, and work within the limits of nature's tolerance and resilience. The linkages between conscientious harvesting of plants in the wild, crafting plants for special purposes, and use of the transformed plant must remain intact for humans to learn the intricacies of coexisting with plants and animals, and truly reintegrating with nature.



TEACHERS—continued from page 10

To become native to a place, eating organisms that are already native may be necessary. Necessary, but not sufficient. Conquistadors and gold miners ate local food, I am sure, but acted unwisely nonetheless.

Of course, past human choices have limited current possibilities. By becoming totally dependent on agribusiness, many human populations have increased to the point that it isn't likely most people could choose to eat mainly free, wild species. However, it may be important to get some proportion of our food or medicine from the wild, so that our health is tied more tangibly to the health of the natural world we are part of. It may be vital to set up agricultural systems that are more diverse and integrated with the surrounding wild areas.

For example, although tomatoes are alien to the Midwest, they nonetheless grow very well here. Tomatoes may be appropriate bioregional food if we

select for local adaptations, eat them in season, grow them organically in polycultures, and so on. Trucking them in from distant factory farms results in an entirely different, industrialized tomato.

In thinking this way, we can examine the whole spectrum of our interactions with food organisms, and thus influence who we become. In the same way that we decide which courses to take at college, or which books to take out of the library, we can choose which teachers to eat based on what knowledge we feel we need to absorb.

Answer to the student in Iowa: "Yes, you understood my reasoning quite well. Bananas won't help you live well here in the Midwest. Here, have a piece of paupaw pie."



GARDEN—continued from page 11

ture. We can expect to see all manner of cuisine created and expanded as different regions discover their own excellence. Food processing, such as brewing, baking, drying, smoking and cooking, which is the first level of industry, can grow beyond meeting the needs for cold-season storage at home, and toward cooperative food marketing. Community canning and storage facilities, kitchen business incubators, community-supported agriculture, and local scrip currencies based on farmstand produce all enhance the human community of eaters in the bioregion. These activities provide opportunities for social exchange, employment, cultural sharing and economic development.

While we green and plant the cities with edible landscapes, we must also repopulate the countryside. Healthy land needs human caretakers, and a bioregional agriculture based on solar energy needs many observers, planters and harvesters. The present hollow structure of rural towns and districts virtually requires abusive grazing by beef cattle and a mechanized, chemically-driven monoculture. We need to make many millions of investments in water catchment, soil improvement, reforestation and energy production in the country. Increasing rural populations will make that possible.

Long-term solutions will involve the creation of new agricultural villages. A step in that direction would be the establishment of "cluster develop-

ments": rural co-housing units linked to existing farms in the exurban fringe (within an hour of metropolitan areas). Besides providing rural amenity for the many who seek a greener life, this strategy can help preserve farmland in the areas where it is most critically needed.

These cluster developments need take little of the more marginal crop land. They also provide the future basis for a new rural economy with home-based employment, access to urban markets and services, resources for proper land management, and soil, water and wildlife conservation.

Bioregional agriculture implies another element which I haven't mentioned, and that is time. Culture is life shaping the world to its own needs. Culture means enduring through time—something cultivated. If we understand ourselves to be at a point when a renewed bioregional culture and agriculture are being shaped, we can understand the importance of clear intent and good beginnings. Most of us won't live to see the full flowering of this cultural renaissance, but if we commit ourselves to creating edible ecosystems, putting food in the cities, people in the countryside, and carefully stewarding our natural resources, we will go a long way toward the abundance that will make regeneration possible.



TOTEM SALMON:

LIFE LESSONS FROM ANOTHER SPECIES

Freeman House, Beacon Press, ISBN 0-8070-8548-0, 224 pp., \$24.00 hardback. Winner of the 1999 Bay Area Book Reviewers Award in Non-fiction.

Everyone has believed at some time or other that they are part of the wide range of life that exists outside of human society. Many people feel drawn to identify with some particular form of life, a plant or animal such as a willow tree or a deer. Or a natural force: a mountain, a river, or the sea. Our language is replete with references to natural characteristics to describe human qualities—bee busy, fox sly, frog voiced, rabbit scared.

At the same time, we feel estranged from non-human life. We say, "Don't act like an animal." This duality about non-human life and ourselves may be the single most contradictory aspect of human consciousness. We are always partly involved with other life and partly holding out for separate status.

The distance that may develop between ourselves and the rest of nature can become extreme. We can imagine ourselves to be so insulated that our lives are only penetrated in startling ways. Wild nature becomes a deer jumping off the side of the road in front of the car, or a bird suddenly flying out of a bush as we pass by. Non-human life can cease to have a respectable place. This separation can even become a kind of wall that is papered over by human views of nature such as in television documentaries about exotic animals.

When we are at the other side of this shifting balance between human and other life forms, there can sometimes be a sense of ultimate connectedness that is an overarching link with everything that is alive. It often comes in remote wild places, but it can also occur in urban surroundings. I was overcome by it last spring when I was stopped by a glimpse of wild iris flowers in the native plant garden that was built into the sidewalk outside Planet Drum's office in San Francisco. The design on each petal has slender arrow-like white lines with a yellow diamond at the center on an electric purple background. It is unique and beautiful, but it wasn't actually intended for me. Irises evolved in association with insect and bird pollinators who are attracted to the flowers in ways that are more profound and complicated than my mere admiration. I see night sky stars, 1920s pendant earrings, and gypsy scarves in them, but my impressions are incidental and almost accidental (although the thought of eventually seeing those flowers bloom made me plant the irises in the first place).

Freeman House has previously written some inspiring pieces about the mystery of our connectedness with other life. "Totem Salmon" and "Future Primitive" from a Planet Drum Bundle titled *North Pacific Rim Alive* which he helped to edit were original and powerful when they were first published, and continue to impress readers today. His new book, *Totem Salmon: Life Lessons from Another Species*, has the same level of remarkable insights but it is much more urgent to read this unique account of an ongoing encounter with nature at the present time.

On our best days, we should celebrate the biosphere and all of its inhabitants for their beauty and teachings. But we are witnessing some of our worst days, when the bioregions where we live are losing ecosystems, habitats and species at an horrific rate. We need to understand the sorrowful dimensions of our loss, but even more, we need to learn how this tragedy can generate values for our personal lives and local communities.

Fortunately, in *Totem Salmon: Life Lessons from Another Species* we have found a guide that can help lead us to where we need to go.

[Originally delivered as an introduction for Freeman House reading from his book at the San Francisco Main Public Library.]

—Peter Berg

FACILITATOR'S GUIDE TO PARTICIPATORY

DECISION-MAKING

Sam Kaner, et al., New Society Publishers, ISBN 0865713472, 255 pp., \$24.95. [Also available from BANA with a consensus decision-making manual.]

The *Facilitator's Guide to Participatory Decision-Making* is an essential handbook for those seeking to break free of the "business as usual" decision-making processes which cripple or destroy many well-meaning enterprises. Written by Sam Kaner and his colleagues at Community at Work, a San Francisco-based think tank and consulting firm, this book reflects the clarity, maturity and commitment to positive social

OTHER NOTABLE BOOKS

The Greater Cleveland Environment Book, by David Beach, \$14.95 (plus \$1.05 sales tax & \$3 shipping) EcoCity Cleveland, 2641 Scarborough Road, Cleveland Heights, OH 44118, Cuyahoga Bioregion, tel/fax (216) 932-3007. An extraordinary example of a bioregional "Owner's Manual" focused on northeast Ohio.

Off the Map, by Chellis Glendinning, \$21.95, Shambhala, Horticultural Hall, 300 Massachusetts Ave., Boston, MA 02115, www.shambhala.com. An Expedition Deep into Imperialism, the Global Economy, and Other Earthly Whereabouts

Caribouddism, by Gary Lawless, \$9.95, Blackberry Books, 617 East Neck Road, Nobleboro, ME 04555. Journal in poetry of the author's travels in Newfoundland with Nanao Sakaki.

Wisdom Sits in Places, by Keith Basso, \$14.95, University of New Mexico Press, 1720 Lomas Blvd. NE, Albuquerque, NM 87131, (505) 277-7553. Explores the connections of place, language, wisdom, and morality among Western Apache. 1996 WESTAF Award Winner for Creative Nonfiction.

Earth's Mind, by Roger Dunsmore, \$17.95, University of New Mexico Press, 1720 Lomas Blvd. NE, Albuquerque, NM 87131, (505) 277-7553. Examines native written and oral literature that concentrates on human connection with the natural world.

Giving the Land a Voice, Mapping our Home Places, revised edition edited by Sheila Harrington, contributing authors Doug Aberley, Michael Dunn, Briony Penn, \$20, LTA The Land Trust Alliance of British Columbia, 204-338 Lower Ganges Road, Salt Spring Island, B.C. Canada V8K 2V3, tel/fax 250-538-0112, www.island.net/~ltabc/ Revised edition of a must-read community bioregional description effort. [Also available from BANA with two other mapping books.]

change of its authors. Aimed primarily at facilitators (i.e., "content neutral" process specialists), the *Guide* should also be required reading for members and leaders of any group striving to improve its internal dynamics, reach sustainable agreements and transform hierarchical social structures.

The first of the book's three sections provides a conceptual framework for understanding the rocky road of participatory decision-making process. The text, illustrated by easy-to-follow graphics, describes what inevitably happens when a group ventures beyond familiar and/or "top-down" solutions. Both neophytes and battle-scarred veterans of consensus wars can benefit from the reminder that a group must pass through three distinct, but messy stages before reaching closure on an issue. The authors call these stages the "divergent zone," in which the group opens itself to the diversity of its members' points of view; the "groan zone," in which agreement seems impossible and all one wants is to end the experience as soon as possible; and the "convergent zone" in which ideas are sorted, consolidated, refined and a decision point is reached. Simply being able to name and recognize these stages can help a group endure the frustration, confusion, impatience and anger which can and will arise as part of a healthy participatory process.

Given these uncomfortable dynamics, the need for skilled facilitation is apparent. The authors assert that the facilitator's role is "to support everyone to do their best thinking"—despite the emotions which a participatory process provokes. The second and third sections of the book focus on how to accomplish this daunting task.

The chapters on "Facilitative Listening Skills" and "Alternatives to Open Discussion" contain a basic taxonomy of ways to encourage and structure group participation. The challenges confronting a facilitator, the options available to solve various communication dilemmas, and the common mistakes made when trying to use the recommended techniques are clearly described. The information contained here will not only help any facilitator do a better job, but also will enable group members to understand and support the work of their facilitators.

My favorite chapter in the *Guide* is called "The Very Basics of Chartwriting." Having admired the excellent chartwriting (i.e., recording people's ideas on large sheets of paper during a meeting) of Community at Work facilitators, I was thrilled to learn some of their secrets. Following their advice, I now use bigger, better-formed letters, wider margins, earth-toned markers for text, alternate colors, make more effective use of symbols and—best of all—have learned how to hold four markers at once, using the "chartwriter's grip!"

For me, the book's most glaring weakness is its failure to seriously consider formal consensus in the chapter on decision-making rules. The examples given in the text assume that, within a context of participatory process, "the person-in-charge" will decide when a decision has been reached. While this "meta-decision" procedure is clearly an improvement over typical hierarchical models, it does not provide much guidance for "leaderless" groups.

—Beatrice Briggs

MOTHERS & OTHERS FOR A LIVABLE PLANET GUIDE TO NATURAL BABY CARE

Mindy Pennybacker and Aisha Ikramuddin, John Wiley & Sons, Inc., ISBN 0-471-29333-4, 325 pp., \$16.95

As a perinatal educator and woman who is seven months pregnant, I have read innumerable books dedicated to parenting, and the *Guide to Natural Baby Care* rates high as a well written, user friendly guide for any parent interested in creating a toxin free environment for children. Moreover, this book has invaluable suggestions for raising a healthy infant. Unlike some other books in this category that I have read, it offers important tips and advice that have been carefully researched. Additionally, the parenting philosophy is loving and nurturing.

The *Guide to Natural Baby Care* has in-depth appendices that allow the user to gain more information as desired. Appendix A lists resources by chapter which are further divided alphabetically by subject. Appendix B has a list of products that are available by mail, and is preceded by an index to allow the reader to determine quickly if a desired

company has been listed. I utilized this list to acquire several natural fiber catalogs. The descriptions at the end of the contact information were quite useful in allowing me to eliminate companies that did not provide the exact desired services. Appendix C is a bibliography of interesting articles. These are also divided by chapter and further broken down by subject.

For all of its good qualities, reading this book can unfortunately lead to feeling overwhelmed and even paranoid about a child's environment. Many of the services can be costly and may be difficult to obtain. The exterior of the house where I currently live is being painted, but as a renter I have no control over the manner of old paint removal nor the type of new paint being utilized. After reading the section on painting one's house I felt nervous and irresponsible, wondering if I had inadvertently subjected my unborn infant to toxic materials. On the other hand, the guide does contain some wonderful suggestions for simple, cost-free ways to decrease amounts of toxins an infant might ingest. One that I found particularly useful is "off gassing" (airing out) plastic materials like mattress covers before placing them in a baby's environment.

The high quality of writing and obviously intensively researched information more than compensate for its hyper-cautionary tone and makes *Mothers & Others for a Livable Planet Guide to Natural Baby Care: Nontoxic and Environmentally Friendly Ways to Take Care of Your New Child* a must for every environmentally conscious parent. Keep in mind that this is not a book one reads from cover to cover, but keep it handy on the bookshelf to be a resource as specific needs arise.

—Ocean Berg

LA BALIA (THE WET NURSE)

A Marco and Pier Giorgio Bellocchio presentation of a Filmalbatross production in association with Istituto Luce in collaboration with RAI Radiotelevisione Italiana, 106 minutes.

Some movies stay with you, encouraging discussion, rolling around in your mind, gradually allowing comprehension of how every piece fits into the whole. These are movies you can really chew on. When I viewed *La Balia*, I thought I understood the movie, but each time I run it through my head again, I find another subtlety that reiterates part of the plot. It is thrilling to have found a movie that has so many layers and interconnections to discover.

The film is set in turn of the century Italy and revolution is in the air, a revolution that is both political and social and which continues today. The film intertwines the cultures of the "natural" earthy peasantry and the house-bound "cultured" elite. Early in the film the intercutting of the two pregnant women and their labors is an obvious contrast. But there are more subtle notes. The ladies of the household quietly continue their stitchery while outside their window, people are being chased and shot. The mistress of the house is shocked and unable to comprehend why the wet nurse is reluctant to eat meat, which is "too rich" and not a normal part of her diet, or why she would prefer to eat in the kitchen with the servants rather than in the more splendid rooms, but alone.

The sunniest most joyous moments are among the lower classes while upper class life is darkly subdued and intense. The choosing of the wet nurse, with a row of stripped-naked-to-the-waist women available for hire, is a scene out of the Middle Ages, but her first encounter with the baby is refreshingly loving and spontaneous. The servants laughing and yelling as they close the windows to a sudden rain, become silent at sight of the psychiatrist. Class positions and social/political action intersect, interact and are redefined.

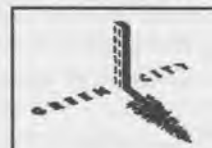
Basically the plot centers around a psychiatrist whose pregnant wife is unable to nurse after delivery. A wet nurse is hired and the household is transformed. The main characters are the psychiatrist and his wife and a revolutionary and his lover, who becomes the wet nurse. Although the revolutionary himself is only briefly seen, his eloquence and ideas affect the psychiatrist and his wife, just as the wet nurse's presence catalyzes changes in the family. The movie doesn't allow for quick or easy understanding of the characters. It is adapted from a "homonymous tale" by Luigi Pirandello and first impressions are often inaccurate; each character's depth and complexity develops as the plot unfolds.

Psychiatry is in its infancy and though the psychiatrist initially seems to be a compassionate person at his hospital, we see his inability to comprehend his wife's distress during and after childbirth. When he attempts to teach the wet nurse to read his first act is to make her use her right hand instead of her left, making a difficult task even harder for her. Spending so much time with the wet nurse apparently transforms him into a warmer, more understanding and sympathetic person. When his wife, who has moved out of the house, asks him if he's fallen in love with the wet nurse, he is shocked at the suggestion. Suddenly the wife is wiser than her husband. And when he is confronted by the wet nurse's non-materialistic loving simplicity, he is confounded. By the end of the movie, the two women have reversed positions with respect to independence and daring.

The opening scene is indicative of the entire film. Ominous music and a black screen evolves into a still dark screen with a psychiatrist exhorting his patient to try to get out of the house and into the world. Then two men are seen on the screen. They are dressed the same, they look at each other. Which is the doctor; which is the patient? Seconds go by. Slowly their identities are untangled. Music complements the opening action with dark foreboding, and later prods the viewer through a plot full of misunderstandings, and challenges to perception. The viewer is constantly challenged by changing realities about the characters. Docile characters are actually revolutionary, apparently perceptive characters turn out not to be. In a subplot the psychiatrist's assistant leaves his work at the hospital and joins the revolutionaries in the streets. Initially this seems admirable, but is it really? Whose actions are revolutionary and whose are psychotic?

La Balia (The Wet Nurse), a film by Marco Bellocchio, is a marvel of beauty, complexity and excitement. It is visually lush and thoughtfully provocative; a complex and layered movie that discusses society and politics without appearing to.

—Judy Goldhaft



Green City Report

Over the last year, Green City (GC) has solidified its organizational structure through the hiring of a new executive director and program manager, and incorporation as an independent non-profit organization. In addition, as a separate entity from Planet Drum, GC has recently moved to a new storefront office, which houses the organization's administrative headquarters and the new Green City Center. The Center is an on-site and over-the-phone clearinghouse for information on urban sustainability in the San Francisco Bay Area, and a venue for community gathering for both individuals and groups interested in ecologically sound community building. We look forward to expanding the Center in the coming year. The address of the new Green City Center is 1910 Mission Street, San Francisco, CA 94103. Telephone: (415) 701-9864, fax: (415) 701-9865, e-mail: greencity@igc.org, web site: www.Green-City.org.

—Brian Block

PLANET DRUM PUBLICATIONS

Reinhabiting a Separate Country: A Bioregional Anthology of Northern California edited by Peter Berg. 220 pp. Essays, natural history, biographies, poems, and stories revealing Northern California as a distinct area of the planetary biosphere. \$7 "The Book serves as both a pioneer and genre model...representing a vital and widespread new ethos." —*New Age Magazine*

A Green City Program for the San Francisco Bay Area and Beyond by Peter Berg, Beryl Magilavay and Seth Zuckerman. 90+ pp. This book is the culmination of two years' work with more than 100 Bay Area organizations, has both visionary ideas and practical applications and is in its second printing with a new chapter on Green City Realities. It addresses ecological, socially responsible and sustainable topics ranging from Smart Transportation to Recycling and Reuse. \$10

Discovering Your Life-Place: A First Bioregional Workbook by Peter Berg. Have you ever had a hard time explaining bioregionalism to others? This Bioregional Workbook is based on interactive workshops that Peter Berg has led with thousands of participants at community forums, schools, and universities. In a light-hearted, story-telling fashion, the workbook teaches about bioregionalism and leads the reader through a practical map-making exercise. It allows everyone to realize their relationships with local natural systems and makes understanding environmental issues and natural sciences tangible, real and exciting. The workbook is perfect for all classrooms—kindergarten through adult education. For one workbook send \$10 (Planet Drum members send only \$7.50) plus \$2 shipping and handling. Contact us for larger orders.

Reinhabit the Hudson Estuary: The Hudson Estuary Bundle. Essays, poetry, graphics, poster compiled and produced by New York area reinhabitants. \$10

Backbone—The Rockies. A six part Bundle of essays, poems, journals, calendars, and proposals about the fragile Rocky Mountains. \$10

Watershed Guide & Living Here. A four-color poster with a pamphlet evoking natural amenities of the San Francisco Bay Watershed. \$10

Water Web is a 20 minute performance by Judy Goldhaft with words and movement that celebrate water and describes our complex relationship to it. Live performances can be arranged through Planet Drum. Script is available for \$4.

Proceedings from North American Congresses (NABCs) II, III, IV. Includes essays, illustrations, poetry along with resolutions from the proceedings. NABC II-\$9; NABC III-\$8; NABC IV-\$10.

RAISE THE STAKES BACK ISSUES

A Deep (Ecology) Breath Before 2000, *Raise the Stakes* 29 (Winter 1998/1999). Celebrate 20 years of *Raise the Stakes* with an inside view of the history of the bioregional movement. It features the best articles (some out of print!) from *Raise the Stakes* issues 1-28. Authors include: Peter Berg, Beatrice Briggs, Jim Dodge, Chris Dresser, Jacques Ellul, Richard Grow, David Haenke, Freeman House, Jerry Mander, David McCloskey, Sharmon Apt Russell; plus poetry by Duncan McNaughton, reviews, and reports from Planet Drum, Green City, and BANA. \$4.

Reinhabitation or Global Monoculture?, *Raise the Stakes* 28 (Spring 1998). Explore bioregional responses to our planet's rapid globalization with this international issue. Articles include "Bioregionalism vs. Fascism," "Bringing Back Mangroves," "Postcards from the Olympics' Underside," "Guard Fox Watch Statements," and "Localizers: The Community Currency Alternative." Also, Circles of Correspondence, book and film reviews, PD Pulse, BANA Update, and Green City Report. \$4.

Mainstreaming Watersheds, *Raise the Stakes* 27 (Summer 1997). Articles on International Rivers Network, Freeman House about the importance of restoration ecology, how to create a Green City Calendar, preserving restoration culture, and bioregional spirituality. Special articles on Mexico Gathering of "the Americas" by Peter Berg and Starhawk. Circles of Correspondence reports range from Alberta to Hawaii and the Colorado Plateau to Italy's Po River Valley. Book reviews, Planet Drum Pulse, Green City Report, and update on the Bioregional Association of the Northern Americas. \$4.

3 R's and a B: Bioregional School, *Raise the Stakes* 26 (Fall 1996). This issue focuses on alternative education practices, specifically bioregional school programs, urban education, and folk learning. Articles include "You Are Where You Eat," "Interspecies Lessons," "Bayou Boat-building," "School in a Wild Preserve, an interview with Doug Tompkins," and others. Perfect for teachers, students and everyone. Also, Bioregional Association of the Northern Americas (BANA) report, Circles of Correspondence, book reviews, and poetry. \$4.

Connecting Our Species: Planet Reports, *Raise the Stakes* 25 (Winter 1995/1996). Find out how local bioregional activities are becoming prevalent on a global scale. This issue includes a comprehensive interview with David Suzuki by Peter Berg on local grassroots activism, planetary and ecological awareness; reports from South of the Alps, Rhineland, Spain, Scotland, Japan, and the U.S.; a review of Stephanie Mills' *In Service of the Wild* by Jim Dodge; Peter Berg on the role of bioregionalism in United

Nations policy, and more. Also, Remembering Franco Beltrametti, Circles of Correspondence, PD Pulse, and bioregional directory updates. \$5.

Bioregional Directory and Map, *Raise the Stakes* 24 (Winter 1994/Spring 1995). A listing of more than 200 bioregional groups and publications in the Northern Americas as well as in Europe and Australia. This issue is a useful way to find bioregionally-minded groups and individuals in your area. Also included is a centerfold map of the represented bioregions of the Northern Americas produced by Steven Holloway. Perfect for bioregional organizers or contacts on the road. Planet Drum Pulse; Green City Report. \$5.

Things That Really Work, *Raise the Stakes* 23 (Summer 1994). Chronicles some of the tools and practices that have proven to be effective when bioregionally conscious individuals apply them to their lives. Articles include "Teach Local," Peter Berg's "Putting 'Bio' in Front of Regional," "Making a Garden of Consequence," and "Where Poems Come From: An Interview with Jerry Martien." Also included is a Circles of Correspondence section with reports from Southern Australia and Mexico, Reads, PD Pulse, Green City Report, and a Planet Drum Publications page. \$4.

Food As Place: Bioregional Agriculture, *Raise the Stakes* 22 (Winter 1993/1994). This issue focuses on agriculture as a multinational business and provides alternatives which directly relate to bioregionalism. Methods and benefits of locally-grown foods and gardens. Features include "A Garden Growing Wild," "Eating Our Teachers: Local Food, Local Knowledge," and "Linking Plant Homelands and Human Homelands." Juan-Tomas Rehbock's report on organic agriculture in Argentina; book reviews, Circles of Correspondence and PD Pulse. \$4

Bioregional Culture, *Raise the Stakes* 21 (Spring/Summer 1993). Take a look at several unique bioregions in the articles within this issue, from India to Silverton, Colorado. What bioregionalism means to different people and its significance in determining one's own place. Circles of Correspondence: Oak Ridges Moraine, Aquaterra, Mexico, Intertribal Indian Park. Reads & Reads; Green City Report; PD Publications. \$4.

Eco-Governance II: The Anatomy of the Shasta

Bioregional Gathering, *Raise the Stakes* 20 (Fall 1992) An in-depth survey and exploration of the first Shasta Bioregional Gathering in northern California from conception to realization including highlights, participant reports and musings. Also samples bioregional gathering observations/outlines from Toronto's first Bioregion Week and the fifth TIBC held in Kerrville, Texas. Inspirational accounts and provocative critiques of the bioregional movement, questioning rhetoric and processes of congressing. A companion issue to RTS #18/19; together they provide an important tool for those planning a gathering in their home region. \$4.

Eco-Governance: Bioregional Gatherings, *Raise the Stakes* 18/19 (Winter 1991/Spring 1992). Informative accounts of bioregional gatherings in British Columbia, the Cascades, the Great Prairie, Ozarks, Detroit, the Great Lakes, Ohio River watershed, northcentral Pennsylvania, and Italy. Also features special reports from indigenous groups in the Dakota Black Hills, Mexico, Costa Rica, and San Francisco in response to the quincentennial of Columbus' arrival; Peter Berg on "Post-Environmental Origins"; reviews, including educational magazines; bioregional directory updates; PD Pulse; and news of the Green City Project. \$5

Europe Now: The Bioregional Prospect, *Raise the Stakes* 16 (Spring/Summer 1990). Articles by George Tukul on "Reinhabitation in Hungary," Thomas Kaiser's "The Difficulty of Discovering Eastern Europe," Green discussions for reorganizing along bioregional lines rather than as nation-states; new social inventions in P.M.'s "Planetary

We continue to offer 10-35% discounts on books, Bundles, Bioregional Congress Proceedings, and back issues of *Raise the Stakes* in special 3-packs. For details, please telephone, email (planetdrum@igc.org), write, or see our website (www.planetdrum.org).

Wednesday Liberation Movement; Ruggero Schleicher-Tappeser's "Ten Theses for Regional Ecological Development;" reports on the restoration of prehistoric sites in Catalunya and a glimpse of sustainable agriculture in Neolithic (New Stone Age) France by Marc Bonfils. Includes reports from Seiland, Ireland and the Italian Alps, directory updates, reviews, and poetry. \$4

Borders, *Raise the Stakes* 14 (Winter 1988-89). Explores the importance of the concept of boundaries from a bioregional perspective. Features include an interview with Malcolm Margolin on "Walking the Border Between Native and Non-native Culture," Judith Plant's account of crossing a national border for the first extra-U.S. NABC, Dolores LaChapelle's "Boundary Crossing" as a way of reconciling wilderness and civilization, Beryl Magilavay on returning nature to art, and Stephen Duplantier on "Distance Disease." Reports feature the Dominican Republic, a bioregional manifesto from the Mediterranean Basin and Josep Puig's argument for a new border there. Poetry by Jerry Martien. \$3

Nature in Cities, *Raise the Stakes* 13 (Winter 1988). Urban areas don't have to be diametrically opposed to natural systems. Beryl Magilavay discusses "Cities within Nature," urban policy issues and ecological practices are further pursued in David Goode's "The Green City as Thriving City" and Christine Furedy's "Natural Recycling in Asian Cities." Doug Aberley discusses Native American reinhabitation in "Windy Bay Journal," Brian Tokar reports on the Gulf of Maine Bioregional Congress, and Peter Garland looks at the musical tradition of Michoacan, Mexico. \$3

Open Fire: A Council of Bioregional Self Criticism, *Raise the Stakes* 10 (Summer 1984). From about seventy persons, guest editor Jim Dodge selects representative gripes from Marni Muller, Bill Devall, Gary Snyder, Kelly Kindscher, and others. The centerfold is Peter Berg's "Amble Towards A Continental Congress." The insert: A Bioregional Directory. Also: Slocan Valley, New South Wales, and Alaska reports. Networking news and reviews. \$3

What's Happening to the Water Web?, *Raise the Stakes* 7 (Spring 1983). Highlights "The Water Web" special section with Donald Wooster's historical look, "The Flow of Power," and articles about the Columbia River Watch and terminal lakes. Plus reports from Euskadi and the Australian Big Scrub, and in North America from the Connecticut River area, the Slocan Valley, the Gulf of Maine, and the Triple Divide. Centerfold photo essay, "Songs of the Outback." \$3

Cities—Salvaging the Parts, *Raise the Stakes* 3. Contains regional updates from the Black Hills and Samiland as well as in depth reports from Aboriginal Australia, the Rockies, the North Atlantic Rim, and the Klamath/Trinity, Passaic, and Sonoran Watersheds. Other features include Bioregional Comics by Leonard Rifas, Aesthetics by Michael McClure, Renewable Energy to Renew Society by Peter Berg, Cities: Salvaging the Parts by Gary Snyder, Ernest Callenbach, Murray Bookchin and Morris Berman, Decentralism by Jacques Ellul, No Guarantees by Tom Birch, and poetry by Peter Blue Cloud. \$3

*Issues 1,2,4,5,6,8,9,11,12 15 and 17 are sold out. We will, however, make complete sets of *Raise the Stakes* available to libraries and archives.*

MEMBERSHIP

MEMBERSHIP: Planet Drum was founded in 1973 to provide an effective grassroots approach to ecology that emphasizes sustainability, community self-determination and regional self-reliance. In association with community activists and ecologists, Planet Drum developed the concept of a *bioregion*: a distinct area with coherent and interconnected plant and animal communities, often defined by a watershed and by the ideas that have developed about how to live in that place. A number of individuals and communities have adopted bioregional stances—they have "reinhabited" their regions, choosing to live in place with the intent to restore, preserve and sustain their place in the biosphere. How about you?

Become a member of Planet Drum Foundation. Membership includes Planet Drum *Pulse* newsletters, discounts on publications, occasional bonus publications, access to expertise & organizing, and assistance with networking & activities.

Help Build a Bioregional Group in your area. We can help by sending a list of Planet Drum members there. To introduce your friends to bioregional ideas, send us their names and we'll forward a complimentary issue of *Raise the Stakes*. Send us ten names and we'll mail you a copy of *Reinhabiting a Separate Country* for your effort.

Inquiries, manuscripts, and tax-deductible contributions should be sent to Planet Drum Foundation.

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- Kat Anderson • Peter Bane • Peter Berg • Morris Berman • Marc Bonfils • Murray Bookchin • Ernest Callenbach • Marti Crouch • Jim Dodge • David Morris • Gary Snyder • John Trudell • Donald Worster



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