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RAIN

Let Them Eat Weeds
Real Security
Experimenting With
Micro-hydro



VOLUME IX, NO. 5

RAIN: Journal of Appropriate Technology

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RAIN Magazine publishes information which can help people lead more simple and satisfying lives, make their communities and regions more economically self-reliant, and build a society that is durable, just, and ecologically sound.

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RAINDROPS

Working at RAIN has always been a very personal undertaking. Life and work—the merging and appropriate separation of the two—has always been a hot topic.

RAIN has been dependent on individuals whose commitment goes far beyond 9 to 5, and the take-home pay.

Running an organization on low-income salaries and devotion to good work has its advantages. For example, we hardly notice large economic recessions, since we are perpetually in our own personal recession.

But there are disadvantages too. People tend to give it all they can, and then either burn-out or at least feel the need to make sudden and dramatic lifestyle changes. So people come and go. Usually the balance is maintained: as many new people come as leave.

In the last year several key staff members have left RAIN. We have survived one transition after another. But the most recent person to leave RAIN has left us against her own will and wishes, and it has been a traumatic loss.

Nancy Cospers, who has been a primary mover behind RAIN for over two years, underwent surgery in March, and was discovered to have cancer. She is recovering from the surgery, and currently is undergoing monthly chemo-therapy treatments.

There have been many moments of shock, anger and depression, and there have been many profound experiences, as we all face up to the fragility and uncertainty of life. In addition to the chemo-therapy, Nancy's healing is taking the form of an inspiring outpouring of love and support from her friends.

The organization is undergoing great stress as staff members, including those of us who live with Nancy, make adjustments to this new way of

life.

While doing this issue of the magazine, we realized we were stretching ourselves thin. The deadline of the magazine felt oppressive. We decided after much deliberation that we could not personally afford to put out the next issue of the magazine (August/September). Instead, we will be publishing a special issue in the Fall, which also happens to be RAIN's tenth anniversary issue. We hope you can understand, and support our decision.

We are also beginning the search for a new editor for the magazine. If you are interested, or know anyone else that might be, write to Steve Johnson at RAIN for details.

Extending the Rain Family

We like to think of RAIN readers as a unique group, a family of people with similar interests and perspectives. Without compromising our views, we also need to enlarge our family. We believe that the best source for new readers is our current family of subscribers. We have provided a small form for you to give us names and addresses of your friends who might be interested in subscribing to RAIN. We will send them a complimentary copy. If you know of libraries, bookstores, food co-ops, etc. that might like to carry RAIN, let us know about them too. Gracias.

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Name _____

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ACCESS: Energy

The New Alchemy Water Pumping Windmill Book

Gary Hirschberg
Brick House Publishing Co.
34 Essex St.
Andover, MA 01810
\$8.95, 141 pp., 1982

Gary Hirschberg began his work with wind and solar systems at the New Alchemy Institute in 1977. Five years and much learning later, his *Water Pumping Windmill Book* combines remarkable technical knowledge and a vivid writing style to guide you gracefully through the laws of aerodynamics, water system design, installation, and maintenance. Maia Massion's clear illustrations lure you into the backyard to look for the perfect site for your own mill.

Hirschberg discusses the economic and design merits of New Alchemy's "Sailwing" windmill at length. His tricks of the trade simplify the confusion of choosing the appropriate mill, for commercial or home-built systems.

This book pays tribute to the work of the New Alchemy Institute and to the promise of wind for our future. "Windmills are on their way back. These gentle symbols of the past are also the banners of the future—symbols of a renewed kinship between humanity and the forces that sustain us."

—Penny Fearon

Community Energy Cooperatives: How to Organize, Manage and Finance Them

Co-op Development and Assistance Project
Conference on Alternative State and Local Policies
2000 Florida Ave., NW
Washington, DC 20009
\$10.95 ppd., 1982, 239 pp.

Here is a good guide to gaining local economic control through the development of energy co-ops. Better than any other current guide, it shows how community co-ops are viable options during hard economic times.

This revised edition reflects the important insights gained since the 1980 version: adding renewable energy products and services to distribution co-ops, assisting community groups in developing energy co-ops, and self-financing of initial development costs. The guide also serves as a valuable tool for any cooperative enterprise, since five of the eight chapters address topics concerning all co-ops.

Be courageous. Get this map, gather friends, and embark on a cooperative journey.

—KN

Tools for the Soft Path

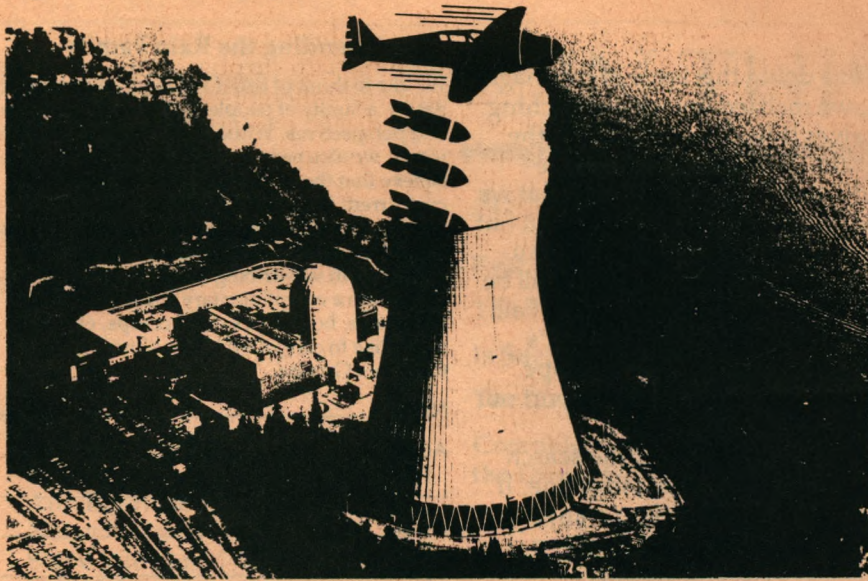
Jim Harding, editor
Brick House Publishing Co.
34 Essex St.
Andover, MA 01810
\$11.95, 1983, 288 pp.

Reading through this anthology of articles, most of which have appeared in *Soft Energy Notes*, I was struck with the sense of how much the "environmental movement" has changed since the late 1960's. In the earlier days, energy—as well as agricultural or urban planning—was not an environmental issue.

Now, here's this compendium of articles, representing some of the best critiques of current energy policy and soft-energy path solutions, from an old environmental group, Friends of the Earth, through their International Project for Soft Energy Paths.

For readers of *Soft Energy Notes*, this anthology can serve as a one-stop shopping for all the good information the journal has published during its five years. For others, it can serve as a hop-skip-and-jump through the pioneering work of many people around the world who are developing solar technology, renewable fuels, efficient motors, energy-conserving and ecological farming techniques, and much more.

—SJ



REAL SECURITY

by Amory Lovins and Hunter Lovins

*The Lovinses, past contributors to RAIN, are consultants active in energy policy in over 15 countries. This article is based on their book *Brittle Power: Energy Strategy for National Security*, published in 1982 by Brick House (Andover, MA). *Brittle Power* resulted from the Lovinses' 1981 study commissioned by the civil-defense arm of the Pentagon. It's rich in technical detail and cites more than 1200 references, but is easily understandable by the general reader. Though it will challenge military and Congressional decision makers for some time to come, its immediate worth to local leaders, activists, planners, and homeowners is considerable.*

America's security faces many serious threats. Strategic planners, however, have tended to focus almost exclusively on the *military* threat. They have largely ignored equally grave vulnerabilities in America's life-support systems. Such vital services as energy, water, food, data processing, and telecommunications are very easy to disrupt. Their failure would leave our Nation helpless.

A handful of people, for example, could turn off three-quarters of the oil and gas supplies to the eastern States, for upwards of a year, in one evening's work without leaving Louisiana. A few people could black out a city, a region, or even the whole country for months—perhaps for years. Attacks on certain natural gas systems could incinerate a city. Sabotage of a nuclear facility could make vast areas uninhabitable. All these could be accomplished by simple, low-technology attacks. And because terrorist attacks on the energy system are so devastating—yet cheap, safe, deniable, and even anonymous—they may become the most attractive form of military attack (as Libya and other countries have already threatened). Yet a free society has no direct means of defense against such surrogate warfare.

In 1979, the Defense Civil Preparedness Agency commissioned us to survey the vulnerabilities of the U.S. energy system, and what could be done about them. We were shocked to find how far misapplied technology had already jeopardized national security. In effect, Federal energy policy was undermining the

mission of our Armed Forces. Nor has this improved. Present policy subsidizes the most vulnerable energy technologies, to the tune of more than \$10 billion per year. Thus it is our own Government which is making our Nation's energy supplies ever easier to turn off.

America's energy vulnerability comes from excessive centralization and complexity. Most of our energy now comes from dense clusters of billion-dollar devices which take a decade to build. Most are computer-controlled with split-second timing. They deliver power or fuel over distances of hundreds or even thousands of miles, through networks that are elaborate, inflexible, tightly coupled, and hooked up so that they cannot work without each other. Electric grids depend on many large, precise machines rotating in exact synchrony, strung together by a continental web of frail aerial arteries. Without this synchrony, the grid cascades towards collapse. Gas grids, too, collapse if their pressure is not continuously maintained. Spare parts for the complex machines are often special-order items which cost too much to stockpile, yet take months or years (and unique, scarce skills) to make and install.

It would be hard to devise a better recipe for easy disruption; massive, catastrophic failures; and slow, difficult recovery. But the stakes are high. The most obvious risks are to our lives and liberties. A well-planned attack on the energy system could cause abrupt lurches backwards, by decades if not centuries, in our economic progress and standard of living. Energy vulnerability has also allowed a major shift in the power balance between large and small groups in society. This, in turn, threatens to erode the freedoms and the trust which underpin Constitutional government.

These risks are frighteningly real: so real that we deeply questioned whether they should be publicly exposed. Might it not be better to hope that they will pass unnoticed? However, it is already too late for that. Incidents ranging from the New York City blackout to the recent bomb-extortion incident at the giant Baytown petrochemical plant are part of a large pattern of technical accidents, natural disasters, and deliberate attacks

on energy systems around the world. *Brittle Power* documents such attacks in 26 of the United States and in 40 foreign countries. These attacks are now occurring about once every ten days (especially in campaigns by Soviet-trained guerrillas). They are becoming more frequent, intense, and sophisticated. The United States has so far been very lucky. Yet, leading experts on world terrorism doubt this luck will hold.

Currently, Federal policies are systematically making the energy system *more* vulnerable. The devices being promoted as the backbone of America's energy supply for the 21st Century are precisely the most vulnerable ones: offshore and Arctic oil and gas, big pipelines, and huge power plants (especially nuclear ones) linked by long transmission lines. Twenty-billion dollars in subsidies are being offered to build uncompetitive synthetic-fuel plants—a technology so fragile that both times it has been tried (in Nazi Germany and contemporary South Africa) the plants were promptly and successfully blown up.

These policies of Strength Through Exhaustion are said to be driven by the need to stop importing oil. To be sure, that *is* an urgent problem. One saboteur in a dinghy could cut off 85% of Saudi Arabia's exports for three years or more (the time needed to manufacture some key parts of the oil terminals), then repeat the attack. But we have the means to solve the problem of imported oil. Technologies now exist to make cars and buildings far more efficient. Just those two measures could save more than enough energy to eliminate U.S. oil imports within this decade. This is faster than a power plant or synfuel plant commissioned now could deliver any energy whatever. An energy-saving program, too, would cost only a tenth of the money required to build the power or synfuel plants. But reducing oil imports—now less than 10% of America's energy—wouldn't buy much security if our domestic energy supplies remained highly vulnerable.

Such "solutions" as the Strategic Petroleum Reserve may offer a false sense of security, but actually are part of the problem. One person in three nights could knock out the three pipelines needed to deliver the Reserve's oil to refineries. The loss of three of the biggest domestic pipelines could indeed be more serious than a complete cutoff of oil imports. Winter damage to the Trans-Alaska Pipeline (it has already been lightly bombed twice) could even turn it into the world's largest Chapstick[™] as 800 miles of hot oil congealed inside.

Unfortunately, modern energy systems are so complex that nobody can predict how they might fail, even accidentally. Worse still, designing them to be reliable in the face of predictable kinds of technical failures does not provide, and may even reduce, an even more vital quality—resilience in the face of *incalculable* failures (such as sabotage). Few energy engineers today have this quality in mind. They therefore design centralized, monolithic systems which don't fail often (at least without help), but when they do fail, they fail big.

How, then, can the American energy system evolve toward greater resilience rather than less? How can we prepare for a surprise-full future—one that may hold increasing uncertainty, unrest, and even violence? The answer may be found by examining many kinds of

engineering—and above all biology, with its billions of years' experience in coping with surprises—to see how systems can be designed for inherent resilience. Our research yielded 20-odd design principles which could be applied to the energy system so as to make major failures of energy supply *impossible*.

Such a system would be far more efficient, diverse, dispersed, and renewable than today's. The things we should do to save energy and money also turn out to be virtually the same as those needed for real energy security.

The most resilience per dollar invested—the "most bounce per buck"—comes from using energy very efficiently. Wringing more work from our energy can not only eliminate dependence on the most vulnerable sources (such as oil from the Persian Gulf), but can also make failures of other sources milder, slower, more graceful, and easier to fix.

A key to resilience is gradually to replace centralized energy sources with many dispersed ones, richly interconnected—the strategy of a tree which has many leaves, each with many veins, so that insects' random nibbles won't disrupt the vital flow of nutrients. The value of such dispersion was reproven in the Northeast Blackout of 1965, when the power engineer in Holyoke,

Whatever military might has accomplished, then, it has not yet made us truly secure. Perhaps it never will.

Massachusetts, was able to unhook the city from the collapsing grid and hook up instead to a local gas turbine. The money saved by not having to black out Holyoke paid off the cost of building that power plant in four hours.

Renewable energy sources can enjoy the benefits of interconnection when you wish but can also stand alone when you need to. Thus, Department of Energy officials in 1980 had just cut the ribbon on a West Chicago gas station, powered by solar cells, when a thunderstorm blacked out the city. That was the only station pumping gas that afternoon. Likewise, a Great Plains farmer who uses windpower recently saw on the TV evening news a report that his whole area was blacked out. He went outside and looked. Sure enough, all his neighbors' lights were off. So he came back in and watched his wind-powered TV some more to see when the neighbors' lights would come back on.

Many people would like to be in that position. By a happy coincidence, the efficiency gains and the many kinds of renewable energy sources which, together, are enough to meet essentially all the long-term needs of an advanced industrial economy are also the *cheapest energy*

options. Thus the "insurance premium" we must pay for energy security actually *pays us back*. A "least-cost energy strategy" combining efficiency with appropriate renewable sources (as the Harvard Business School's energy study recommended) could save Americans more than two trillion dollars in the next two decades, provide more than a million new jobs, and solve many environmental and social problems. Indeed, such economically efficient investment is the only way we will be able to maintain a dynamic economy.

The problem of secure and affordable energy supplies is being solved—but from the bottom up, not from the top down. Washington will be the last to know. The solutions that individuals are finding (with important help from the innovative community programs described in *Brittle Power*) don't need and probably can't even tolerate the mandates of Soviet-style central planning. They rely instead on a truth familiar to both Jeffersonians and free-marketeers: that most people are pretty smart and, given incentive and opportunity, can go a long way towards solving their own problems. Best-buy, accessible energy investments can simultaneously enhance America's military preparedness and protect the individual choice and civil liberties that are central to the vision of our Republic. Thus a decentralized process, based on accessible tools as simple as the caulking gun, can—given a few decades' steady implementation—remove a major threat to national security.

The importance of energy resilience to national security may hold wider lessons. First, focusing exclusively on centralized military planning to counter overt military threats may build costly Maginot Lines while the back door stands ajar. Indeed, there are many back doors: energy is not the only hidden vulnerability of our interdependent industrial society. The average molecule of food is shipped some 1300 miles before an American eats it. Drop a few bridges across the Mississippi and Easterners will soon starve. New York City's water arrives via two antique tunnels, each too small to permit either to be shut down for inspection or repair. A smart computer criminal could probably crash the whole financial system. There are doubtless other key vulnerabilities not yet discovered, and someone had better start finding out how to reduce them.

Second, better security may not cost more money. At least in the case of energy—and probably of water, food, and data processing too—real security is the best buy. It is what a genuinely free market would produce if we had one.

Third, better security doesn't necessarily come from Washington. It may indeed come best from the village square or the block association, rather as the Founding Fathers envisioned the local militia. The parable of energy security reminds us that real security in its widest sense begins at home. It includes a reliable and affordable supply of energy, water, and food; a healthful environment; a vibrant and sustainable system of production; a legitimate system of self-government; and a polity that preserves and refines our most cherished values. Most people who thus enjoy "Life, Liberty, and the Pursuit of Happiness" will simply want to be left alone to enjoy them—not to fight anyone else. But such assets can only be safeguarded by protecting our neigh-

bors' similar assets lest, deprived, they seek to take what we have. Perhaps real security, then, comes not from reducing our neighbors' security but from increasing it, whether on the scale of the village or the globe.

Untold treasure has been devoted to a different theory of providing strategic security, by the actions of a central government and the greatest concentration of technical genius the world has ever known. This effort is currently costing our Nation more than ten thousand dollars a second. Yet in 1944 the United States was militarily invulnerable, while today, thirty thousand nuclear bombs later, it lies entirely exposed to devastation. Those bombs are said to have deterred nuclear attack, and perhaps they have so far. Yet in an era when the explosive power of a World War II can be packaged to fit neatly under your bed, bombs can arrive not only by missiles (whose radar tracks mark their origin for retaliation) but also by Liberian freighter, rental van, or United Parcel Service. If Washington disappeared in a bright flash tomorrow morning, but nobody said, "We did it," against whom are our strategic forces to retaliate? Anonymous attacks, whether nuclear or via a vulnerable energy system, cannot be deterred.

Whatever military might has accomplished, then, it has not yet made us truly secure. Perhaps it never will. The roots of real security go deeper; they need greater nourishment than armies and missiles alone. One vital element of defense, for example, is a political system so firmly based on shared and durable values that it can never be subverted or taken over. Some Scandinavian strategists even suggest that military security comes foremost from organizing on such patriotic foundations a standing Resistance that will make one's national territory impossibly disagreeable for anyone else to occupy.

The nuclear threat is terribly important. So is countering it as best we can (since it cannot really be defended against). But the complexities of that task must not obscure our understanding of our Nation's basic strategic assets. These include a geography that shields us against physical invasion from overseas; a freedom of expression that shields us from ideological invasion by exposing concepts to the critical scrutiny of an informed public; an ecosystem much of whose once unique fertility can still be rescued from degradation; a diverse, ingenious, and independent people; and a richly inspiring body of political and spiritual values. To mature within these outward strengths—strengths more fundamental and lasting than any inventory of weaponry—will require us to remain inwardly strong, confident in our lives and liberties no matter what surprises may occur. This in turn will demand, in the spirit of our political traditions, a continuing American Revolution which expresses in works a sincere faith in individual and community effort. It was that faith which inspired our Republic, long before strategists became preoccupied with the narrower and more evanescent kinds of security that only a faraway government could provide. It is that faith today, the very marrow of our political system, which alone can give us *real security*. □□

Reprinted with permission from the Daughters of the American Revolution Magazine, March 1983.

ACCESS: International Development

Who's Involved With Hunger: An Organization Guide

Linda Worthington, Ed.
World Hunger Education Service
1317 G St. NW
Washington, DC 20005
\$4.00, 1982, 50 pp.

Being "involved with hunger" covers a broad range of topics in this directory, including appropriate technology, domestic hunger and poverty, U.S. agriculture, local self-reliance, and international development. The activities of the organizations described range from research and education to political advocacy and grassroots organizing. There are special sections listing government organizations, which include the United Nations, U.S. Congress and federal agencies, regional and statewide groups, and church-related organizations, which have traditionally been involved in hunger concerns.

Each of the 400 entries has basic access information and a brief description of the agency and publications. If you are "involved" in any facet of the hunger issue, you will find this directory a useful resource.

—RB

Appropriate Technology and Rural Industrialization

Marilyn Carr
Intermediate Technology Development Group
9 King St.
Covent Garden
London WC 2 8HN UK
\$3.00 ppd., 1982, 23 pp.

One of the problems developing countries face is the tremendous rural-to-urban migration, which leaves the farms understaffed and severely overcrowds the cities. Carr outlines some of the alternatives available for developing rural industry in order to create new jobs, raise rural incomes, and provide more basic services such as water, health care, power, transportation, and education. Strategies discussed focus on encouraging the development of new industries in rural areas and supporting the growth of established rural businesses.

To date, individual countries have tried a number of different approaches. However, little research has been done to determine what works best and how to avoid oft-repeated mistakes. This report emphasizes the need for a method, based

on empirical research, of determining the strategy which is best suited to a country's particular social, political, and economic needs. Such information would be most useful to governments who are faced with the difficult choices inherent in setting a national development policy.

—AB

Guatemala! The Horror and the Hope

Rarihokwats, Ed.
Four Arrows
PO Box 3233
York, PA 17402
\$6.00, 1982, 300 pp.

In the spring of 1982, I visited a Guatemalan refugee camp in Honduras and asked a young boy how he felt about life in the refugee camp. "Well," he replied, "I like it here better, because back home they kidnap and kill people."

In refugee camps in Honduras and El Salvador, I heard countless tales of murder and military repression, but the simple, matter-of-fact quality of this child's statement touched me most deeply with a sense of the tragedy of Guatemalan life.

The Horror and the Hope takes a hard look at the roles played by the U.S. government, the American media, and the multinational corporations in Guatemala. It examines the activities of Argentine and Israeli governments in developing the computerized apparatus of military repression, and it analyzes the nature and history of the various Guatemalan resistance movements. But most importantly, it calls us to action. This book provides the foundation and the resources for a strong movement against U.S. support of repression in Guatemala. The final section includes information on projects such as the Guatemalan tourist boycott, teach-ins and petition campaigns, books, films, and speakers.

—Terry SoRelle

Environmentally Sound Small-Scale Forestry Projects

Peter Ffolliott and John Thames
Coordination in Development (CODEL)
Volunteers in Technical Assistance (VITA)
1815 N Lynn St., Ste. 200
Arlington, VA 22209
\$ 5.95, 1983, 109 pp.

Community developers, take note! This excellent book was written for those of

you in Third World countries who are not forestry experts, "but who want . . . general guidelines for planning environmentally sound small-scale forestry projects." The authors stress that "environment" refers to the people and their customs, laws, and economy as well as to the soil, plants, and animals of a given area. Trees are planted by *people* and *people* care for them; a project is successful only if they feel involved and committed to its goals.



From: *Environmentally Sound Small-scale Forestry Projects*

Ffolliott and Thames balance the people-oriented information with a thorough introduction to the physical/biological aspects of forestry. They answer questions ranging from "What is agroforestry?" to "Why is fuelwood management important?"

CODEL and VITA have collaborated on two other books in this series that are also extremely helpful: *Environmentally Sound Small-Scale Agricultural Projects*, and *Environmentally Sound Small-Scale Water Projects*.

—AB

THE POLITICS OF WEEDS

by Diane Cameron



In the early 1970's, the migration of (mostly young) people to rural, farm, and wilderness areas was identified and labled by mass media as the back-to-the-land movement. To some people, it was a bold but short-lived experience; a short course in the rise and fall of civilization. It's just plain tough out there to make a go of it. Many moved back to the cities, or continue to yoyo between the city and country. But to many people, living on the land became a way of life, and out of this was spawned a far-reaching alternative agriculture movement.

The alternative agriculture movement has grown by leaps and bounds over the last ten years. Knowledge about both successful and unsuccessful methods of small-scale, ecologically sound farming has been spread by communication networks such as Tilth as well as by publishing giants such as Mother Earth News and Organic Gardening.

The most recent insights about appropriate farming methods have been inspired by two complimentary farming techniques: the permaculture ideas developed by Bill Molison; and the "no-till" method espoused by Japanese farmer, Masanobu Fukuoka.

The generic term for the new direction might be referred to as biological or ecological farming—a wonderful blend of the alternative agriculture and environmental movements. It boils down to the fact that the best farming is almost non-farming. Farmers, while still performing food-producing roles, also serve as bio-regional custodians, caring and enhancing the natural landscape—the native plants and wildlife.

At the same time as the back-to-the-land movement has been evolving, a complimentary movement has taken place in the city—the urban or community garden movement. While, even several years ago it was delightful enough just to see a garden in the city, now the movement is mature enough to support its own research and suffer the political consequences of being taken seriously.

In the "Politics of Weeds," Diane Cameron describes one community's—Bloomington, Indiana—experience with urban gardening when people are confronted with ecological farming techniques. The questions raised seem both important and curiously absurd—What is a weed? What is food? How can you garden if you don't garden? —SJ

The gardening movement in Bloomington was organized in the spring of 1981 by some members of Bloomingfoods, a local grocery cooperative. One goal of the cooperative had been to provide low income people with wholesome food at affordable prices, yet it had fallen short of its goal. Fresh vegetables and fruit, along with nuts, grains, and dairy products, are bought primarily from regional wholesalers. Some co-op members

wanted to have locally grown, less expensive produce, and cooperative gardening looked like a practical answer.

The gardeners found a suitable plot in a five-acre field owned by Indiana University. The University agreed to lease the land to Bloomingfoods' parent organization, Bloomington Cooperative Services (BCS), under certain conditions. These included mowing a strip of land where the Garden bordered the road, mowing anything that was not part of a garden, and keeping the place "neat." With these provisions agreed to by the signers, Bloomington had a community garden. It was later named "Wild Grove Community Garden," after its large stand of wild garlic.

Wild Grove has now gone through its second summer, and about 50 people have grown everything from fava beans to basil and hubbard squash. Edible wild plants also proliferate there, and these "weeds" have been a source of conflict between the University, the City, and the natural gardeners.

Some gardeners objected to the lease's provision calling for mowing because they feel that wild plants are too valuable to mow. Weeds, in fact, form the basis for the "wild gardening" philosophy guiding many of the gardeners. Not all of the original gardeners were against the mowing, however. Weeds, according to Dee Blair, a member of the Bloomingfoods board at the time the lease was signed, "became a point of controversy," and the garden was no longer "a cooperative, harmonious arrangement."

Mike Andrews, one of the original garden organizers, was among those opposing the mowing. "The people who least wanted to cut the weeds were the ones with the strongest connections to the garden in terms of livelihood," reflected Andrews.

The philosophy of the natural gardeners has been eloquently expressed in *The One Straw Revolution* by Japanese farmer Masanobu Fukuoka. According to Fukuoka, the best, most natural diet is one that takes what is offered by nature, each season in turn offering its own specialties. He calls his method "do-nothing" farming, where one relies on a natural balance of cultivated plants, green mulch, insects, and climate to control weeds, pests, and blight.

Much of the eastern part of the garden plot had been beaten down into a virtual hardpan by bulldozers—the site had previously been a basket factory. The soil was badly eroded in places. Wild plants such as vetch, sweet clover and lambsquarters were building a new soil on



Wild plants, by definition, require less constant care than domesticated strains. What they do require is a careful stewardship of the land. This conservation ethic may necessitate political action.

the hardpan and slowing erosion. The wild plants stabilized the land and made it available for gardening.

Some of the crops being grown at Wild Grove are from seeds obtained in unusual ways. The hubbard squash plants are from seeds trashpicked from a local grocery store's bountiful dumpster. Several species of melon and herbs are "heirloom plants" that derive from grandmothers' and aunts' gardens. Many crops, such as tomatoes, 'volunteer' to return on their own year after year by reseeding themselves or recycling through compost piles. The net effect is an astounding variety of cultivated crops.

The variety of wild crops in the garden is great. Andrews and Hill Craddock, an art student and botany enthusiast, conducted an inventory of wild plants at Wild Grove and catalogued over 100 edible varieties. Fifty were found to be "significantly useful," having important nutritive or medicinal properties. These included rosehips, hollyhock, and, of course, garlic.

The wild plants have other value. They serve to heal, protect, and bring fertility back to eroded or bulldozed soils. Vetch and wild sweet clover fix nitrogen and put organic material deep into the clay layer. Lambsquarters, another deep-rooted weed, can help to bring moisture to the soil during droughts by opening up channels.

No-till gardening is popular at Wild Grove, and for good reason. Several people who insisted on rototilling their gardens found that certain hardy weeds rapidly germinated and overtook their vegetable crops in the disturbed soil.

Several gardeners said they'd eventually like to become completely dependent upon wild plant stock, since it is more disease and insect resistant. "These plants are so hardy, they represent an improvement over cultivated varieties. I hope that people learn to be a lot more sensitive to the links between the wild plants around them and the plants they're actively cultivating," mused Andrews. Wild plants, by definition, require less constant care than domesticated strains. What they do require is a careful stewardship of the land. This conservation ethic may necessitate political action.

Although many gardeners reaped a bountiful harvest after the first summer, political and legal problems still plagued them. The weeds, and the construction of a tipi in the middle of the garden, became a sore spot.

The weeds bothered a nearby lumberyard, afraid of a fire hazard and rodent infestation. They also bothered

the city, which has an ordinance requiring all weeds taller than one foot to be cut down, and the University, which wanted its land kept neat.

Bloomington Cooperative Services, tired of receiving complaints about the garden, went to the University to wash its hands of the matter. The University agreed to not hold BCS responsible, and from then on, an ad-hoc group of devoted natural gardeners took over responsibility for the garden.

When the University announced plans to sell the land as "surplus" property, in response to complaints about the garden after Wild Grove's first year, the gardeners responded with lobbying visits and letters to University administrators and trustees. Several gardeners compiled a book with photos, drawings, poems, and essays about the garden, which was used as a public education and lobbying tool. The University reportedly did not want to renew its lease for the site because the mowing clause and other provisions had not been fulfilled.

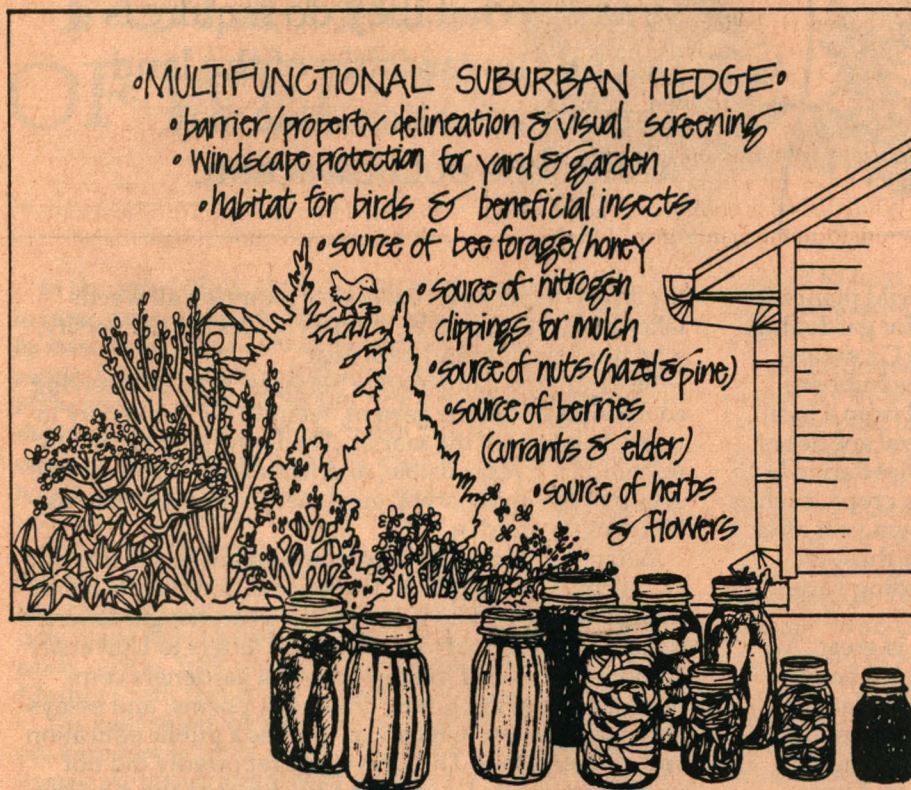
Wild Grove's status was still uncertain by March, 1982, but the gardeners sowed their seeds anyway. Finally, well into the spring planting season, the University granted permission to garden for another year.

By the fall of 1982, the tall weeds had become too much for the city and University. Tractor mowers came out to the garden unannounced and mowed about 75 percent of the fall crops. The devastation prompted gardeners to change the local weed ordinance. The gardeners persuaded City Council member Pam Service to sponsor an amendment to the weed control ordinance that would redefine "weed" as a "non-useful plant." The amendment, which was passed by the City Council in November, gives a reprieve to any wild plants deemed "useful" by the gardeners.

For the committed natural gardeners, Wild Grove's members are proposing long-term dedication of the tract to natural gardening. Says Andrews, "Communications are beginning to straighten out after two years. That was our biggest problem—people didn't understand what we were trying to do—or that weeds don't bite."

Perhaps a national community gardening movement could evolve into a kind of "Garden Party" network of people developing the political skills necessary for gaining access to gardening space. That way, politics will become more closely tied with livelihood, and wherever people move they'll have access to garden space and wild perennials. They'll reap a harvest of cooperative self-reliance. □□

ACCESS: Agriculture



From: *Gardening for All Seasons*

Food Marketing Alternatives for the Inner City

The Consumer Division
Community Nutrition Institute
1146 19th St. NW
Washington, DC 20036
\$10.00, 1982, 91 pp.

Access to food for inner city residents, especially those with low income, has steadily declined over the past 15 years. *Food Marketing Alternatives for the Inner City* addresses this problem by offering

marketing strategies based on the resources of the residents themselves. Strategies discussed include neighborhood organization to preserve local supermarkets, joint venture supermarkets, supermarket co-ops, farmers' markets, the food systems approach, and innovative methods such as computer assistance.

To help inner city groups determine the marketing methods suitable for their particular areas and constituencies, each chapter includes at least one case study of an existing marketing arrangement along

with access information to organizations and publications. Each chapter also contains a comprehensive "action checklist," invaluable to those implementing their chosen market strategy. Overall, this book is an extremely well-organized guide, a highly useful urban community action tool.

—JS

Gardening For All Seasons

The New Alchemy Institute Staff
Gary Hirshberg & Tracy Calvan, Eds.
Brick House Publishing Co.
34 Essex St.
Andover, MA 01810
\$12.95, 1983, 309 pp.

Those creative people at New Alchemy have been at it again, transforming paper and ink into gold. *Gardening For All Seasons* is the fruit of New Alchemy's extensive research and experience in gardening systems, bringing together horticulture, nutrition, domestic design, soil maintenance, aquaculture, fowl rearing, edible silviculture, community, food preservation, and (whew!) nutrient recycling. Anyone who ever thought that gardening begins with seeds will have a definite change in perception no matter how selectively this book is read. In fact, the extent of integration and focus on cycles is enough to make the new gardener plead in frustration, "But where do I start?" Happily, the book remains silent.

Gardening For All Seasons does have a New England emphasis, but the superb presentation makes this book just as valuable to those of us outside the region. After all, any gardening book which devotes ten pages to worm culture *has* to be worth its weight in chicken manure.

—JS

ACCESS: Economics

Working Free

John Applegath
AMACOM
135 W 50th St.
New York, NY 10020
\$6.95, 1982, 207 pp.

Unemployment as an indicator of the failure of our economic system may be

based on false assumptions about the relationship between work—as in "earning a living"—and an individual's ability to achieve a quality standard of life. Full employment may be an unattainable goal, which is not to say that society cannot continue to find better ways to enhance the individual's quality of life, or that we are doomed to years of unemployment statistics. Instead, what we are

facing is a radical shift in our concept of work. If we only apply our clichés about employment, that, for example, everyone should be working 9 to 5, earning money to "buy" their life support system, then we will continue to perceive unemployment as a sign of failure.

Working Free is an excellent introduction to new ways of perceiving work. It is a practical guide to many creative alterna-

tives to the 9-5 job syndrome. It gives many personal accounts of people who are trying new arrangements and describes their successes as well as failures. It is, in some sense, a sequel to the popular *What Color is Your Parachute*, and includes a good research/reference section for people who want to begin experimenting.

—SJ

Grunch* of Giants (*Gross Universal Cash Heist)

R. Buckminster Fuller
St. Martin's Press
175 Fifth Ave.
New York, NY 10010
\$8.95, 1983, 98 pp.

As Fuller charts in *Grunch*, his sequel to *Critical Path*, the corporate giants not only

propagate nuclear weaponry, but also steer the economic course of the planet.

The giants, supernational corporations, are now implementing a ten-year plan to spend six trillion dollars on weaponry, says Fuller. He believes "we now have only 50 months to exercise our option to convert all Earthian industrial productivity from 'killingry' to 'livingry' products and service systems." Upsetting words, especially from this ahead-of-his-time philosopher-inventor.

What does this book recommend we do to transform the giants' grip? Inform ourselves. Learn how the giants play the game. In the meantime, we would also do well to only spend money on what makes sense for a sustainable future: buy locally produced, handmade, recyclable, low energy and resource consuming products and food.

—KN

Economics, Ecology, Ethics: Essays Toward a Steady State Economy

Herman Daly, Editor
W. H. Freeman and Company
660 Market St.
San Francisco, CA 94104
\$7.95 ppd., 1980, 372 pp.

While most economists were still pondering the implications of *The Limits to Growth* in 1972, Daly, just a year later, assembled into one book the most insightful essays on how a sustainable economy might work. A decade later, this revised edition still provides the most complete picture of finite planet economics. From Ehrlich, Georgescu-Roegen, and Hardin to Schumacher, Boulding, and Daly himself, the economic model becomes clear. After reading it, share it with your "voice" in D.C.

—KN

ACCESS: Organizational Development

The Nonprofit Organization Handbook

Tracy D. Conners, Editor
McGraw-Hill Book Company
1221 6th Ave.
New York, NY 10020
\$29.95, 1980, 740 pp.

This volume is an excellent reference tool for nonprofit organizations. All of the major topics are covered thoroughly, including incorporation, management, volunteers, fundraising, public relations, and finances.

Over twenty-five writers contributed chapters to the book. A few of the chapters are overly technical and some of the material is more useful to a large rather than a small organization. Whatever the topic, however, any organization will find helpful information in this book.

—RB

VII:8, VII:10).

Brigham's new edition provides an in-depth review of the editorial role and answers to such questions as why publish, why have guidelines, and why advertise. Nine chapters clearly outline the publishing process and examples are bountiful. Typesetting and printing are discussed as well as planning and scheduling strategies. Also addressed are budgets (those rascals!), fact-finding, and the logistics of the copyright law.

This manual is geared toward the volunteer newsletter editor or publicity person for a community-based, nonprofit organization. The table of contents pinpoints which sections to delve into first as a crash course for beginners. So, whether you are a novice at publishing community information, or a seasoned editor or committee person, this book is a "must" for your bookshelf.

—Mimi Maduro

which are outlined here along with more recent changes. Topics covered include unusual ways to give, limitations on charitable deductions, trusts, loans, deferred giving, wills, and more.

—RB

How to Do Leaflets, Newsletters and Newspapers

Nancy Brigham
PEP Publishers
PO Box 289, Essex Station
Boston, MA 02112
\$7.95, 1982, 144 pp.

I discovered the first edition of this handy "how to" when I started my first community relations job in 1977. Since that time, I've used it as my trusty "bible" for developing community information materials and newsletters. My second "bible" is Mark Beach's *Editing Your Newsletter* (See RAIN,

Gift Giving Guide

Funding Exchange
135 East 15th St.
New York, NY 10003
\$7.15 ppd., 1983, 64 pp.

The Funding Exchange is a network of seven alternative, community-based foundations. This guide is an effort to respond to the questions of their donors in relation to "the method, mechanics, and tax implications of tax-deductible giving."

The 1981 Tax Act made a number of changes in the rules for charitable giving,

Small Time Operator

Bernard Kamaroff
Bell Springs Publishing
PO Box 640
Laytonville, CA 95454
\$9.95 ppd., 1982, 190 pp.

Have you ever thought of starting your own business? If so, read *Small Time Operator* first. This technical manual covers all the basics of starting and running a small business.

The first section covers financing, legal requirements, and other aspects of "getting started." Bookkeeping is discussed in greater detail, from petty cash to profit and loss analysis. There are pointers for the growing business that needs to hire employees or form a partnership or corporation. Another detailed section covers a favorite topic of every small business—taxes. The appendix includes access information for a number of books and periodicals, and there is even a complete set of bookkeeping ledgers.

For anyone that is willing to take on the challenge of starting a small business, this practical guide will help you become a successful small time operator.

—RB

Is Socialism

Socialism, in various shapes and sizes, is repeatedly put forth as a solution to our economic woes. While the abuses of big business and "free enterprise" are well known, the specific strengths and weaknesses of public, nationalized, or government-run businesses need to be examined more closely. Many of our economic problems are inherent in any economic enterprise—public or private, and a concept as broad as socialism is unlikely to solve such problems.

Public ownership of businesses can offer several advantages, including lower capital costs, greater public control of policies, less incentive to externalize costs and to ignore external social benefits, and some potential freedom from traditional ideologies concerning profit vs. viability.

Like private business, public enterprise has its own particular pitfalls. Without the downward pressure on costs that exists in a competitive industry, public owner-

There is a big difference between "making a killing" and "making a living."

ship generally lacks any effective mechanism to remain reasonably efficient. Organizational bureaucracies have an ever-present tendency to expand, and public bureaucracies have demonstrated difficulty of discharging incompetent or lazy civil servants. In addition, there may be political pressures to retain obsolete local plants or retain unprofitable services that considerably overreach any potential social benefit. A public enterprise can be unwisely pressured to take in workers to relieve unemployment or as political patronage. And without competition, there is little incentive to seek improvements or means to evaluate effectiveness.

There is little to show from the history of nationalization and public ownership in Europe that either private or public enterprise consistently provide greater efficiency or social benefit. As Clair Wilcox states in *Public Policies Toward Business*, "Observers of the performance of the nationalized industries in Britain, for instance, are inclined to agree that gas, electricity, and road haulage

have been well run and that railroads and coal mines have not. But this judgement would doubtless be passed on the performance of the same industries, under private enterprise, in the U.S."

In the Soviet-dominated Communist countries of Europe, an uncritical belief in the correlation between size and efficiency has overshadowed other factors and resulted in severely damaged economic performance and ineffective use of labor, capital, and transportation facilities. Although their larger production units are equipped with the newest and best machinery and have the best managers, several analyses have shown average unit costs increasing with the size of the plant. While industrialization was probably achieved more rapidly under state ownership, the centralization of control, rigid hierarchical structures, and excessive scale of factories have proved incapable of meeting the problem of intensive growth. Production planning is too inflexible to respond to the desires of individual consumers, and workers seem to have little interest in productivity or reduction of materials costs.

The result of U.S. experience with public enterprise is equally varied. The privately owned, publically "regulated" telephone monopoly is technologically competent, well-operated, but often accused of numer-juggling to hide excess profits. The U.S. Post Office became a national disaster in terms of service and costs. American private enterprise passenger rail service is almost extinct, and a failure when compared to the excellent and improving rail service of other countries.

On the other hand, municipal ownership of public utilities has been somewhat more successful than private utilities. Even accounting for the lower costs to public utilities of tax-free bonds and lower taxes, municipal power costs the public 18 percent less than private power. Eliminating stockholder dividends alone saves 11 percent of every dollar paid to private utilities. In addition, public systems spend less on public relations, political donations, executive salaries, and internal bureaucracy. Yet public power has proven scarcely more open to public participation in issues of nuclear power, conservation vs. generation, and other policy issues.

Economically and technically, both private and public enterprise have records of failure and success. The technical requirements of some industries favor oligopoly or monopoly, with inherent problems for the public whether privately or publicly operated. In other areas, public and private operations compete or coexist successfully, each with somewhat different costs and benefits. The failure of public enterprise to attain higher

The Answer?

by Tom Bender

standards of social benefit seems tied more to the overwhelming strength of our materialistic attitudes and lack of any sense of what "socially responsible" management would mean than to lack of potential.

In theory, the social benefits of public enterprises should outweigh their "economic" handicaps, but in practice, this has rarely occurred. In consumer oriented industries, public enterprises appear a failure. They have found a successful role in utilities and in credit unions, co-ops and municipal services. Here they have operated within a market economy to provide enough countervailing power to compete successfully with corporate giants to curb major abuses of power by the corporate marketplace.

Viewed pragmatically, public ownership or operation can probably be used as a response to specific situations where private enterprise, under fair game rules, has failed in its obligations and responsibilities. The same view should be taken toward allowing private competition into poorly functioning public enterprises. We need to keep healthy alternatives existing alongside each other as yardsticks to measure performance, to set up structures that encourage public intervention, and allow a shift back and forth between various public and private structures as the need arises.

Experience suggests also that co-existence or competition (under equitable rules) between private and public enterprises can be a desirable state of affairs. Public and private utilities, banking, health services, insurance, retirement plans, and broadcasting already co-exist healthfully. A pluralistic economy may offer us greater freedom for innovation, experimentation, and continued viability than one based on either private or public enterprise.

There is also a fundamental difference between different forms of capitalism and socialism. There is a difference between "making a killing" and "making a living," between the power and damage potential of large and small institutions, and between small ones that want to be big and small ones that want to be small. The small business sector of our economy is the source of most new ideas, products, and jobs. It contains the most efficient and responsive production units, competitive prices, and offers people more control over their work. The same is true of worker-owned businesses compared to nationalized big ones.

With small businesses, the positive features of a market economy are gained, while they largely avoid the negative features associated with size and power, monopoly, and valuing capital accumulation over ser-

vice performed. A small-business/fair-market economy—with any mix of private and public ownership—can probably provide a more sound basis for our society than either Big Capitalism or Big Socialism.

In both our economy and ones where public enterprise is more common, the greatest problems seem to be caused by scale and values—by the domination of the market or planning by the power of a few large production units, by prices uncontrolled by competitive forces, by placing financial gain before human gain. Similarly, they are caused by unresponsiveness to the needs, resources, and desires of different people, communities, and regions. Big Business has stacked the cards against the small business person so greatly by control of the legal, financial, and political rules of our economy, that small businesses appear far less viable than they are in real economic or social terms. Restructuring these rules from a sound value base gives a greater opportunity to

In theory, the social benefits of public enterprises should outweigh their "economic" handicaps, but in practice, this has rarely occurred.

solve our economic problems than any sweeping change from private to public enterprise.

The similarities between capitalistic and socialistic societies are much more significant than the differences upon which we focus so much attention. Definitions of socialism and capitalism overlap like crazy-quilts. They blend into each other in untold variations in practice. They grow from similar materialistic roots, operate so similarly in scale, values, bureaucratization, and in placing dollars before social and human development, that their effects are frequently indistinguishable. We need to look beyond the materialism basic to both systems for a sound basis for society—either can be a workable operating mechanism if built on sound values and restructured to serve those values. □□

Tom Bender is editor-emeritus of RAIN. He presently lives at Neahkahnie Mountain on the Oregon coast.

THE GAME OF LANDFILL SALVAGE

by Daniel Knapp

Recycling—a word not even in the dictionary before 1970—has expanded, so to speak, to fill the waste available. There is a fascinating, nearly obsessive world of recyclers—second hand junkies, scavengers, scroungers, and waste-not-want-not metaphysicians.

To many people, recycling has become a normal way of life. At least, many people have learned to do some basic sorts in the households such as separating bottles, cans, newspapers, and maybe compost. But beyond this simple and practical recycling, there is a more complex world. Recycling advocates are, after all, dealing with prickly sociological/political issues that go to the heart of the meaning of civilization. When and how something gets thrown away brings up euthanasia-like questions—when is a thing dead? The question of throwing things “away” brings up the question of just where is “away”? And finally, something graphically illustrated by the following short piece by Dan Knapp, is what rights do individuals have to “throw things away?”

Dan Knapp is one of those salvage metaphysicians. He has been a sociology professor, worked with Oregon Appropriate Technology, and most recently, was a founding member of Urban Ore, a Berkeley-based recycling business. Dan has been involved in running the salvaging concession at the Berkeley dump.

In this excerpt from a longer piece with the same title, Knapp introduces the politics of salvage at dumpyards through a brief overview and a personal experience which we feel brings out the curious world of dumpyards where people’s physical and psychological “junk drawers” are exposed and the dumpyard scavengers become barefoot psychoanalysts.—SJ

Landfill salvage is a contest, where one group of people is trying to dispose of things, and another group of people is trying to save these same things for future use.

At any dump where salvage is allowed or encouraged, there will be hundreds of encounters daily where the dynamic of waste becoming wealth works through its motions by varying paths.

The scavenger wants to be the first to go through the load, pulling the surprises, the valuables, the unusual, the immediately useful. The dumper usually wants to

dump and run, but sometimes is caught by the humor, the incongruity, the sheer fantastic intensity of the disposal scene, and stays to chat, to help, to ask or answer questions.

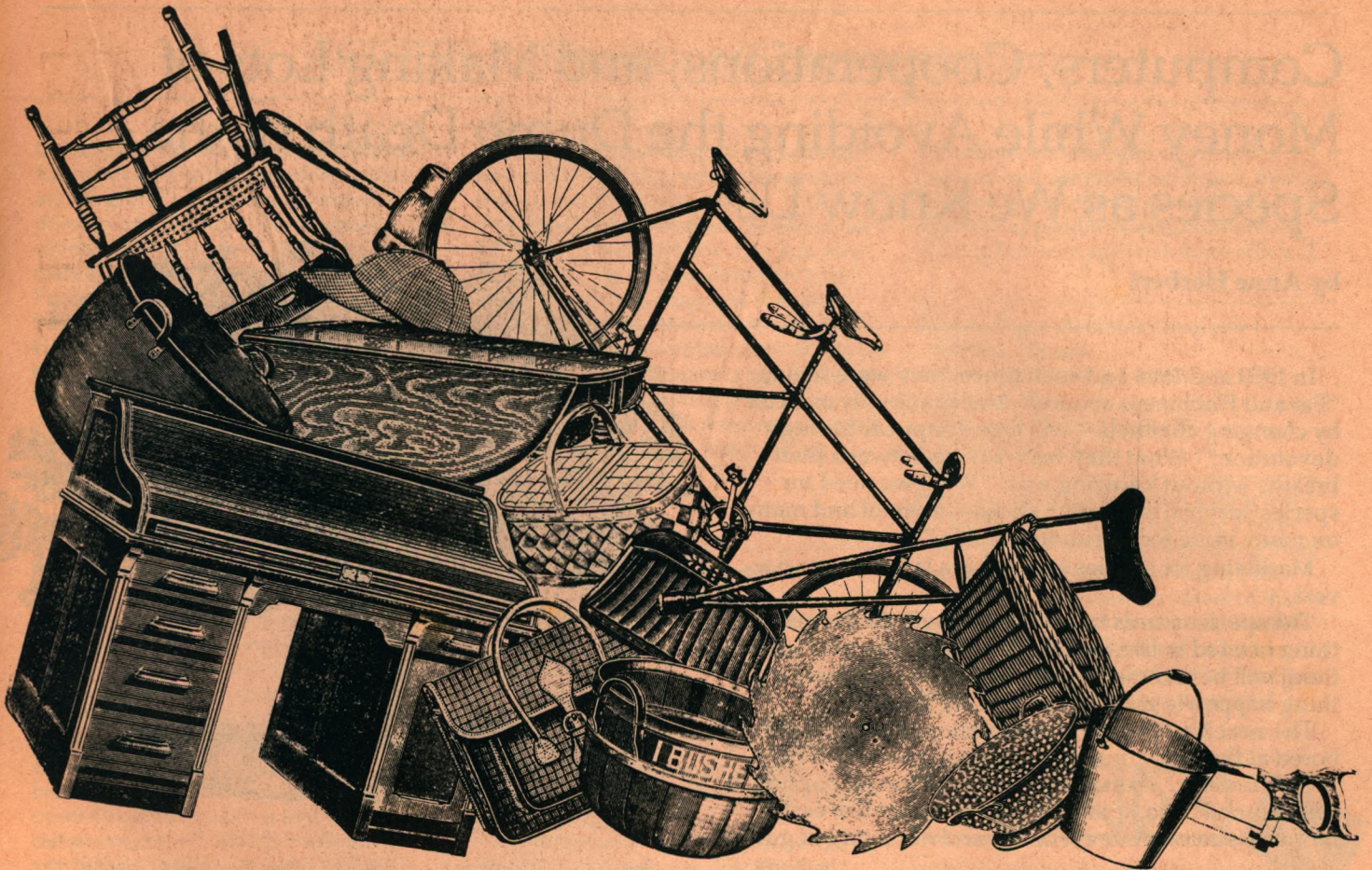
A good scavenger looks for the “good loads,” which are sometimes identifiable only by subtle clues: a dull green/blue gleam seen through a tangle of crushed and broken lumber may turn out to be two dozen feet of copper plumbing—if it can be had before it slides down

Here was a person who was dumping out his past, cleaning away the things that would most remind him of what he wanted to forget. The dumping was a catharsis, a fulfillment, perhaps even a vengeance.

into the pit. Convincing the driver that the picker should mount the load and pull the copper is an artful process requiring tact, authority, and quick dexterity.

Managing a composition study at a transfer site in Lane County, Oregon, each hour, I would perform a “level scan.” This consisted of noting the location, name, and frequency of all large, visible objects at the surface of the transfer bin on a grid. With my clipboard in hand, I often had a chance to observe people unloading their wares.

This particular transfer site operated a county “no salvage rule,” with a caretaker on hand to enforce the



standard. And enforce he did: his territorial defense of bin contents reminded me of some junkyard dogs I had encountered in rambles through scrapyards as a boy.

One day, a man of forty or so came in with a trailer full of household goods, toys, clothing, and a few garbage bags. There was very little trash in comparison with most loads.

I could see several things that were clean and useful just on the surface, so I stopped counting and positioned myself to see what was coming next.

The man began throwing things into the transfer bin: stuffed animals, blankets, towels, kitchen tools, clothing, and furniture. I asked him if he was spring cleaning, or what? He said no, he was moving out of the area and getting a divorce. There was anger and frustration in his words and manner. Suddenly it was clear: here was a person who was dumping out his past, cleaning away the things that would most remind him of what he wanted to forget. The dumping was a catharsis, a fulfillment, perhaps even a vengeance.

I could understand his reality, but at the same time it seemed a shame and an affront to good sense to leave the material where it was. I noted the items on my clipboard as they fell. But even this was an irritation to the man who was trashing the stuff of his failed marriage. He clearly didn't want his behavior recorded, or even witnessed.

Enter the caretaker. He had a way of supporting the dumping behavior of the people using the transfer site.

He would commiserate with them about how the trash builds up, how you just have to get rid of it from time to time. He could tell this guy needed a little support. The two exchanged a few words.

Then the dumper brought out the prize: a framed antique art print. It was beautiful and valuable. He threw it in.

I moved over to get a better look at the picture. It lay face up on the pile. As I noted "Picture" on my form, I saw the caretaker whisper something to the dumper while looking at me. The next thing out of the man's trailer was a plastic garbage bag full of paper. The caretaker pointed toward the picture.

The dumper glanced at me, and with perfect and deliberate aim threw the plastic bag down so it completely covered the picture. I pretended indifference, and moved back to another dumper's truck. We talked the situation over and hatched a plan. He would take his time finishing his load. When the dumper pulled out, I would go ask the caretaker some questions and remove him from the scene. While the caretaker was occupied with me, he would jump in and rescue the picture.

That is exactly what happened. While the caretaker explained to me how he kept the place clean and sanitary, the treasure was retrieved from the trash. As the second driver was leaving, he flashed me the "V" sign and held up the picture behind the caretaker's back. We both smiled. So did the caretaker. □□

Computers, Cooperations, and Making Lots of Money While Avoiding the Dumb Death of the Species as We Know Us

by Anne Herbert

In 1959 and 1964 and such times, they were saying, "Fat and Flabbiness abound. Americans only exercise by changing channels—will legs disappear through devolution?" What they were saying between their breaths without knowing was, "What we need for species survival is running shoes—more of and many, on many more feet—running shoes."

Marketing for species survival is a large way to harvest.

The species wants to survive and will do the next thing needed to live on. Planning what the next survival thing will be and making the objects to help that next thing happen is good karma and big money.

The next big "thing" is cooperation. Your ears are bored at the word, but they used to yawn when they heard running. "You mean like bored forced panting in high school?" No, it turned out we meant like early morning sun on your eyelashes and not dying of gut fat.

Give us the things that help us work together and play together and be funny and wise together. And we'll make you rich.

Cooperation means not dying of bigger and bigger sticks making a smaller and scarer world. Cooperation means highs you can't suspect till you're further than you ever thought you'd go.

Say you're dreaming a tree. You know about trunks and bark and tree tubing and she knows about leaf magic, and he's heard reliable rumors about roots, so you talk and breathe together in the same room, and you learn secrets undreamed about root capillaries and she suspects the bark could be a giant leaf and all your worlds get larger.

Stick making competition—all you can think about is sticks and dodging. In a species clever but not wise, the best you can hope is not escaping the stick bash but taking the other guy with you as you die.



The moment that your mind touches another mind that is cooperating with yours, you are free and jolted. A world of fresh air and electricity becomes where you live. You can finally turn off the reruns. It's a great feeling—the feeling that will replace war.

Computer games that need two or three people to solve the puzzle. A computerized rubic cube that is almost impossible for one, rough but enchanting for two, if one is good at this and the other is good at that. Get us hooked at that cooperative feeling (without you, I'm bored), and we'll figure out how to do it all over life.

Cooperate with yourself. Your selves. Stop the ignorant war between conscious and unconscious. Get them together laughing. Program a sentence or two, an image, from last night's dream to pop up randomly in the midst of your routine and see how it surprises you.

Co-operate. Operate at the same time for the same ends. The creative potentials of fighting have been explored to their logical ends and several illogical ones. Cooperation is what the species needs now and will know it needs in five years.

Give us the things that help us work together and play together and be funny and wise together. And we'll make you rich.

Play with them yourself and you might even get happy.□□

Anne Herbert worked with Co-Evolution Quarterly for several years and is publisher of the Rising Sun Newsletter in San Francisco.

ACCESS: Information/Communication

Community Memory in San Francisco has resurfaced with a newsletter describing the group's current activities in developing a community information and communication system. For more information, write to Community Memory Project, 916 Parker St., Berkeley, CA 94710. . . . In related news, the **Journal of Community Communications**, which suspended publication last year, announced they will be resuming quarterly publication of the journal starting in July. Journal of Community Communications, PO Box 996, Berkeley, CA 94701. . . . If you are interested in reaching other people involved in computer activities, you might want to get the list of **Micro/Personal/Home** computing mailing lists—including computer periodical subscribers, Apple owners and users, computer clubs, and many others. Write for list from: Resources, Box 134, Harvard Square, Cambridge, MA 02238. . . . **TRANET** and several other groups involved in appropriate technology and third world development issues have been working on designing a microcomputer-based information and communication system; it is also the subject of an article to be published in the **TRANET** newsletter. For more information, write to Bill Ellis, PO Box 567, Rangeley, ME 04970. . . . Rumor has it that the **Whole Earth Catalog/Co-Evolution** folks have landed a contract with a publisher to publish a catalog of software for microcomputers. . . . **The Baltimore Information Co-Op** is another in the growing number of community computer services. The 30-member co-op offers services such as mailing list maintenance, has a unique phone tree service, and is planning to develop a community calendar. The phone tree service uses mailing lists of groups to call people, asking them, for example, if they are going to attend a meeting. They may respond yes/no using their touch tone phones, and their answers are recorded on the computer. . . . Basic Telecommunications Corporation of Fort Collins, Colorado, has developed a **computer terminal that incorporates both voice and data capabilities**. This system further dramatizes what may be the trend of the near-future: the merging of technologies we have considered as separate, for example, the telephone, computer, and television. . . . **A preliminary bibliography on micro-technology and its impact** has been issued in rough draft form by the Computer Project of Jesuit Centre for Social Faith and Justice (947 Queen St. East, Toronto, Ontario, Canada M4M 1J9). A

good start on rounding up the information about social impacts/microcomputers/community applications. . . . **The Catalog of Public Domain Software for CP/M**, in its third edition, has just been published. The catalog describes hundreds of software programs that are available for microcomputers with CP/M operating system—yours more or less for the asking. The software is also available on diskettes. The catalog is available for \$11.00 from New York Amateur Computer Club, PO Box 106, Church Street Station, New York, NY 10008.

—SJ

Community Affairs Program
Apple Computer Company
 20525 Mariani Avenue M/S 9L
 Cupertino, CA 95014
 408/996-1010

The primary goal of the Program is to support the formation of microcomputer networks between nonprofit organizations by providing equipment, software, and training.

For purposes of the Program, microcomputer networks are described as cooperative groups which share information (called databases) by connecting computers through the telephone system. It is aimed at groups using computers in a communication environment, where they can use electronic mail, conduct teleconferencing, share databases, and create community bulletin boards, and other services.

A description of the requirements and standards for submitting proposals is available from the Community Affairs Program. Grant deadlines are February 15, May 15, August 15, and November 15.

All in Order: Information Systems for the Arts

Mary Van Someren Cok
 National Assembly of State Arts Agencies
 1010 Vermont Ave., NW, Ste. 316
 Washington, DC 20005
 202/347-6352
 \$7.95, 1981, 192 pp.

This is the primary report issued by the National Information Systems Project, a federally funded program established to develop a standard for information systems for public arts agencies. The report spells out the nature of information needs for public arts agencies,

definitions of information systems (manual and computer-oriented), and a detailed description of standards that might be applied to make information sharing between agencies more efficient.

How to Buy a Personal Computer

Carlton Shrum
 Alred Publishing Co., Inc.
 PO Box 5964
 Sherman Oaks, CA 91413
 \$2.95, 1982, 64 pp.

Here is a hand booklet with a right price for people wanting to purchase a computer without knowing everything there is about the electronic revolution, the insides of a computer, etc. Most of the vocabulary you will need to talk intelligently to salespeople is here, and it includes a chart that compares a number of the well-known microcomputers.



Implications of Electronic Mail and Message Systems for the U.S. Postal Service

Office of Technology Assessment
 Washington, DC 20510
 \$5.50, 1982, 113 pp.

Advances in communication and computer technology provide new ways to convey messages and carry out financial transactions. These are called electronic mail and message systems (EMS), and electronic funds transfer (EFT) systems. These systems are being developed in the private sector and are already having an impact on the business of the U.S. Postal Service. While there is disagreement on how fast EMS and EFT services may develop, it is clear that two-thirds or more of the current mailstream could be handled electronically.

The Postal Service is already using some of these new systems. For example, it provides a portion of Western Union's Mailgram service, and in January, 1982, introduced a domestic service called "electronic computer-originated mail" (E-COM), which receives "letters" in electronic form, and then translates that back into a printed form for delivery.

There are many prickly policy issues tackled by the report, part of the general need to re-divide the communication and information pie.

Choosing the Future: Social Investing

The Creative Ch'ien/Abstract

The Receptive K'un/Concrete

The Treading Lü



Applying ethical concerns to investing is not new. From the nineteenth century German Amana Colonists in Iowa, who mixed capitalism with Christian Socialism, to churches that sought to invest in companies uninvolved in the Vietnam War, responsible investing has grown steadily.

The new development, however, is the appearance of social investment funds within brokerage companies themselves. In 1972, the Dreyfus Corporation created the Dreyfus Third Century Fund to channel investments to companies with environmentally sound, safe, and just practices. Others followed (see access). Even large pension funds, the most abundant source of U.S. development capital, have established social standards to direct their investments.

Like Dreyfus Corporation, the Calvert Group of Funds manages several investment plans, only one of which uses social guidelines to determine where the buck lands. By investment standards, both firms' social investment funds are small. The Calvert Social Investment Fund, nonetheless, is young and growing. I asked Grace Parker, formerly employed with the American Friends Service Committee and now Calvert's Assistant Vice President, to tell us more about it and the broadening interest in doing good while doing well.

Which raises some interesting questions. As social investing "catches on," is it a way for investment firms to cash in on people's good intentions, or are they truly acting with social/environmental responsibility? Or, from a more provincial point of view, why not just invest in local economic enterprise, for example the local food co-op?

-KN

RAIN: Why are social investment funds more desirable than conventional investment funds?

PARKER: From the investor's point of view, it's more desirable because it gives the opportunity to take more responsibility for your money. Not only are you responsible for the fact that you want your money to be where it's safe, but also the consequences of what you're doing are more predictable with social investment funds. You can take more responsibility for directing the investment of money toward companies and their products and services considering the way they're doing business.

RAIN: What role can social investment play in terms of creating a better future?

PARKER: One of the things money is about is creating or predicting the future. Money is a storehouse of energy which you use to make choices. Every day of our lives, by the way we use money, we're communicating choices. The choices we make in the present create the future over the course of time. It's not only what you

spend your money on that has consequences but also how you use your money as an investment.

The flow of money is like the flow of water through an irrigation system. In all the places in the system that you direct water, it causes plants to grow. It's the same with money: you need to identify what you want to grow and direct money towards that.

RAIN: What has been the response to Calvert's Social Investment Fund?

PARKER: As one of Calvert's six funds, the Social Investment Fund only started last October. It's all been increase; of all our funds, it's the one that gets the most mail inquiries. Right now, the Fund's Managed Growth Portfolio (a list of potential business investments) has \$3 million, and the Money Market Portfolio has \$16 million. Together they represent about 2,000 investors. To break even, the Fund must have \$40-\$50 million. A fund like this isn't considered big, but it's growing. It wouldn't be practical for us to have a social investment fund by itself, because it will be quite awhile before it can support itself, so the Calvert Group is providing a place for the Social Investment Fund to grow.

RAIN: What is attracting people to Calvert's Social Investment Fund? What criteria are used to guide investments?

PARKER: One thing is that our economic performance is good. We're doing our best to combine social responsibility and positive investment performance. In addition, the fact that we're attempting to not only screen investments so that people's money doesn't go towards something negative or harmful, but also that we're trying to channel money towards positive goals, such as worker participation, management and ownership, equal opportunity, environmentally positive methods of manufacturing, or production of solar technologies.

RAIN: What business investments does the Fund specifically avoid?

PARKER: We don't invest in manufacturers of nuclear power, weapons systems, or companies active in South Africa. We don't invest in companies that have been cited for pollution, or violated occupational health and safety standards.

RAIN: Social investments are often considered high risk and yield low returns. What has been your experience?

PARKER: We look for fields that are likely to do well given the market. Many of our social criteria are interactive with high economic performance. For example, if workers have a say in the process of the workplace it's possible that higher productivity will be the result. That's one of the myths we're working against, the

myth that companies that are socially responsible are bad risks. Our experience over the last eleven years shows that is not the case.

RAIN: How are shareholders involved in the operation and success of the fund?

PARKER: There are a couple particularly helpful things that people can do. One is that we encourage shareholders to suggest companies for investment. Also, if shareholders hear something about a company they think we might not be aware of, or are surprised to find something in the portfolio (of the Fund's investments), they can write us a letter and let us know what they've heard, particularly if they have documentation.

RAIN: Has Calvert's Social Investment Fund had an effect on other investment funds?

PARKER: There has been a lot of movement in this area. I wouldn't say Calvert's fund is the cause of it. There are several different kinds of organizations, including church funds and people who are involved in

private investment management in the socially concerned investment area.

People from all those areas are getting together now to discuss socially responsible investing and ways that we can cooperate with each other in research, public information, etc. We've been working with brokers and financial managers, and many of them have come to see that socially responsible investing isn't as flaky as they thought it was.

RAIN: Investment patterns are reflections of people's expectations of the future. Is the growth of the Social Investment Fund connected to a larger trend?

PARKER: A lot of people are trying to figure out what's going to happen in the future. The Fund is an expression of people wanting to do something positive and also wanting to take some responsibility in the area of money for making something happen. The Fund is an expression of commitment to creating the future the best way we can. □□

ACCESS: Social Investing

NEWSLETTERS

Council on Economic Priorities Newsletter

Council on Economic Priorities
84 Fifth Ave.
New York, NY 10011
8-12/yr., \$15

Also publishes studies and reports on practices of U.S. corporations. Lists 99 publicly traded corporations tagged "socially irresponsible."

Good Money

Center for Economic Revitalization, Inc.
Box 363
Worcester, VT 05682
Bi-monthly, \$108 institutions, \$36 individuals and nonprofits, \$12 low income

See RAIN, IX:3, p. 13, for a description of this publication.

Renewable Energy Stock Report

Renewable Energy News
PO BOX 32226
Washington, DC 20007
Quarterly, \$40/yr., \$12/issue

A constantly changing list of more than 100 publicly traded North American securities.

SOCIAL INVESTMENT FUNDS

Calvert Social Investment Fund

1700 Pennsylvania Ave.
Washington, DC 20006
800/368-2748

Uses social criteria in both its Money Market Portfolio, a short term fund using U.S. Government agency securities, and its Managed Growth Portfolio, a longer term fund of stocks, bonds, and mortgages.

Dreyfus Third Century Fund

767 Fifth Ave.
New York, NY 10153
800/645-6561

A common stock fund with considerations for environmental protection, occupational health and safety, purity of consumer product, and equal employment opportunity.

PAX World Fund

PAX World Management Organization
224 State St.
Portsmouth, NH 03801
603/431-8022

A fund organized by the Methodist Board of Christian Social Concerns; avoids defense related companies and invests in housing, health care, and pollution control.

INVESTMENT MONITORS

Project on Corporate Responsibility

1609 Connecticut Ave.
Washington, DC 20009

Organizes investors to exercise their rights as stockholders to maximize their influence on corporate behavior.

Stop Banking on Apartheid

2160 Lake St.
San Francisco, CA 94121
415/752-7766

Has an alternative investment packet with basic and specific investment information.

Inter-Faith Center on Corporate Responsibility

475 Riverside Dr.
New York, NY 10115
212/870-2295

Plant closure, apartheid, and investment formation.

Investor Responsibility Research Center

1522 K St., NW
Washington, DC 20005
202/833-3727

Apartheid information.



KLAMATH KNOT



Illustrations from *The Klamath Knot*

The Klamath Knot is many things. First, it is a splendid natural history of the Klamath mountain area—that unique borderland between Oregon and California. But the book is not just a provincial natural history of interest to Klamath area inhabitants and other naturalists. It is an explosive book, an experience similar to rushing along with Annie Dillard through Pilgrim at Tinker Creek.

Wallace takes one's intellectual breath away with summaries of scientific facts—what we "know"—about geological/ecological evolution. From the known facts, Wallace takes off with his own speculations, asking new questions which reveal further mysteries.

The Klamath Mountain region itself is a perfect setting for Wallace's search through the unwritten history of geological and ecological time periods and for his own metaphysical search. Full of geological and ecological exceptions, this region is a freaky area that has served as a bridge for plant and wildlife during periods of expanding glaciers.

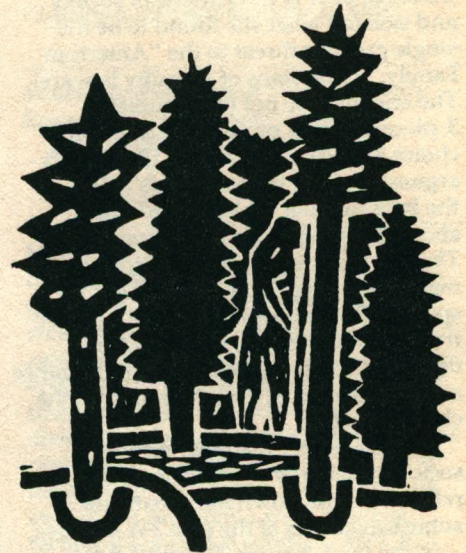
*With scientific objectivity, Wallace, through the description of one area on earth, unveils many causes for alarm about how human activity is affecting the global environment. He sees the key for finding the proper relationship embeded in our cultural myths. In this excerpt from *The Klamath Knot*, Wallace describes what he means by myth. (*The Klamath Knot*, David Rains Wallace, Sierra Club Books, PO Box 3886, Rincon Annex, San Francisco, CA 94119, \$16.75 ppd., 1983, 149 pp.). —SJ*

Few organisms survive in rapidly changing environments, and the world is changing faster than ever before. The fact that we've set these changes in motion doesn't mean we can control them. We must change to survive. No biological change will be fast enough now, though; we can't evolve as fast as the insects or rodents or microorganisms we've "conquered" because we reproduce so much more slowly. We must depend on cultural evolution. If our behavior is to change, our myths will have to change.

Myths began as imaginative projections of human consciousness onto nature. Trees had language, birds had thoughts, spiders had technology. When science found that nature does not, in fact, have a human consciousness, some thinkers concluded that myth was dead, that there was no further need for imaginative views of a world which, they thought, had no consciousness at all. But they misunderstood science. That nonhuman life has no human consciousness doesn't mean it has no consciousness. Science has opened a potential for imaginative interpretation of nature that is enormously greater than the simple projection of human thoughts and feelings onto the nonhuman. It has allowed us to begin to imagine states of consciousness quite different from our own. We can begin to see trees, birds, and spiders not as masks concealing humanlike



Instead of inflating our human consciousness to fill trees, we must let the trees, into our mind.



spirits but as beings in their own right, beings that are infinitely more mysterious and wonderful than the nymphs and sprites of the old myths.

Science has raised the possibility that there are as many different consciousnesses in the world as there are organisms capable of perception. It also has raised the possibility that consciousness may arise in ways that seem very alien to us. The symbiotic superconsciousness I vaguely sense in forests is not outside scientific possibility.

The age of myth is not dead; it is just beginning, if humans can survive to inhabit it. Only, instead of myths peopled with talking trees, we must begin to create the opposite. (The fact that such myths—inhabited by “treeing talks”—aren’t fully expressible with our present syntax and vocabulary is one measure of the magnitude of the enterprise.) Instead of inflating our human consciousness to fill trees, we must let the trees into our minds. It is not a sentimental undertaking. When science found that we don’t have thoughts and feelings in common with the nonhuman, it also found we do have something equally important in common—origins. We are very different from trees, but we also are like them. As we learn how they live, we learn a great deal of how *we* live.

Learning does not occur only in the mind. High towers of intellectual learning require deep foundations

of emotional knowledge, or they lack stability. The more we know about trees, the more we need to feel about them. The human element has grown too large and powerful for petty or trivial feelings about the nonhuman. What we feel about pettily, we begin to destroy, as we are destroying forests to produce junk mail and other trivialities.

Future myths will be different from past myths, but their function will be the same—to sustain life. When the human element was small, when there were billions of trees and only thousands of people it was sustaining to imagine that trees contained spirits humans could talk to, propitiate, befriend. It gave proportion to the world. Now, when there are billions of people, and not so many trees, it is sustaining to imagine what it might be like to open one’s flowers on a spring afternoon, or to stand silently, making food out of sunlight, for a thousand years. It gives proportion to the world.

Of course, imagination can only go so far. The incompleteness of scientific knowledge also limits emotional knowledge. We can’t fully imagine a tree’s existence because we don’t know how, or if, a tree experiences its life. So something of the old mythological imagination probably will linger for a long time. We will continue to project our human feelings onto other organisms, as we try to imagine their nonhuman experience. //

ACCESS: Good Reading

The Hearts of Men: American Dreams and the Flight From Commitment

Barbara Ehrenreich
Anchor Press/Doubleday
501 Franklin Ave.
Garden City, NY 11530
\$13.95, 1983, 206 pp.

Barbara Ehrenreich has sifted through the trends of post WWII American society and isolated what she found to be the single greatest threat to the "American Family." Guardians of morality beware! The enemies are not the feminists, 3-piece suit clad professionals, or pro-choice advocates. It is men, Ehrenreich argues, and not women. Male rebels of the breadwinner ethic have brought about the breakdown of the family. In *The Hearts of Men*, Ehrenreich traces the male role change from a model of "responsibility, self-discipline and a protective commitment to women and children" to "irresponsibility, self-indulgence and an isolationist detachment from the claims of others."

This is a highly readable survey, a sociological study of masculine roles, a reflective stroll down the urban and suburban streets of the past 3½ decades.

In the final chapter, Ehrenreich the author and feminist steps in. She departs from an objective view of the male model, and addresses the situation from a feminist perspective. "However we judge the male revolt . . . the consequences for women are the same." Men have won their freedom. They have effectively stepped out of the restraints of the breadwinner role leaving financial and emotional responsibility behind like so much extra baggage. And now women, stuck with the children, the home, and the lowest paying jobs, are following behind them, picking up the pieces.

—Robin Havenick

How to Get to the Wilderness Without a Car

by **Lee W. Cooper**
PO BOX 80584
Fairbanks, AK 99708
\$7.95 ppd., 1982, 192 pp.

Cooper's self-published handbook brought a broad grin to my face when I first saw it on RAIN's bookshelf. I visualized myself organizing my backpack and climbing gear and gadgets, dutifully scratching items off my "things to bring" list, heading out of the city, driving hundreds of miles in my car to arrive at the trailhead tired, ready for instantane-

ous transformation.

I never thought of taking a bus or train to the wilderness. Now there's no excuse; the information is all here with illustrations, too. Cooper contends that "you don't need a car to reach many of the national parks, wilderness areas or other unspoiled lands scattered throughout the United States and Canada."

Public transportation directions and traveling tips are provided for dozens of parks and wilderness areas in Alaska, Alberta, Arizona, British Columbia, California, Colorado, Idaho, Montana, New Mexico, Oregon, Utah, Washington, Wyoming, and the Yukon. Ready for a new dimension in wilderness travel? This book gives you the "how-to" details.

—Mimi Maduro



From: *How to Get to the Wilderness*

Winds of the People Songbook
Food for Thought Books
67 N Pleasant St.
Amherst, MA 01002
\$5.75 post paid, paper, 1983, 161 pp.

Winds of the People is a synergistic blend of songs for the "New Culture." It is a cornucopia, thoughtfully gathered from the men's and women's movements, the peace, ecology and anti-nuclear movements, the civil rights struggle, and the folk song tradition (contemporary folk songs included).

The book's six hundred songs are grouped by themes such as human liberation, unity and community, ecology, friendship and love, better world, changes, and play. Many artists from the folk tradition and social/political movements are represented, including

good old Anonymous. Each song is cross-indexed by title, artist, and special category to make finding it easier. The one weak point of the book is that melody notations aren't included with the lyrics, though cords are. To remedy this, listings of records and songbooks containing the melodies are given below each song.

This book reminds us that song has been, and is, an important element of cultural change movements. The emotionally expressive nature of singing acts as a powerful instrument for individual and collective transformations. Singing together from *Winds of the People* and similar songbooks, draws us out of our individual heads into a shared vocalization of our values and visions for the future.

—Carolyn Hitchcock

Algeny
Jeremy Rifkin
Viking Press
40 West 23rd St.
New York, NY 10010
\$14.75, 1983, 298 pp.

As with Rifkin's other books—notably *Entropy*—*Algeny* proclaims itself as a revolutionary work, one that "will radically transform our conception of life." The claim is not too far-fetched. *Algeny* is a disturbing book, bringing us closer to understanding what the future may be like.

"Algeny" is a term coined by biologist Dr. Joshua Lederberg. The term means "to change the essence of a living thing by transforming it from one state to another; more specifically, the upgrading of existing organisms and the design of wholly new ones with the intent of "perfecting" their performance."

Rifkin attempts to summarize the present state of bio-engineering/genetic engineering and to lay the groundwork for understanding how these—now relatively crude—new techniques for actually "creating" life fundamentally change the myths by which we live.

Rifkin describes the transition in terms of fire. We are, he says, moving from the pyrotechnological age, which used fire to convert raw materials of the earth into utilities for human use, to a "biotechnological" age in which computers will turn new life forms into utilities for human use, using recombinant DNA technology.

The primary "scientific myth" Rifkin sets out to dismantle is the Darwinian theory of evolution, the myth which was appropriate for the industrial era but inadequate to deal with the conceptual shift necessary to understand our place in the universe, when

we can actually create and manipulate life.

Rifkin's vision of the future is undoubtedly well-documented, and while the future is impossible to predict, it is clear that *Algeny* contains some truths about the world in store for us. All in all, it's a tough one to swallow. The possible changes that the

"biotechnological" revolution might bring undermine one's feeling about sensible action in the present. The images stay with the reader: a mining operation that, rather than using human labor, uses a specially created "creature" whose only goal is to eat away at rock that surrounds copper. The

creature is a kind of living robot. Or the image of a computer, not created by simple electrical components but using specific configurations of DNA, a computer that is in real life alive and even capable of reproducing itself.

—SJ

ACCESS: Organization Reviews

British Unemployment Resource Network (BURN)

318 Summer Lane
Birmingham, England B19 3RL

Self-help projects for the unemployed are a common occurrence these days. They usually start with the basic assumption that unemployed people can help each other. Many of the projects simply involve informal get-togethers for unemployed persons where they can share their experiences, vent their frustrations, and perhaps help each other either to find work, and/or alternatives to work—such as sharing skills and resources.

The British Unemployment Resource network was established as a clearinghouse/network for such activities in England. They publish the *BURN* newsletter which reports on self-help strategies for the unemployed such as skill exchanges, government policy affecting employment and personal stories of people seeking work or dealing with the psychological state of unemployment.

Guy Dauncy, one of the founders of the network, has also published *Nice Work If You Can Get It*, an informative overview of strategies for dealing with being unemployed, alternative methods of "earning a living," and ways to find employment. Although written for a British audience, it is a useful overview for unemployment support groups in this country.

Center for Innovation and Entrepreneurial Development

209 Classroom Unit
University of California
Santa Cruz, CA 95064
408/429-2980

When the National Science Foundation established several innovation centers nationwide, it linked them with existing business and engineering schools, except for this one. It works on conjunction with liberal arts and science courses at the University of California. The goal is to give first-hand experience to nonbusiness majors in developing the creative proc-

ess, so vital to aspiring entrepreneurs. The basic course, "Innovation and Entrepreneurship," involves students in each step of actually developing an idea into an operating venture. It's not "taught" but facilitated by financial wizards and technological pioneers. Most impressive of all, CIED maintains it "questions whether a particular innovation should be developed into a commercial product or venture. Societal criteria—social benefit, safety, and environmental impact—will be viewed with strong emphasis."

National Association of Business Clearinghouse

1015 15th St. NW
Washington, DC 20009
202/457-0040

If it has to do with employment training, the NAB Clearinghouse knows about it. Their information services cater to employers in government, business, industry, education, and community-based organizations. And do they have information! Computer databases, newsletters, bulletins, catalogs, and indices full of it. Best of all, it's free.

Their staff research and compile up to 100 new training programs each month. The programs get indexed for ready on-line computer access. So, when information requests come in—they responded to some 5,000 in 1981—responses are usually made within a week. The Clearinghouse also constantly updates the programs it has described in its bulletins since 1979.

Showcase, a newsletter produced eight times a year, contains short articles and success stories—government-business partnerships and training programs that successfully employ the disadvantaged. Each article concludes with a reference number to order further information.

Working, published quarterly with a semi-annual index, contains profiles of employment training programs that serve the structurally unemployed, youth, women, and minorities. Many involve small businesses that work with community organizations to teach people appli-

cable skills. The *Working Index* lists all Clearinghouse publications to date.

Mountain Association for Community Economic Development (MACED)

210 Center Street
Berea, KY 40403
606/986-8497

MACED was formed in 1976 by ten community-based development organizations in eastern Kentucky and southwest Virginia. Over the years, the organization has developed into a multi-faceted, economic development organization. It finances locally owned enterprises, develops housing, and undertakes other community development projects with local groups in Central Appalachia. Its staff of ten provides a wide range of technical assistance services. MACED helped a coalition of groups in Martin County, Kentucky, to develop an emergency medical facility which employs 27 people. In Middlesboro, Kentucky, MACED assisted in the development of a cooperative of 20 black construction workers which seeks individual jobs for members and bids on larger jobs.

In 1981, MACED established its own financing division, the Cumberland Fund, with a \$500,000 loan from the Rural Development Loan Fund of the U.S. Community Services Administration. The fund has been used directly and as leverage to free up other monies for the development of new businesses. MACED assisted the Bread and Chicken House, a multi-racial cooperative of 20 women running a bakery and restaurant in southwest Virginia, by securing financing for a larger facility. It formed the Forest Products Center to provide market, production, financing, and other assistance necessary to stimulate the region's lagging hardwood industry.

MACED also plans to develop a program that would support the purchase of enterprises by workers, and locally based management as an alternative to arbitrary plant closings or selling of locally owned firms to national corporations.

ACCESS: Periodical Reviews

The Tarrytown Letter

The Tarrytown Group
The Tarrytown House Executive
Conference Center
East Sunnyside Lane
Tarrytown, NY 10591
Monthly, \$30/yr.

The Tarrytown Group came to life with the guidance of a somewhat surprising duo, anthropologist Margaret Mead and journalist Robert Schwartz, former New York bureau chief of *Time* magazine and ex-editor of *Harper's*. They created a membership organization, a conference center, and, in February 1981, began publishing the *Tarrytown Letter* for "those who are at ease with the unexpected discontinuities common during a time of major change."

Self-described as "a forum for new ideas," the *Letter* concerns itself with the news of new paradigms—fundamental shifts in perspective, such as realizing our school system engages only one of many levels of consciousness. Despite the unfamiliar subject matter, it's very readable. In reporting on remarkable work such as *The Institute of Noetic Sciences* research (2820 Union St., San Francisco, CA 99123), just eight pages are used to clearly describe brain resonance, extraordinary body changes of Tibetan yogis, Soviet-American astronaut dialogues, and several other studies. Past themes included social decentralization, men and women, general systems theory, Soviet human potential research, and medical insights.

As newsletters go, this one promises a rare mix of authoritative reporting and comprehensible insights into human potential and social innovation.

—KN

Southern Exposure

Institute for Southern Studies
PO Box 531
Durham, NC 27702
Bimonthly, \$16 individual, \$20 inst.

Southern Exposure creatively illuminates ecological and social-political issues specific to the South. Each edition, usually exceeding 100 pages, focuses on a particular topic. Past issues spotlighted toxic dumping and how to solve it (*The Future is Now*), urban decay and rural development (*Building the South*), and a 225-page issue on land use, which includes a nine-state evaluation of food, fuel, and fiber (*Our Promised Land*).

What caught my interest in this journal, however, was their November/De-

ember 1982 issue: *Waging Peace*. The South's economy, more than any other region in the U.S., suckles from the Pentagon's purses. As the many contributors clearly show, the milk is poison: a Southern state-by-state analysis exposes how military spending is crippling local economies and creating unemployment among laborers. Each state's report is concluded by a list of organizations active in waging peace.

Coastal Affairs, the May/June 1982 issue, examines the conflicts between habitat—whole ecosystems and land-based settlements—and recreation, industrial, mineral, and subdivision interests. Few publications so brilliantly convey the threatened integrity of a bioregion's environment and boldly sound its calls for a more sustainable culture.

—KN

Harbinger: The Journal of Social Ecology
211 E 10th St.
New York, NY 10003
Quarterly, \$10/yr.

The premier issue of *Harbinger* has recently appeared. The Harbinger Publishing cooperative, associated with the Institute for Social Ecology, gives the following self-description: "We are activists and academics who work on issues of urban, rural, and natural ecology; feminism and other liberatory movements; and community political and cultural projects. Our decision to publish a journal grew from our desire—and the desire expressed by many others with whom we spoke—to see a publication that expressed in an integrative way the political and moral perspectives, and their practical applications, that we have found most compelling and useful for advancing radical change in our times."

The journal will serve as a vehicle for developing ideas in the emerging field of social ecology, but the cooperative will be publishing "fiction, art, humor, and journalism as well as scholarly and technical essays." The first issue contains a study by the Center for Studies in Food Self-Sufficiency of the prospects for bioregional food systems in Vermont, a critique of sociobiology by Murray Bookchin, an essay on the history of utopian thought and activity, an article on the MX missile, some poetry, and two pieces of fiction.

Harbinger promises future articles on feminism and ecology, the politics of health, urban ecology, appropriate technology, art and popular culture, community governance, and philoso-

phies of nature.

Due to its limited budget, *Harbinger* currently plans to publish just one more issue this year (in the summer) and expects to go on a quarterly schedule in 1984.

—Lance Regan

Trivium, A Journal of Ideas

PO Box 606
N. Amherst, MA 01059
3 times a year, \$10/individual, \$16
libraries and institutions. Sample
copy, \$4.50

The premiere issue, Fall 1982, contains six essays and a regular feature, "Trivial Lives." These sensitive and thought-provoking essays continue the dialogue on critical feminist issues. Subject matter includes female friendship, women and writing, feminist humor, parthenogenesis, women in technology, and most important, an analysis of the postures taken by various factions of the women's movement on sado-masochism. If issue #1 is an example of what is to come, I for one, will be a reader.

—NC

North Country Anvil
PO BOX 402
Winona, MN 55987
5 yearly, \$8.50

Like few other periodicals, the *Anvil* has given voice to the entire spectrum of cultural inventors, focusing on those of the Upper Midwest bioregion: artists, poets, fiction writers, dramatists, entrepreneurs, appropriate technologists, spiritualists, and ecological farmers.

There's reason to believe the *Anvil* will become even more exciting. With the Winter '83 issue, the largely new staff announced that the *Anvil* would be primarily a regional forum, making urban-rural connections, relating the history and struggles of the region's inhabitants, and showing how individuals and groups are confronting crisis and expressing their hopes and successes.

Two issues deserve particular mention. The August/September 1982 issue, marking the *Anvil's* tenth anniversary; and the following issue (#41), a special issue focused entirely on women.

The purists will find delight in knowing that the *Anvil* is genuinely "home grown." It is printed on their own Anvil Press, where the staff also print books, flyers, etc. as a way of making ends meet.

—KN

ACCESS: Toxics

A Bitter Fog: Herbicides and Human Rights

Carol Van Strum
Sierra Club Books
2034 Fillmore Street
San Francisco, CA 94115
1983, \$14.95, 288 pp.

The antiherbicide movement is a grassroots movement if I ever saw one. And I had a view from the edge of the mountain range across the valley from where Carol Van Strum lives. Carol is probably the only person who could have written this book. Its story is the pebble which, thrown in the water, spreads rings across the pond.

There has already been contact established among rural groups at regional gatherings and through local newsletter exchange—sharing information on this and that. But nothing like the first CATS (Citizens Against Toxic Sprays) newsletter had hummed through the networks before.

Now Oregon is said to be full of environmentalists and quiche eaters, but the movement wasn't intended at first to be what it has become. It probably would have "died quietly," says Van Strum, "if someone had given a damn. . . . But the shock, disillusionment, contempt, and anger at the government's dismissal of our concerns was in direct proportion to our shattered faith in that government." And this shattered faith spurred action.

Herbicides were fast recognized as an issue by those who began to read cereal boxes and wondered what all those letters of the alphabet like BHT stood for and how anyone could eat something they couldn't pronounce. The issue was taken up by forest workers, tree planters and loggers who'd seen firsthand the effects of herbicides in the woods. Hunters and fishers spoke up. Veterans of the Vietnam War joined in as it became clear that the chemicals being used in our forests—2,4-D and 2,4,5-T—also known as Agent Orange, were the same chemicals used to defoliate Southeast Asia.

This action against herbicides led by Carol Van Strum, her ex-husband Steve, Paul Merrill, and all the brave people from the rural Oregon communities of Five Rivers and Deadwood, has spanned eight years and crossed National Forest boundaries as well as county and state lines.

The burden of herbicides and pesticides is not simply one of forest dwellers or vets. "The truth is that each American citizen now carries some individual burden . . . in his body tissues. . . . With-



From: *Toxic Substances in the Environment*

out public consent and largely without public knowledge, the regulatory process has permitted well over a billion pounds of poison to be applied annually within the United States."

Carefully and compassionately, *A Bitter Fog* documents how our involuntary exposure to herbicides and pesticides has happened. It is a story of a public denied access to accurate knowledge about the chemicals, fraud in laboratories, and misconceptions and fallacies perpetuated by chemical companies and the Environmental Protection Agency (EPA), where economic priorities outweigh ethical and moral issues.

A Bitter Fog is a bitter draught to swallow. And we'd rather not. But the regulation and enforcement laws hold a chemical innocent until proven guilty. Van Strum instead proposes an "informed consent" amendment to the U.S. Constitution, which would guarantee all data made available to the public before a chemical's usage. "Public awareness," acknowledges Van Strum, "is the lifeblood of a democracy as James Madison recognized in 1822:

'A popular Government without popular information, or the means of acquiring it, is but a Prologue to a Farce or a Tragedy; or, perhaps both. And a people who

mean to be their own Governors, must arm themselves with the power which knowledge gives.'"

—NC

Toxic Substances in the Environment
Toxic Substances Education Group
Ronald J. Kendall, Director
2460 Kerper Blvd.
Dubuque, IA 52001
\$5.95, 1982, 120 pp.

The first edition of *Toxic Substances in the Environment* was the project of a group of environmental studies seminar students at Western Washington University. Written to provide current information on toxic chemicals for middle school students, the book was originally published and distributed with a grant obtained from the Washington Environmental Foundation and Huxley College of Environmental Studies.

This second edition, published for wider distribution, proves useful at both junior high and high school levels and for adult continuing education.

Toxic Substances in the Environment dispassionately yet accurately explains toxicology. The book discusses cumulative effects of toxins in the food chain and the ecosystem. Heavy metals, industrial chemicals, and household hazards also come under scrutiny.

Apart from, but set within the text, is a series of "focuses" which serve to illustrate the concepts discussed. Each chapter ends with a summary and review questions. The book also contains a bibliography and glossary.

—NC





Hans Radtke checking with Karin on the energy level at the house via their homemade telephone.

WATER UNDER THE BRIDGE

Experimenting With Micro-Hydro

Increases in the cost of fossil fuels, and concern with the environmental impacts of further large-scale hydropower development, have stimulated research and development of micro-hydropower. "Micro-hydro" usually refers to hydropower systems producing less than 100W of power. The Pacific Northwest is well suited to hydropower development in general, micro-hydro in particular, because of the abundance of small streams that flow year-round.

This is the third in a series of five articles describing some of the projects in Oregon funded by the U.S. Department of Energy's (USDOE), Appropriate Technology Small Grants Program. In this article, we focus attention on the micro-hydro projects funded by the program.

Rural Household Hydro System

Hans and Karin Radtke have a home south of Yachats on the central Oregon coast. Situated over a mile from electric utility lines, the Radtkes considered the comparative costs of meeting their home energy needs with a line extension from the utility district, a diesel generator, a propane and wood heating system, or a micro-hydro system.

In 1980, the Radtkes received a USDOE grant to demonstrate the feasibility of micro-hydro for rural household applications in coastal Oregon and other parts of the Pacific Northwest. The Radtkes understood the theory of a water wheel that turns and generates electricity, but they found that very few people had the technical expertise to put the theory into practice. Thus, from the start, their project was an experiment.

The Radtkes are using a commercially available high-head micro-hydro system which produces up to seven kilowatts of A.C. power. The system is bolted to a concrete pad inside a waterproof shelter; it consists of an impulse turbine with a 10-inch Pelton wheel attached to a generator. Twelve hundred feet of six-inch diameter PVC pipe connect the water intake site to the turbine. Valves govern the flow of water and a trash screen at the intake site keeps debris from entering the pipe and clogging the turbine. The vertical drop is 230 feet, creating a pressure of 103 lbs. per square inch. In order to maintain pressure and produce a constant flow of electricity, the pipe must be kept full of water at all times.

The turbine runs constantly at full speed and sends electricity to the house on the hill above the turbine. At the house, a load controller monitors electricity needs and allocates power, routing excess electricity into an unused industrial heater outside the house, or into a water heater, if the unit is generating more than 3,000 watts.

"Peak" load demands were a problem for the Radtkes when they needed to use several major appliances at once. A clothes dryer, for example, can use 6,000 watts at a given time. In order to deal with the problem, they invested in an inverter which can meet a "surge" demand of up to 10,000 watts. At the same time, they purchased appliances which require less power—a convection oven and a two-burner stove which each use 1500 watts.

The Radtkes feel their money and time are well spent given their situation; although, says Hans, "If we had a way of tying into a utility we'd do it. Spending \$15,000-\$20,000 to bring electricity to a house is not cost-effective if you can buy power from a utility." They are now exploring ways to make the system more efficient by channeling "waste" electricity into a water tank to heat a greenhouse, and by investing in a smaller (2kW) generator to provide electricity during the low-flow summer months. (Hans and Karin Radtke, PO Box 244, Yachats, OR 97298).

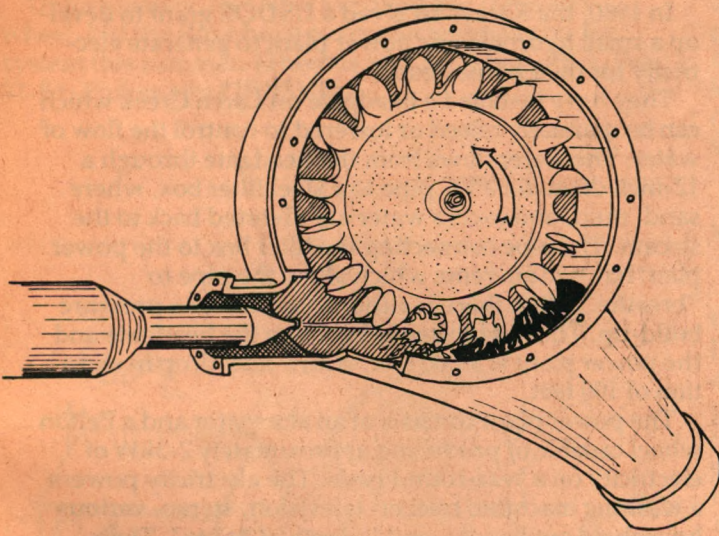


Diagram of Pelton Wheel.

Hydroelectric Honey Production

The Mitchell family operated their honey business for four years without electricity, using solar and wood energy to heat a waterbath for bottling honey, and a solar-powered melter to refine their used beeswax.

They found that manual extraction of honey from their 45 hives was time-consuming and kept them from meeting their income requirements. In order to mechanize some of their business and to expand the number of hives to 200, the Mitchells needed electricity. However, the remoteness of their home and business made tying into the local utility prohibitively expensive.

In 1980, the Mitchells received a grant from the USDOE to install a power plant to generate electricity on one of their farm's creeks.

They built a small wooden dam on a year-round creek that flows through their property at an average rate of 418 gallons per minute. The dam was constructed to create a reservoir. Water runs from the reservoir through 900 feet of six-inch PVC pipe to a four-jet, impulse-type Pelton wheel 80 feet below. The Pelton wheel, using belts and pulleys, turns a three kilowatt generator. The electricity is transmitted 350 feet to their house and the honey extracting workshop. A wheel speed governor synchronizes the Pelton wheel with the requirements of the generator.

During the winter, when the creek is high, the system is capable of producing up to 3,000 watts. It can power an extractor (350W), uncapping knives (300W), a refrigerator (400W), a washing machine, small appliances, and lights. Excess electricity is diverted by the load controller to a heat coil which will eventually heat water for a hot tub or greenhouse. During the rest of the year, there is enough power for lights, radio, and small appliances, but in order to run the extractor, they will have to invest in a smaller (1.5 kW) generator which can still produce power when the creek is low.

The system is running well now, although according to Cynthia Mitchell, "Everything that could go wrong—

did! It's been a lot more work than we thought." When they installed the system, they found that almost every electronic part didn't work and needed to be sent back to the manufacturer for repair. Because micro-hydro is a relatively new technology, Mitchell believes that "a lot of the information on micro-hydro isn't accurate, and it doesn't tell you all the things you need to know. For example, we found out the hard way how important soil stability is; we've had a lot of problems with silt just because of the geography of this area. . . . Perhaps what's needed is a do-it-yourself book by people who've actually installed systems themselves."

The Mitchells are developing their honey business as a model project, demonstrating both the nature of an apiary and the use of renewable energy resources. Along with a live, three story observation hive (three bee stories are about 6 feet high), the Mitchells are constructing a schematic diagram of how the honey extracting power is generated and how wood, hydro, and solar energy are used in the honey production. (Cynthia and Jeff Mitchell, Rt. 1, Box 405-A, Nashville Rd., Eddyville, OR 97343).

Recycled Induction Motor System

Near Corbett, Oregon, Roger Mackaness and his neighbor and colleague, Clifton Graff, are using a grant from the USDOE to experiment with a micro-hydro system on Trapper Creek.

Graff has used the creek for several years as a water supply. An existing diversion dam backs up water just enough so that approximately 150 gallons of water per minute flow into an 800-foot long ditch. It follows contours along the hillside above the stream and then enters a three inch pipe which directs the water straight down the canyon wall into a hydraulic ram. This device pumps water to the Graff homestead, where it is used for irrigation and domestic water.

Mackaness and Graff used the USDOE grant to upgrade and modify the existing headworks and hydraulic ram water pump. Their aim is to produce electricity throughout the year and pump water during the summer months when it is needed for irrigation.

In order to produce electricity, the water is diverted through a screened intake and down 1,300 feet of pipe, delivering 1 to 2 cubic feet of water per second to a small, shop-built, cross-flow turbine. The turbine powers a five horse-power, three-phase induction motor which can generate 2,000-3,000 watts of single-phase power. The maximum output is 3.7kW. The power feeds directly into the Portland General Electric's power lines.

Mackaness and Graff decided to use a three-phase induction motor as a single-phase generator because it has several advantages over other generators. It can provide synchronous 60 cycle AC constantly in phase with the power company's grid. The motor is phased-referenced by them, and since it is overspeeded slightly by the turbine, it acts as a generator instead of a motor. The need for rectifiers, inverters, and synchronizers is avoided. An induction motor is also much less expensive than a synchronous generator of comparable size.

Another cost-cutting measure they discovered was to use a resister to keep the generator from overspeeding instead of investing in an expensive load controller.

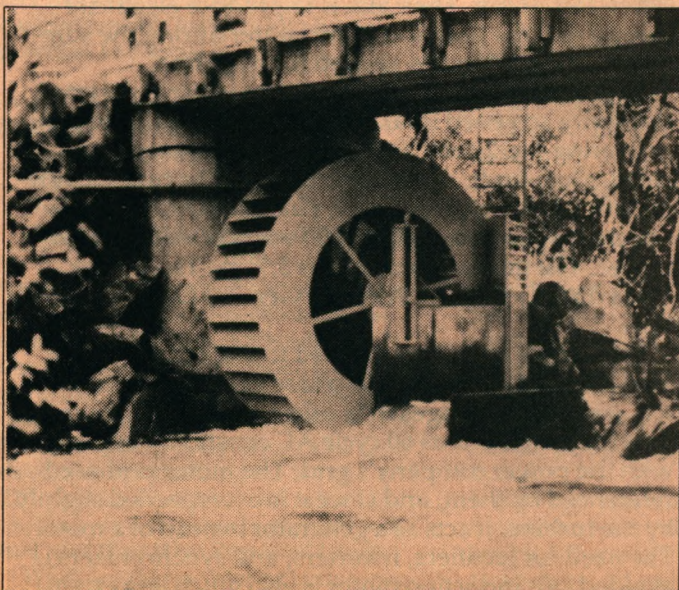
Much consideration has been given to the environmental impact of the project. The headworks were constructed with indigenous materials. The turbine is housed on a steel sled which can be winched to the site without the need of an access road.

Some of the most difficult problems Mackaness and Graff faced were in their dealings with local officials for permits and licensing the system. No one had had experience with this kind of operation—what kind of permit is needed for a steel sled with a turbine attached?

Mackaness and Graff are enthused about their project. "Hydro power is reliable and cost-effective," says Mackaness. "Our system paid for itself the first year, but then ours isn't a Cadillac. You have to do a lot of the work yourself to keep the costs down." Their system has been so successful that they recently installed a similar one on Gordon Creek (in the same general area), and they plan to put in a third system as soon as they can get the paperwork signed. With the installation of each new system, they meet their goal of demonstrating to other small farm owners how to produce low-cost electricity, and thus, become more self-sufficient. (Roger Mackaness and Cliff Graff, Pit Run, Inc., Rt. 1, Box 1780, Corbett, OR 97019).

Home Hydro in Hereford

Andrew and Ann Racey of Hereford, Oregon, live 12 miles from the nearest electric power lines. For years, they generated their own electricity using a diesel power plant. But the plant has not adequately served their family's electrical needs because it was too expensive to operate more than six hours a day.



The Roy's waterwheel has attracted the interest of several neighbors.

In 1980, the Raceys received a USDOE grant to develop a small hydroelectric power plant to generate electricity for their homestead.

They have installed a headgate on Larch Creek which can be manually raised or lowered to control the flow of water. The water flows from the headgate through a 12-inch diameter PVC pipe to a steel filter box, where sand, mud, and excess water are diverted back to the stream. The pipe connecting the filter box to the power plant has two air vents which allow the pipe to "breathe" when there is either a vacuum or a pressure build-up. The total distance between the headgate and the power plant is 3,000 feet, with a total drop in elevation of 100 feet.

The power plant consists of an alternator and a Pelton wheel capable of producing approximately 2-3kW of electricity on a year-round basis. The electricity powers a washing machine, freezer, television, stereo, various household appliances, and "plenty of lights." Their refrigerator and stove run on propane, and the house is heated by wood and a propane wall heater.

The only major problems they have encountered have been with spring flooding and power surges. During the heavy storms of this last spring, the stream flooded, filling the pipeline with mud and sand. They hope to have the system cleaned out and running again by mid-June. In order to solve the problem of power surges, they plan to install a regulator.

With this hydroelectric power plant in operation, the Racey family has saved over \$3,000 per year in fuel costs. Moreover, they are now able to enjoy electricity 24 hours a day. (Andy and Ann Racey, Stage Route, Box 49, Hereford, OR 97837).

Low Head Hydro

Thomas and Amy Roy's farm is located at the west edge of the Willamette Valley, along Mary's River near Corvallis. The Roys are developing their 40-acre wheat farm as an integrated, energy self-reliant system.

In 1980, the Roys received a USDOE grant to demonstrate the technical and economic feasibility of using micro-hydropower from low-head, high-flow streams, which are common in western Oregon.

The entire system is designed to be simple to build, operate, and maintain. The Roys, therefore, chose to use a low-head water wheel, a small dam, and a very short intake flume rather than a medium-head, overshoot wheel or turbine system. The system uses an induction generator and feeds power into the local utility lines.

The system operates at a 41 percent level of efficiency. This is normal for a water wheel, but less than the 50 to 70 percent efficiency which could be expected from a project using an enclosed turbine.

The project cost, paid for by a combination of grant funds and Roy's money, exceeded \$12,000. Even if the project operated at capacity year round, the cost would be more than 15¢ per kilowatt-hour. This indicates that water wheels using extremely low heads are not cost-effective unless there are no alternative sources of power available to the developer.

Unfortunately, last fall a log damaged the water wheel, but the Roys hope to complete repairs on the system this summer. (Thomas and Amy Roy, Rt. 1, Box 31-B1, Philomath, OR 97370).

and if financing could be obtained at six percent, the project would be feasible. Co-op members hope to develop the system and are currently searching for low-interest loans or grants to finance construction. (Wolf Run Irrigation, Inc., Rt. 1, PO Box 192, Dufur, OR 97021).

Micro-Hydro for Public Utility

One of the goals of the Emerald People's Utility District (EPUD), located southeast of Eugene in Pleasant Hill, is to encourage the development of renewable energy projects in order to promote self-reliance on the part of their customers.

In August of 1980, EPUD was awarded a USDOE grant to survey potential micro-hydro generation sites in or near the EPUD service area. The geography of the area shows a very high potential for hydropower development. Most of the moisture falls in winter, below the snowfall elevation and creates high stream flows in the hilly areas in or near Emerald's service district. This coincides with periods of high energy usage.

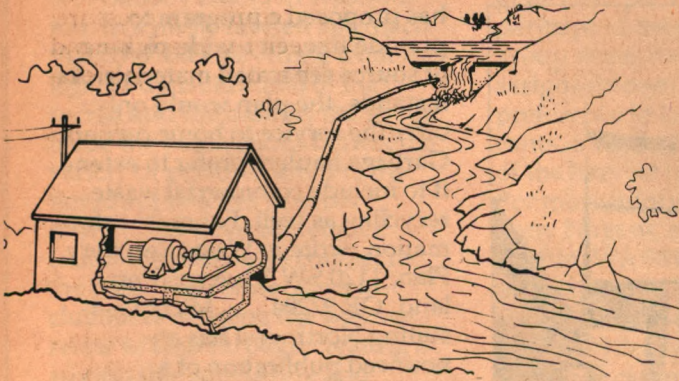
The survey identified 24 potential micro-hydro sites which could be developed economically with minimal environmental impact and also recommended the type of equipment which would be best suited to the area. The next step in the process involves field verification of the sites, since, typically, about 80 percent of the sites identified on paper cannot be developed.

The development of the hydro at the best sites would supply economical peaking power to an area in which shortages are predicted in the next several years. At present, the EPUD has put hydro projects "on the back burner" until they have the time and money to develop the sites. (EPUD, 84899 Tillicum Ave., Ste. 9, Pleasant Hill, OR 97401).

Small-Scale Hydro for Small-Scale City

The city of Drain, south of Eugene, receives its water supply from Allen and Bear Creeks. Its primary supply comes from Bear Creek Dam, a 60-foot high, 100-million gallon storage reservoir, located about 900 feet above sea level. The water flows from the dam outlet through an open channel to a diversion structure where it enters a pipe that carries it to the city's water treatment plant, located about 400 feet above sea level.

Curious about the potential of hydropower development inherent in its water system, the City of Drain applied for, and was awarded a USDOE grant to support a feasibility study. In August 1981, the City contracted with an engineering firm in Corvallis to analyze the feasibility of various hydropower systems at Bear Creek Dam and at the City's water treatment plant. The study showed that hydropower generation using the City's water supply system would not be feasible unless the City were to spend more than a quarter of a million dollars on new pipes. The City, therefore, decided not to proceed, but may reconsider hydropower generation when its water supply pipes need to be replaced. (Robert Gray, City of Drain, PO Box 158, Drain, OR 97435).



A typical high-head micro-hydro site.

Wolf Run Co-op Study

The Wolf Run Irrigation Cooperative, Inc., supplies irrigation and domestic water to 16 families of the Wolf Run community near Dufur, Oregon, and to a nearby Boy Scout camp.

In 1980, the Co-op received a grant from the USDOE to study the feasibility of either installing hydroelectric units on the existing open ditch irrigation system or converting the open ditch system to a closed pressurized sprinkler system.

The study focused on the feasibility of converting most of the present open system to a buried pipe system. The model used in the study called for transportation of water in the ditch through 13.5 miles of pipeline. The pressure head acquired in the upper reaches of the system would be used to generate electricity to irrigate 416 acres during the dry summer months. Water discharged at the lower end would generate power during the rest of the year. In addition to providing electricity, this method would make water available to the Co-op, since less water would be lost to seepage, vandalism, and evaporation. (Losses today are estimated at about 50 percent).

Initial findings of the study revealed that the Wolf Run Co-op has the natural resources to produce a pressurized sprinkling system as well as to generate electricity. The Co-op has sufficient resources to produce 825kW of electrical power and an average of 3 million kWh of electrical energy.

Although large amounts of electrical energy can be produced, the cost of construction (\$3.4 million) and high interest rates (12.5%) make the primary project and alternatives infeasible at this time. However, if the cost of power increases from 50 to 100 mills per kWh,

PACIFIC NORTHWEST BIOREGION REPORT



Northwest Ramble

THE SANDPILE CALENDAR is a cooperatively published calendar to community events of the Seattle area. Maintained on a computer, the extensive listing of events is compiled by several groups, and then distributed to others for use in newsletters and other publications. It is a good model of the benefits of cooperative sharing of information. . . . **TERA ONE**, one of Portland's energy demonstration and education centers, is all "hands-on" now. One of its many new additions includes an interactive computer that conducts a continuous energy audit. Call 503/222-2828 for more information. The Media Project has announced publication of two very useful guides, "1983 OREGON GUIDE TO MEDIA SERVICES," and

the "1983-84 **FILM PROGRAM GUIDE**." The first is a directory to all types of visual media services throughout Oregon (\$6.50 + \$1.00 handling); and the second is a description of over 90 films and video tapes produced by northwest independent film and videomakers (\$3.50). The Media Project, PO BOX 4093, Portland, OR 97208. . . . **UNDRESS FOR SUCCESS**, that's what the **NUDEPEACE SOCIETY** in Vancouver, British Columbia urged some 60,000 protesters to do in the recent Walk for Peace through Vancouver's downtown. "Prance for Peace," said Korky Day, Nudepeace society spokesperson, "to prove people get peaceful when they're nude." . . . On the **RECYCLING FRONT**, Portland City Commissioner Mike Lindberg,

has proposed a program to provide free, city-wide pick-up of source separated materials. As it stands, the plan would only offer the service to home owners. Garbage haulers prefer to extend it to include commercial waste recycling as well. For more information, write to Waste Recovery Plan, 1120 SW 5th Ave., Portland, OR 97204. . . . Micro Consulting Northwest has announced publication of a 180-page guide to **COMPUTING IN AND AROUND PORTLAND**. The catalog describes education programs, and community organizations using computers in innovative ways. The book costs \$9.95 plus \$1.55 handling, from Micro Consulting Northwest, PO BOX 15075, Portland, OR 97214. . . . There are some **PROMISING LEGISLATIVE POLICIES** in debate now in the Oregon Legislative Assembly. The Oregon Environmental Council's Recycling Bill (SB 405) calls for, among other provisions, on-route collection of source separated materials in cities of more than 5,000. In an effort to tame Oregon's fastest growing air pollution problem, especially in the inversion-prone Willamette Valley, the House passed a bill (HB 2235) that would set emission standards for new wood stoves sold in Oregon after mid-1986. Bicyclists would be fined for traveling faster than a walk when entering a crosswalk or driveway under a bill (HB 2037) that passed the House 48-7. More importantly, it defines a bike as a vehicle and gives bicyclists the same rights and responsibilities as motorists. For up-to-date legislative bill information in Oregon, call the Legislative Hotline, 1-800-452-0290. . . .

A Planetary Village

Nearly two hundred people blended hearts, minds, and voices together in a participatory conference on "Building a Planetary Village" May 10-15, 1983 at Chinook Learning Community on Whidbey Island in Washington. In a multi-faceted approach that covered everything from the legal and institutional to the sacred and the cosmic, the group made the connections between a variety of personal and institutional approaches to social change that have sometimes found themselves in conflict in the past. The connections included: re-shaping the way we relate to land through creating a sustainable agriculture and putting the land into trust to protect it from the speculative commodity market; re-shaping our economy through creating an Earth Bank to make capital available to life/earth enhancing enterprises; re-shaping our built environment through participatory processes that conserve non-renewable and develop renewable energy; and re-shaping the ways we relate to each other through spiritual attunement, consensus decision-making processes and developing commitment, trust and vision. For more information about the conference and follow-up activities, write to the Chinook Learning Community, PO BOX 57, Clinton, WA 98236. 206/321-1884

—Mary Vogel

Self-Reliance in Seattle

YMCA's Metrocenter is planting new seeds of self-reliance in Seattle neighborhoods. Their support program now extends funds to six community groups for such efforts as the Neighborhood Greenhouse and Gardening Project, and Project Rebound which collects salvaged material for distribution to community projects, and low-income individuals.

Last spring, with assistance

from the Madrona Community Center, neighbors came together and roto-tilled two unused lots for garden plots. In the process, a scarcely used greenhouse was "discovered," repaired, and now serves several families. More recently, the Garden Project has gone from paid coordination to participant coordination. The group raises its own funds, assigns its own plots, giving preference to low-income applicants, and distributes ten percent of the harvest to those in need. For more information, contact Tony Nugent, 832 32nd Ave., Seattle, WA 98122. 206/325-6900

What happens to windows and frames in old hotels being destroyed? Ideally, they ought to be reused to capture sunlight and heat for three-season gardening in cold frames. At least, Project Rebound thinks so. Their salvaging warehouse collects such reusable materials and sells them at nominal cost to low-income neighbors. Volunteers can also work for credits on purchases. The organizers felt it holds profitable potential in other city neighborhoods and have published a manual on how to get one started. Though currently out of print, Rebounders are seeking additional publishing funds. Project Rebound, 1517 12th Ave., Seattle, WA 98122. 206/324-0802

On the Passing of Stupid

Carrying out in real life the role of the fool—or the questionably sane but intriguing role of the eccentric, is something I've always admired. It is from such "lunatic fringes" that individuals and society in general, learn about their own limits, shortcomings, and curious contradictions. The fool challenges our earnestness about ourselves and our "causes."

Stupid (the name he went by for the last years of his life) lived in Eugene and was one of those eccentrics. He was not stupid, mind you. He was an old-time labor organizer, around during

the big days of the IWW and all of that. He was sometimes foolish and sometimes stupid, but he was also clever. He figured it out a long time ago: life is a costume ball; you can come as you are, or as you want to be.

I met him first at one of those regional gatherings of social-change do-gooders. With his mile-high gray eyebrows, he was standing there, a carefully inscribed card hanging from a string around his neck. The card contained one of Stupid's wisecracks: "Wisdom is only the residue that you have left, after you've forgotten most of what you were taught when you were in school." His one to four line comments on life—and just about anything else—were eventually collected into two volumes, entitled, *Comments by Stupid*.

I wasn't sure when I first met him, and later, and when reading his writing, if the man was operating with a full deck. Not that it mattered. He was free of many of those silly distinctions about smart and dumb, right and wrong, and other psychological traps, because he created himself as he went along. He carried out his self-created role to perfection.

Eugene will never be the same without Stupid hanging out at the 5th Street Market, or elsewhere, passing out his pearls of wisdom.

Eugene Producer Co-op Grows

Organic farmers in Lane County, Oregon, face an economy that is dangling on the devastated lumber industry. Organically Grown, Inc. of Eugene, however, has created promising opportunities for growers and consumers alike.

In its third season, Organically Grown serves as a central marketing cooperative for Eugene area organic growers. The co-op enjoys the benefits of a full-time

Cont. on next page

market manager and a bigger warehouse. Large-capacity coolers in their warehouse, can consistently supply a higher volume of produce to local grocery stores, nursing homes, and restaurants. Food clubs and households can also buy wholesale a wider variety of fresh vegetables.

The co-op's innovative Market Gardeners Program complements the work of larger volume farmers. Typically, low-demand vegetables—radishes, scallions, parsely, and some greens—go unsupplied by rural growers who produce high demand varieties. With twelve urban gardeners committed to providing these low demand vegetables, Organically Grown expects to reach more wholesale outlets this season. As Keith Watson, Information Coordinator, notes, "The Urban Gardeners assist the co-op by buying vegetables they can't produce themselves."

The business is considering another producer-consumer project: adding a freezer to hold berries and foods that normally spoil. It would enable additional growers to reduce losses due to market gluts and rotting. Consumers could then purchase

quality, local produce. Organically Grown, Inc., PO BOX 1082, Eugene, OR 97401. 503/683-6447

Recycling Swells in Bellingham

A citizen's group brought together in 1981 by members of Whatcom Solar Association's Master Energy Conserver program has initiated a neighborhood curbside collection of recyclables program in Bellingham.

Now, a year-and-a-half after the program started, students and volunteers conduct monthly pick-ups in three different neighborhoods, with over 500 households participating.

The Recycle Center of Western Washington University provides trucks and drivers; the neighborhoods supply the rest of the labor needed for pick-ups.

City government has also gotten into the act. Faced with major decisions on future waste disposal and in response to a proposal made by the neighborhood recycling organizations, the city allocated \$40,000 last fall to hire a City Recycling Coordinator. A citizen advisory committee, with representatives from

local businesses and community organizations, assists in developing a recycling plan for the city. The final draft of the plan is to be submitted to Bellingham's mayor and city council by July 1. Philip Morley, Recycling Coordinator, Dept. of Community Development, 210 Lottie St., Bellingham, WA 98225.

—Lance Regan

Farmers Market to Open Doors in Portland

A farmers market is starting up this summer in North Portland. The project is funded through Portland's Office of Housing and Community Development and is being jointly administered by the Rain Community Resource Center and Responsible Urban Neighborhood Technology (RUNT). The market is scheduled to begin in early July and continue once a week through October, with plans being made to extend it for years to come. Volunteers are needed to help get things underway. For more information, contact Kris Altucker, Farmers Market, 3116 N Williams, Portland, OR 97227. 503/284-7881

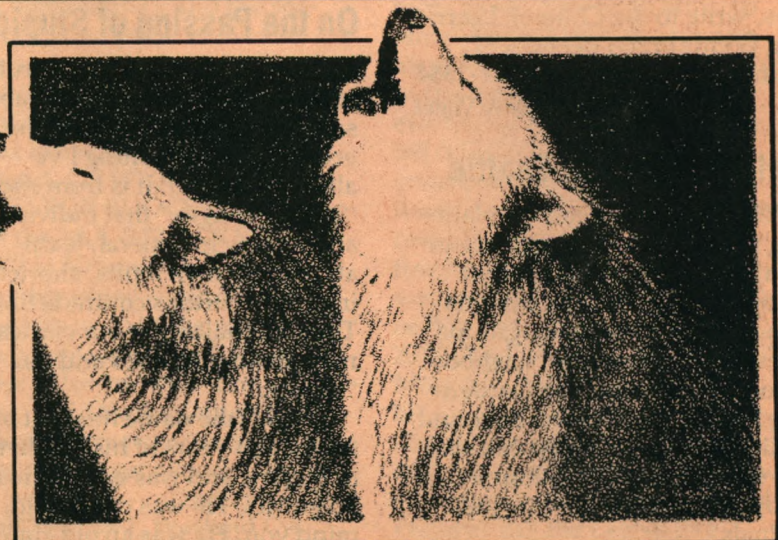
Northwest Publications

Mountain in the Clouds
Bruce Brown
Simon and Schuster
1230 Avenue of Americas
New York, NY 10020
\$12.95, 1982, 239 pp.

Mountain in the Clouds is about the role fish play in the Northwest economy—specifically salmon, the native fish, as well as the newer invader culture, the hatchery fish.

Several chapters of the book provide a detailed history about the politics of the fishing industry in the Northwest.

Interspersed with these detailed chapters, Brown weaves his own tale about searching up and down the rivers of western Washington. He



From: *Mountain in the Clouds*

and others slog quietly through the deep rain forests of the Olympic Peninsula to find out how the salmon are doing. Are they healthy? Are they returning? What are we doing that is affecting their life? How are the newcomer hatchery fish getting along with the oldtimers?

One of the most important themes of the book is the analysis of our progress and problems with fish hatchery and aquaculture programs. The development of such programs have, in their own way, allowed us to think casually about trade-offs between wildlife and hydropower, for example. The reasoning is that if we are successful at producing fish "artificially," we don't need the natural resources.

Brown describes many problems with this perspective, and specific hatchery programs. For one thing, the fish being produced have their own social system; they tend to form cliques.

What will probably decide our direction once again comes down to economics. Brow, and others, hint at hopeful signs here. Just as with nuclear power development, we are beginning to examine "real" costs. What are the costs of destroying the natural fisheries, and replacing them with hatchery and aquaculture programs vs. enhancing the environment that supports native fish culture?

—SJ

The River Why

David James Duncan
Sierra Club Books
2034 Fillmore St.
San Francisco, CA 94115
\$12.95, 1983, 294 pp.

David Duncan's book is another kettle of fish. Unlike Brown's specific, non-fictional, and intensely political perspective, Duncan's is, while about fish and fishing, more in the tradition of Ken Kesey and Tom Robbins.

One is led on through *The River Why* by blasts of well-forged paragraphs, perfect or surprising metaphors, slapstick as well as deeper humor, and a well-described tour of fishing Oregon rivers.

For the obsessed fisherperson, *The River Why* may seem like a mental dialogue trapped somewhere in their own head. It is a lot about why people fish—and not just fish, but

why they become "fisherpeople."

The plot is small really—just a crazy family of fisherpeople working out their fates. One son, the central character, uncovers metaphysical truths through the only method his family gave him—fishing. The plot is so small in fact that the conclusion falls a little flat. The three dimensional characters one has experienced turn into clichés of themselves. But in the end, the end doesn't matter. You read *The River Why* for skillful writing and wonderful stories.

Like the one of the hero attempting to track the creek he grew up on back to its headwater. The creek, now surrounded by urban sprawl, leads him through parking lots and into bank lobbies. It's a wonderful tale, both sad and comical, as is much of the book.

The River Why is a regional tale, the characters have distinct Oregonian qualities. Some of the qualities are of course, just those of hill and river people anywhere, but Duncan has added something unique to our cultural identity. There is something uniquely Oregonian-like, or at least Maritime Northwest, about many of the characters, but especially the lead character, whose metaphysical search for meaning seems to grow out of the very tangle in which we live.

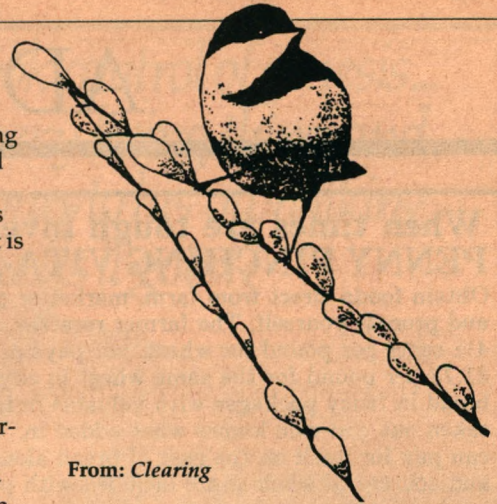
—SJ

The Spells of Lamazee

James Seely White
Breitenbush Publications
PO BOX 02137
Portland, OR 97202
\$8.95, 1982, 174 pp.

This historical novel traces the journey of two Scottish traders along the Oregon coast in the early 1800's. Duncan McDougal and John McTavish venture south to negotiate with Indian traders, a mission strategic to survival at their fort. The adventure also unravels the mystery of their notorious and elusive kinsman, Jack Ramsay, known to the Indians as Lamazee.

The red-haired Ramsay, an intriguing figure in Northwest folklore, was believed by the Indians to possess certain powers. In his novel, White sketches a backdrop for Ramsay's life, providing a glimpse of the magic and daring romance of this time of two cultures meeting.



From: *Clearing*

Through dream images and shared secrets, we learn of Ramsay's life and the ways of coastal Indian tribes.

Another thread of mystery explored throughout this enchanting story is the lost treasure of Neahkane Mountain—hidden gold still waiting to be found. We travel side-by-side with McDougal and McTavish, eavesdropping on their conversations. It is all-in-all a well-told story about a unique and distant-seeming period in our region's history.

—Mimi Maduro

Clearing: Nature and Learning in the Pacific Northwest

Environmental Education Project
PO BOX 751
Portland, OR 97207
5 times a year, \$10/individual,
\$20/institution

Environmental education is well established in the Northwest. It thrives among nonprofit organizations, instructional centers, camps, public schools, and government programs.

Clearing is the best source of information about environmental education activities in the Northwest. *Clearing* reviews publications and audio-visual resources, reports on new and old projects, and features articles on such things as wildlife, resource conservation, energy, and water issues.

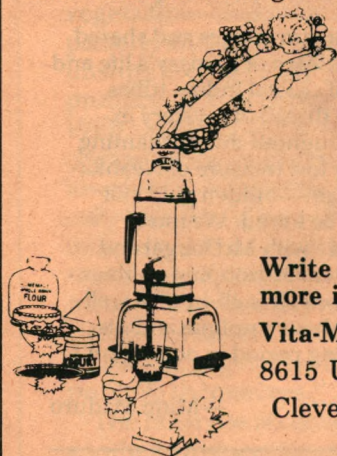
Two recent issues are especially noteworthy. One issue (#22, \$2.00), focused on "thinking globally and acting locally." The Spring 1983 issue features articles and features about watersheds and water consciousness, with listings of good resource material on the subject.

—KN

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All ads are accepted at RAIN discretion. The advertising of products and services in RAIN should not be considered an endorsement. RAIN is not responsible for product or service claims and representations.

For information on display ads and a rate sheet contact: RAIN Advertising Dept., 2270 NW Irving, Portland, OR 97210; 503/227-5110.

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SELF-RELIANT VILLAGE: Join our existing intentional community in stable rural setting for more secure, satisfying future. Stressing individual freedom, sustainable gardening, energy-efficient houses, cooperative projects for mutual benefit. (Not a commune or religious cult). Ponderosa Village, Rt. 1 #17-6, Goldendale, WA 98620; 509/773-3901.

THE AQUARIAN SOCIETY is being formed. Divine healing center. New World order. For information send dollar and SASE to The Aquarian Center, PO Box 706, Trinidad, CA 95570.

THE IDEAL FORM of government and the ideal economic system are described by our FATHER and HIS Angel Ambassadors in the book OAH SPE. 800 pages. \$12.00 postpaid from Emmons, 1720 South King Avenue, Lakeland, Florida 33803.

WORTHY WORK

PROGRAM DIRECTOR, Citizens for a Better Environment. National nonprofit grassroots groups does research, advocacy, litigation, public education; emphasis on reducing toxics in air, water. Responsibilities include directing research program, financial management, fundraising, public appearances, speaking, writing to enhance the awareness of CBE. Overall direction of two California offices. Need graduate education or professional experience related to environmental protection; administrative, fundraising skills. \$18-20,000. Send resume, references, writing sample to CBE, 88 First St. #600, San Francisco CA 94105.

RAIN INTERN PROGRAM: Rain has an on-going intern program which enables staff interns to gain a thorough knowledge of magazine publication and resource center operation. The work is a mix of activities including promotion, library and office maintenance, information requests, publicity, and local educational or organizing efforts. Applicants must be self-motivated and able to work with minimum supervision; technical skills are appreciated though not necessary. A three-month commitment is required. Benefits include a stipend of \$40 per week and the excitement of being in touch with the latest information from around the country. Send resume to Rob Baird at RAIN.

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creating new ones to his own liking.
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Editor’s Page, *American Laboratory*, April 1980

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Edward Groth III, Ph.D.
Environmental Studies Board
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in *SciQuest*, May/June 1979

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in the *Journal of the American Chemical Society*, Oct. 10, 1979

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Director, Hydrogen Research Institute, CA.
in *Industrial Research & Development*,
March 1980

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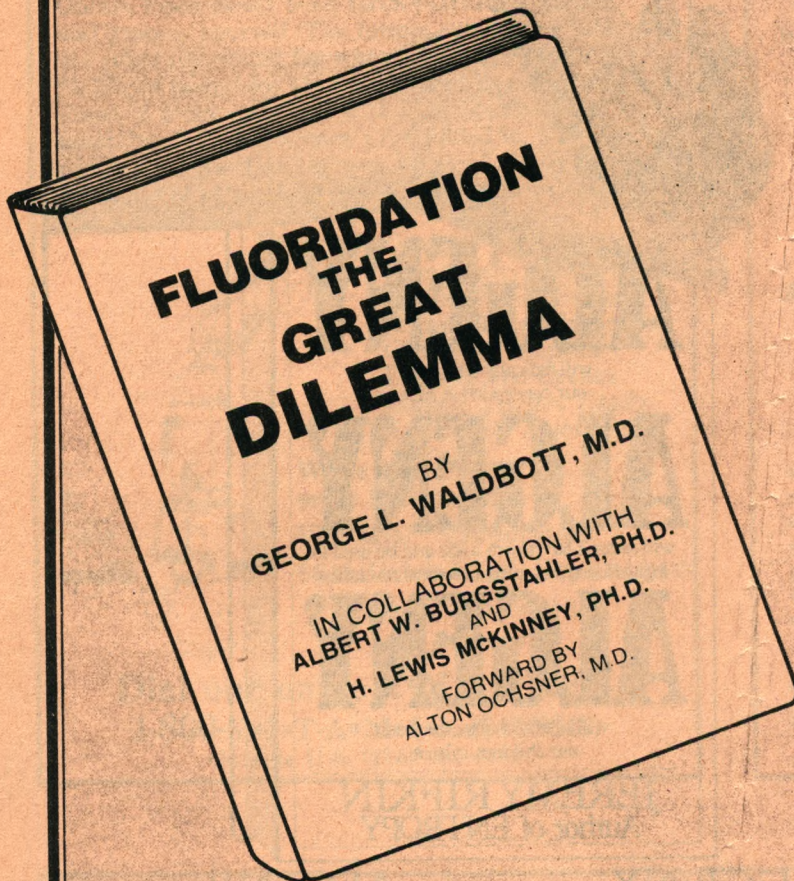
Richard L. Green, MD
in *Annals of Allergy*, August 1979

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R.E. Banks, in *Chemistry in Britain* (London),
September 1979



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RUSH

Control Data Hydroponics—"Shipping produce from the sunbelt to the frostbelt only made sense when gas was 29 cents a gallon," Phillip Bifulik, vice president of Control Data Corporation, explained when describing Control Data's decision to enter the hydroponic vegetable business.

Control Data, probably the first computer-related firm to enter the vegetable business, is joined by others, including General Mills and the Whittaker Corporation in Los Angeles. Control Data's current operation in Minneapolis is producing about 10,000 heads of lettuce weekly for the Minneapolis market.

Carrying Capacity—*The Carrying Capacity Concept as a Planning Tool* is a brief introduction to the planning methodology of carrying capacity. The concept was originally used to describe the maximum population density of a given species that an environment can support, and is now sometimes used to describe the capacity of local eco-systems to support human social/economic systems. This booklet provides a brief overview and describes groups around the country using carrying capacity methods. Available for \$7.00 from American Planning Association, 1313 East 60th St., Chicago, IL 60637.

Historic Preservation—The November-December issue of *Small Town* is a special resource book on historic preservation for small communities. As with other publications of the Small Town Institute, the resource guide is a quality product. There are 20 major articles, profiles of 41 historic preservation projects around the country, and reviews of critical literature on the subject. Single copies are \$10.00 from Small Town Institute, PO Box 517, Ellensburg, WA 98926.

Renewal of Renewal—When Mark Satin announced the end of his excellent newsletter, *Renewal*, we were disheartened, but also relieved to think that he had sense to change paths short of burning out. Well, recently, Mark sent out a letter to describe a strategy, involving raising \$90,000, to start up *Renewal* again. During its short life, *Renewal* began to fill in a niche between politics and spiritual values—sometimes called new age, sometimes called transformational—not covered by other periodicals. The new *Renewal* promises to be equally provocative, and perhaps more difficult to label or categorize. For more information, or to help the effort, write to Mark

Satin, Renewal, PO Box 43241, Washington, DC 20010.

Networking Networks and Networkers—Jessica Lipnack and Jeffrey Stamps, who compiled/edited *Networking: the First Report and Directory* (Doubleday, 1982), have formed the Networking Institute, Inc. in order to carry on their work of tracking networks and exploring methods of building communication networks. Membership in the organization can include a newsletter, as well as continual updating of the directory in *Networking: The First Report and Directory*. For more information, write to the Institute, PO Box 66, West, Newton, MA 02165.



California Closes Brown's Pentant for Innovation—The California Office of Appropriate Technology was doomed since January when Gov. Deukmejian succeeded Governor Brown. On March 31st, it went out of business. John Ferrell, ex-editor of RAIN, was there during the final hours; standing by as a last-minute visitor described the Office of Appropriate Technology to some college students, while he, Gigi Coe, and remaining staffers packed away publications and posters. "For a moment," John explained recently to us, "I had the odd sensation of being a mannequin in period costume standing in the middle of a display at the local historical society as some tour guide described events of the 'long ago '70s.'"

Anti-Authoritarian Directory—*International Blacklist* is an international directory to individuals and groups who fall into the category of anti-state, anti-capitalist, or anti-authoritarian perspectives. It includes more than 100 pages of groups from every continent—an amazing collection, especially when one realizes that many of the groups border on being

underground and/or invisible. If you want a copy, send at least \$2.50 as a donation to the Bound Together Bookstore Collective, 1901 Hayes St., San Francisco, CA 94117.

Long Live the Networkers—Robert Theobald has been casting his intellectual light into subjects that many wouldn't touch with a ten-foot pole. He has been a conscientious communication network builder for years. One of the earliest formalized social change networks—simply called The Network—was started by Theobald. The Network was a simple, straight-forward idea where everyone exchanged brief descriptions of themselves and their interests and skills. This information was collected and distributed to those who submitted a description. Many people, for example, early alternative energy proponents, met through this network. The Network passed away as networks tend to do. But Theobald himself continues on, encouraging and developing new networks, using old-fashioned print and mail techniques as well as computer-mediated systems such as EIES (The Electronic Information Exchange System).

Theobald's work is not only limited to these formal networks. He spends much of his time traveling from community to community, playing a well-staged role of the "outside agitator," bringing shocking predictions about the future, enthusiasm for the quest, and pollinating ideas. At times, he has focused attention on specific communities—as he did in Spokane, Washington, and more recently in our community, Portland—and weaves a thread of new connections between leaders and citizens, empowering them to think creatively about the future of the community.

If you want to find out more about Theobald's work, write to him at Participation Publishers, PO Box 2240, Wickenburg, AZ 85358—remembering that part of networking is sharing and exchange.

Cape Cod Bioregional Newsletter—The New Alchemy Institute has launched a modest newsletter, *LandsCape*, subtitled, *Cape Code's Bioregional Newsletter*. The first issue, April, 1983, describes basic ideas about bioregionalism, some local news, the Cape and Island's Self-Reliance Corporation, and the intent of the newsletter. To find out more, write to Greg Watson, c/o New Alchemy Institute, 237 Hatchville Rd., East Falmouth, MA 02536.

CALENDAR

The Natural Organic Farmers Association of New England is sponsoring its **9th Annual Conference and Celebration of Rural Life** on July 29-31, at Johnson State College in Johnson, VT. Registrants will attend 3 days of farm techniques and economics, food and health systems, homestead skills, and agricultural issues. Murray Bookchin will keynote. Preregistration is required. Contact Grace Gershuny, NOFA Conference, PO Box 101, West Charleston, VT 05872, 802/895-4366.

On Aug. 19 and 20, the **Rodale Aquaculture Project** will sponsor a workshop on recirculating aquaculture. Participants will be taught the basics of an outdoor system and information on expanding into basement or community scale production. Preregistration is required. Contact Nancy Volk, Steve Van Gorder, or Doug Strange, Rodale Research Center, Rt. 1, PO Box 323, Kutztown, PA 19530, 215/683-6302.

Three organizations are organizing events around food this summer and fall. **The Community for Creative Non-Violence** (Mitch Snyder, 1345 Euclid St. NW, Wash., DC 20009, 202/332-4332) is sponsoring an encampment and open-ended fast beginning on July 4, in Kansas City/Independence, Missouri. The demonstration is intended to encourage the release of some of the \$5 billion worth of food stockpiled by the USDA. **Fast for Life** (Ellen Wilson 942 Market St., #710, San Francisco, CA 94102, 415/982-4637), a small international group, will begin an unlimited fast against the nuclear arms race. The **First National Let Them Eat Cake Sale** (Peter Harnik, 918 "F" St., NW, Suite 611, Wash., DC 20004, 202/347-6060) is scheduled to take place in hundreds of communities across the country on Oct. 3. The First National Let Them Eat Cake Sale is being designed as a vast networking and coalition-building effort among all the constituencies that are being hurt by current national policies.

Windstar Programs will sponsor a Workshop on **Soft Energy Paths with Amory and Hunter Lovins** on July 16-18. The Lovins will survey both fundamentals and recent developments in designing and implementing an efficient, money-saving energy future powered by appropriate renewable sources. Contact Windstar Programs, Box 178, Snowmass, CO 81654.

A consortium of energy groups, including the Energy Center in Santa Cruz, the Farallones Institute, and the Golden Gate Energy Center, is sponsoring the second **Community Energy Groups Conference**, to be held at the Farallones Institute Rural Center in Occidental, CA, August 19-21, 1983. The conference will feature speakers on the legal, financial, and computer application aspects of energy group management in an informal structure that will allow access to this expertise and inter-group exchange. Conference registration is \$20 per person for the three days, including all meals and camping on the site. Questions and registration should be sent to Brian Williams, Energy Center, 128 West Pearl Alley, Santa Cruz, CA 95060, 408/425-7652, or to Glen Price, Farallones Institute Rural Center, 15290 Coleman Valley Rd., Occidental, CA 95465, 707/874-3060.



The New England Solar Energy Association will sponsor a three-day conference on **Energy-Efficient Construction Practices** on Oct. 20-22, in West Dover, Vermont. Builders, architects, engineers, and suppliers from throughout the Northeast will gather to explore the latest developments in energy efficiency for both new and retrofit construction. Contact Alex Wilson, NESEA, PO Box 541, Brattleboro, VT 05301, 802/254-2386.

The Institute for Social Ecology will conduct a Summer Program: **Community for Social Change**, July 15-August 6. Included are courses on Social Theory, Alternative Technology, Ecological Agriculture, Holistic Health, and Feminism and Ecology. College credit is available. Contact Institute for Social Ecology, PO Box 89, Plainfield, VT 05667.

The American Solar Energy Society will hold its **8th National Passive Solar Conference and Exhibition** on Sept. 5-10 at the Glorieta Conference Center near Santa Fe, New Mexico. The program will include workshops, social activities, and tours of some of the many passive solar buildings in the Santa Fe area as well as the main technical presentations. For information, contact Karen George, ASES, 1230 Grandview Ave., Boulder, CO 80302, 303/492-6017.

The U.S.—China Peoples Friendship Association is offering a special tour of the Peoples Republic of China on Oct. 6-27. The three-week tour will focus on Chinese solar and renewable resource development. For more information, contact Susan Padgett, U.S.—China Peoples Friendship Assn., 50 Oak St., #502, San Francisco, CA 94102, 415/863-0537.

The Center for Popular Economics is sponsoring a **Summer Institute for Popular Economics** at Hampshire College in Amherst, Mass. Week-long economics courses for labor activists, religious, community, minority, environmental, and other progressive groups will be held July 10-16, July 31-Aug. 6, and Aug. 14-20. For more information, contact Betsy Hamilton or Lynn Wilson, Center for Popular Economics, PO Box 785, Amherst, MA 01004, 413/545-0743.

PACIFIC NORTHWEST EVENTS

Renewable Resource Inventories for Monitoring Changes and Trends will be the theme of an international conference to be held August 15-19, 1983 in Corvallis, Oregon. The conference's objective is to develop methods of inventorying timber, wildlife and soil in order to gauge future losses of these resources. For more information write to John F. Bell, General Chairman, School of Forestry, Oregon State University, Corvallis, OR 97331.

The National Association for Environmental Education will hold its 12th Annual Conference in Ypsilanti, Michigan, Sept. 30-Oct. 5. The theme is **Crossroads: Society and Technology**. For more information, contact Dr. John H. Baldwin, 156 Hendricks, University of Oregon, Eugene, OR 97403, 503/686-3698.

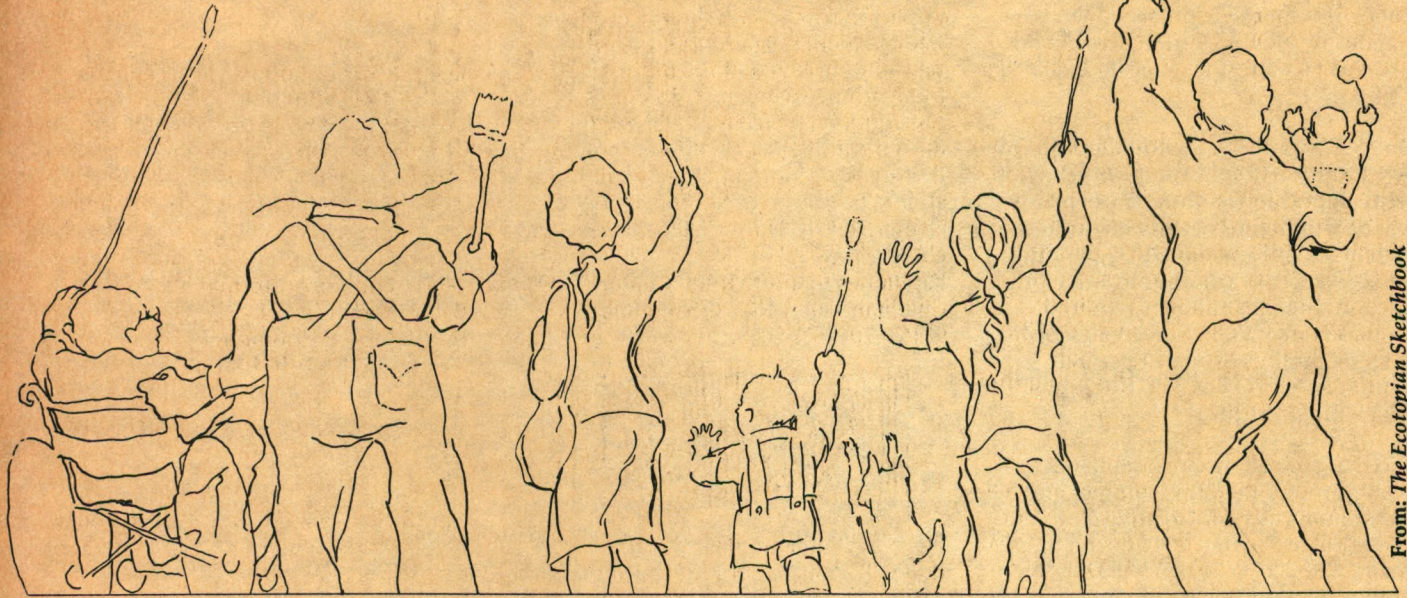
The Institute of the American West is sponsoring two conferences in August. On Aug. 10-13, the Institute and The Coalition for Western Women's History are presenting **The Women's West**, the first major inter-regional conference to explore the role of women in western history. Admission is free and open to the public. On Aug. 17-20, the Institute will sponsor "Indian Self-Rule: 50 Years Under the Indian Reorganization Act." For information, contact E. Richard Hart or Marcia Jones, Institute of the American West, Box 656, Sun Valley, ID 83353, 208/622-9371.



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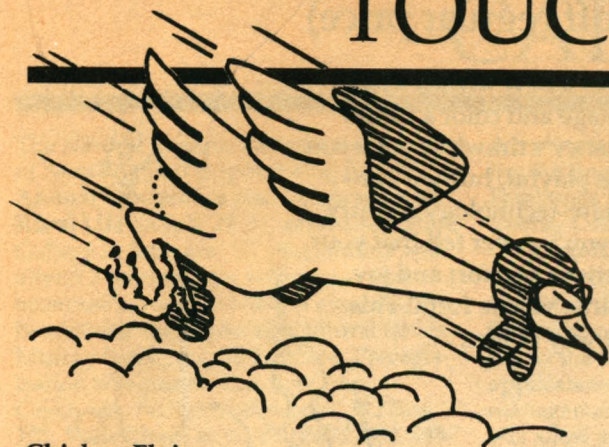
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TOUCH AND GO



Chicken Flying

We finally received an announcement about the annual "eggciting" Chicken Flying Meet, held in May near Rio Grande, Ohio. Last year's event brought 1500 people and 175 chickens. However, to date, the record flight by Lola B., a 15 ounce barnyard bantam hen from Point Pleasant, West Virginia, of 302 feet 8 inches, has not been broken.

Formosa Invades the United States

We noticed an ad in *Verbatim*, a thoughtful journal about language, that the country of Formosa is going to export a new beer into the USA, calling it Taiwan On.

Then, we found out that there is an invasion taking place near Hallandale, Florida, where a kind of termite from Formosa is spreading. This termite is reported to be able to disintegrate a pressure-treated four-by-four in less than a year.

Everything Is Connected

Climatologists have given the name of El Nino to an area off the coast of Chile, which may be the cause of California's unusually wet winter. El Nino, an area of the Pacific Ocean with a temperature 6 to 8 degrees above normal, may have diverted the jet stream along the Pacific Coast, forcing more storms to move across the

mainland through California. One speculation about the cause of El Nino is the presence of methane in the atmosphere which has increased by 1.7% a year since 1965. This increase may be a result of the clearing of forest lands in the tropics, especially in the Amazon watershed.

Pacman Cancer Videogame

A hospital in Houston, Texas has developed a version of Pac-Man that is modeled on the cellular theory of cancer. The Pac-Man-like T-Cell lymphocytes scurry through a maze of "normal cells" in search of orange "tumor cells."

East West Journal

Information Era Firsts

The Artculture Resource Center in Toronto published a 20,000 word suspense novel which was written in six and one-half hours by Burke Campbell, and distributed to users of the Readers Digest owned SOURCE information utility within sixteen minutes after it was completed. A spokesperson for the Source declared it to be the first truly electronic novel.

In other firsts, George Stickles and Debbie Fuhrman exchanged their marriage vows in the presence of "on-line" guests, those who listened in via their Compu-serve connection—an information utility similar to the Source. The minister administered the ceremony using his own computer terminal.

Longest Acronym Award

SCNVOSOPTOHOPR (Steering Committee of National Voluntary Organizations for Service to Older Persons in Their Own Homes or Other Places of Residence). The committee was set up with 138 elected national voluntary organizations as a result of the 1971 White House Conference on Aging.

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