INSIDE: Homemade Woodstoves  
Grassroots Energy Planning  
Beyond the Myth of Scarcity
RAIN access

RAIN is a monthly information access journal and reference service for people developing more satisfying patterns that increase local self-reliance and press less heavily on our limited resources.

We try to give access to:

* Solid technical support for evaluating and implementing new ideas.
* Ecological and philosophical perceptions that can help create more satisfying options for living, working and playing.
* Up-to-date information on people, events and publications.

AGRICULTURE-FOOD

Community Gardening in California, Rosemary Menninger, 1977, from: Office of Planning and Research & O.A.T. State of California 1400 Tenth St. Sacramento, CA 95814

Starting a community garden involves much more than tilling the soil and sprinkling it with seeds. Now is the time to put your green thumbs to work farming the resources available to you in your community and state. There are over 160 community gardens in California now. Community Gardens in California outlines how they have been organized, what state, federal and local resources are available to you in your community and state. This makes a number of suggestions for new garden projects. You can benefit from the experience and this report. Couldn't find a price (could it be free?). Write and see. -CM

Small Farmer's Journal, from: P.O. Box 197 Junction City, OR 97448

I've seen a good number of publications slide through our mail slot this past summer, but this one is really something special. Small Farmer's Journal is more than just an urban dweller's dreamer, it offers "practical information for people who wish to become self-sufficient, diversified "farmers" in the true sense of the word. The journal places a strong emphasis on the use of horses and mules for motive power, the editor, a horseman himself, feels horse-farming is a serious consideration in the future of agriculture, but from bee-keeping to ditch-digging, SFJ offers in-depth help for the farmer. What's more, it's beautiful! Congratulations to Lynn and Christene, and thanks to all those involved. Published quarterly, subscription cost $8.50/year in the U.S. and $9.00/year for foreign. Separate issues are $3. -CM

LAND

Tax Foreclosure Notices, $5 for any 4 states from: R.F. Brauer 21607 Devonshire St. Box 582 Y Chatsworth, CA 91311

Brauer has put together listings of all the 3,141 tax collectors in the U.S. listing county, county seat and zip code—as an aid for people interested in obtaining inexpensive tax delinquent property. Tax foreclosures often have weird karma—they have amounted to almost outright theft in Chicago and other areas, foreclosed owners can be real unhappy, and there are frequently problems with the property itself that have caused the foreclosure. But they're occasionally a real bargain. This is a brief buyer's guide, how to do it, and listings of any 4 states for $5, all states for $30. -TB
2nd International Symposium on Land Subsidence Program Booklet, Dec. 1976, $2 from: Treasurer Int'l. Assn. of Hydrological Sciences 1909 K St., N.W., Lower Level Washington, DC 20006 Contains brief summaries of 64 technical papers on theory, investigation, measurement, predication and control of subsidence, including land-surface sinking resulting from removal of water, oil or gas, de-watering of organic deposits, and extraction of solids by mining. Useful info on the hazards of energy production to land. —LJ


Because it clearly outlines the sources and methods of map librarianship, this is an item that would be useful to all states and to anyone, including private citizen map fetishists, looking for models on how to proceed, how to store and arrange maps.

If this is a continuing interest, the Bulletin, published quarterly at $12/yr., ($3.50 the single copy), is what you want. Write: Mrs. Kathleen I. Hickey, Bus. Mgr. Bulletin of the Geography & Map Division—SLA 9927 Edward Ave. Bethesda, MD 20014

—LJ

HEALTH

Is Your Drinking Water Safe? 30-minute film, ask for Film Digest No. 31486, free to groups from: Modern Talking Picture Services 2323 New Hyde Park Rd. New Hyde Park, NY 11040

Produced under a federal grant, covers how to find out if your water’s fit to drink and what to do about it if it isn’t.

AIR POLLUTION: WHAT TO DO?

If you’ve got bad air and want to learn what to do about it, write the American Lung Association. They’ve a newsletter called “Air Conservation,” various publications ranging from layperson to

Wellness, Chris Popenoe, 1977, $4.95 from: Yes! Books 1035 31st St., N.W. Washington, DC 20007

Well, someone finally did it just in the nick of time. Health care and natural cure books have been proliferating at an amazing rate, and it’s hard for the novice to tell the wheat from the chaff. This book is thorough, fat (442 pages), well indexed and cross-referenced, and easy to use, with the favorites done in bold-faced type, so they jump out at you. Do you want to know the history of ginseng, the best herbal books (most of her favorites seem to jive with mine), all about iridology, body work or oriental medicine? This book will sanely lead you through all the sources, pointing out the strengths and weaknesses of each. A must for anyone interested in this exciting field. —LdeM

LEARNING


Penguin Books are off and flying again with three new Practical Puffins. Full of good advice and fun projects for 7-12 year olds and anyone else who isn’t too grown up, they are fun to read and easy to understand. Make a spooky mask or musical instrument with the help of Bottles and Cans. Or hide under a shelter of leafy branches with instructions from Out in the Wilds and learn how to enjoy the outdoors safely and gently. Then, go fly the kite or four you can make after reading the last Puffin by the same name. They sure beat mud pies and after school TV. —CM

Growing Without Schools, $10/6 issues, with reductions for multiple subscriptions. Sample copies 50¢ from: Holt Assoc. 308 Boylston Inc. Boston, MA 02116

Learning is too often associated solely with schools and formal education. Growing Without Schools is a new newsletter by John Holt about how you can learn and acquire skills without going to school. He wants your input—on ways people can get credit, your experiences, the art of teaching, and personal concerns, in hopes of setting up a network of mutual help and support. There are alternatives; there is a choice. —CM

The Tadpole Kite

CROSSED STICK FRAME

FRAME STRING

PAPER COVER

BRIDLE

FLYING LINE

TAIL

NON MY ATTENTION

KITEOLOGY CLASS PRICE WINDEY
Across the nation, grass roots energy plans—ways for states and local communities to encourage better home and office insulation, to provide alternative renewable energy resources through solar, wind, water and wood power generation—have been building rapidly. Yet, local efforts so far have just begun to scratch the surface of what's possible in energy saving. The Nixon and Ford Administrations, preoccupied with developing expensive and centralized new oil and nuclear power sources, paid them scant attention. The Carter Administration, while verbally more sympathetic to conservation and alternative energy options, has committed few resources to local approaches to energy problems. Nonetheless, hundreds of the nation's cities and most of the state governments are developing programs to lead themselves out of their own energy problems. And, in the process, they are assuming the lead in resolving the nation's energy crisis.

By early April 1977, all 50 states and the various U.S. territories had prepared state energy conservation plans. The 5% conservation goal required under the 1975 Energy Policy & Conservation Act was apparently considered achievable by all the jurisdictions, and many indicated projected savings 25-50% above this figure. In large measure, the states are relying on optional measures suited to their particular needs and resources to supplement the mandatory measures to meet the 5% energy reduction.

For example, Colorado is planning to develop a statewide bikeway construction program as well as to institute staggered work hours and possibly four-day work weeks in metropolitan areas. Maine's EPCA plan includes public education programs, energy audits for buildings, workshops for business and industry, revision of the state's motor vehicle inspection provisions to include an exhaust gas analysis program to identify improperly-tuned automobile engines, a local energy management program, and a proposal to institute a load management study with the state's public utility company.

In New York, Governor Cary has called for a ban on pilot lights in gas furnaces and stoves and for a requirement that a seller furnish a home-buyer with both a copy of the previous year's fuel bills and an assessment of the building's energy efficiency.

California contemplates a study of waste-heat recovery in industry with an emphasis on preheating and superheating of boilers.

California, Pennsylvania, Massachusetts and most other states are planning major expansions of energy audit services; in some states these services are administered by the local electric and gas utilities; in others they are sponsored by Project Conserve programs administered directly by the states' energy offices. Other states such as North Carolina are also proposing prohibitions on the use of master meters for electricity and natural gas usage in new multi-unit residential buildings.

In addition to curbing fossil fuel consumption, many states envision utilizing indigenous energy resources. West Virginia's Fuel & Energy Office, for example, is sponsoring a program in which methane gas from gassy coal mines is tapped for home heating use in nearby communities. New Jersey is coordinating research efforts with Princeton University to assess the potential for heat co-generation in the state.

Vermont has prepared a series of studies to evaluate the potential of its wood resources to meet energy needs; its wood-energy program has already prompted an increase in reliance on this resource: between 1970 and 1976, wood use for home heating has jumped from 1% to 6.7%.

Idaho is on the verge of what its energy office describes as a program that "may become the largest geothermal space and water heating project in the Western Hemisphere." The city of Boise already services some 200 customers with geothermal hot water, but a recent study concludes that 38 large buildings or the equivalent of 4,000 average homes could be heated from a nearby geothermal field for a cost of $5 million.

While solar legislation languishes in the Congress, the states are moving rapidly to implement measures that encour-
age rapid commercialization. To date, more than 23 states have enacted statutes which offer such incentives as tax credits and deductions, exemptions from property and sales taxes for solar units, and low-interest loans.

North Dakota’s legislature this year passed a law that provides procedures for the creation of voluntary solar easements similar to Colorado legislation put into effect two years ago.

Public buildings powered by solar energy are in the works all over New Mexico. And one of the major builders is state government—mandated by the 1975 legislature to consider alternative energy systems for all state construction. The state already has financed two solar buildings recently opened at New Mexico State University and expects shortly to solarize several other major complexes now under construction.

In California, the state Office of Appropriate Technology is providing bicycles to state workers in Sacramento as an alternative to automobiles, training unemployed persons to design, build and install solar hot water systems in state-owned houses and apartment buildings, and assisting in the design of new state buildings that use only one-fourth the energy of conventional buildings.

The long-range goals of these and other state energy planning programs are often quite ambitious. The New York State Assembly, for example, has endorsed an energy policy goal of meeting 50% of its energy needs from solar energy, wind power and solid wastes from within the state; presently New York must import 90% of its energy. South Dakota is planning to reduce its historic per capita energy growth rate of 3.85% to at least .68% by 1980 and to 0% by 1985.

A study has been completed in Montana on how to make the state energy self-sufficient. That report follows the thinking of Amory Lovins (i.e., reliance on conservation and decentralized, alternative energy technologies) and is probably the first serious effort by any state to explore energy independence through “soft technologies.” A spate of bills to implement the report’s anticipated recommendations is now being realized for the Montana legislature.

In King County (Washington), as part of an energy conservation program first proposed in October 1976, a few hundred low-income residents received warmer homes and lower heating bills this past winter; there a $40,000 “winterization” program was designed to reduce energy consumption and the heating costs of low-income elderly; the savings were estimated to be 30%. The Corporation for Ohio Appalachian Development’s Energy Crisis Program encompasses 27 predominantly Appalachian counties in southeastern Ohio and is operated by 16 Community Action Agencies. The program, which began operating in February 1975, has accomplished partial or complete weatherization services on approximately 2,500 homes and has granted crisis intervention assistance to 1,500 households (that entails giving one-time-only cash grants or fuel supplies to individuals who are having difficulty paying their utility bills).

Ocean County (NJ) is the first locality to form a Youth Energy Conservation Corps. Under the program being coordinated by the Ocean County Energy Council, local teachers are being trained in energy conservation strategies. Energy conservation clubs, in addition, are being formed for grammar school students; student coordinators are being appointed in high schools to monitor such areas as lighting, air conditioning usage. There are also solar demonstration projects in shop classes and other conservation projects in science classes.

On January 31, 1977, a new planning and zoning code went into effect in Los Alamos County (NM), which includes a solar rights ordinance. The homeowner’s right to solar energy is clearly specified and protected; the location of vegetation or accessory structures on a lot is prohibited if these additions will block the access of an already-installed solar collection system to the sun.

The Small Farm Project of Cedar County (NE) is currently planning various energy-saving programs for the Project’s 25 cooperating farms. Design and costing of specific energy innovations are now in process with assistance from several consultants; they include solar heating of homes and farm buildings, wind generation of electricity, wind-water pumping, improved insulation, and use of methane fuels. Actual construction is slated to begin in fall 1977.

Many of the nation’s regional councils have designed programs to address their own local energy needs. For example, the Comprehensive Planning Organization of San Diego began work in November 1976 on a regional energy plan that will promote energy conservation measures and the development of alternative energy sources feasible in the San Diego region. The Organization already publishes a monthly “shopping list” outlining steps local residents and businesses can take to get more efficient use from home appliances, cooling systems, etc.

The Toledo Metropolitan Area Council of Governments disseminates tips on weatherization of homes and offices to both elected officials and the public. The San Luis Valley Council of Governments (Alamosa, CO) is conducting workshops emphasizing techniques for utilizing solar energy, energy conservation and natural building design. The Southwest Georgia Area Planning and Development Commission is conducting energy audits of office buildings and schools and recommending steps that might be taken to eliminate problem areas.

Hundreds of towns and cities have undertaken energy planning efforts to promote energy conservation and to tap locally-available, renewable energy resources. These efforts have been very diverse, ranging from broad comprehensive programs to small tentative ones.

One of the best comprehensive energy conservation pro-

<table>
<thead>
<tr>
<th>TABLE 1: ENERGY USE FOR TRAVEL</th>
<th>BY ANIMALS AND MACHINES</th>
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<tbody>
<tr>
<td>Cost of Transport (gal/km)</td>
<td></td>
</tr>
<tr>
<td>Dog</td>
<td>1.0</td>
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<td>Cat</td>
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<td>Jet</td>
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<td>Man on Bike</td>
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<td>Man on a bicycle ranks first in efficiency among traveling animals and machines.</td>
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grams is being run by Davis, California, a small city 12 miles outside of Sacramento. Almost four years ago, Davis' City Council convened a committee of architects, meteorologists, planners and citizens to survey energy use in the city and to make recommendations for reducing fuel consumed in space heating and cooling by 50%. The group drafted a new ordinance controlling building design elements such as window area and orientation (it requires that houses have limited window area on the north, west and east exposures), amount of insulation, building heat storage capacity, and building orientation so as to take maximum advantage of natural heating and cooling. The final ordinance was accepted by the city planning commission and ultimately approved by the City Council. The changes have already reduced the city's electrical consumption by 10%, and conforming households are netting monthly savings of $10-$15 on utility bills.

Springfield (VT), a small city of 10,000 people, is developing a local hydroelectric site to supply the bulk of its electricity, and several other Vermont towns will likely follow suit. Likewise, the city of Idaho Falls, in cooperation with the federal Energy Research & Development Administration, is jointly funding a "low-dam" hydroelectric study aimed at upgrading the city's hydroelectric system: the community owns three low-dam hydro plants on the Snake River which were once capable of generating up to 6,000 kilowatts. In Ithaca (NY), Cornell University is considering reactivating a power plant on Fall Creek Gorge that may eventually supply 500 kilowatts or 3% of the university's total electrical needs. There are over 3,000 such little used mill-town dams scattered throughout the country which could provide the energy needs of 40 million people at costs lower than other electricity generating sources.

In some communities, the impetus for local energy programs has come from private citizens. One of the most successful waste oil recycling programs in the nation was started by Sunnyvale-Cupertino's (CA) chapter of the American Association of University Women. The four women convinced the City Council to designate 14 service stations, four fire stations, and the Sunnyvale Recycling Center as collection points. They also arranged for a nearby re-refinery to pick up the used oil from the collection points. As a result of their efforts, numerous other communities have been awakened to the conservation potential of recycling the 1.1 billion gallons of used oil generated annually in the U.S.: similar waste oil recovery projects have been launched in Minneapolis-St. Pauli and Duluth (MN), Cincinnati (OH), and Chittenden County (VA).

Other local energy projects have been instigated by the nation's Community Action Programs (CAP). About 700 CAPs across the country participate in some form of weatherization program, repairing and insulating the homes of low-income families. In Cranston (RI), the local CAP created a small business to construct and install solar water heating units in the homes of poor people. The SKV Community Action Program in Augusta (ME) scavenges 50-gallon oil drums and converts them into wood-burning stoves. Community Action of Laramie County (WY) is building solar greenhouses. Many of these small projects are being expanded and incorporated into more comprehensive local energy plans.

Other cities are also actively pursuing energy conservation projects. At the time of the 1973 Arab Oil Embargo, Los Angeles enacted an emergency energy curtailment ordinance; it achieved a 17% reduction in electricity within a few weeks without major adverse impacts upon employment or the economy.

The town of Worcester (MA) launched a community-wide insulation co-op in which 25 families joined together and purchased 24,039 square feet of insulation at a discount of 25%—a savings of approximately $52 per family. Minneapolis, Sioux City, Cleveland and Springfield (IL) are only a few of the communities which have used overhead thermographs; householders, businessmen and others thus have been able to view these special aerial pictures of their homes, schools, stores and factories to find out whether poor insulation is wasting energy and costing them money. The city of Hartford (CT) is establishing a program to winterize both public buildings and private homes through a non-profit city corporation using an assortment of federal funding programs. Property owners will be billed through the municipal water utility; the city's pension funds have been suggested as a funding source to provide the initial starting capital for CETA funds. Poor people will be trained, first on the municipal buildings which do not require competitive bidding and then on the homes of the poor themselves.

This kind of intense city effort to deal with local energy problems is becoming the pattern and not the exception. Recognizing that trend, the Vermont legislature last year passed a law (Act 226) enabling towns to appoint town energy coordinators who "shall coordinate existing energy resources in the town and cooperate with the municipal planning commission and with those federal, state and regional agencies of government which are responsible for energy matters." More than 46 towns have appointed energy coordinators so far, with many of the coordinators being assisted by energy committees composed of a cross-section of the town's residents. The coordinators and committees are examining insulation standards, exploring ways to exploit wind, water, wood and organic energy sources; advising homeowners on purchasing solar units, wood stoves and windmills; and investigating whether local sanitary landfills are suitable for methane production. For example, Burlington is conducting a feasibility study on a new electric generating plant to be powered by wood, wood waste, and municipal refuse.

Elsewhere, new towns and communities within existing cities are being planned on the basis of conservation and renewable energy resources. Sixty solar energy homes are planned for a new subdivision—Sunglade—in Raleigh, NC. The homes will use roof-mounted collectors to heat water for heating and domestic use. The builder has applied to Carolina Power & Light Company to have the homes participate in the peak-load pricing experiment in which electricity will be expensive in periods of high demand and cheap in periods of low demand. To hold down the electric bills, the homes will have automatic clocks to control devices such as hot water heaters so they will only come on during the low-cost periods. The solar collectors will supply 75% of the hot water needs.

In Grassy Brook Village, a subdivision of Brookline (VT), 216 solar panels have been installed to provide the first ten-unit development in this new community with about 4,500 square feet of collector surface. This marks the first time in
the U.S. that an independent solar heating system will be used for cluster housing.

In spite of the breadth and variety of local and state energy activities, major impediments to such planning efforts remain—primarily lack of information and a lack of money. Only a small number of cities are aware of the wide range of activities that can be conducted on the local level. Although some literature exists on local conservation programs, there is an acute shortage of information on the possibilities of local alternative energy development.

Ultimately, the success of national efforts to pull the U.S. out of its energy crisis will be determined within the communities across the country and not in Washington, D.C. Community energy programs could provide the vital service of not only making the technological information available but also of assisting in its implementation. Each community has the potential for developing energy resources and/or conservation measures that are uniquely suited to that area. No federal energy plan could ever be comprehensive enough to allow for the differing energy needs of each region of the country.

— Ken Bossong

Beautiful Swimmers: Watermen, Crabs and the Chesapeake Bay, William W. Warner, 1976, $2.95 from:
Penguin Books
625 Madison Ave.
New York, NY 10022
Every once in awhile I stumble on a book that is really special and I can’t even remember now how it came to us or why I picked it up. Somehow it just felt good even though I didn’t know myself to be interested in the Chesapeake or the seafood industry there. But this very gentle and readable book is about people—the skilled watermen who work amazing hours and whose knowledge about the ways of the Bay and its inhabitants far exceeds that of the scientist “experts.” It’s about the blue crabs—their habits, growth stages and personalities. And it’s about a place—it’s history, economy and a way of life far from the tourists and passersby. It is written by an outsider with a patience, love and respect that come through beautifully. Now if I could just find such a book about the Oregon coast. —LdeM

The Warehouse Catalog, $2 from:
Sailing Equipment Warehouse
P.O. Box 2575
Olympia, WA 98507
The nearest I’ve been to sailing is bouncing around with a friend named Do-It who races sailboats on the Minnesota puddles, so I can’t tell you if this is a “best deal” for boaters. (Is it?) I do know that boating equipment is one of the best places to check out when looking for a piece of hardware you can’t find anywhere else to do something special. A good handy reference and dream piece . . . what could I do with that thing? . . . for boaters and non-boaters alike. A nice, small-scale operation. —TB

In the People’s Republic, Orville Schell, 1977, $8.95 from:
Random House
201 East 50th
New York, NY 10022
There have been many, many books written as a result of visits to the People’s Republic, but this is the first one I’ve ever seen that really talks about the people and how things felt. Orville was lucky—he went over for three months as part of a special group who spent time working in a Shanghai factory and on Tachai, a farm commune in Northern China. He was in these places long enough to get past the statistics and model projects. He also spoke Chinese, so he could really talk to people, not just to interpreters. What comes through is somewhat depressing for those of us who hoped for a while that China might be a model for our dreams. Orville was reprimanded for taking pictures of composting toilets (they’re “backward”) and was shocked to realize that many of the people in the prison he visited were there for thinking individualistic thoughts that he was thinking. But it’s a wonderful book due to Orville’s very fine ability to capture the spirit of the people he got to know. The little boys in the field, the doctor and his family, the factory workers all come through alive and clear—a side of China we’re not often able to catch a glimpse of. Highly recommended. —LdeM

Woodland Park Zoo, Jones and Jones, 1976, $25 from:
105 So. Main Street
Seattle, WA 98104
What do you think about zoos? Something bugs me about them, but I can’t pin it down. Are National Parks zoos? Is New York a zoo? Are we all behind invisible bars? There’s something wrong all along the line, but what? Assuming we have/are in/wish for zoos, this book is an elegant attempt to create a range of realistic habitats that can expose us to some aspects of other inhabitants of our global zoo. —TB
The sun and wind and garbage are resources we’ve ignored
Cheap, renewable and clean!
Who could ask for more?

What a joy it was to watch a group of people teaching about energy alternatives with something other than slides and charts and polemics. Theater! That’s what this movement has been needing. Telling it like it is (even slipping in a few facts and figures) but with grins, costumes, songs and dances, and some very fine juggling.

The New Western Energy Show is a troupe of 14 actors, dancers, “chanteusies,” and handy energy-types who have been traveling around towns in Montana for the past two summers. They do two shows a day on their fold-down stage that doubles as a semi-trailer for hauling props and displays. One is a children’s matinee complete with a dinosaur who explains about fossil fuels, a windmill named Louise, and Old Mother Hubbard, who learns that saving energy means saving money. In the evening they do a Medicine Show that includes a chorus line of insulation bags, a wonderful ventriloquist and dummy act, and a skit about a town who learned the hard way what being energy wastrels does.

All the skits and songs are well-written and marvelously acted, I sat in Billings for five days and watched people absolutely entranced by the message—and the medium. The audience was filled with little kids, families, old geezers in overalls, a sprinkling of longhairs and members of the high school track team that had been practicing nearby. Often 60-100 people showed up for a show. Mouths hung open, eyes twinkled and everyone had lots of fun.

The great thing about it, though, is that it isn’t all theater. Encircling the area sit solar hot water heaters, water wheels, solar ovens (where cookies were baked each afternoon and given away to children during the matinee), woodstoves, windmills and a whole series of display panels explaining the whys and wherefores of energy conservation and the various different alternative means of generating energy. There was also a library table and books to buy (best seller was, I think, Bruce Anderson’s Solar Home Book). There were always members of the troupe standing by ready to answer questions or give tours of the exhibits. Slide shows and “town forums” were going on, too. Sometimes they were by the group and sometimes by folks like myself, Jay Baldwin, Jack Park, Howdy Reichmuth and Jeff Barnes, who were brought in to be part of the troupe for a week.

Alongside all this was the blue school bus that served as transportation, dining hall, closet and infirmary for the troupe. It was always colorfully bedecked with sleeping bags, bicycles and boxes of vegetables donated by local people. (We ate very well.) It even had a breadbox solar water heater on the roof.

So not only was there entertainment and education to be found, but the people in the group were an example for all to see of the living lightly ethic they were espousing. In some ways, that and their infectious enthusiasm were the most important messages of all. One, I might add, that was often commented on by visitors—many of whom came to gawk and went away inspired.

The show is the brainchild of Kye Cochran and AERO (Alternative Energy Resources Organization). The first year it cost $30,001.12, which they borrowed from friends until a grant finally came through in December, long after everything was packed away. This summer they had a $45,000 Renewable Energy Resources grant from the State of Montana. What happens next year is still uncertain. Some of the group, many of them native Montanans, want to stay together to do theater in schools and for other public occasions all year round. A small contingent that hails from Seattle are thinking about getting another troupe going there.
STEP RIGHT UP, FOLKS!

The more, the merrier. It really is time that the a.t. movement got some fun and games into its repertoire. The enthusiasm and excitement it engenders is much more hopeful than Carter’s doomsday energy speeches. It’s neat for the theatre people and musicians too, many of whom have been longing for a way to ply their craft to move things along. All of them emphasized to me how much greater their energy awareness is now after their activist summer.

A.T. ENTERTAINMENT OF THE MONTH

(if you can’t see AERO’s New Western Energy Show)

Cultural shifts and turning points are often heralded by seemingly insignificant events. The most important omen to me this past month has been hearing my first anti-nuclear 45 rpm record. I played it over and over, getting so mad at what they are doing to us I cried at first. Then I got this new sense of resolve to do what I can to end that cul-de-sac, that dinosaur, the peaceful atom that Mr. Wizard forgot (?) to warn me about in the 1950s. Who needs it? There really is a world of safer, solar options out there, even if it’s not so visible to the mercenary bureaucrats at ERDA/DOE. The societal myopia is moving away from the stupidity they’re pushing, and we can kick the habit, and them with it. This will help.

Anyway, it’s got “No Nukes” on one side and “Karen Silkwood” on the other. Proceeds go to the ClamsHELL Alliance. It’s $2.30 per copy from: No Nukes Record (make check out to that), 94 No. Leverett Rd., Leverett, MA 01054.

Now all we need is some good rock-country solar, wind and biomass songs. Who’s got ‘em? —LJ

The AERO people will be working this fall on keeping the New Western Energy Show on the road. In the meantime (and for those who can’t get up to Montana for the show), they are putting together a video tape and a film of the show that should be almost as good as the real thing. For further information about their availability and prices, write in November or so to AERO, 435 Stapleton Building, Billings, MT 59101 (406/259-1958).

—LdM

RAIN is interested in knowing about other groups who are using theater to get across the same messages we are saying in print. We know about the Family Circus (221 S.E. 11th, Portland, OR 97214), who do a fine anti-nuclear show as well as several other things. We’ve heard of the Caravan Stage Company, which travels in horse-drawn gypsy caravans through B.C. the Two Penny Circus that does anti-nuclear stuff in Vermont, and two groups doing theater with kids—the Narnia Messengers in Seattle and Friends Mime in Milwaukee. Does anybody have addresses for these groups? Do you know of any others? Let us know and we’ll run the information in an upcoming issue.
Beyond the Myth of Scarcity
by Frances Moore Lappé and Joseph Collins

As we have described our work to others during the intervening years, we have discovered a common reaction. Writing a positive book about world hunger sounds to most people like trying to make a joke about death—it just isn't in the material! The typical response is a sigh of sympathy or a look of bewilderment. Sometimes we sense we evoke latent feelings of guilt because we appear as individuals who are “making a sacrifice.” But how can we explain that we are not dwelling on the tragedy of hunger and deprivation? Instead, we are learning for the first time where our own self-interests lie. Rather than a depressing subject to be avoided, the world food problem has become for us a useful tool in making sense out of our complex world.

But to discover the positive message hidden in the apparent hopelessness of the world food problem, we must first face the forces now paralyzing Americans with feelings of guilt, fear and, ultimately, despair.

Everywhere, newspaper headlines carry a clear message: we are all in a life-and-death contest between growing numbers of people and limited amounts of food. We are in a race, we are told, and some must inevitably lose. The implicit message is that not everyone can have enough to eat. And what about us, we wonder? According to C.W. Cook, retired chairperson of General Foods, if we have “to compete with...” an increasingly crowded and hungry world, providing adequate nutrition to millions of lower income Americans could become an impossible dream.” Population growth was pronounced a “bomb” in the 1960s and a “human tidal wave” in the 1970s.

But it is not mere numbers that we are made to fear by these frightening images; the real issue is whose numbers are increasing. While describing the “race against hunger,” President Nixon told us that, “the frightening fact is that the poor are multiplying twice as fast as the rich.”

To this compound threat, our new ecological awareness presents its own version of the apocalypse. Warnings about over-reaching the “finite limits of our ecosystem” lead us to believe that increases in food production will inevitably damage the environment. Thus, there appears to be no way out of scarcity without making our children pay the price.

In addition, as North Americans, we are told that we have a special role to play in staving off the apocalypse. Again and again we read that the United States is the world’s only remaining buffer against starvation. We see world food security defined strictly in terms of how much grain the United States can produce or hold in reserve. And, understandably, the North American consumer then believes that food exports to the hungry are to blame for our rising food prices. One intuitive response to such a burden on our national shoulders is to toughen up, to feel we are being unfairly put upon, and to resist.

At the same time, well-intentioned attempts to stir public action have shifted the world food crisis away from the political-economic arena and have made it an issue of individual morality. Our consumption is endlessly contrasted with deprivation elsewhere. With no understanding of how hunger is actually created, we are defenseless against a diffuse but powerful sense of guilt—guilt for just being American.

Thus, the hungry are made to represent a powerful threat, and, at the same time, a burdensome responsibility. We are torn.

To ease the pain of our conflicting feelings, theories such as “life boat” ethics emerge. We are told that compassion is a luxury we can no longer afford. We are told we must learn a new ethic of detached reason: we must learn to let people die now for the ultimate survival of the human race. Such a resolution of our conflicting feelings is, in the words of writer Peter Collier, a form of “Novocain for the uneasy soul.”

But, must we deaden our sensibilities in order to find some succor for our anxieties? Or, can we transform what appears to be the most impossible problem of our generation—the world food crisis—into a most useful and constructive tool for understanding the complex forces that limit our own lives? Can we, moreover, on the strength of our new insight, gain a sense of personal power over forces that increasingly diminish our own freedom of choice and our own well-being?

In researching our book, Food First: Beyond the Myth of Scarcity (Houghton Mifflin, July 1977), we have discovered that the answer is “yes!” To begin with, we have learned that food must come first. Until all people of this earth are able to eat adequately, all other problems pale in significance. No country can afford to think of its food resources as a means toward some other end, such as income from exports, until
its people first are feeding themselves. This applies to the United States as much as to any other country.

As we studied, read and interviewed, we found that the media-repeated themes of scarcity, guilt and fear are all based on myths. In fact, we had to learn that:
1. Every country in the world has the capacity to feed itself.
2. The hungry are not our enemies nor our competitors.
3. The malnourished abroad are not hungry because of individual greed of the average American. Rather, the hungry are victims of a scarcity-creating system.

Hunger, in fact, is not the “problem” at all. Hunger is the symptom of a disease, and we are its victims in much the same way as are the nomads in Mali or peasants in India.

We have come to see that no society setting out to put food first can maintain the concentration of wealth and power that characterizes most nations today. The heaviest constraint on people-oriented food production and distribution turns out to be the inequality generated by our type of economic system—ironically, the very system now being exported to underdeveloped countries as the “answer” to their food problem.

We are not saying that the solution to hunger lies in better distribution of food while keeping intact the present distribution of power. We are saying something else: that hunger will only be addressed when we confront the more fundamental issue of who controls and who participates in the production process. Thus, to accept the challenge of Food First is to confront the basic assumptions of our present economic system.

The greatest reward for our work has been the discovery of realistic and liberating answers to a most urgent question: What can Americans do? Although the answers are not simple, we know at least that Americans alone can’t solve the world food problem.

Hungry people do, can, and will feed themselves if they are allowed to. If people are not feeding themselves you can be sure there are powerful obstacles in the way. Now, instead of asking, “How can we feed the world?” we ask an entirely different question: “What are we doing—and what is being done in our name and with our tax money—to erect those obstacles? And how should we work to remove them?”

The task of Americans now becomes clear. More important than sending food aid or designing rural development projects for the Third World is building a movement in this country—a movement that lays bare the truth that it is a single system, supported by governments, corporations and landed elites, that is undermining food security both here and abroad.

We are discovering that in underdeveloped countries, the forces cutting people out of the production process, and, therefore, out of consumption, are the same forces that have turned our food system into one of the most tightly controlled sectors of our own economy. Fewer and fewer farms account for a larger and larger portion of our food. We get increased and needless processing and less nutrition for higher prices. Thus, as we fight to democratize our food economy in this country, we are fighting directly against the very forces that promote hunger in other countries.

There is no other road to food security—for others or for us. We have been misled to believe that, if justice becomes a priority, production will be sacrificed. We have found the opposite to be true. It is the land monopolizers, both traditional landed elites and corporate agribusiness, who have proven themselves to be the most inefficient, unreliable and destructive users of food resources. The only guarantee of long-term productivity and food security is for people to have control over their own food resources here and in other countries as well.

The first step, however, is to demystify the problem of hunger. This is where we would like to help. We did not start out as experts. We began just as you might. We became interested. Food loomed as the greatest problem of our lifetime. What could be more compelling?

As we learned more, read what the “experts” were reading, traveled through our own country and abroad, we learned that the solution to world hunger is no mystery. It is not locked inside the germ plasm of a seed, waiting for a brilliant young agricultural scientist to discover it. It is not spelled out in econometric studies of development planners. No, the only block to a solution to world hunger is the sense of powerlessness we are made to feel; that the enormity of the problem puts the solution outside our control; that it should be entrusted to others.

The solution to world hunger is firmly in our hands.
Every now and then we come across something really special—an idea, a project, or perhaps a person who seems to represent “appropriate technology” in every sense of the word.

Keith Jellum and Gary Morris are in the business of creating useful art, art for energy’s sake, and one look at their woodstoves tells you they’re something special. From the salvage yard to the fuel source, these fireburning masterpieces not only provide alternative space heat from a renewable resource, they are assembled almost entirely from recycled remnants of thrown-away treasures and are created by hand. Reminiscent of the days when craft guilds flourished and art was everything (or should I say everything was art), each stove has a personality and identity all its own.

Keith had been sculpting and casting other people’s work for quite some time and, feeling that all things should be beautiful, he fashioned his own sculptures into useful things. “Giving art a purpose brings it to life, makes it tactile.” Keith’s philosophy on art had influenced his preferences toward making towel racks, candle holders, lamps and various other things that people could use and enjoy. He started in the woodstove business out of pure necessity. He couldn’t support his gas furnace “habit” and needed a woodstove. His first attempt resembled an old toelless boot with a mysterious looking fungus—like a growth around its ankle. It worked so well it hobbled its way right into a friend’s living room. Shortly thereafter, ten car bumpers followed him home one night and were soon part of his second stove, which he later entered in Oregon Artists’ Annual and sold to Portland Art Museum as a part of their permanent collection. He now averages 3-4 wood stoves a year, with various other functional and non-functional sculptures in between. His latest work, a magnificent wind vane, is flying.

A stove is essentially a device to separate the smoke from the heat. The more heat-radiating surface you can run the heat/smoke through before it gets out of the room, the better. There is a point of diminishing returns where there is not enough heat to carry out the smoke.

The following is a design for a simple, efficient, cheap, woodburning stove.
in the breeze perched atop a home in S.W. Portland.

Gary Morris seems to be of a similar persuasion. Heavily influenced by today's recycling sentiment and too many leaky houses, his art naturally found its way from the firch pile to the stove pipe. The one-time jeweler started in the heating business repairing old stoves on the Oregon coast. Since then he has moved to the Columbia Gorge with torch and "trash" in hand to create stoves, some of which not only heat an entire cabin but can cook meals and heat your bath water as well.

Between the two of them they've used everything from farm equipment to old cannons in their practical sculptures. Each stove is fit to your heating needs and designed to your artistic tastes. For people who are more interested in efficiency than art, Keith and Gary are well experienced in design, construction and materials.

In fact, Keith has discovered that one of the most efficient models is simple enough for the average do-it-yourselfer to make without many fancy tools. Except for the refractory clay, they can be built completely recycled materials.

While commercial manufacturers try to sway you with some consumer mumbo jumbo as to why theirs is "the only one to buy," these handsome heaters will add much more than a few extra degrees to your home. As Keith last remarked, "if you are what you eat, you are what you see too," and these wood stoves are something else; they'll warm you from the outside in and the inside out.

Keith and Gary can be reached at:
Keith Jellum
911 N. 13th Ave.
Tucson, AZ 85705
Gary Morris
MPMP 0.32 R Thuja Narrow
Washougal, WA 98671

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Materials:
2–25 to 30 gal. drums (preferably old ones, because they're thicker and easier to weld to)
1 piece 16 ga. steel about 10"x24"
1 piece 1/4" steel plate, at least 19" diam.
2 heavy hinges (door or gate)
6" of 5/8" round steel stock
22" of 3/8" round steel stock
1-1/2" of 3/16" or 1/4" gas welding rod
5 lengths 1/8" gas welding rod
something for legs (use your imagination; I came across a bunch of curved 3/4" diam. pneumatic tubing and have been using it because it is strong and lightweight enough to weld easily to the barrel)

100 lb. box of plastic refractory (about $14). This is the key to the life and efficiency of the whole stove; I would not recommend building one of these without it. I have been using an A.P. Green product called "Super G" (look in the Yellow Pages under refractories). Plastic refers to the fact that it comes in a moist, malleable state. It is designed to be rammed in place and is good up to about 3000° (which you'll never reach in your woodstove unless maybe you're burning ironwood).

Step 1: Cut the 16 ga. sheet into two pieces, 6"x24" and 4"x24". Form with hammer into cylinders 6" and 4" long and 6" diam. and weld. The 6" long one goes between the barrels and the 4" long one should be fitted to the inside of the large end of a 6" stove pipe before welding. Place the cylinders against the barrels and mark them to fit the contour of barrel and cut to that mark.

Step 2: Be sure barrels are empty of whatever they contained, then fill them with water before cutting them with torch. This prevents them from exploding and killing you in case there are flammable fumes. (A childhood mentor of mine died that way.) Cut end out of...
bottom barrel and holes in sides of both top and bottom barrels using 16 ga. cylinders as templates. (Roll barrels around to create small air space next to wherever you’re cutting.)

**Step 3:** Gas weld connecting cylinder end legs to bottom barrel, making ass end of barrel one to two inches higher than front end.

**Step 4:** Gas weld 3/4” long pieces of 1/2” welding rod to inside of sides and back end of bottom barrel on 3”-4” centers, tedious but necessary as anchor pins for refractory. Weld at slight angle to perpendicular like this.

**Step 5:** Place front of bottom barrel on 1/4” plate and scribe circle. Cut out circle and cut at 1/3 diam. thusly:

Arc-weld bottom of front onto barrel and then hinges onto bottom front, then onto door.

**Step 6:** The handle:

- **1/4” pin** ends to door plate
- **5/8” round stock** bent while hot into corkscrew
- **3/8” round stock** slotted for draft adjustment
- **Door open for air at beginning of fire and closed down to dampen.**

- hole in door for handle is slightly oblong to allow up and down movement of handle
- **1/8” angle welded to inside barrel to receive notches in handle**

**Step 7:** Line inside of bottom barrel with refractory, cutting off chunks with a putty knife and pounding in place with rubber mallet. Stand bottom barrel on back end and do that first, working from outside in toward the center, aiming for 1/2” to 3/4” thickness. Then, leaving the barrel standing on end, apply to sides working up from the back. Applying refractory is a 3-4 hour job.

**Step 8:** Allow to stand in that position undisturbed and air dry for 2 days before standing upright and welding on the top barrel. Cure refractory slowly with small fire at first. Build fire directly on ash residue, emptying out when ash starts spilling out the door.

If this stove is kept dry and not allowed to rust, it will give you 20 years of good efficient heating.

Since June, second shifts have been hired at most of the major stove works, and a Wood 'n Energy survey indicates an average delay of ninety days for dealer deliveries. This survey reveals a two hundred percent production increase over the last year. And, while manufacturers are reluctant to give sales figures, our on-site inspection of production ranging from Atlanta to Portland leads us to estimate that a half million wood stoves will be produced in the ensuing year, exclusive of fireplaces and furnaces. Translated into dollars, this means that with ancillary sales the American wood stove industry may be nearing a quarter billion dollar market peak. --Wood 'n Energy, July 1977
Thank You, Fritz

E.F. Schumacher died in early September. He opened our eyes to many powerful and wise ways of seeing and changing our world. More important, he was a wonderful person with a warm, loving twinkle, whose peace-filled manner of relating to people always said more than any words could about the wisdom and benefit of changing our ways.

It was frustrating to see people interpret his visions as technologies rather than as illustrations of the need to generate and transform all our institutions on the basis of the kind of culture and people we wish to be. Maybe it would be good to let “Appropriate Technology” die with Fritz. His vision was broader and more organic than what is becoming an empty slogan.

We had begun to rely too heavily on Fritz, placing pressures on him to provide all the answers. We so often put that kind of pressure on people we love and admire. Now his vision of self-reliance—of looking to our own resources for the answers to our problems—takes on a new reality.

Schumacher’s work will continue to reverberate on its own. We’ve had our chance to listen and to learn from him. We must continue the process of transforming and improving our world, absorbing his ideas, and forging new visions and actions that apply to us and our world. We can’t carry on his work. We must stand on his shoulders, not his coattails.

Thank you, Fritz, and welcome home.

—TB/LdeM

Pedal Power, ed. by James C. McCullagh, 1977, $4.95 from:
Rodale Press
33 E. Minor
Emmaus, PA 18049

Pedal Power is a thorough exploration of the whole potential for more efficient use of human energy. The Research Group at Rodale Press has been interested in this area for several years, and the “Energy Cycle” they developed a year or so ago was probably the first well-designed contraption to permit use of pedal power for a variety of applications in the home or workshop. David Gordon Wilson surveys different historical devices for using human energy. Stuart S. Wilson discusses in detail use of pedal power for transportation, irrigation and stationary power. Diana Branch explains the development of Rodale’s energy cycle, its use as a potter’s wheel, jewelry lathe, butter churn, water pump, etc. Well illustrated instructions are given for ingenious adaptation of a bicycle frame into a practicable uses of pedal power for sawing wood, washing clothes, plowing gardens, sewing, typewriting, delivery vehicles, recumbent bicycles, pedaled lawn mowers and much more. Recommended for anyone interested in people power. —TB
E.R.D.A.—Stonewalling Small Business and the Sun

For years now there have been increasingly vociferous and well-founded criticisms of the dangerous and unreliable sources for America's energy, mainly nuclear and imported oil. At first, in the mid- and late '60s, there was only an unorganized handful of young Americans who thought renewable energy made more sense. The hippie counter-culture and radical student movements both looked on straight society's values—wasteful, status-materialism and economics as if people didn't matter—with unconcealed disgust. Alternative technologists, as they called themselves in order to proclaim their energetic attention to options not yet respected by establishment scientists and engineers, were a minority within that movement. Unlike their contemporaries, these techno-freaks felt that we should not give up on applied science as bad but rather work to re-discover and re-direct American know-how toward other ends, reflecting more important human values than the production of consumer goods no matter the cost to the environment or to long-term human survival.

In the early '70s, the number of people sharing these hopeful perspectives for a more humane and human-scale technology grew immensely. Even before the 1973 fuel crisis, nascent environmental, consumer, civil and human rights, and public interest organizations began to recognize their common interests and started to work together. A strong network now exists which can produce well-reasoned, and often irrefutable, policy critiques, design new and practical options and then lobby successfully for their adoption at all levels of government.

Finally, many former hippies and radicals, mellowed with age and shorter of hair, now work "inside" the very establishment that they once disdained to speak of. They are congressional staffers, executive office aides, advisors to governors and state legislatures (or actually serving in those offices) and tucked here and there in most local, state and federal agencies. With their peer group friends "outside" they work an incredible double-pronged riff that changes the conventional wisdom and governmental action. They are effective far beyond their '60s fantasies, or, in a word, quietly powerful. As they and their generational cohorts ripple through the American system, we can expect faster adjustments to new realities in energy or whatever other area; as they rise to higher positions of authority and responsibility.

Yet ERDA (or the Dept. of Energy after Oct. 1) seems not to have understood this. Recently, some of the most respected watchdog groups in the nation with thousands of members, Consumer Action Now, the Center for Science in the Public Interest, Public Interest Research Group and Rain, charged that ERDA and the Honeywell Corporation were undermining the development of low-cost, citizen-owned, passive solar...
systems by touting, with unfounded negative remarks on passive solar, the expensive, high-technology systems produced by big business. The ERDA response to Rain and this writer over the telephone was appalling.

First, a diatribe against the young staffers at the California Energy Resources Conservation and Development Commission who first called attention to the blatant anti-passive solar, pro-big business/utility bias of the ERDA/Honeywell Transportable Solar Lab (TSL). Then Rhet Turneripsed, assistant to the ERDA solar division director, explained to me that Jeffrey Reiss* and Gary Starr’s critique of the TSL could be dismissed out of hand because 1) they were simply rebellious pro-solar “young Turks,” with “counterculture connections.” 2) they have no engineering degrees and therefore cannot possibly know enough to critique a certified engineer, 3) Dr. George Lof says their arguments are “technically incorrect” and 4) Lof is advising ERDA on changes to be made.

Before debunking each point and noting that the follow-up letter which mentioned some of our phone disagreements recounted above and seemed written to soothe my congressmen, to whom I had sent copies; there is one hint you may find useful if ERDA/DOE calls you on your own criticism. Just listen. Let them dig themselves into a deep technical and public relations hole with you take sole while you take notes on biased attitudes (“counterculture,” no engineering degree, etc.) and unfounded assumptions which can be countered by their own reports and studies (Passive Solar Heating & Cooling Conference & Workshop Proceedings, May 18-19, 1976, Albuquerque, NM, NTIS No. LA-6637-C, $10.50 per copy, $3 microfiche; see also OTA, Science, below).

First, and unfortunately for Turneripsed, I know Jeffrey Reiss personally, and his earlier efforts with fellow students on various solar projects in the urban planning department of the University of Oregon. He does good conscientious work, taking time to get it critiqued before publishing, as I did at times. If he’s a “rebellious, etc.” so are thousands of others these days, including me. But, as mentioned earlier, now we’re pretty much working rationally and effectively for needed changes and have perceptions and experience needed by our country. But people like Turneripsed could change that!

Second, no one in this country would find it very difficult to recognize a high-tech, pro-engineer, pro-active solar system bias and attitude when he/she sees it in TSL exhibits and workshop materials. Solar heating methods are too simple and easily understood for the usual “technological awe and mystification” purveyed by engineers to work on anyone, let alone Jeffrey Reiss, who is more knowledgeable on solar than many ERDA bureaucrats I have met. But the main point is that one needs no academic credentials to recognize the lack of enthusiasm for passive systems displayed by ERDA’s anti-small systems, anti-small business approach to solar energy. Even the U.S. Congress says so (see below).

Third, it is insufficient and an obvious conflict of interest for Dr. Lof to call Reiss “technically incorrect” and do the revision of his own TSL workshop material. Lof is an expert, but only in expensive, complicated, active systems such as one finds in the Colorado State Univ. ERDA-funded houses. Only now is he discovering passive solar, according to the solar grapevine. It would be more appropriate to have an enthusiastic and experienced proponent and builder of passive solar review the workshop materials. Only a naive fool would expect a useful and unselfish revision of them by those only very recently and tentatively interested in passive solar. ERDA/DOE should have Steve Baer at Zomeworks or Ken Haggard at the New Mexico Solar Energy Association do the work.

In any case, we’d like to watchdog this further, using the Rain reader network. Please let me know if the TSL continues to debunk small business and passive solar when it hits your town. Stubborn federal rules need 2x4 training, you know!

But it is no longer “outsiders” like CAN, CSPI, PIRC or Rain, however respected and supported by large constituencies, who now have second thoughts on ERDA’s high-tech, big business, utility, aerospace orientation. Or state agencies like California ERDCD, whose staffers have the nerve to speak the truth to the federal juggernaut and get bad-mouthed on taxpayer-funded WATS lines for it.

Now the questions on ERDA’s direction, and funding levels come from the U.S. Congress’s Office of Technology Assessment (OTA) and from Science magazine, definitely “establishment sources.” OTA’s report says that small-scale, on-site electric and heating/cooling systems are too important to ignore. Solar energy will become competitive with conventional fuels abroad before it reaches that state in the U.S., because of higher fuel and lower labor costs, creating a significant export market for U.S.-made solar equipment. It would also relieve some of the strain imposed on international stability by competition for energy resources. Furthermore, since solar is labor-intensive, it creates jobs in trades now suffering from serious unemployment, such as the building trades. Solar technology also allows a number of small enterprises to compete in the market for energy generating equipment—a market denied to small business for decades. Finally, the OTA study concludes the major environmental impact of small-scale, on-site solar equipment is positive because it would replace energy resources which create much greater environmental damage.

Sound familiar? Right, it’s what the “outsiders” all the way back to the late ‘60s counterculture young Turks have been saying for at least a decade. OTA’s main conclusion is that ERDA has consistently over-emphasized large centralized solar facilities (i.e. big business, utility, aerospace) at the expense of smaller equipment.

But the best overview yet of ERDA’s money mis-direction is a series in Science magazine, listed at the end of this article. It covers each renewable energy area in turn after an initial analysis suggesting ERDA is inappropriately running its solar R&D program on the nuclear model they (after all, they’re mostly former AEC, NSF or corporate types) are most familiar with. No citizen writing his/her congressional representative on ERDA should fail to read and include a copy of the relevant critique, and nuclear intervenors, consumer advocates, will find them useful and enlightening.

But finally, thanks to much lobbying by a.t. advocates, ERDA is doing something praiseworthy. A $506,000 “Appropriate Energy Technology” Pilot Program, a regional effort conducted in Arizona, California, Hawaii, Nevada, American Samoa, Guam and the Pacific Trust Territory, is being run from the San Francisco Operations Office. ERDA, 1333 Broadway, Oakland, CA 94612. Program announcements are available and will tell you how to prepare an application. The deadline for receipt of applications is 5 p.m., Nov. 21, 1977, so hurry! Funding is up to $10,000 for “idea development projects,” and up to $50,000 for “demonstration projects” and “demonstration projects.” The application is straightforward and short. Looks good. —Lee Johnson

Resources

“Application of Solar Technology to Today’s Needs,” June 1977
Charles W. Waxom
Office of Technology Assessment (OTA)
U.S. Congress
Washington, DC 20510

Science: 15 July, Solar R&D on Nuclear Model?
22 July, Solar Thermal Electric
29 July, Photovoltaics
12 August, Solar Thermal
19 August, Biomass Fuels & editorial
2 September, Large & Small Wind Systems
1515 Massachusetts Ave., N.W.
Washington, DC 20005
Solar Works

Design Manual for Solar Water Heating of Buildings and Domestic Hot Water, Richard L. Field, 81 pp., 1977, $5.95 (Maryland residents add 24¢ tax) from: SOLPUB Co., Box 2351 Gaithersburg, MD 20760

The design method for solar collector sizing is adapted from the "f-chart" method for liquid and air systems developed at the Univ. of Wisconsin. 11 blank worksheets and a summary chart are presented together with instructions for filling them out using high school math ability. The designer must know 1) collector characteristics, 2) monthly averages of weather data, and 3) monthly heat load of the building. Tables and charts aiding in estimating heat loads, costs and the effects of changing specific factors are included. Two completed worksheet examples illustrate the method. Get this rather than the earlier edition, which is $6 from NTIS. Dr. Field is now with U.S. ERDA. -LJ


An authoritative current state-of-the-art analysis of all aspects of solar energy, this is a less expensive replacement for Solar Technology & Applications and for the now-outdated Direct Use of the Sun's Energy. It provides a concise intro to worldwide solar applications with an emphasis on thermal systems, such as heating, cooling and small-scale power. Photovoltaics, bioconversion and wind-power are also included. Theory has been reduced to a minimum to provide room for useful illustrations, graphs and non-technical language. Extensive bibliography. Highly recommended. -LJ

Bio-Energy Council
Suite 304
1337 Connecticut Ave., N.W.
Washington, DC 20036
202/833-5656
This U.S. organization, patterned after Canada's Biomass Energy Inst., aims to provide a national center to advance the development and use of solar energy stored in plant matter. Dr. Peter Schauffler, organizer of the March '76 Washington Conference on: "Capturing the Sun through Bioconversion," is coordinator of the new Bio-Energy Council. Write for membership and newsletter info. -LJ

Electric Utility Solar Energy Activities, prepared by L.D. Cleary, 77 pp., Jan. 1977, $4.65 paperback from:

Publications
Electric Power Research Institute
Palo Alto, CA 94304

Describes 290 projects of 116 utility companies in windpower, solar radiation measurement, solar thermal control power and photovoltaics. Useful in testifying before PUC rate hearings in which you can wave this around and ask why your utility should get a rate increase for siting on its ass when it comes to supporting wind and solar energy. -LJ

FEA Solar Collector—Small WEGS Production Survey, every 6 months, free from:

Solar Collector Survey
Office of Data & Analysis
Federal Energy Administration
12th and Pennsylvania Ave., N.W.
Washington, DC 20461

If you're interested in sq. ft. production of solar panels and small wind-electric conversion systems, then FEA's survey is what you want. Especially useful to those doing market analyses.

Solar Process Heat from Concentrating Flat-Plate Collectors, by D.P. Grimmer and K.C. Kerr, Los Alamos Scientific Lab, $4.50 from:

National Technical Information Service
U.S. Dept. of Commerce
Springfield, VA 22161

38.6% of U.S. gross energy use in the utility, industrial and commercial sectors could be supplied by the sun. The researchers state that "on-site, scale-to-need collection of solar thermal power is the proper path to follow" and that current-technology evacuated compound parabolic concentrating collectors could supply process heat at a relatively low cost, with temperatures up to 315°C (600°F). -LJ

Sun Journal: The Aspen Energy Periodical, quarterly, $10/yr.-individual, $20-corporations, organizations, institutions, from:
Roaring Fork Resource Center
Box 9950
Aspen, CO 81611

The Spring '77 (vol. 3.2) issue contains abstracts from the 1977 Aspen Energy Form, as well as news from the Colorado Solar Energy Association (CSEA), a calendar of solar events and technology briefs. Looks good. This and the CSEA news ought to keep one well updated on Colorado solar doings. -LJ

Two types of concentrating collectors. The double convex lens is the familiar magnifying glass. The parabolic mirror is used more often in solar heating applications.
Informal Directory of the Organizations and People Involved in the Solar Heating of Buildings, Wm. A. Shurcliff, 3rd & final edition. June '77, 243 pp., $9 if check enclosed with order; $11 otherwise. Add $1 for 1st class mail shipping. Outside USA: $11 if check with order; $13 otherwise from:

William A. Shurcliff
19 Appleton St.
Cambridge, MA 02138

This directory differs in four ways from other directories involving solar heating:
1) It is focused exclusively on solar heating. Most directories have no such focus. They include various subjects (photovoltaic cells, windmills, etc.) extraneous to solar heating. 2) It includes, besides solar equipment manufacturers and suppliers, all other categories of organizations and individuals involved in solar heating: federal government agencies, state agencies, universities, colleges, schools, solar energy societies (international, national, local), other professional societies, associations, institutes, foundations, solar architects, solar engineers, solar inventors, solar home builders, solar home owners and occupants, writers, promoters, etc., involved in solar heating. Most directories omit these categories. 3) It includes foreign countries actively involved in solar heating: Australia, Canada, Denmark, France, Great Britain, Israel, Italy, Japan, Sweden, West Germany and many others. Most directories ignore those countries. 4) It gives much attention to people: people within organizations and also people working individually. Also, it includes a recapitulating global index of persons. Most directories mention few people and include no such index. This new edition—the third and final edition—is 36% larger than the preceding edition and contains much revised material and much new material. Highly recommended. —LJ

Solar Saturdays: Non-Technical Happenings for Practical People, 1-5 p.m. each Saturday, Stanley Hotel, Estes Park, Colorado, $5 registration in advance or at the door. For details write:
The Alternate Energy Institute
P.O. Box 5100
Estes Park, CO 80517

AEL, which publishes Solar Utilization News, often recommended here, is following its recent, successful, technical solar seminars with an enjoyable afternoon of solar basics for laypeople interested in learning how they can use the sun in their daily lives right now. Informal outdoor sessions will cover the energy crisis, passive solar architecture, home energy conservation, active heating and hot water systems and how to "buy solar" wisely. Sounds like fun and a fine service at a very fair price.

MORE SOLAR STORES

Friends of the Sun
Box 725
Beatleboro, VT 05301
(has info sessions on solar energy for homeowners evenings)

Home Energy Center, Inc.
49 Highland Ave.
Needham, MA 02194
(energy conservation products, insulation installation, rents offices to alternative energy architects and engineers)

The Solar Center
62 Townsend St.
San Francisco, CA 94107
(solar design, installation and hardware sales, with collectors, controls, pumps, glazing, paint, valves in stock)

See also RAIN, June '77, p. 24. —LJ

Solar distillation is even easier than hot water heating. Put salt or polluted water in a container with a clear glass or plastic cover. Solar radiation enters, changes to heat and is trapped, evaporating the water which then condenses on the inside (underside) of the cover, and the residues (minerals, dirt, salt) are left behind. The distilled water can be collected for drinking, cooking or filling wind-generator batteries. However, only small quantities of $H_2O$ are produced (25-30 gallons per sq. ft. of still per year), and so this method is suitable only for small community applications where other water sources are not available.

The best plans are from Publications Dept., Brace Research Institute, MacDonald College of McGill Univ., Ste. Anne de Bellevue, Quebec H0A 1C0 Canada. They include:


Be sure to ask for their publications list. —LJ

SOLAR DISTILLATION

Every so often here at RAIN we notice a pattern of three or four letters or calls the same week asking the same thing. When that occurs in a "void" we haven't checked out lately, we gather up all the best print and microfiche resources in our library and do a little bit of research on what the state-of-knowledge-and-application is in that "void." Then we try to interpret the meaning of what we find to a.t.

Recently the fifth letter wanting plans for solar distillers came in, so here goes. The best directory to such plans is the Volunteers in Asia A.T. Sourcebook, by Ken Darrow and Rick Pam. $4.00 from V.I.A., Box 4543, Stanford, CA 94305.

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Be sure to ask for their publications list. —LJ
Japan's Energy Lifestyle

Dear RAIN,

Having played with the ERDA toy, "The Energy-Environment Simulator," many times, I have wondered why the United States has such a high "energy slave" rating (78—meaning 78 people working full time for each person in the country) compared to Japan (18). In a fully developed, modernized country, how do they do it?

I just returned from Japan, and thought I would share some observations in the differences in lifestyle.

1. In Japan, the average person does not own a car. It is not necessary to own a car. There is usually one car per family (in the middle class sector).

2. The transportation systems are incredible. They have commuter trains, subways, buses, monorails, and of course, the shinkansen (bullet train) that will take you a distance of 310 miles in 3 hours. All of these systems are inexpensive to use, are speedy and always efficient. Trains and buses are never late. Millions of people use them every day, even if they do own a car.

3. The people who do drive cars pay the equivalent of about $2.00 per gallon of gas, and endless tolls on roads, bridges and highways. Driving is a discouraging and frustrating experience.

4. The Japanese people of all ages have accustomed themselves to walking distances that most Americans would be appalled at. Walking a mile or two to the store or train station every day is not uncommon.

5. Young and old alike ride bicycles everywhere. Bicycles are used mainly as transportation vehicles for people, goods and services . . . not as recreation.

6. In the home, the bathtub is filled once every evening for the family to take their baths in. Most older homes do not have showers. Everyone uses the same water, thus avoiding the waste of water and the energy it takes to heat it.

7. When entering a home, the shoes are always removed. This keeps the floors very clean, and avoids the need for excessive cleaning.

8. The basis of their diet is rice, tofu and fish, rather than corn-fed beef and potatoes. Their food is generally more energy-efficient and takes less time to cook. Many times, the ingredients are all cooked together, rather than in three or four different pots and pans.

These are a few of the ways that the Japanese people "conserve" energy. The difference is that to them it is a way of life, something they don't even think about. To many Americans, it is something that will have to be forced by government regulations or rationing. We have some valuable lessons to learn from our eastern neighbor.

Debbie Seifert
OMSI Energy Center

Peanut Power

Dear RAIN,

Thanks again for another issue of RAIN. It's an inspiring magazine. I'm glad you had the article on Peanut Butter Power. It's that kind of philosophical-trend-information type articles that really help. I had some questions about that article, though.

Scott talks about "returns" on the PBII as if it is in the same league as big companies, and that these great "returns" mean that this machine helps make households more important aspects of the economy than industries, etc. In this same vein, so does the juicer, blender, freezer, and most any processing tool.

What I don't understand is the importance of these tools alone. If one bought the PBII, we'd still have to be shells out money for peanuts all the time. Now if we grew the peanuts too, then the self-sufficiency factor would really come into play. Otherwise we're just good consumers.

Baruch Bashan
Scio, Oregon

Let's talk about the peanut butter making machine that you mentioned in your recent article. We've all heard of the Peanut Butter Institute (PBII), but what exactly is it and how does it work? How can we make our own peanut butter at home? Is there any benefit to using a PBII over traditional methods of making peanut butter?
entomb the plants in 30 years. After all, they are usually well-sited for river barge traffic. Another civic improvement project for the Clamshell Alliance?

—L.J.

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**WIND ENERGY**

**STATE ENERGY EXTENSION SERVICES**

**ANEMOMETERS ON LOAN?**

**WIND SITE ANALYSIS?**

Wind-electric systems for homes and small businesses run anywhere from $1700 for Kedco's 100 kWh/mo (10 mph average winds) system designed by Jack Park of Helion, to $10,000-
$15,000 for an Elektro or Dunlite providing 300 to 500 kWh/mo (10 mph winds), to $20,000 for a Grumman Windstream 25 giving 1000-1500 kWh/mo. At these prices, it's obviously important to make a thorough survey of your wind generator's probable location to be sure you have enough wind to justify the investment.

The following manufacturers can provide recording anemometers and other site survey measurement equipment or direct you to their local distributor:

- Natural Power, Inc.
  New Boston, NH 03070
  603/487-2426
  (Richard Katzenbach)

- Texas Electronics, Inc.
  5529 Redfield St.
  Dallas, TX 75209
  214/631-2490
  (Jack Hayward)

- Bendix Environmental Science Division
  1400 Taylor Ave.
  Baltimore, MD 21204
  301/825-5200

- Epic, Inc.
  150 Nassau St.
  New York, NY 10038
  212/349-2470
  (Peter Letica)

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**Wind Energy Bibliography Supplement**

(Part 3 and 4, Alphabetical List and Keyword Selection), by Joop Van Meel and Dirk Hengeveld, March 1977, $10 air mail for both volumes from:

Library Administration
Univ. of Technology
Postbox 513
Eindhoven, The Netherlands

Excellently done, well-annotated and expanded. Cheap at the price. Especially useful to university libraries, state energy agencies, wind energy R&D centers. The earlier parts 1 and 2 are $12.00 for both from the same address. Pretty stiff competition for the Wind Info Prize previously awarded to *Energy from the Wind* by Burke & Meroney at Colo. St. Univ. It's a dead heat.

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* "Wind Rotor Improves Hyperbolic Cooling Tower Efficiency" by Paul Rogers, is another interesting article in the March '77 Power Engineering. Ask for March reprint No. 201.

With all that concrete and steel in nuclear plant cooling towers, it seems common sense to get more out of them, to make them do double-duty. Outline here are ways to 1) improve cooling and 2) generate electric power with a wind rotor attached to the outside of these large towers. Another possibility, suggested by a friend not all that enamored of atomic power, is to use the towers as giant grain storage elevators, if they're not too radioactive when we have to.

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Kahl Scientific Instrument Corp.
P.O. Box 1166
El Cajon, CA 92022
714/444-2158
(Joseph Kahl)

Mt. Washington Weather Instrument Co.
RFD 1
Berlin, NJ 03570
603/449-3464

Since these wind analysis instruments are themselves expensive, ranging from $1,000 up, you should request the new energy extensions provide such equipment on loan. Contact your state energy office, with a copy of your letter both to your governor and local statehouse representative/senator, to find out who was funded by ERDA to run the EES. You are in luck if you reside in one of the following ten states: Alabama, Connecticut, Michigan, New Mexico, Pennsylvania, Tennessee, Texas, Washington, Wisconsin and Wyoming. Go to it . . . it's your tax money!

—Lee Johnson
Fundraising in the Public Interest, David Grubb and David Zwick, 1977, $4.50 from:
Public Citizen
Box 19404
Washington, DC 20036
Here's a good how-to based on experience for three different kinds of citizen fundraising efforts: direct mail, door-to-door canvassing, and assorted marathons (bikathons and walkathons). It includes model letters, ads, petitions and the like. A good resource if you're considering any of these methods of raising money for your organization or project. -LdeM

Do ing It

Publishing

Don't I remember you listed the Do It Now Foundation at some point? (Yes, just looked it up—Tom Ferguson in your June issue.) Don't know if you've seen their How to Publish Community Information on an Incredibly Tight Budget. It's very good—covers the spectrum from offset to stencil, tools, mailing info, copyright, buying paper—the whole schtick—in an easy-to-understand, low-key, non-romantic way. I learned an amazing (embarrassing!) amount in a flash—22 pages. You could do it now after reading this. It's 50¢ from Do It Now Foundation, Institute for Chemical Survival, P.O. Box 5115, Phoenix, AZ 85010, and worthy of a RAIN drop.

Love to you all,
Nancy Bell Coe

Taking Charge, by the Simple Living Collective of the San Francisco American Friends Service Committee, 1977, $1.95 from:
Bantam Books
666 Fifth Ave.
New York, NY 10019
For study groups and the intellectuals among you, here's a useful book for "personal and political change through simple living." Each chapter on consumption, work, community, creative simplicity, etc. is laid out with a philosophical introduction, facts and figures, ideas for action, resources, and often study group questions. The Quakers have always worked towards simplicity and cooperative fellowship—this book is bounded strongly in that tradition.

-LdeM

Public Scholar Research Bank
P.O. Box 19367
Washington, DC 20036

It always disturbed me in college to be writing papers that were only read by my professor. Here's a group that is trying to make it possible for academic papers and general research to be more useful and relevant to a broader community. They're operating a clearinghouse for topics of research needed by community groups. They'll also help network the materials and research that are passed on to them. Their catalog of 112 proposals can be had for $3.50. If you are a public interest group have some research needs, be sure to let them know—there's bound to be an energizing student ready to help out. Hopefully, this service will be well used.

-LdeM

Strategies for Access to Public Service Advertising, Glenn Hirsch and Alan Lewis, 1976, $3 from:
Public Media Center
2751 Hyde Street
San Francisco, CA 94109
Those air waves belong to us, remember? The Public Media Center has put together a thorough step-by-step guide for how to gain access to the broadcast media through free "public service announcements." How to create ads, deal with stations, implications of the "Fairness Doctrine," what your rights are, how to get firm with recalcitrant stations, and what can be achieved with PSAs. Hmmm... how about an ad against ads? —TB

No Bosses Here: A Manual on Working Collectively, Vocations for Social Change, 1976, $3 from:
Vocations for Social Change
353 Broadway
Cambridge, MA 02139
I've had this book on my pile for some time because I've been meaning to do a longer piece on the process of alternative groups working together. I really think that how we do it is as important as—maybe even more important than—all the wonderful hardware technologies we are developing. We've got to learn to live our alternatives. This book deals with many of the ups and downs of non-hierarchical, worker-controlled organizations. It doesn't really have any answers (it couldn't—we have to each work it out for our own situations), but it provides lots of first-hand examples and some valuable insights on the joyful moments and painful predicaments. I found it very helpful in looking at various collective groups I have been involved with. Anybody know of other such books? —LdeM

INSIDE/OUTSIDE

Prison Ashram Program

We now have the correct address for the Inside/Outside Prison Ashram Project reviewed in the August/September RAIN (Vol. III, No. 10, p. 12):
Inside/Outside Prison Ashram Project
P.O. Box 39
Nederland, CO 80466

CORRECTION:
The "Electronic Nike" logo of the Women's Communication Coalition's Video Festival on page 24 of the August/September issue was designed by Elba Sanchez.
Saturday, October 29, will be Cousteau Society Involve­ment Day in Seattle. A day with Jacques Cousteau and friends will cost $3 for Society members, $6 for the general public. Tickets are available from the Fidelity Lane Ticket Office, 1622 4th Ave., Seattle, WA 98101.

A Reduce, Reuse and Recycle Mini-conference will be held, October 17-18, at Yosemite, California. Tickets are $25 for members and $50 for non-members in advance ($10 more at the door) from the California Resource Recovery Assn., 109 East De La Guerra, Santa Barbara, CA 93101.

The School of Living sponsors a wide variety of workshops, conferences, tutorials and apprenticeships. Topics range from alternative energy to intimate relationships and from prison reform to poetry. Complete information (they’ve been at it for 40 years) write (enclosing a large stamped envelope) to School of Living, P.O. Box 3233, York, PA 17402.

Nancy Young and Kerol Hope, who did Momma (a sourcebook for single mothers) are now editing a book for Doubleday’s Arbor Press that will be an update of the past 10 years of women’s emerging power and a sourcebook for women in charge. They’re interested in stories, lifestyles and milestones of activist women. Write to them: Karol Hope, Box 174, Fort Bragg, CA 95437.

Alternative Sources of Energy is looking for a director to act as full-time coordinator of ASE projects. Background in project development, publishing and alternative technologies are “strong assets.” Write to Don Marier, ASE, Rt. 2, Box 90A, Milaca, MN 56353.

Maine Organic Gardeners and Farmers Association has a two-year-old apprenticeship program to connect up farmers and homesteaders needing help with people wanting to learn. There’s a good article in the Maine Times (Sept. 2, 1977). It costs $10 to apply to MOFGA, 110 Water St., Hallowell, ME 04347

The Mobilization for Survival is a network of anti-war and community activists now coming together as a coalition in the fight against nuclear power. They are planning a series of teach-ins and community forums in cities around the country this fall. For details on these and on preparatory cram sessions for organizers, write to Norie Huddle, Mobilization for Survival 1213 Race Street, Philadelphia, PA 19107.

The Farallones Rural Center is conducting three one-day workshops in Whole Life Systems utilizing a small integrated residence as an example for discussion of solar hot water and space heating, grey water distribution, compost toilets and small-scale food production. Here’s your chance, folks! October 16 & 30 and November 13, 1977. $35 a day, 9 to 5 (including a midday meal). Pre-registration is necessary to: Farallones Institute, 15290 Coleman Valley Road, Occidental, CA 95465 (707/874-3060).

Nutrition Access Directory is a guide to food, nutrition and health resources in the Portland (Oregon) area. A welcome sourcebook in a badly needed binder. $3 to individuals and $5 to agencies from the Nutrition Information Center (239 S.E. 13th, Portland, OR 97214) or the Preventative Nutrition Project (1236 S.W. Salmon, Portland, OR 97205).

things have been so hectic around here that I don’t even want to write about it. We’re starting Volume IV, No. 1 (look, Ma, four years!) with a huge load of visitors, phone calls and material to cover. I hope the best of it sifts its way into these pages in the coming months. Cathy Macdonald goes back to Humbolt College in Arcata, California, this week (boo hoo!). We’ve just hired Joan Meil to take her place, but we’re still looking for additional people to come be part of our crew. If you’re interested, send us a resume, etc.

The November issue will be a special treat, edited by Gigi Coe and the California Office of Appropriate Technology. They’ll talk about the process of making changes within the state government system and tell you about the cultural mapping project they did this summer on the Central Valley. Hope you enjoy it. —LdeM

Deddie Harris of Eco Cycle, where are you? Your address was gobbled up by our resident address eaters after I cashed your check. Please try again: we’ll try to do better. —CM
**INFORMATION**

*Humane Computing*, Andrew Clement, 27 pp., February 1977, write for price from:
Andrew Clement  
789 W. 18th Ave.  
Vancouver, BC V5Z 1W1  
Canada

Essentially an up-to-date survey of the state-of-the-computer in local, small-scale networks and skill/barter banks; a refreshing antidote to big-systems with perspectives on "computer conferencing and the decentralization of society," the "principles" of humane computing, an abstract of a paper presented at the West Coast Computer Fair titled "If 'Small Is Beautiful,' Is Micro Marvelous?" as well as lots of useful contacts with name/address and annotations on the work. -LJ

APPLE, A Person to Person Living Exchange, $2/yr membership, for skills and resources form, send a self-addressed and stamped envelope to:
APPLE  
817 N.W. 23rd  
Portland, OR 97210

Community resource centers and neighborhood groups across the nation would find it useful and interesting to learn about this neighborhood information and skills exchange being developed in two Portland communities. Goals include increasing the sense of community, building awareness of skills and goods that could be shared, starting a mutual sharing of them, and developing a process which makes info on neighborhood resources available to people.

Former RAIN editor Steve Johnson was one of the main sparkplugs in the design and implementation of this excellent model of local, practical networking. -LJ

*CUE Oregon Media Guide, 1977-78*, by Rhoda Epstein, 64 pp., August 1977, $2.20 postpaid from:
Center for Urban Education (CUE)  
0245 S.W. Bancroft  
Portland, OR 97201

This excellent piece of work by a former RAIN staffer is chockful of data useful in getting "access to newspapers, radio, TV, special publications and media groups." Included is info on how to prepare info for print and broadcast media. Believed to be the first of its kind in the nation, at the very least it's a fine model for other states. Let us know if you run across any others. Highly recommended to community organizations, environmental groups and media freaks everywhere. -LJ