RAIN: No such thing as a free lunch

RAIN will continue next year. We have been granted an extension of the Hill Family Foundation grant that carries with it, however, the assumption that RAIN will be growing towards self-sufficiency. This means that soon we will be distributing RAIN by subscription and sale in retail outlets. The exact price, marketing strategy and exchange subscription philosophy are still being worked out. You will soon be notified by mail of the decision, and, likely, a request for money.

The reason to move toward subscription now is two-fold: (1) to eventually become self-sufficient, and to pay for increase in coverage (features, columns, wider geographic emphasis, more pages); and (2) because we can no longer afford to send RAIN gratis to people we just think might be able to use it. The subscription request will be just one way of separating the readers/users from the non-readers/non-users.

Our original policy of distribution was based on certain assumptions of growth; we added to the mailing list throughout the year lists that we obtained or that were given us, on the theory that RAIN was free as long as we could afford it. When you reach 8,000 (this month’s printing) this scatter gun approach doesn’t seem feasible, especially because it means the people who really want it may not be able to receive it. The requests alone, of about 125 a week, are more than we can handle with present staff.

Feedback is always lopsided. We’ve gotten hundreds of letters of encouragement and, assume from that we are filling some kind of need. At the same time, the majority of people receiving RAIN don’t hear from us. We have had to assume from the positive responses that chances were pretty good the majority of RAINs were being appreciated.

We hope the move toward subscription will be gradual, and with adequate flexibility to allow for continuation of the network of readers we know are out there. Included in the subscription mailing will be a reader enquiry card which we hope you will fill out regardless of your decision on whether to subscribe, perhaps telling us what you have or have not enjoyed, or under what circumstances you would subscribe.

Steve Johnson

AGRICULTURE-FOOD

Pacific Northwest Forest & Range Experiment Station
P.O. Box 3141
Portland, Or. 97208

Continued on page 6
The following is an excerpt from a 38-page monograph produced by Tom Bender and Lane Demoll, who until recently were energy conservation consultants for the Oregon State Office of Energy Research and Planning. We recommend the entirety of Smaller Pies as one of the most succinct statements on the evident choices before us, containing as well as Tom Bender's usual startlingly clear sentences, a section of reasonable and sound actions for us all, assimilated by Lane. Copies are available for $1 from:

Tom Bender
760 Vista Ave., S.E.
Salem, Or. 97302

Our ability to develop a culture that can endure beyond our own lifetimes depends upon our coming to a new understanding of what is desirable for a harmonious and sustainable relationship with the systems that support our lives.

STEWARDSHIP, not progress: We have valued progress highly during our period of growth, as we have known that changes were unavoidable, and have needed an orientation that could help us adjust to and assist those changes. Progress assumes that the future will be better—which at the same time creates dissatisfaction with the present and tells us that NOW isn't as good. As a result, we are prompted to work harder to get what the future can offer, but lose our ability to enjoy what we now have. We also lose a sense that we ourselves, and what we have and do, are really good. We expect the rewards from what we do to come in the future rather than from the doing of it, and then become frustrated when most of those dreams cannot be attained. The "future" always continues to lie in the future. Progress is really a euphemism for always believing that what we value and seek today is better than what we valued before or what anyone else has ever sought or valued.

Stewardship, in contrast to progress, elicits attentive care and concern for the present—for understanding its nature and for best developing, nurturing, and protecting its possibilities. Such actions unavoidably insure the best possible future as a byproduct of enjoyment and satisfaction from the present.

The government of a society has a fundamental responsibility, which we have neglected, for stewardship—particularly for the biophysical systems that support our society. It is the only organ of society which can protect the general welfare and protect future citizens of the society from loss of their needed resources through the profiteering of present citizens. The government's fundamental obligation in this area is to prevent deterioration in the support capacities of the biophysical systems, maintain in stable and sound fashion their ongoing capabilities, and whenever possible extend those capabilities in terms of quality as well as quantity. Present and past governments, and those who have profited from their actions, must be accountable for loss to present and future citizens and to the biophysical systems themselves from their actions.

SHARING SMALLER PIES

Our- •

PAGE 3

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PEOPLE, not professions. Our wealth has made it possible for us to institutionalize and professionalize many of our individual responsibilities—a process which is inherently ineffective and more costly, which has proven destructive of individual competence and confidence, and which is affordable only when significant surplus of wealth is available. We have been able to afford going to expansively trained doctors for every small health problem, rather than learning rudiments of medical skills ourselves. By these very actions, we have been able to afford expensive police protection rather than handling our problems by ourselves or with our neighbors. We have established professional social workers, lawyers, and educators—and required that everyone use their services even for things we could do ourselves and that are wastes of the time and expertise of the professionals. As the wealth that has permitted this becomes less available to us, it will become necessary to deprofessionalize and deinstitutionalize many of these services and again take primary responsibility for them ourselves.

Our institutions have contributed to isolating, buffering, and protecting us from the events of our world. This has on one hand made our lives easier and more secure, and freed us from the continual testing that is part of the dynamic interaction in any natural system. It has also, by these very actions, made us feel isolated, alienated, and rightfully fearful of not being able to meet those continued tests without the aid of our cultural and technical implements.

Our lack of familiarity with all the natural processes of our world and uncertainty of our ability to successfully interact with them aids only by our own intuitive wisdom and skills has enslaved us to those implements and degraded us. We can act confidently and with intuitive rightness only when we aren't afraid. We can open ourselves to the living interaction that makes our lives rewarding only when we cease to fear what we can't affect. Fear is only unseens of our own abilities.

We have to take responsibility OURSELVES for our own lives, actions, health, and learning. We must also take responsibility ourselves for our community and society. There is no other way to operate any aspect of our lives and society without creating dictatorial power that destroys and prevents the unfolding of human nature and that concentrates the ability to make errors without corrective input. No one else shares our perceptions and perspective on what is occurring and its rightness, wrongness, or alternatives. We are the only ones who can give that perspective to the process of determining and directing the pattern of events.

Our institutions can be tools that serve us only when they arise from and sustain the abilities of individuals and remain controlled by them.

AUSTERITY, not affluence. Austerity is a principle which does not exclude all enjoyments, only those which are distracting from or destructive of personal relatedness. It is part of a more embracing virtue—friendships.

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Continued from page 3

or joyfulness, and arises from an awareness that things or tools can destroy rather than enhance grace and joyfulness in personal relations. Affluence, in contrast, does not discriminate between what is wise and useful and what is merely possible. Affluence demands impossible endless growth, both because those things necessary for good relations are foregone for unnecessary things, and because many of those unnecessary things act to damage or destroy the good relations that we desire.

PERMANENCE, not profit. Profit, as a criterion of policy, too easily replaces by permanence in a world where irreplaceable resources are in scarce supply, for profit always indicates their immediate use, destroying any ability of a society to sustain itself. The only way to place lighter demands on material resources is to place heavier demands on moral resources. Permanence, as a judge of the desirability of actions, requires first that those actions contribute to rather than lessen the continuing quality of the society. Permanence in no way excludes fair reward for one's work—but distinguishes the profit a person gains based on loss to others from profit derived from a person's work or contribution to others.

RESPONSIBILITIES, not rights. A society—or any relationship—based on rights rather than responsibilities is possible only when the actions involved are insignificant enough not to affect others. Our present society is based upon rights rather than responsibilities, and upon competitive distrust and contractual relationships rather than upon the more complex and cooperative kinds of relationships common in other cultures. These relationships have given us the freedom to very quickly extract and use our material wealth, settle a continent, and develop the structure of cities and civilization. Any enduring relationship, however, must balance rights with responsibilities to prevent destruction of weaker or less aggressive, yet essential, parts of relationships—whether other people, the biosphere that supports our lives, or the various parts of our own personalities.

Distrust or contractual relationships are the easiest to escape and the most expensive to maintain—requiring the development of elaborate and expensive legal and financial systems—and cannot be the dominant form of relationship in societies that do not have the surplus wealth to afford them. Moral or ethically-based relationships; relationships based on cooperation, trust, and love; and the relationships encompassing more than just work, family, educational, recreational, or spiritual parts of our lives are more rewarding and satisfying to the people involved. They are also more stable in their contribution to society, easily easier to maintain, and harder to disrupt. They have always been the most common kinds of relationships between persons except under the extreme duress of war or growth.

BETTERMENT, not biggerment. Quantitative things, because of the ease of their measurement by external means, have been sought and relied upon as measures of success by our institutionally-centered society. We are learning the hard lesson that quantity is no substitute for quality in our lives, that qualitative benefits cannot be externalized, and that a society that wishes betterment rather than moreness, and betterment rather than biggerment, must be organized to allow individuals the scope for determining and obtaining what they themselves consider better.

ROUGHNESS, not moreness. We are learning that too much of a good thing is not a good thing, and that we would often be wiser to determine what is enough rather than how much is possible. When we can learn to be satisfied with the least necessary for happiness, we can lighten our demands on ourselves, on others, and on our surroundings, and make new things possible with what we have released from our covetousness. Our consumption ethic has prevented our thinking about enoughness, in part out of fear of unemployment problems arising from reducing our demands. Employment problems are only a result of choices of energy vs. employment-intensive production processes and arbitrary choices we have made in the patterns of distributing the wealth of our society—both of which can be modified with little fundamental difficulty. Our major goal is to be happy with the least effort—with the least production of goods and services necessary and with the greatest opportunity to employ our time and skills for good rather than for survival. The fewer our wants, the greater our freedom from having to serve them.

LOCALIZATION, not centralization. Centralization, in all kinds of organization, is important during periods of growth when ability to quickly marshal resources and change and direct an organization is important. It is, however, an expensive and ineffective means for dealing with ongoing operations when a surplus of energy to operate the system is unavailable. As effectiveness in resolving problems on the scale and location where they occur becomes more important, organization must move to more localized and less institutionalized ways of operation. Even with sufficient resources, the power concentration of centralized systems overpowers the rights of individuals, and has proved to lead to inevitable deterioration of our quality of life.

The size and centralization of many of our organizations has nothing to do with even alleged economics or benefits of scale, and actually often is associated with diseconomies of scale and deterioration of quality of services. Size breeds size, even where it is counterproductive. It is easiest for any organization to deal with others of the same scale and kind of organization, and to create pressures for other organizations to adapt their own mode of operation.

EQUITIZATION, not urbanization. Uncontrollable urbanization has accompanied industrialization in every country where it has occurred. The roots of that urbanization, which has occurred in spite of the desires of both the people and the governments involved, has been twofold: the destruction of traditional means of livelihood by energy slaves and the market control of large corporations, and the unequal availability of employment opportunities and educational, medical, and other services. Neither of these conditions is necessary. The inequity of services has resulted from conscious choices to centralize and professionalize services rather than to manage available resources so as to ensure equal availability of services in rural as well as urban areas. The destruction of traditional patterns of livelihood has been equally based on conscious and unnecessary choices.

Equity is not only possible, but is necessary to restore choices where and how one lives. It is necessary to restore alternatives to our uncomfortably costly urban systems. It can be achieved through introduction of appropriate technology, through control of organization size, by equalizing income and available wealth, by establishing equal access to learning opportunities, health care, justice, and other services; and by assuring everyone the opportunity for meaningful work. It can be achieved by returning to individuals the responsibility and control of their lives, surroundings, and social, economic, and political systems; by ensuring freedom to not consume or depend upon any systems other than one's own abilities; and by encouraging the ownership of the tools of production by the people who do the work, thus increasing the chances of developing a balanced, affluent, and stable society.

WORK, not leisure. We have considered work to be a negative thing—that the sole function of work was to produce goods and services. To workers it has meant a loss of leisure, something to be minimized while still maintaining income. To the employer it is simply a cost of production, also to be minimized. Yet work is one of our greatest opportunities to contribute to the well-being of ourselves and our community—opportunity to utilize and develop our skills and abilities, opportunity to overcome our self-centeredness through joining with other people in common tasks, as well as opportunity to produce the goods and services necessary for a dignified existence. Properly appreciated, work stands in the same relation to the higher faculties as food to the physical body. It nourishes and enlarges us and urges us to produce the best of which we are capable. It furnishes a medium through which to display our scale of values and develop our personality. To strive for leisure rather than work denies that work and leisure are complementary parts of the same living process, and cannot be separated without destroying the joy of work and the bliss of leisure.

From this viewpoint work is something essential to our well being—something which can and ought to be meaningful, the organization of which in ways which are boring, stultifying or nerve-wracking is criminal. Opportunity for meaningful work rather than merely a share of the products of work, needs to be linked to every member of our society.

TOOLS, not machines. We need to regain the ability to distinguish between technologies which aid and those which destroy our ability to seek the ends we wish. We need to discriminate between what are tools and what are machines. The choice of tools and what they do is at root both philosophical and spiritual. Every technology has its own nature and its own effect upon the world around it. Each
arises from and supports a particular view of our world.

A tool channels work and experiences through our faculties, allowing us to bring to bear upon them the full play of our nature—to learn from the work and to infuse it with our purposes and our dreams—and to give the fullest possible opportunity for our physical and mental faculties to experience, experiment and grow. A tool focuses work so that our energy and attention can be fully employed to our chosen purposes.

Our culture has valued devices that are labor saving and require little skill to operate. By those very measures, such devices are machines which rob us of our opportunity to act, experience and grow, and to fill our surroundings with the measure of our growth. We need skill-developing rather than labor-saving technologies.

INDEPENDENCE AND INTERDEPENDENCE. Many of the basic values upon which we have tried to build our society have become weakened through the ways they have been interpreted and face the prospect of further weakening through the pressures inevitable in adapting our society to new conditions.

Independence cannot be maintained when we are dependent upon other people or other nations—as long as we are forced to work on others' terms, to consume certain kinds of education to qualify for work, to use automobiles because that kind of transportation system has made even walking dangerous or physically impossible; as long as we are dependent upon fossil fuels to operate our society; as long as we must depend upon resources other than ourselves and the renewable resources of our surroundings, we cannot be independent.

We have also discovered through the power that our wealth has given us that slavery is as enslaving for the master as for the mastered—by becoming DEPENDENT upon the abilities of the slave, whether the slave is a human, animal, institutional or energy slave, we forego developing our own capabilities to be self-sufficient.

In another sense total independence is never possible, for that means total power, which inevitably collides with the wants and power of others. We are also, in reality, dependent upon the natural systems that convert the sun's energy into the food upon which we live. Totally independent individuals may have freedom from organization, but have no special value, no special mission, no special contribution and no necessary role in the energy flows and relationships of a society that permits greater things than are attainable individuals. Such freedom results in little respect or value for the individual. Our success and survival on this planet also must recognize the total interdependence that exists between us and the health, disease, wealth, happiness, anger, and frustration of the others with whom we share this planet.

Two things are important. We must have the CAPABILITY for self-sufficiency—in order to have options, alternatives, self-confidence, and knowledge of how things are related and work and to be able to lighten our demands on others. We must also have the ABILITY to contribute our special skills to the development of interdependent relationships which can benefit all. Trade, as giving of surplus, of what is not necessary, is the only viable resolution of the interrelated problems of independence, interdependence, and slavery.

As we begin to actually make changes, the things we come to find of value are almost the opposite of what we value today. What contributes to stability and soundness and to valued relationships is exactly what prevents and hinders disruption, change, and growth—which have been both necessary and desired under the conditions we have until recently experienced. Meaningful work, localized economies, diversity and richness of employment and community, and controllable, clever, human-centered technologies will become important. Common sense and intuition will be recognized again as more valuable than armies of computers. Community will become more important than individualism and our present actions seen as unsupportably selfish. Strong roots and relationships will become more important than mobility. Buildings and equipment with long life and lower total costs rather than low initial costs will be favored. Cooperation will be seen as more positive, wiser, and less costly than competition. Skill-using will replace labor-saving. We will soon discover that all our present sciences and principles are not unbiased, but are built upon values promoting growth rather than stability, and will need to be modified when quantitative growth is no longer possible.
Forestry Extension Conferences and Short Courses  
School of Forestry  
Oregon State University  
Corvallis, Or. 97331

Many to choose from: small woodlot taxation, small woodlot stand improvement; resource development and technical assistance; management of young Douglas fir and western hemlock. Write for extension circular 848 for details, dates, places, etc. (and/or write to be put on mailing list to receive *Forestry Update*).

*Forestry Update*  
School of Forestry  
Oregon State University  
Corvallis, Or. 97331

A new monthly newsletter free upon request. Abstracts of current research, brief news items, publications listing of the school of forestry; calendar of forestry workshops. An excellent source of information for small woodlot owners, foresters, extension agents, others interested in forestry research (especially on the non- or semi-technical level).


The Effects of Uncertain Energy Supplies on Rural Economic Development. $1.55. Available from:  
Public Documents Distribution Center  
Pueblo, Colo. 81009  
(order no. 71b, s/n 5270-02582

Emphasis on non-farm areas.

Free seeds. Rep. James A. Burke (D-Mass.) and others are introducing legislation in Congress that would provide free seeds to millions in an attempt to provide incentive for anti-inflation gardens. Cost of the program Mr. Burke feels would be about $6 million a year, and he predicts that the $18 million over a 3-year period could provide home gardeners with over $1 billion worth of vegetables.

Garden Way Publishing  
Charlotte, Vt. 05445

Many people know about this excellent resource, but just in case: They publish and distribute some of the best down-to-earth, how-to-do-it books. Heating with wood ($3); Veterinary Guide for Farmers ($6.95); Making Apple Cider ($1.00); Have More Plan ($2.50); Beginner's Guide to Hydroponics ($5.95). Write for a catalog—a delight in itself.

World's Non-Conventional Protein Resources. A major study has been started by the Massachusetts Institute of Technology under a $185,000 grant from the Ntl. Science Foundation's research applied to national needs (RANN) program. Main purpose will be to establish a research agenda over the next 5 months. Protein resources to be considered include: soybeans, sunflowers, mustard seeds, barley, rye, aquatic resources, bacteria, yeasts, alfalfa, clover. Director: Dr. Nevin S. Scrimshaw.

Pennsylvania, under the increasingly astute leadership of Governor Milton Shapp, has launched a statewide program of gardening, calling them "anti-inflation" gardens; coordinated by the Dept. of Agriculture with help from the Departments of Education, Community Affairs and Welfare. Over 200,000 seed kits available through a donation from Asgrow Seed Co.; use of state-owned land for gardeners as well as distribution of educational materials.

National Food Storage Assn.  
5806 114th Ave., N.E.  
Kirkland, Wa. 98033

A good 8-page introduction to food storage available from this non-profit, no pitch group for 10¢ and a long stamped, self-addressed envelope.

**ARCHITECTURE**

Access  
School of Architecture  
University of Wisconsin  
Milwaukie, Wis. 53201  
404-963-5339 or 964-4134

Similar to Ouroboros (see Energy); an option in the school of architecture; experimenting in the area of low cost, low impact, environmentally responsive shelter and life support sub systems.

*Access Manual #2* is a summary of a variety of their experiments—hydroponics, solar-wash, wind generation. 58 pages, 14 experiments. $2.50 plus 25¢ mailing.

**ART**

Performing Arts Marathon, Portland  
72 hours of folksingers, poets, clowns, ballet, classical piano, jazz, video and films. For support of the performing arts committee. $2.00. Contact Center,  
1532 S.W. Morrison, Portland, 97205.  
Debbie Heasley, 222-6562.

**AUDIO VISUAL**

Eco-Net Cooperative Video Catalog  
Available from:  
Bob Philips  
2009 N.E. Brazee  
Portland, Or. 97212

A listing of over 200 video tapes produced mostly in the Northwest, including some B.C. and California.
COMMUNITY

Migration to Cities

The Town Forum
704 Whiteaker St.
Cottage Grove, Or. 97424
503-942-7720

One of the most carefully planned large communities utilizing Ian McHarg planning concepts is underway 25 miles south of Eugene. They are wanting to share their plans and knowledge. For a report on the “Cerro Gordo” experiment, write to them.

Open Space and the Inner City Exhibit
Put on by the Eco-Aesthetics Urban Environmental Center, Cleveland High School, Portland. Exhibit from April 4 to May 4. Scheduling for classroom visitation may be made by calling 234-9020 between 1 and 4 pm weekdays.

EDUCATION

Oregon Community Education Assoc.
1724 Moss Street
Eugene, Or. 97403

Development of community education centers through existing facilities throughout the state. Coordinates in-service workshops, helps people wanting to set up community education facilities. Newsletter, Hot Flashes will tell you more. Over 160 members. An important network of people opening up schools to more community access.

Tennessee Valley Authority
Environmental Education Section
327 Miller's Building
Knoxville, Tenn. 37902
615-637-0101, ext. 2103

Jon Wet, Director. They have lots of good environmental education material, mostly free, including:

- Developing Environmental Education Curriculum Material, one of the most complete bibliographies (annotated) of environmental educ. curriculum materials in over 150 school programs.
- Also, Developing Environmental Study Areas, Writing Environmental Education Grants, Some Selected Materials for Environmental Education Master Planning.
- Also, recently an energy Resource Materials Center has been initiated, including referral list of expertise (people) in energy use/development area; also energy resource/environmental materials from around the country.

Solar Energy School Heating Augmentation Experiment. A Report to the National Science Foundation by:
Inter Technology Corporation
Box 340
Warrington, Va. 22186

Fauquier High School in Warrenton, Virginia, is receiving from the sun all of the heat required to meet the heating loads of 5 mobile-type, detached classrooms. The cost to the school for heating these classrooms is approximately $25 per day.


Sea Net
P.O. Box 4244
Seattle, Wa. 98104
206-324-5055

Sea Net is a Seattle-area environmental information network of groups and individuals working to facilitate environmental improvement and community awareness. Sea Net’s functions are to educate, communicate, and to act in cooperation with other regional and global environmental resources and concerns. Planned projects include community information gatherings, living lightly conference, ecological monitoring, public awareness presentations (one now in the Seattle Public Library). Regular meetings every other Monday. Call for place and time.

Portland Community College
Community Services Education
12000 S.W. 49th
Portland, Or. 97219
503-244-6111

A wide range of community education courses including many basics: self how to do it classes. Also one-shot workshop, lectures on subjects as: fix it yourself, meatless cookery, applehead dollmaking. Call for schedule and to be put on mailing list.

We update our models (of the world) every tenth of a second for position, every two-tenths for velocity, and every three-tenths for acceleration, as long as we are awake." (Warren S. McCulloch)

Whole Life Systems, Summer Program
Farallones Institute
P.O. Box 700
Pt. Reyes, Ca. 94956

Shelter design, small scale farming, natural energy systems. 15 quarter college credit hours. Affiliated with Cal. College of Arts & Crafts and Antioch College/West. $1,000 tuition (including room and board).

ENERGY

Lifeline, the concept originally proposed by the Vermont Public Interest Research Group submitted but rejected by the Vermont Legislature, would provide a relatively low flat rate for the first several hundred hours of electricity consumption by residential users. A kind of guaranteed energy income. There are other such attempts across the nation. A summary can be gotten from Science in the Public Interest, 1779 Church St., N.W., Washington, D.C. 20036. (Ask for Vol. II, No. 2 of newsletter. Send self-addressed stamped envelope.)

Environmental Energies Inc.
21243 Grand River
Detroit, Mi. 48219
1-313-533-1985

They sell various wind powered aero generating equipment ranging in size from 50 to 12,000 watts and prices from $600 to $18,000. Their catalog obviously reflects a helping hand attitude with useful information, such as energy conservation aids, and basic questions about electricity answered. Their store is wind powered; and they also coordinate low energy living classes. Catalog, I think, is $1.00.

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ENERGY
Continued from page 7

Solar Energy Bills, Oregon
Changes of passage of a package of solar energy bills appears good (HB 2200 to HB 2204). The referendum on nuclear power plants (SB 120 and 127) is in the Joint Committee on Trade and Economic Development, where it will need a big push to see favorable action. Four major energy bills have been introduced to create a state energy agency. SB 199, by Senator Hallock, is the most comprehensive, consolidating into one agency the authority of NTEC over power plant siting, the PUC over utility rates and energy curtailment plans, and the Department of Geology over geothermal. Governor Straub's bill, SB 483, is not quite so ambitious. It would keep NTEC's powers in an Energy Facility Siting Council. With strong influence from the new Department of Energy, whose director will hold one of the three council seats. The PUC would retain jurisdiction over utility rate-setting. SB 291, by Sen. Betty Roberts, would create a new Energy Commission with all new authority. SB 466, by the Energy Advisory Committee, would create an energy agency with broadly defined powers.

Dynamic Conversion of Solar Generated Heat to Electricity
Report developed by Honeywell/Black and Veatch for NASA/Lewis Research Center. Points to the optimum development of solar power plants to be in the range of 50 to 200 MW, which, importantly, would lead to development of medium size plants rather than large, centralized solar plants, for maximum energy efficiency. (NASA, 400 Maryland Ave., S.W., Washington, D.C. 20546).

Ourborosts
University of Minnesota
School of Architecture & Landscape Architecture
110 Architecture Bldg.
Minneapolis, Mn. 55455

"Architecture, embracing the entire built environment, is directly responsible for over a third of all energy use in the U.S. If we are genuinely concerned with understanding and modifying this, we must examine and evaluate scrupulously assumptions about energy management, energy sources, and pollution control which underly our life styles and present methods of environmental design. Architects and environmental designers must begin systematically to propose the reorganization and modification of land-use patterns, and to reverse their tendencies to produce environmentally costly buildings—those which rely upon our finite world resource savings account.

"During the past year 150 students in the Environmental Design class of the School of Architecture and Landscape Architecture of the University of Minnesota have been studying architecture's role in energy conservation through research, design and construction of a full-scale working experimental dwelling."

Here's one of the most well-conceived living-learning education projects in the country. Both working on retro fitting an old city dwelling and designing from scratch an energy conserving house. Ourborosts/East, toward an energy conserving dwelling. 1974. 209 pp. $5.50, postpaid.

The syllabus for architecture 1-1002, edited by Dennis Holloway, is a beautiful compilation: energy, architecture, agriculture, light living. It is not available to general public, but persons interested could write to Mr. Holloway (remember, provide postage and input). (See also Access)

Solar Thermal Energy Utilization
Energy Information Center
Technology Application Center
University of New Mexico
Albuquerque, N. Mexico 87131

Bibliography of 2,100 references with abstracts. Space heating & cooling, power generation, water distillation, solar furnace operation, crop drying, cooking. A subscription with update to bibliography $50/yr. Bib. alone $37.50.

Solar Energy Society of Canada
P.O. Box 1353
Winnipeg, Manitoba, Canada

For what's going on even further north than us; send donation for sample newsletter.

Oregon Solar Institute
3764 N. Colonial
Portland, Or. 97227
503-281-3396

Incorporated March 10, 1975, OSI is a public interest, non-profits citizens' organization for the encouragement of solar energy in Oregon. Researches the applicability of solar energy for buildings, bio-conversion, solar thermal electricity, and electricity, via photo-voltaic, silicon cells. Weekly meetings at Centenary Wilbur Church in Portland.

Science in the Neighborhood
Community Technology
1901 Que St., N.W.
Washington, D.C. 20009

(Note address change). Latest newsletter (No. 3) reports on hydroponics, waste and fish raising projects directed by the group. Also points to other low technology projects elsewhere: New York University School of Education's city science project (providing city people with usable scientific information); catfish farming by member of Dartmouth's Geography Dept.; Stanford University Mechanical Engineering Dept. (Bernard Roth) doing work in alternative technology; Byron Kennard, Ntl. Council for Public Assessment of Technology interested in a trade fair for alternative technology; Michael Diamond, Antioch Law School, interested in studying socio-legal problems of alternative technology; Jefferson Physical Laboratory, Harvard, is putting out a newsletter on public conceptions of science.

Very Large Crude Carriers, Fiction & Facts.
Standard Oil Co.
Rm. 1165, 225 Bush St.
San Francisco, Ca. 94104

A dialogue about the relative dangers of small and large oil tankers.

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<td>Advanced Building Technology Group</td>
<td>A course on alternative energy systems using student teams to gather information about various systems: windpower, -windmill types, masts -history -economics (large and small scale) -energy storage</td>
<td>networking, R&amp;D, classes, workshops</td>
<td>Write for information and price.</td>
</tr>
<tr>
<td>Institute for Alternative Futures</td>
<td>Skagit Basin flora-fauna inventory as basis for comprehensive planning (with Planet Drum, Eocene Land Trust)</td>
<td>networking, R&amp;D</td>
<td>Windpower booklet available in near future.</td>
</tr>
<tr>
<td>Institute for Energy Conversion</td>
<td>Construction of solar one house...first to get both electricity and heat from the sun</td>
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<tr>
<td>Institute for Ecological Studies</td>
<td>Research on infrared remote sensing applications, biological effects of synthetic pesticides, land reclamation, biological control of insect pests, environmental impact of electric power generation, 1976,-of-U.S. Army Corps of Engineers projects.</td>
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<td>Institute for Environmental Studies</td>
<td>Roster of environmental resource persons</td>
<td>networking, R&amp;D, classes, workshops</td>
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<td>Construction of solar one house...first to get both electricity and heat from the sun</td>
<td>networking, R&amp;D, classes, workshops</td>
<td>Tuition, grants.</td>
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<td>Living Systems Institute</td>
<td>A program acknowledging the immediate need for basic cultural transformation: emphasis on an end product other than waste reduction, absorption of knowledge...self-sufficiency as an educational program...use of appropriate technology to meet human needs...re-establish self-reliance.</td>
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<td>Living Systems Institute</td>
<td>Multi-disciplinary team which prepared report for city of Davis, Calif., on building performance standards, exchange in blog, code, neighborhood planning, energy efficiency, and blog, operation for maximum solar heating and cooling.</td>
<td>networking, R&amp;D, classes, workshops</td>
<td>Tuition, consulting, grants.</td>
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<td>Practice teaching of energy-efficient life Support: organic gardening, sensible gardening, intermediate technology, energy conversion, reduced health needs...first in workshop series is GARDENING IS...A WORLD OF SENSE</td>
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*ENOUGHNESS, not moreness*
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<th>New Alchemy Institute</th>
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<td>Denzel E. Ferguson</td>
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<td>Austin, TX</td>
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<td>Play &amp; Daria Fisk</td>
<td>Selina Bendix</td>
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<td>Burgess Jackson</td>
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<td>Witold Rybczynski</td>
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<tr>
<td>Box 41</td>
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<td>Woodville, VA 22749</td>
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<tr>
<td>Carla Engster</td>
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<td></td>
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<tr>
<td>703-987-8917/9641</td>
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</table>
... It is morning, Senlin says, and in the morning
When the light drips through the shutters like the dew,
I arise, and face the sunrise,
And do the things my father used to do.
Stars in the purple dusk above the rooftops
Pale in a saffron mist and seem to die
And I myself on a swiftly tilting planet
Stand before a glass and tie my tie.
Vine leaves tap my window
Dew-drops sing to the garden stones
The robin chirps in a chinaberry tree
Repeating three clear tones...

Conrad Aiken, Senlin: A Biography
from Collected Poems of Conrad Aiken,

WHY CENTERS?
If only because, this morning, on a “swiftly tilting planet” the air was
with messages: egg, 7 minutes and a half... bus leaves 5th & James 8:44
... the green shirt, the green shirt could use an iron... frost-on-the-
porch UNEMPLOYMENT RISES TO TEN AND A HALF PERCENT; six
minutes for espresso from Ceylon—and, yes, Barbara Walters rises to
greet the television set.

It is by now commonplace to hear
that one of the most significant de-
velopments in the twentieth century
may be the creation of a global
village, unified by electronic impulses.
As relationships between energy
phenomena and information are dis-
covered, our planet and the universe
may be seen more and more as an organic
communication system in which each energy exchange is a message exchange at a given level. This view
creates a complex crisis when set alongside existing paradigms of unlimited growth, centralized power, big
institutions and specialization.

That hundreds of centers are springing up all across the nation is some indication that centers are effec-
tive crisis-processors for converging environmental, cultural and economic crises. Trapped on the outer
limbs of huge bureaucracies and confronted by an information explosion, individuals seek access to infor-
mation which will better enable them to make decisions, and which will provide continuity to their lives.
Though purposes and focuses vary, most centers emphasize at least one or any combination of the following
functions: (1) information gathering for research (2) practicum skills such as building windmills and water
wheels (3) information networking (4) legislative and lobbying activities and (5) public education.
I. GETTING STARTED

To some extent, centers emerge when people's needs change faster than institutions. One day the principal finds students pounding on his door asking for a student lounge; another day the south corner of the school's boiler plant is suddenly taken over by the sophomores.

From another standpoint, institutions are ideal seed-beds for center development, and there are many cases in which centers and institutions develop a synergistic relationship. Ideas which originate in a center often become established by the parent-institution, while innovation tolerated within centers might not be tolerated on an institutional level.

Centers also get started when people have a shared vision of their needs. One way to stimulate that vision is to use brainstorming techniques (see Roughdraft I, February, 1975). State the problem in terms of a need: What type of center would stimulate the building of more solar heated homes in our city? What type of center would result in the opportunity for student involvement in the planning of parks and greenways?

Often it takes some kind of stimulus to dislodge fixed notions from people's heads to make them think about the possible instead of the probable. Members of the Parkrose Methodist Church were paying an innocent visit to the Environmental Education Center when the idea struck: why not start a church center? Two brainstorming sessions later, the church had material enough for a 10-year plan, launched a campaign to get such a center going, and won the support of the congregation. Several years later, the Parkrose Methodist Church has a successful church center which incorporates the idea of videotaping services with the idea of a multi-purpose center.

II. BARN RAISING

As old as the frontier, barn raising represents collective action by which people get together voluntarily, and assume that it is in their best interests to help each other. Applied to building centers instead of barns, this technique creates a center clientele by allowing people to participate in the decision-making and execution of a problem. At some point in human history, barn-raising may be developed as a basic survival technique. People who lend their various resources to a common project (1) receive confirmation and positive support for individual talents, (2) acquire a needed sense of community and (3) gain confidence and acquire a sense of power derived from solidarity.

III. VOLUNTEERS

If members of the community have been involved in brainstorming sessions and in barn raising events, a significant number of volunteers is probably available. Volunteers like to feel that they've had a say in the way things go, and bringing in volunteers from the beginning is an ideal way to accomplish this.

Sometimes group leaders make the mistake of feeling beholden to the volunteers. Though it's not a good idea to give volunteers the jobs that no one else wants to do, volunteers are usually volunteering because they see some worth in it. They should be encouraged to do a good job and be given a sense of responsibility for a job, just like paid workers. At the Multnomah County Human Services Bureau, volunteers are asked to sign a statement committing some time each week as a way of reinforcing an individual's sense of commitment.

A positive atmosphere of trust is the best way to encourage volunteers. Monitoring devices and desks placed near entrances make people feel watched and controlled.

Existing community networks should be tapped for volunteers by advertising in community or school papers, and by visiting PTA presidents and church ministers, asking them to include appeals in their bulletins.

Build the users into the system. At the Environmental Education Center, users help maintain information files, updating and correcting the system on a volunteer basis, thereby eliminating the need for bureaucratic growth and encouraging volunteer participation.

IV. AESTHETICS

People seem to like an aesthetically-pleasing environment. Why? No one exactly knows. What is an aesthetic environment? Another toughie. Comments gathered from visitors...
to the Environmental Education Center range from the usual "Far out!" "Can I climb it?" "What's that made from?" "How did these get here?" to the most cryptic—from a local reporter—"Well, isn't this quasi-bizarre." If a center feels good to people, more learning will take place.

Just about everything in a center should be malleable though not breakable, intriguing but not fragile, and attractive but not untouchable. If barn-raising techniques are used, costs can be low.

Some initial suggestions, gleaned from other centers:

1. **Brainstorm design.** Don't exclude the most impossible-sounding ideas. In the case of the Parkrose Methodist Church, brainstorming sessions produced ideas like "Let's build a swimming pool with roll-top turf that could be used as a lawn-carpeting for other occasions." It was partly due to the wild range of ideas which came out during brainstorming sessions that good, feasible, but innovative and creative ideas developed.

2. **Seating.** Should be durable and flexible. Buy Goodwill hardbacks. Try a sew-in: many brightly colored cushions can be produced in the barn raising fashion. Gunny sacks cover squares of foam rubber (from packing plants) and sturdy two-way adhesive tape can be used sparingly to provide backs for floor chairs.

3. **Straw rugs.** They're an inexpensive, nature-colored, fairly soil-resistant floor covering. Another way to work with floors is to make them part of an overall scheme. Ugly brown-colored floors at EEC couldn't be painted, but stimulated the idea for a tree room, in which floors could be viewed as loving earth brown.

4. **Walls.** Overhead projectors can blow up pictures to paint. The idea of epics and journeys can be adapted to the history of a group through collective mural paintings like those done by Ikie Kressel and volunteers in Portland's Neighborhood Beautification Project.

5. **Maps.** Regional maps which identify people in an information net can provide inspiration for linking people and ideas. Several kinds of maps—road maps, topographical and cultural maps—provide an integrated sense of place. Keeping plenty of butcher paper around is essential to encouraging maps of ideas-in-process. All in all, maps—perhaps because they give us some perspective on ourselves—are a very satisfying thing.

6. **Special areas.** Parkrose United Methodist Church in Portland has a room called by the American Indian name *Kiva* (meaning a place of worship). The room is a private, special kind of sanctuary where people can take their shoes off and sit on multi-levels of carpeted space, making physical space adapt to their psychological needs.

At the Living Learning Center at the University of Oregon in Eugene, a special grants-writing room for funding activities features wall-shelves with resources labeled shelf-by-shelf, and allows proposal writers to work without the disturbances of other areas of the center.

7. **Plants.** Plants are being used more and more in every environment. Ivy grows well almost anywhere, as do philodendrons and elephant's ear; plant some ivy in an old sink or in an unused coke machine.

8. **Storage.** Roberta Caughlan, at Cleveland High School's Eco-Aesthetics center, inherited part of an old school library and came up with one of the most innovative storage ideas, as a result of lack of built-in-space. Files and other materials are stored in boxes—color toned to the scheme of the room—and put in plain sight, stacked in geometrically interesting patterns, one on top of another. Files are numbered plainly and can be picked out without disturbing the large part of the box sculpture.

**Most important, a center's aesthetic design should respond to the users' needs and reflect their vision. This can only be accomplished through people-participation in the building of a center.**

### V. ADHOCRATIZING

Alvin Toffler has pointed out that we are moving from a bureaucratic society to one that proceeds by adhocracies. The day when the park is organized for the convenience of the groundskeeper, the library for the convenience of the librarian and the school for the convenience of the educators is about to end. People should be enticed to make choices on their own, with staff available for consultation in amplifying the meaning of their choices. Typewriter, phone and office supplies can be made available to facilitate this process. Adhocracies are particularly successful when they allow the coexistence of varying points of view.
The diagram shows that access centers, like B and C especially, stimulate people to make their own decisions, and the staff serves as consultants who amplify those decisions when they are carried out through action. The advantage of not advocating a particular point of view is that advocacy groups of diverse opinions can co-exist and maintain their own integrity. By setting clear policies, staff is not responsible for “slanting information,” though staff members may have their own positions on a given issue. The advantage of the advocate, of course, is that a position of influence can be gained by selecting information supportive of one point of view only, while the risk of this position is that real support can only come from others who are in agreement, and members of the community can be alienated by advocacy stances.

CENTER A – A church center, Center A brings the pressures of the community, the church and people who care together in a multi-purpose area which serves as a place of worship as well as a learning center.

CENTER B – A Video Center within a large manufacturing outlet (which produces parts for television sets) encourages the neighborhood, as well as the company personnel, to work together on community video access center which will produce programming to be sent out over the local cable.

CENTER C – An environmental access center within a university, its constituents are drawn from among students, faculty and the community. Once every quarter, Center C staff and faculty publish a special supplement to the college catalogue, listing courses which relate to the environment from all disciplines.

CENTER D – Center D’s chief activities consist of consumer lobbying in state legislatures and in the nation’s capitol. Largely concerned with the packaging and processing of food, this center collects and publishes information which is particularly relevant to its point of view.

See Resource Index on page 15
<table>
<thead>
<tr>
<th>Ouroboros School of Architecture</th>
<th>University of Minnesota</th>
<th>110 Architecture Bldg, Minneapolis, MN 55455</th>
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<td>Dennis Holloway</td>
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<td>TAMUORES INST: Towards an Energy-Conserving Urban Dwelling... $5.50</td>
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<td>72 Front St. Bath, MAINE 04530</td>
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<tr>
<td>1. Cutback</td>
<td>Fairhaven College</td>
<td>Bellingham, WASH 98225</td>
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<td>2. Jennifer Elf</td>
<td>206-676-3680/-4860</td>
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<td>3. Phoenix of Colorado Springs, Inc.</td>
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<td>4. Colorado Springs, Colo 80433</td>
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<td>$125,000 for 25 mo. NSF-RANN/Grant, business materials</td>
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<td>5. Red Kaharid</td>
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<td>6. REDE: Research and Design Institute Box 307</td>
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<td>7. Providence, RI 02901</td>
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<td>8. Ronald Beckman</td>
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<td>9. SEA-NET</td>
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<td>Networking: R&amp;D, classes, workshops, construction</td>
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<td>10. Seattle WA 98104</td>
<td>802-454-8311</td>
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LOCALIZATION, not centralization
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<th><strong>TOOLS, not machines</strong></th>
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| **SOLAR ENERGY CENTER** | - academic center for solar energy seminar research on solar heating in the Pacific Northwest, on the Coos Bay Solar Home. 
- John Reynolds architect, Robert Gray architect, Peter Swann-law |
| **Networking** | networking 
| **R&D** | ✓ |
| **Classes workshops** | ✓ tuition, grants, donations by PPPL |
| **Construction** | ✓ |
| **TITH** | P.O. Box 2382 
Olympia, WASH 98507 
Woody & Becky Derycke |
| **Communication on agricultural practices which reflect a sensitive and ecologically responsible husbandry of the soil** |
| **Networking** | ✓ |
| **R&D** | ✓ |
| **Classes workshops** | ✓ tuition, grants, donations by PPPL |
| **Construction** | ✓ |
| **TITH newsletter** | $3/yr. 
Directory of the NW Off. on Alt. Agriculture... $5.00 |
| **SOLAR ENERGY APPLICATIONS LAB** | - academic center for solar energy R&D in southwestern U.S. 
- one solar home built |
| **Engineering Research Center** | - Colorado State Univ. 
- Fort Collins, CO 80523 
- George Lof |
| **Networking** | networking 
| **R&D** | ✓ |
| **Classes workshops** | ✓ tuition, grants, donations by PPPL |
| **Construction** | ✓ |
| **TEAP Total Environment Action** | - 12 Church Hill 
- Harrisville, NH 03450 
- Bruce Anderson 
603-827-3374 |
| **Environmentally sensitive design & consulting in architecture and building systems engineering** |
| **Networking** | ✓ |
| **R&D** | ✓ |
| **Classes workshops** | ✓ tuition, consultations, publications |
| **Construction** | ✓ |
| **Solar Energy & Shelter Design** | $7.00 
Design with Wind... $7.00 
Solar Energy Housing Design... $15.00 (write for resource material list) |
| **Solar Utilization New College of Architecture** | - academic center for solar energy R&D in southeastern U.S. 
- one solar home built |
| **Arizona State Univ. Tempe, AZ 85281** | - Howard T. Odum 
- Thomas A. Robertson 
904-392-6627 |
| **Networking** | networking 
| **R&D** | ✓ |
| **Classes workshops** | ✓ tuition, grants, donations by PPPL |
| **Construction** | ✓ write for their brochure |
| **The Walden Foundation** | P.O. Box 5 
El Rito, NM 87530 
James B. DeKorne |
| **dedicated to proving that humanity can live an ecologically-sound, technologically sophisticated life on the land without becoming a slave to neither land or technology.** 
- Aquaculture 
- Wind & Solar Energy |
| **Networking** | ✓ |
| **R&D** | ✓ |
| **Classes workshops** | ✓ tuition, grants, publications |
| **Construction** | ✓ write for their brochure |
| **Write only by including a stamped, self-addressed envelope** 
To visit, write in advance of Sunday visiting day |
| **Solarwind** | - designing & building several prototypes for testing, selling plant & kits 
- Elektra, Dundie, Sencenbaugl |
| **P.O. Box 7** | East Holden, MAINE 04429 |
| **Networking** | networking 
| **R&D** | ✓ |
| **Classes workshops** | ✓ tuition, grants, donations by PPPL |
| **Construction** | ✓ write for their brochure |
| **Zemowitz** | P.O. Box 112 
Albuquerque, NM 87108 
Steve & Holly Baer 
505-242-5354 |
| **Design, drafting, consulting, fabrication, research & development work in solar energy & structural systems** |
| **Networking** | ✓ |
| **R&D** | ✓ |
| **Classes workshops** | ✓ tuition, grants, donations by PPPL |
| **Construction** | ✓ write for their brochure |
| **Solar booklets** | $3.00 
Solar water heater plans... $5.00 
Drum Wall plans... $5.00 
Beadwall plans... $7.00 |
| **MaJo Kelesarian** | 207-843-5168 |
| **SOLAR ENERGY FOR PACIFIC NORTHWEST BUILDINGS** | $12.00 
THE IMPACT OF SOLAR ENERGY ON ARCHITECTURE |
| **Networking** | ✓ |
| **R&D** | ✓ |
| **Classes workshops** | ✓ tuition, grants, donations by PPPL |
| **Construction** | ✓ write for their brochure |
| **TITH** | P.O. Box 2382 
Olympia, WASH 98507 
Woody & Becky Derycke |
| **Solar energy systems for design, installation, education and training in the upper Midwest.** |
| **Networking** | ✓ |
| **R&D** | ✓ |
| **Classes workshops** | ✓ tuition, grants, donations by PPPL |
| **Construction** | ✓ write for their brochure |
| **Solar Energy Housing Design** | $15.00 (write for resource material list) |
| **Solar Energy & Shelter Design** | $7.00 
Design with Wind... $7.00 |
| **Networking** | ✓ write for their brochure |
| **R&D** | ✓ |
| **Classes workshops** | ✓ tuition, grants, donations by PPPL |
| **Construction** | ✓ write for their brochure |
| **Write only by including a stamped, self-addressed envelope** 
To visit, write in advance of Sunday visiting day |
| **Solar Energy Conversion Lab University of Florida Gainesville, FLA 32611** | - Erich A. Farber 
904-392-6627 |
| **Networking** | networking 
| **R&D** | ✓ |
| **Classes workshops** | ✓ tuition, grants, donations by PPPL |
| **Construction** | ✓ write for their brochure |
| **The Walden Foundation** | P.O. Box 5 
El Rito, NM 87530 
James B. DeKorne |
| **dedicated to proving that humanity can live an ecologically-sound, technologically sophisticated life on the land without becoming a slave to neither land or technology.** 
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| **Write only by including a stamped, self-addressed envelope** 
To visit, write in advance of Sunday visiting day |
ENERGY
Continued from page 8

WIND ENERGY,
SOME NEW STUFF

Windworks, a Bibliography. Ben Wolf.
Council of Planning Librarians
P.O. Box 229
Monticello, Ill. 61856
Contains some new, more foreign re­
ferences than Ben Wolf's original.
Windworks Bibliography.

Applied Aerodynamics of Wind Power
Machines, Lissamen and Wilson.
Technical

Energy, Earth and Everyone, Medard
Gable.

Basic Information of the Economic
Generation of Energy in Commercial
Quantities from Wind. Prepared by
Energy Engineering Labs, Oklahoma
State U. Available from:
House Committee on Science
& Astronautics
House of Representatives
Washington, D.C. 20515

Potential for Wind Generated Power
in Texas.
Vaughn & Gilmore
West Texas State University
Canyon, Texas 79016

Information and Planning Manual for
Wind Driven Electric Power Systems
Syverson & Symons
P.O. Box 235
Mankato, Minn. 56001 Price?

(Suggested by Ben Wolf, Windworks)

115V AC HOUSE CURRENT

DC-AC INVERTER

DC BATTERY STORAGE

WIND GENERATOR

WIND

DIAGRAM OF SOLAR-HEATED HOUSE

"Energy Conservation in Architecture,
Pt. 1, Adapting Design to Climate," by
Donald Watson, A.I.A., in Connect­
icut Architect, March-April 1974. 50¢
from:
SUNWORKS, Inc.
Guilford, Ct. 06437.
Housing patterns, climate, underground
building, natural lighting and ventilation.

Access Work Manual, by John Schade,
1975. Available for $2.00 from:
School of Architecture,
University of Wisconsin,
Milwaukee, Wisc. 53201
Insulating shutters, greenhouse, solar
hot water on rehabilitated older 2-story
urban homes . . . the way they did it.

Emergency Energy Assistance
State of Wisconsin
P.O. Box 5368
Madison, Wi. 53705
800-362-8043
A listing of energy conservation of state
governments is being compiled by this
office.

Smithsonian Science Information
Exchange
1730 M St., N.W.
Washington, D.C. 20036
Has information about current research
projects.

"Energy Conservation Legislation in the
93rd Congress, a summary," July 22,
1974.
Science and Technology Division
Library of Congress
Washington, D.C. 20540

"Energy Conservation Legislation
Dealing with Buildings." Federal Energy Office
Washington, D.C. 20461

"Energy Conservation Design Guide­
lines for Office Buildings."
American Institute of Architects
1735 New York Ave., N.W.
Washington, D.C. 20006
Also available from General Services
Administration, Washington, D.C.
20405 (or local branches).

National Bureau of Standards
Office of Building Standards
and Codes
Center for Building Technology
Room B226
Washington, D.C. 20234

"Options for Energy Conservation"
Center for Advanced Computation
University of Illinois, Urbana-
Champaign
Urbana, Il. 61801

"Draft Design and Evaluation Criteria
for Energy Conservation in New
Buildings."
American Society of Heating, Re­
frigerating & Air Conditioning
Engineers, Inc.
345 E. 47th St.
New York, N.Y. 10017
Proposed federal standards.

Office of Policy Development
and Urban Development
451 Seventh St., S.W.
Washington, D.C. 20410

Small Homes Council—Building Re­
search Council
University of Illinois at Urbana-
Champaign
1 East St. Mary's Rd.
Champaign, Il. 61820
Pamphlets related to energy conserva­
tion, insulation, etc.

National Home Builders Assoc.
Research Foundation Inc.
P.O. Box 1627
Rockville, Maryland 20850

"Development of an Instructional Re­
source Package on Energy Allocation,
Depletion and Conservation."
National Science Teachers Assoc.
1201 16th St., N.W.
Washington, D.C. 20036
Contact: John Fowler

Biomass Energy Institute
204-870 Cambridge St.
Winnipeg, Manitoba r3M 3h5,
Canada
Recently awarded a contract by the
Canadian government to design a per­
iodically updated bibliography on
energy conservation.

Continued on page 10
"The Value of Thermal Insulation in Residential Construction: Economic and Conservation of Energy"
Environmental Information System
Oakridge National Lab
P.O. Box X
Oakridge, Tenn. 37830

National Bureau of Standards
Office of Building Standards and Code Services
Center for Building Technology
Bldg. 226, R. 3226
Washington, D.C. 20234
Building codes, pamphlets on housing energy use, state surveys of codes.

Conservation Foundation
1717 Massachusetts Ave., N.W.
Washington, D.C. 20036

Also contact locally:
Energy Information Office
4220 E. Martin Way
Olympia, Wa. 98504
and
Energy Conservation & Allocation Office
528 Cottage N.E., Room 301
Salem, Or. 97310

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Energy Information Office
4220 E. Martin Way
Olympia, Wa. 98504
and
Energy Conservation & Allocation Office
528 Cottage N.E., Room 301
Salem, Or. 97310

From: Electric Energy in Pacific N.W. B.P.A.
$10.00 from:
Sunworks, Inc.
Gulfport, Ct. 06437.
Has a most useful appendix which explains how to figure the percentage of a building's annual space heating requirements that can be provided by a given solar heating system. Data tables needed for calculation are provided.

FICOA
2901 S. Wentworth Ave.,
Milwaukee, Wisc. 53207.
Very comprehensive, presenting needed information and theory very clearly; as well as indexing the contents for quick thumb retrieval.

Alternative Natural Energy Sources in Building Design, by Davis & Schubert, 1974. $7.00 from:
Passive Energy Systems
P.O. Box 499
Blacksburg, Va. 24060.
An extra added attraction is Malcolm B. Wells' "Ecologic Standards for Construction," an item to be read after reading George Ramsey's "Energy & Architecture" Plowboy Interview in Mother Earth News No. 30.

Use of Domestic Hot Water for Space Heating. $10 ($5 to members) from:
Circulation Sales Department
ASHRAE
United Engineering Center
345 E. 47th St.,
New York, N.Y. 10017
How to put all that conserved, solar-heated water to use. Ask for their "Symposium Bulletin" publication list.

Nationwide Conference on the Magnitude and Implementation Schedule of Energy Resources. A proposal for a conference (sometime in May or June?) designed to deal with problems of information resources in energy resources area: Contact C.H. Wang or Bernard Spinrad
Office of Energy Research & Development
Oregon State University
Corvallis, Or. 97331
503-754-2344

Futures Conditional
Northwest Regional Foundation
P.O. Box 5296
Spokane, Wa. 99205
Published for: some time by Robert Theobald from Arizona. Now coming out again; reborn in looseleaf package form; focus on citizen participation, community involvement, bicentennial activities, thinking about the future, controlling the future by participation. They will be publishing the Expo Symposium series (1st issue includes Wendell Berry's speech). Packages also contain pamphlets on other projects/groups etc, as well as "additional resource" section and briefs in the form of "opportunities for involvement." $5 for 2 sample copies. $20/yr. (Still expensive as the retired Futures Conditional, but costs seem more evident. It is an interesting, be it expensive, experiment in print.)
GOVERNMENT

Oregon Environmental Council
Legislative Bulletin
Oregon Environmental Council
2637 S.W. Water Ave.
Portland, Or. 97201
Designed to keep people informed of environmental legislation. $5 for rest of legislative session.

FEDERAL LAND WITHIN THE UNITED STATES
By Predominant Usage

<table>
<thead>
<tr>
<th>Usage</th>
<th>Acres</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Forest and Wildlife</td>
<td>503.8</td>
<td>66.2</td>
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<tr>
<td>Grazing</td>
<td>163.6</td>
<td>21.5</td>
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<tr>
<td>Parks and Historic Sites</td>
<td>24.9</td>
<td>3.3</td>
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<tr>
<td>Alaska Oil and Gas Reserves</td>
<td>23.0</td>
<td>3.0</td>
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<tr>
<td>Military (Except Airfields)</td>
<td>15.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Flood Control and Navigation</td>
<td>7.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Reclamation and Irrigation</td>
<td>7.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Industrial</td>
<td>2.9</td>
<td>0.4</td>
</tr>
<tr>
<td>Alaska Native Reserves</td>
<td>2.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Military Functions in Alaska and Hawaii</td>
<td>2.6</td>
<td>0.3</td>
</tr>
<tr>
<td>Airfields</td>
<td>2.2</td>
<td>0.3</td>
</tr>
<tr>
<td>Power Development and Distribution</td>
<td>1.5</td>
<td>0.2</td>
</tr>
<tr>
<td>Research and Development</td>
<td>1.6</td>
<td>0.2</td>
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<tr>
<td>Other Uses</td>
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<td>0.2</td>
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<td><strong>Total</strong></td>
<td>761.0</td>
<td>100.0</td>
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</table>

From: Inventory Report on Real Property Owned by the United States throughout the World.
Superintendent of Documents
Government Printing Office
Washington, D.C. 20402
Stock No. 2200-00087. $1.10.

LAND USE

Land Reform Bibliography
Center for Rural Studies
1095 Market St.
San Francisco, Ca. 94103
Over 1,500 citations. $1.00 (from the people who publish "People and Land")

OUTDOOR ED

Field Study Directory, Clackamas County and Surrounding Area. Compiled by Outdoor Environmental Ed. Dept.
Clackamas County Intermediate Ed. District
Marylhurst Campus
Marylhurst, Or. 97036
503-835-4341
Over 160 places to take students, where varying amounts of guidance is provided for tours. The range is unusual, -city dumps, nurseries, industries, tree farms, print shops. Adequate information given per place. Subject index. (Wish there was a geographical index as well.) $1.00.

POPULATION

World Population News Service
A program of the U.S. Commission on UNESCO and 39 other national commissions, providing monthly 17" by 22" specially designed information sheets on world population problems for use in display and/or for easy reproduction. The service is free from:
IDEAS
1785 Massachusetts Ave., N.W.
Washington, D.C. 20036

INFORMATION

Office of Science Information Service
National Science Foundation
1800 G Street, N.W.
Washington, D.C. 20550
"The 1974 Summary of Awards," for newly-founded and ongoing programs. 63 programs around the country, including: Study of Coverage Overlap between Major Science Abstracting and Indexing Services in the U.S.; Investigation of the Public Library System as a Linking Agent to Major Scientific, Educational, Social and Environmental Bases (!!!); A Study of Information Regeneration for Knowledge Transfer; Development of a Center for Information Services; also several energy and information grants. We will be reporting on the programs as we find out more.

MEDIA

Institute on the Public Interest in Telecommunications
The Network Project
101 Earl Hall
Columbia University
New York, N.Y. 10027
4-week summer institute, June 2-27, in: Television, a psychopedagogic tool; the business of broadcasting—commerce or communication; Control of communications policy; Case studies in research and action; Cable, satellites, public television. $300 tuition (some special arrangements can be made). April 25 deadline for registration.

The Publish It Yourself Handbook:
Literary Tradition and How To. $4.00,
Edited by Bill Henderson.
Pushcart Book Press
Yonkers, N.Y. 10701
In December, 1972, a group of authors demonstrated on New York's Fifth Ave. protesting the inefficient distribution methods of commercial publishers. The authors sold their own books from pushcarts.

A unique collection of the history of print-it-yourself, famous and not-so-famous persons and groups. Includes the experiences of Anais Nin, Leonard & Virginia Woolf, Stewart Brand. . . . It is more a history and experiential text than how to, though scattered throughout and the last 20 pages is how to do it.

TRANSPORTATION

Folding bikes are at least as old as the bike craze of the gay nineties. They faded out with the decline of bike interest. Now there are a number of hindrances to their general adoption: folks just cannot as yet be persuaded to saw their bikes in two; folding bikes on the market usually have itty bitty wheels and there has been no competitive testing of the various systems of folding. My system of folding is very simple. No hinges or trick latches - just folding. My system of folding is very folded by the highway dept.
TRANSPORTATION
Continued from page 11

Bicycle Transportation
Government Printing Office
Superintendent of Documents
Washington, D.C. 20402
The Environmental Protection Agency recently conducted a study, for the first time taking seriously the bicycle as a transportation option. 95¢.

The Stripper's Guide to Canoe Building
David Hazen $6.95
524 S.E. 15th
Portland, Or. 97214
Revised 1975. 86 pp. 6 sheets of full size template drawings for 7 canoes and 2 kayaks. Laminated wood strip and fiberglass construction. Lots of general instructions. (Techniques, the author says, could be transferred to making airplanes, cars, showers and drums, etc.) Material kits available from: Wilderness Boats Inc., Rt. 1, Box 101A, Carlton, Or. 97111.

WATER

Minuse Systems Inc.
206 N. Main, Suite 300
Jackson, Ca. 95642
209-223-1330
A shower developed (patent pending) that uses 10% of the water of the typical American deluge system, through use of an air blower that mixes air with shower water. Water usage is 1/2 gallon per minute compared with 5 gallons per minute of typical shower. Contact: Larry Baker. (Suggested by Brian Smythe, U. of Arizona)

Citizens Drinking Water Coalition
Commission for Advancement of Public Interest Organizations
1875 Connecticut Ave., N.W., Suite 1013
Washington, D.C. 20009
202-462-0505
To articulate issues raised because toxic pollutants are in the drinking water supply of this country, and to push for water monitoring programs at the state level. To assure that the safe drinking water act of 1974 will be implemented.

Water Resources Policy Issues—1975
Water Resources Research Institute
115 Covell Hall
Oregon State U.
Corvallis, Or. 97331
A series of seminars from April 3rd to May 29th including water requirements for energy (April 10); water and food production demands (May 15). Contact William H. Buckley for details, 754-1022.

MAJOR SUGAR PRODUCING COUNTRIES

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>USSR</td>
<td>8,650,000</td>
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<td>Brazil</td>
<td>2,875,000</td>
<td>2.80</td>
<td>872,424</td>
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<td>Cuba</td>
<td>117,000</td>
<td>.05</td>
<td>1,110,000</td>
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<td>US (Continental)</td>
<td>1,902,000</td>
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<td>85,533</td>
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<tr>
<td>Hawaii</td>
<td>1,161,000</td>
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<td>717,724</td>
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<td>China</td>
<td>599,000</td>
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<td>213,670</td>
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<td>Germany</td>
<td>4,915</td>
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<td>France</td>
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<td>Mexico</td>
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<tr>
<td>Australia</td>
<td>3,015</td>
<td>599,000</td>
<td>213,670</td>
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<tr>
<td>China</td>
<td>2,600</td>
<td>1,166,000</td>
<td>0</td>
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<td>West Germany</td>
<td>2,440</td>
<td>867,000</td>
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<td>Philippines</td>
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<td>South Africa</td>
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<td>440,000</td>
<td>60,440</td>
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<td>Poland</td>
<td>2,043</td>
<td>1,100,000</td>
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<tr>
<td>Italy</td>
<td>1,409</td>
<td>588,000</td>
<td>0</td>
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</table>

*Though its US quota was dropped after Cuba’s revolution, a "reserve quota" is kept on the USDA books for Cuba in case Castro fails or diplomatic relations are resumed.
Sources: Sugar Reports (USDA) and UN Food & Agricultural Organization.

From: Resources
UPDATE

We received a sizeable response to our February "in process" directory. Here are the additional listings. Thanks to Keneth Brooks, George Diel, Terry Lash, Darvel Lloyd, Kurt Kutay, Ron Long, Russell Pergetty, Roy Thompson, Peter Thurston, and especially Steve Zemke.

Native Plant Society
3514 N. Russet St.
Portland, Or. 97217

Survival Center
Suite 1, EMU, University of Oregon
Eugene, Or. 97403
Have on-site directory of Eugene area groups.

Natural Resources Defense Council
664 Hamilton Ave.
Palo Alto, Ca. 94301 415-327-1080
As they say, they have represented NW environmental groups in court cases.

Environmental Guild of Spokane
121 South Wall St.
Spokane, Wa. 99204 509-747-0677
A new professional service group composed of city planners, architects, environmental designers, theologians, economists, working on town design, project guidance, energy conservation, street furniture design.

Pacific County Environmental Council
Rt. 2, Box 405-B
Raymond, Wa. 98577
Shoreline management, land use, recycling, energy policies.

Mt. Adams Wilderness Institute
Flying L Ranch
Glenwood, Wa. 98619
Also at same address: Friends of Pah-To (dedicated to the preservation of Mt. Adams)

Concerned About Trident
305 Dretz Bldg.
Bremerton, Wa. 98310 206-373-4700

League of Women Voters—Seattle
1402 18th
Seattle, Wa.

Northwest National Seashore Alliance
Box 102
LaConner, Wa. 98257

Sea Net
P.O. Box 4244
Seattle, Wa. 98257

Lower Ill. River Commission
304 S. Coos River
Coos Bay, Or. 97420

Skagitarians Concerned About Nuclear Plants
P.O. Box 337
Anacortes, Wa. 98221

Washington Kayak Club
Box 24264
Seattle, Wa. 98124

Zero Population Growth—Seattle
4426 Burke Ave. N.
Seattle, Wa. 98103

Committee for Environmental Crisis
University of Washington
Seattle, Wa. 98103

Environmental Affairs
Associated Students of Univ. of Wash.
University of Washington
Seattle, Wa. 98195

Alpine Lakes Protection Society
4539 E. Laurel Dr. N.E.
Seattle, Wa.

Puget Sound Beach Preservation Society
830 N.W. Elford Dr.
Seattle, Wa. 98177

Friends of the Earth—Seattle
Phone correction: 325-8761

Marty Rush
Student Lounge & Activities Center
Environmental Science Program
305 Troy
Pullman, Wa. 99163

BRING, Recycling Inc.
P.O. Box 885
Eugene, Or. 97401

Change of address

OSIR Environmental Education Study
Environmental Studies Center
11 PLC, University of Oregon
Eugene, Or. 97403

Change of address

Hunger Action Center
716 Rainier Ave. S.
Seattle, Wa. 98144

High Country School
c/o Erik Bergman
10640 S.W. 55th
Portland, Or. 97219 246-1285
History, ecology, outdoor skills, anthropology, disciplines during summer excursion through Idaho, Oregon, Montana, Wyoming.

Idaho Conservation League
P.O. Box 844
Boise, Id. 83701

Idaho Environmental Council
P.O. Box 1708
Idaho Falls, Id. 83401

Environmental Committee on Survival
2416 Pacific Way
Longview, Wa. 98632

Beverage Container Control Coalition
4534-1/2 University Way N.E.
Seattle, Wa. 98105

Consumer-Business Assn. Inc.
428 Park Ave., Rm. 200
Idaho Falls, Id. 83401

MEDIA:

The Argus
6654 White Bldg.
Seattle, Wa. 98101

The Falls
West 621 Mallon Ave.
Spokane, Wa. 99201

Quest
College of Engineering
Washington State College
Pullman, Wa. 99163

Oft times good environmental stuff, such as spring/summer 1974 issue, which contained, among other things, "Man's Entropic March."

Living With the Earth
KZEL-FM
P.O. Box 1122
Eugene, Or. 97401

Program about on-going projects in the Willamette Valley; alternative energy, agriculture, recycling, living lightly.
Rush

THE CITY of Richland, Wa., is negotiating with the energy research and development administration for a public power supply system and Hanford area contractors for construction of a $1 million energy information center.

BOSTON, MA., Edison Electric is studying a proposal for wind power systems. GROW, Gardening and Recycling the Organic Way, in Portland, is underway again, looking for garden spaces in N.W. Call 233-3654 or 224-4221. SENATOR James Abourezk of South Dakota has introduced a bill which would prohibit large oil companies from owning/dominating other sources of energy.

NEW YORK garbage collection is down by about 1,000 tons a day from last year at this time—from 30,000 to 29,000.

ADVANCED Building Technology Course, Dept. of Art and Architecture, University of Idaho, is researching alternative energy, especially wind, with plans to publish results. Anton A. Eder, University of Idaho, Moscow, Id. 83843.

THE ILLINOIS River Study" alternatives for inclusion into the Wild and Scenic River System, is now available free from: Siskiyou Ntl. Forest, P.O. Box 440, Grants Pass, Or. 97526.

THE STATE of Connecticut has been given a $130,700 federal grant to design solar energy installation in 20 of a 40-unit, million dollar housing project for the elderly.

NORTH Portland: A 35° introduction compiled by a League of Women Voters committee: history, housing, industrial development. 308 Senator Bldg, Portland, Or. 97204.

LIVING Lightly, week-long series of classes to be held this summer. Call Linda Craig for information, 248-5940.

POP PRI, Nos. 6 & 7 has a survey of responses to the Dr. Kenneth Edelin abortion manslaughter case.


EARTH Move, P.O. Box 252, Winchester, Ma. 01890, manufacturers of the $35 auto methane conversion kit, are planning to publish a low technology journal called Earth Times.

NEW graduation requirements in Oregon stipulate that students learn survival skills, metric system and birth control.

CABLE TV. Willamette Valley Observer, Vol. 1 No. 4. Good special feature, 454 Willamette St., Eugene, Or. 97401.

THE FEDERAL Council for Science and Technology has estimated that total federal effort in solar and geothermal energy will increase about 21% from $102 million this year to $123 million in fiscal 1976, about 6% of the total federal energy research and development budget. (Energy Digest).

NATURE and Americans is a course for this winter at Portland State. An interesting survey of ways Americans have encountered their natural environment. Gordon Dodds, instructor. OREGON State University has been awarded a $60,000 year contract from (formally) the Atomic Energy Commission to evaluate the capabilities of emergency cooling systems in nuclear reactors (Director: Bernard Spinrad).

THE SOUTH-WEST Research and Information Center has published its "Workbook" No. 2, with continuing good resources, especially for public interest groups.

P.O. Box 4524, Albuquerque, N. Mexico 87106.

A motorist recently stopped in Philadelphia for a moving violation was found in possession of an authentic gas rationing coupon (they are currently stored in the Phil. mint building).

A STUDY has been completed for the Washington Power Supply System on Geothermal Potential in Washington.


MALCOLM McLean, N. Carolina trucking magnate, is investing $60 million to develop a superfarm in that state's boggy coastal plain; 375,000 acres, half the size of Rhode Island.

DR. J. RICHARD Williams and Joseph D. Clement of Georgia Institute of Technology recently suggested at an MIT conference the installation of satellite nuclear power stations (Future Report).

UNITED Stand is a group of owner-built homesteaders who grouped after a task force of the county board of supervisors issued "red tags" for violators of building, zoning, sanitary regulations. For information on their findings, send $1 to United Stand, P.O. Box 191, Potter Valley, Ca. 95469. EX-GOV. Tom McCall has announced he will become president of a non-profit corporation, The Institute of Applied Energetics.

TASK force on ozone problem has been formed, directed by the Council on Environmental Quality and Federal Council for Science and Technology.

TOTAL Environmental Action, Church Hill, Harrisville, N.H. 03430, has a new list of resource materials available from them: wind, solar, slide shows, low energy living, bibliographies.

BULL RUN Watershed, Portland. Responses to the land suitability analysis and management options are due soon. For an imaginative compilation from a Bull Run follower, amateur expert citizen, send a donation to Joseph Miller, 3424 S.E. Tolman St., Portland, Or. 97202. Called "Bull Run Logic," it's a collection of public statements that adds up to illogical conclusions.

IDAHO Conservation League, Box 844, Boise, Id. 83701.

Feb. 10 newsletter, an extensive guide to the Idaho legislature. SOLTEC, P.O. Box 6844, Denver, Colo. 80206.

One of several emerging solar energy system designers: heating, cooling, water. They also have a "life support" system design. FEDERAL house bill (H.R. 1505) would grant $1,000 credit for solar climate control equipment or 25% reduction for purchase of
up to $4,000. Introduced by Charles Vanik, D-Ohio.... EUGENE area directory of recycling facilities free from: Solid Waste Division, Dept. Environmental Management, 135 E. 6th Ave., Eugene, Or. 97401.... EARTH Skills Workshops, July 12-19, and Aug. 9-16. Living learning experience. Maplevale Organic Farm, Cross Creek, New Brunswick, EOH 1EO, Canada.... METHANE to be produced from cattle manure in Oklahoma will be transported via pipeline to Illinois to be distributed by the People’s Gas, Light and Coke Co., by 1975.... TILTH (new address) P.O. Box 2382, Olympia, Wa. 98507....

ECO-TOPE (change of address) P.O. Box 618, Snohomish, Wa. 98290.... ENVIRONMENTAL Action Workshop, Eugene, April 23. Eugene Citizens for a Livable Environment, P.O. Box 3643, Eugene, Or. 97403. $1 registration fee—checks to Marcy Willow.... TWO important solar energy periodicals which we will review in detail next issue: Solar Energy Intelligence Report, 1101 Spring St. (P.O. Box 1067), Silver Spring, Md. 20910. ($60/yr; careful watch of especially solar energy legislation).... AND: Advanced Solar Energy Technology Newsletter, 1609 West Windrose, Phoenix, Az. 85029. $60/yr. Especially good on technical developments research reports. Focus on large scale, versus backyard, home workshop type solar energy application.... I.F.A.R.N to climb by climbing. North Paranoid Climbing School. $15 per day. Portland, call 223-6688....

While researching the Roughdraft on Centers, the Eco-Net staff discovered certain information gaps. Though many folks who helped us have developed their ideas about centers from eclectic sources, we found little written material which directly addressed some of these questions: (1) What are the socio-cultural-economic indicators which stimulate the development of centers? (2) What are the best ways to measure these factors? (3) How can we best demonstrate the importance of a center to its community? (4) What do centers as diverse as the OMSI Energy Center and the Women’s Resource Center have in common? (5) Can data about centers form a predictive basis for future research?

Perhaps it is true, as Don Stotler has suggested, that “You can’t read about new ideas, you have to see models of them.” We’d like to hear from RAIN readers who can tell us more about these questions from their own experience, and offer suggestions for future research. Write RAIN.

“Culture, Politics and Pedagogy”
Jerome Bruner
Saturday Review, May 18, 1968
Something of an anthropological perspective from the granddaddy of educational philosophy.

“Man’s Movement and His City”
C.A. Doxiadis
Science, October 18, 1968
Community centers should be within 10 miles of residence or work of the user. In the ancient city-state, as Doxiadis points out, there was an average of 10 min. walking time from the radius of the build-up area and of 8 hours in the radius of the city.
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>April 4-6</td>
<td>Economic Concerns for the Community, Glenden Beach, Or. Contact: Dr. Ron Finster, Center</td>
<td>for Economic Studies, Oregon College of Education, Monmouth, Or. 97361.</td>
</tr>
<tr>
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<td>Lund, 14300 N.E. 18th, 256-6034.</td>
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<td>Research Inc. 9841 Airport Blvd., Los Angeles, Ca. 90056.</td>
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<td>April 14-18</td>
<td>Grantsmanship Training Program, Spokane. Conducted by Grantsmanship Center,</td>
<td>1015 W. Olympic Boulevard, Los Angeles, Ca. 90015. (In Spokane call</td>
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<td>Edward Udell, 456-5024.)</td>
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<td>April 16</td>
<td>Nuclear Reactor: Energy Source and Research Tool. Dr. Larry Church, Reed College. At</td>
<td>OMSI, 4015 S.W. Canyon Rd., Portland. 7:30 p.m. Call 248-5942 for more</td>
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<td>Hall, U. of Virginia, Charlottesville, Va. 22901.</td>
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<td>April 17</td>
<td>Food Day. Project of the Center for Science in the Public Interest, 1785 Massachusetts</td>
<td>Ave., N.W., Washington, D.C. 20036.</td>
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<td>April 25</td>
<td>Arbor Day Festival. Hoyt Arboretum, 4000 S.W. Fairview Dr., Portland, Or. 97221. To</td>
<td>participate, contact by April 15, 228-8732.</td>
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<tr>
<td>April 27-29</td>
<td>National Association for Environmental Education Annual Conference. “Improving Quality</td>
<td>of Life through Better Use of Energy and Resources.” Contact: James</td>
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<td>Gallagher, National Assoc. Environ. Ed., 5940 S.W. 73rd, South Miami,</td>
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<td>May 3-4</td>
<td>May Festival. Living Learning Center, Southern Oregon College. Alternative Sources of</td>
<td>Energy (including members of Energy Research Planning Office); recycling,</td>
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<td>gardening. Contact: Fred Lorish, LLC, Southern Oregon College, Ashland,</td>
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<td>Or. 97520.</td>
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Special Note: Urban Pioneer Days is a series of educational events being coordinated through the Environmental Education Center during the month of May to correspond with previous years' Earth Day Events. Persons wanting to participate, or planning like events, contact Anita Helle at the EEC, 229-4692, 229-4682.