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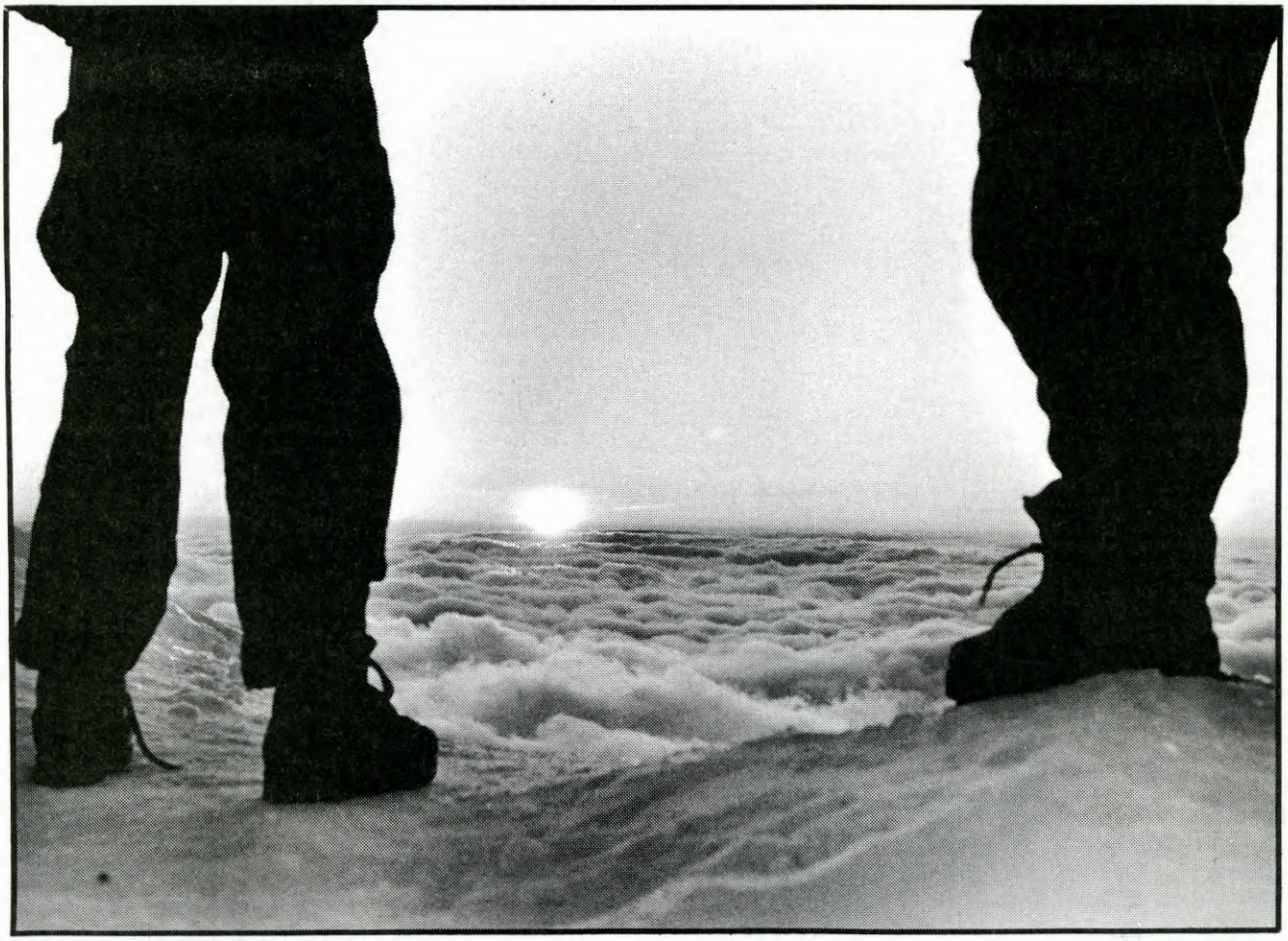
RAIN

ECO-NET

RAIN

NOVEMBER, 1975 VOLUME II, NO. 2 75 CENTS



WORLD FROM ABOVE PAGE 26

INSIDE:

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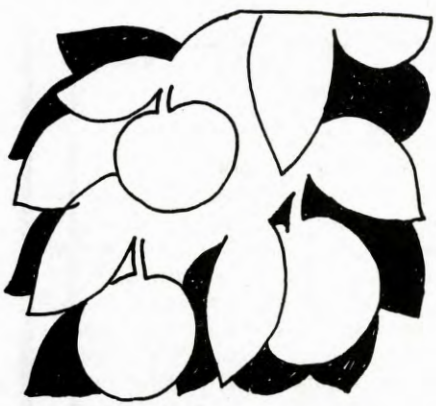
The deadline for material is approximately the 28th of each month.

We are selling *RAIN* through retail outlets. If you have some suggestions, please send them along. Maybe you could distribute in your area?

In future issues we hope to do pieces on (1) putting together conferences, (2) personal changes, (3) China, (4) energy and employment, (5) video/cable directory, (6) urban farming, (7) regional resource inventories.



Cover Photo: Looking into the sunset at 9,000 ft. from Illumination Saddle, Mt. Hood.

RAIN DROPS

As the person who handles money and the mailing list at *RAIN*, I have some requests to make of you who get *RAIN* in the mail. And since I respond better to requests that I understand the reasons for, I can't resist giving an explanation of mailing procedures and costs. When we mail out 200 pieces of mail that are all the same, all at the same time, sorted in zip code order, it costs us 1.8¢ apiece. That's what happens once a month when we mail *RAIN* to everyone already on our list. The rest of the month we seem to be spending quite a bit of time mailing out single copies of the most recent *RAIN*, both to new subscribers and to people who want sample copies, and some others. When we send them one at a time like that, it costs us 18¢ apiece. That's right, 10 times the bulk rate. It also means lots of time spent addressing those special copies and going to the post office to buy 18¢ stamps. So from now on I'm going to add most of those names to the list for the next issue of *RAIN*, unless you specifically request otherwise.

Another burning issue is address changes. Unless you notify *RAIN* yourself that you're going to move (and where to), and we have time to change our list before the next mailing, you miss a copy, and we're charged 10¢ to be notified of your new address or lack of one. (What happens is the PO takes your *RAIN*, puts a label on it giving your new address or saying "no forwarding address," and returns the magazine to us with 10¢ postage due.) We request this service by putting "address correction requested" in our mailing label space because we want to keep track of you if you forget. But it's a lot easier if you take care of it ahead of time. Another thing: if you move and promise the PO that you'll pay for magazines and newspapers to be forwarded, they'll do it, but only for 90 days, and they still send us a notification of address change and charge us a dime.

So please let us know ahead of time if you can.

Anne McLaughlin

AGRICULTURE·FOOD

***Companion Plants and How to Use Them,* by Helen Philbrick & Richard Gregg, 113 pp., $5.95 from:**
Devin-Adair Co.
143 Sound Beach Ave.
Old Greenwich, CT 06870
A classic and pioneering book on one of the least understood phases of ecology, namely plant antagonisms and plant symbiosis. Why do certain species of plants grow better in the presence of others, and why do some do poorly when others are present? This publication combines the finding of many individual observant gardeners. It is the best we've got until Richard Merrill of New Alchemy Institute–West has time to write down what he's learned.

***The Use of the Land: Essays on the History of American Agriculture*, by John T. Schlebecker, 218 pp., $10.00 from:**
Coronado Press
Box 3232
Lawrence, KS 66044
Very extensive bibliography, footnotes and index backing up comprehensive chapters on agriculture and urban growth, grasshoppers, sorghum monoculture in South Dakota, cattlemen on the plains, dairy journalism, curatorial agriculture. The author is curator of the Division of Agriculture & Mining at the Smithsonian Institution, Washington, D.C.

***The Biochemistry and Methodology of Composting*, by Raymond Poincelot, Bulletin 754, Sept. 1975, 18 pp., single copies free from:**
Connecticut Agricultural Experiment Station
New Haven, CT
An unbelievable reference list! This is an extremely fine publication, covering history, theory and practice, utilization of compost and trouble-shooting the balky compost pile. Also explains large-scale municipal processes. Get this; and get their publication list. This is the kind of work that needs to be done.

***Biological Control of Plant Pathogens*, by Kenneth F. Baker & R. James Cook, 1974, 433 pp., 57 illustrations, 5 tables, $12.50 from:**
W. H. Freeman
660 Market St.
San Francisco, CA 94104
This is the first book devoted wholly to the microbial soil ecology. Years of research and observation has led to organization of this knowledge into a thorough treatment of principles and suggestions on practical application. The authors present bio-control as one part of an integrated disease-control program, along with cultivation practices, soil treatment, sanitation, host resistance and mild chemicals. On reading, one wonders how and to what degree the ecological principles mentioned might apply to human society. In any case, it's reassuring to have people knowledgeable about natural plant disease control right in one's own back yard . . . Prof. Cook is at Washington State University in Pullman.

Compost Vingnanam **(Tamil Quarterly Bulletin on Composting). Inquire on price from:**

A. S. Venkat Rao, editor
Compost Vingnanam
28 New Street
Tirunelveli District (Tamilnadu)
South INDIA

Also covers manure and methane as the editor has built more than 170 methane generators. The next issue, to be published Jan. 1976, will feature the ORE PLAN (see *RAIN*, no. 1, p. 22; no. 4, p. 14, or no. 6, p. 5). Future issues will include plans and photos of simple, new methane plant designs and a full textbook on methane generation is at press.

Pesticide and Organic Gardening Ruling. The Langans of Toppenish sent us a clipping on the recent court ruling in their favor over a pesticides damage suit filed in June 1973. The Langans contended that pesticides sprayed near their 2-1/2 acre farm prevented their crop from receiving an organic gardening certificate. The ruling could obviously have implications elsewhere. They also mentioned that January 24, 1976 is the annual meeting of the Northwest Organic Food Producers Association, to be held at the Home Federal Savings and Loan, 5th & Yakima Ave., in Yakima, Wash.

Green Fun: Instant Toys, Tricks and Amusements from Weeds, Seeds & Flowering Things, **by Maryanne Gjersvik, 77 pp. $1.95 from:**

Devin-Adair Co.
143 Sound Beach Ave.
Old Greenwich, CT 06870

Dandelion curls, plantain violin, snapdragon puppets, burr baskets, grass whistles, daisy wreaths and more. And take a child with you . . . an excellent introduction to green, growing things for the 2 to 6 year olds . . . kid ecology!

Tilth Newsletter, **$5/yr.**
P.O. Box 2382
Olympia, WA 98507

More and more sure of itself. We often find out about things in our own back yard related to agriculture and energy. Last issue was an unexpected packet of things including "New Food Systems in Vermont," "Ecology of Compost" (a how-to) and "A Decentralist Approach to World Food Crisis."

Conservation of the Land and the Use of Waste Materials for Man's Benefit, **Committee on Agriculture and Forestry, U.S. Senate, March 25, 1975.**

A pretty well-known summary of the present and prolonged effects of mono crop agriculture in the midwest and lack of or failure of adequate windbreak systems. The second half of the report is most interesting, outlining the use of sewage sludge and animal manures as fertilizers.

"Of the 7 million tons of dry sewage sludge equivalent now produced annually in the United States, it is estimated that 40% goes into landfills, 20% is applied on land, 25% is incinerated and 15% is discharged into the ocean. Because land use is the only direct beneficial use of this material, we have opportunities for a five-fold increase in such use. Implementation of the Water Quality Act of 1972 (Public Law 92-500) is expected to result in a three- to five-fold increase in the production of sewage sludge in the next 5 years. We can thus anticipate a large increase in the pressure to use sludges on agricultural land."

Enhancing Biological Nitrogen Fixation, **edited by Harold Evans, single copies free from:**

Office of the Deputy Assistant Director for Biological and Social Sciences, NSF
1800 G St., N.W.
Washington, DC 20550

The annual market value of nitrogen obtained from the atmosphere by agricultural legumes in the U.S. is about $3.3 billion dollars. This nonpolluting biological process utilizes neither natural gas nor petroleum as its major source of energy, but is primarily dependent upon solar energy captured by plants through photosynthesis. This report summarizes present knowledge about nitrogen fixation and suggests ways to increase the process in other species. It suggests gaps in understanding where further research would be useful.

Countryside Small Stock Journal
130 E. Madison St.
Waterloo, WI 53594

This journal is mostly for the serious farmer, but/and especially for the farmer who wants to find simple, resource-saving methods.

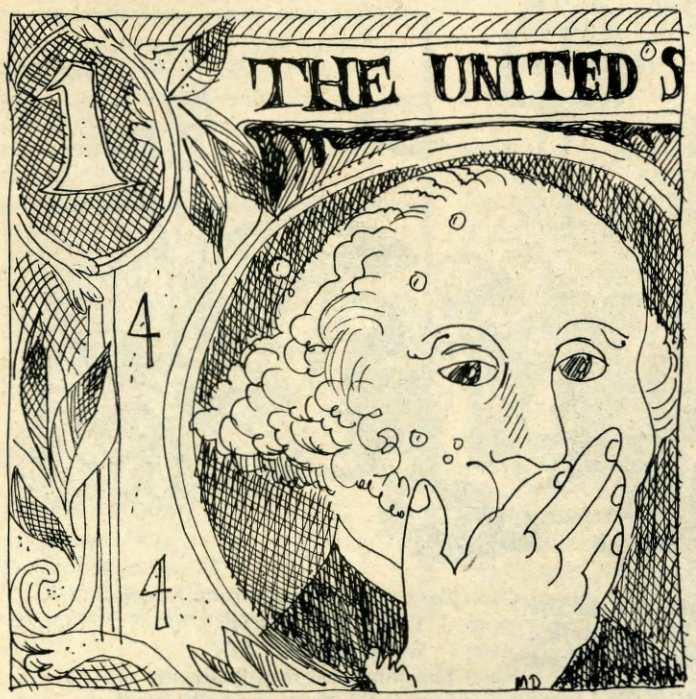
"When water has to be carried from a well, average usage is 8 gallons per day. When a pump is put at the kitchen sink, consumption increases to 10 gallons per person per day. Put in a faucet and that figure goes up to 12 gallons. Introduce hot water in the kitchen and you'll use 18 gallons a day. . . . Put in a complete pumping system and usage increases to 30 gallons a day."

It is mostly written by the readers, like *Smallholder, Alternative Sources of Energy, Living in the Ozarks, Tilth.* Generally a notch richer looking than those magazines. Enough good stuff for anyone and urban farmers as well.

Organic Gardening Under Glass, **by Katy & George Abraham, 308 pp., index, $8.95, from:**

Rodale Press
Organic Park
Emmaus, PA 18049

Covers, with explanatory photos, drawings and charts, greenhouse types, location and layout, simple homemade hotbeds and cold frames; greenhouse vs. outdoor garden soil, how to mix topsoil, compost and other plant food; how to control growing conditions in terms of moisture, temperature, ventilation and lighting. Tips on energy conservation are useful but incomplete without solar heating and thermal storage à la Steve Baer's 55-gal. drumwalls. Good but conventional. A primer for more advanced environments such as Jim deKorne's integrated agriculture-aquaculture-solar-wind ecosystem (next issue) and Bill Yanda's Solar Sustenance Project (last issue, vol. 2, no. 1, p. 7).



Limits to Gross

Is people flying all agross the country to a conference that costs $325, held at a posh, $100/day luxury resort, to listen to people read from papers that have already been printed a part of the problem or the solution?

The Limits to Growth '75 Conference held last month in Houston was some of both—an interesting scan on how far people's heads have moved, a chance to get together with a lot of fine people—but all buried in a diet of monotonous intellectual verbosity, general absence of answers and action, and a conference run and located in a fashion that denied any real comprehension of our problems.

Documentation from many sources demonstrated that our present patterns can't continue—in food, energy, materials, capital, industrial production or health. Yet most dialogue was concerned with how long we can wait to change rather than how we can act NOW to allow the greatest ease and time to change.

There was a general admission that political and social events rather than technical limits are proving to be the catalytic causes of change. The growing refusal of people—whether individual factory workers or the OPEC nations—to accept continuation of present inequities of wealth and power is already causing major changes such as the redistribution of oil profits from consuming countries to producing countries.

Few participants seemed aware that the local changes that they were proposing trying to accomplish through cumbersome and expensive governmental and managerial processes are already happening without their aid—conservation of energy, insulation, changed lifestyles, taking of power and responsibility by individuals and local communities. The poor, the Third World, minorities, and people actively making changes were visibly absent.

If the whole event could be looked at as an attempt by the rich and powerful "managers of society" to show that they are capable of understanding and resolving our current problems, it was a dismal failure. Yet there were a number of significant individual moments. Many business people were sincerely trying to change—to find more appropriate products and processes. Almost everyone seemed to accept the need for fundamental changes. E. F. Schumacher's real and demonstrated actions in developing humanely viable economics, technology and insights into what DOES work under our emerging conditions was a high point of the conference, as was the presentation by Amory Lovins concerning ethical and social limits to energy use. Herman Daly, Hazel Henderson, John Todd, Jean Houston, Jahangir Amouzegar, all made significant contributions to raising the awareness of the participants.

Yet here, as elsewhere, the small and personal exchanges among people outside the formal, visible, and presumably important structure seemed to add up to more progress and value than the major speeches.

Several interesting papers were prepared either for the presentations or for the accompanying competition. Eventually to be printed in conference proceedings, copies of the papers are probably available from the authors:

"Some Limits to Energy Conversion"
Amory Lovins
11 Village Close
Belsize Lane
London, NW3 England
A careful survey of general limits to energy use, limits to centralized electrification, limits to nuclear fission technology, and ethical, social and capital limits to present patterns.

"Energy, Growth and Altruism"
Bruce Hannon
1208 W. Union St.
Champaign, IL 61820
Winner of the $10,000 first prize in the competition. Quantitative exploration of energy/employment interactions, effects of reduced consumption and what happens when those savings are spent. Raises interesting questions on strategies for change.

"International Migration as an Obstacle to Achieving World Stability"
John H. Tanton
Rt. 4, Box 272
Petoskey, MI 49770
Discusses economic and social effects of past immigration policies that encouraged expropriation of skilled and trained third world people by wealthy nations. Explores limiting of migration as essential mechanism to development of responsibility for local developments.

"Towards a Primary Lifestyle"
Robert Allen
International Union for the Conservation of Nature
1110 Morges
Switzerland
Documentation of numerous mechanisms in traditional equilibrium cultures that limited growth without reaching physical limits.

(T.B.)

ARCHITECTURE

***Water Conservation and Wasteflow Reduction in the Home*, by William Sharpe, Special Circular No. 184, available from:**

Pennsylvania St. University
College of Agriculture
Extension Service
University Park, PA

A less technical introduction to water use reduction than the NTIS document, this report gives one an excellent feel for what is easily possible to do in this area. Contains photos, cost analysis of flow reduction options and a bibliography. Our next problem after energy and food costs?

Humus Toilet
Bromat Enterprises
739 2nd St.
Coeur d'Alene, ID 83814
208-667-6610

Unfortunately, it is electrically heated and uses 3-4000 watts daily in stirring the human and kitchen waste. But it is another option, and I think I'll add it to my files.

***Thermal Environmental Engineering*, Second Edition, by James L. Threlkeld, 495 pp., $16.15 from:**

Prentice-Hall
Englewood Cliffs, NJ 07632

Comprehensive coverage includes elementary thermodynamics and heat transfer, refrigeration, psychrometrics, solar radiation, applications of heating and air conditioning principles, and special topics such as heat pumps and solar collectors. Should be on your bookshelf next to *Solar Energy Thermal Processes* by Duffie and Beckman, $12.95 from Wiley-Interscience, New York. Both are excellent professional level treatments and both are recommended for colleges beginning solar energy and energy conservation courses.

***New Energy Technologies for Buildings*, by Schoen, Hirshberg & Weingart; edited by Jane Stein, $5.95 from:**

Ballinger Publishing
Cambridge, MA

Another excellent Ford Foundation Energy Policy Project report, this time on the institutional barriers to energy conservation and solar technologies and methods to remove them: Trade unions, building codes, sun rights, the housing construction industry. An excellent overview. See also Reis Leming's talk to Portland Savings & Loan executives in this issue.

***Demonstration of Waste Flow Reduction from Households*, PB-236 904, Sept. 1974, $5.25 print copy, $2.25 microfiche from:**

National Technical Information Service
U.S. Dept. of Commerce
Springfield, VA 22151

A 2-year demonstration program was conducted to evaluate water savings, costs performance and acceptability of various water-savings devices. Reduced flow toilets and flow limiting showers were installed in 8 single-family dwellings. In 3 of the homes bath and laundry water were filtered, disinfected and reused for toilet flushing and/or lawn sprinkling. Toilet water savings were 25%, with reuse of water for lawns resulting in an additional 16-18% water savings. For single-family homes recycle system could give cost savings in high water and sewer use rate areas and in areas of poor septic system drainage.

COMMUNITY

***Asahel Curtis Sampler*, $4.95**
Puget Sound Access
P.O. Box 4100
Pioneer Square Station
Seattle, WA 98104

The Asahel Curtis photograph collection, housed at the Washington State History Society, contains about 60,000 negatives, mostly of Seattle, in the period 1900-1915. This volume, edited by David Sucher (who several years ago compiled the Puget Sound Access Catalog) is a selection of about 100 photos with accompanying text.

It is difficult to watch a place (or us) grow old. Written history is a sampler: and here too—100 photos chosen out of 60,000, and 60,000 out of how many taken, out of how many taken in proportion to how many that could have been taken, or? . . .

A couple of years ago I attended a slide show developed by Ernie Munch, a Portland architect, about the growth of Southeast Portland. Though I had lived in Southeast Portland for 20 years, I realized how small my vision was, accepting many things as givens, many of which had been non-existent 125 years ago.

In this keep-on-truckin' society, we often move through homes like scenes from movies, seldom knowing how things came to be where they are.

The Asahel Curtis Sampler is a clearly-designed slide show kind of book, and it should be of interest to Seattle lovers as well as a model for selective historical photo perspectives.

Street: Magazine of the Environment
Pratt Center for Community and Environmental Development
240 Hall Street
Brooklyn, NY 11205

The Summer 1975 issue has an excellent summary of housing problems: good articles on "red-lining" (lending institutions' practice of refusing loans and mortgages in deteriorating neighborhoods, thus ensuring their demise), the use of the National Environmental Policy Act of 1970 for *urban* environments, and sweat equity cooperatives to rehabilitate housing. Each article gives address and phone numbers for people to contact. Many of the programs mentioned are federal; others, though specific to NYC, could be adapted anywhere. Lots of good ideas here.

"A Sense of Community"
Dept. of Community Development
Office of Neighborhood Planning
306 Cherry St.
Seattle, WA 98104

A free fold-out brochure/poster outlining six ways to improve one's neighborhood bicycles, neighborhood organizations, planting trees, safety, playgrounds, traffic diverters.

America the Beautiful Fund
219 Shoreham Bldg.
Washington, DC 20005
202-638-1649

Paul Bruce, with the America the Beautiful Fund (who published *Old Glory*, a catalog of the Grass Roots History movement in the U.S.), wrote to remind us of the other programs, including advisory services, workshops and one-time seed money grants.

Journal of Community Communications
Published by L&G Engineering
1807 Delaware St.
Berkeley, CA 94703

A feeler issue (Vol. 1, issue 0), for those interested in non- or low-hierarchical communication systems. Good 2-3 page summary of the history of the Bay Area Community Memory Project.

EDUCATION

Population Education: Sources & Resources
Population Reference Bureau
1754 N St., N.W.
Washington, DC 20036

Here's probably the best item you can get cheap that will lead you to the right teaching materials. Includes audiovisual materials, schools and organizations. $1.

continued on page 8

Too Many Books and Too Few

"Everything is there: the minute history of the future, the autobiographies of the archangels, the faithful catalogue of the library, thousands and thousands of false catalogues, a demonstration of the fallacy of the true catalogue, the Gnostic gospel of Basilides, the commentary on this gospel, the commentary on the commentary on this gospel, the veridical account of your death, a version of each book in all languages, the interpolations of every book in all books.

"When it was proclaimed that the library comprised all books, the first impression was one of extravagant joy. All men felt themselves lords of a secret intact treasure. There was no personal or universal problem whose eloquent solution did not exist—in some hexagon. The universe was justified, the universe suddenly expanded to the limitless dimensions of hope. . . .

"But the searcher did not remember that the calculable possibility of a man's finding his own book, or some perfidious variation of his own book, is close to zero. . . .

"The uncommon hope was followed naturally enough by deep depression. The certainty that some shelf in some hexagon contained precious books and that these books were inaccessible seemed almost intolerable."

Library of Babel, Jorge Luis Borges

Sometimes after doing *RAIN* entries for several days, all the parts of the world don't look like they have any reason to be here rather than there, or there rather than here, which I hope explains the order of some of the following.

"There are neural centers for generating, spontaneously, numberless hypotheses about the facts of life. We store up information the way cells store energy. When we are lucky enough to find a direct match between a receptor and a fact, there is a deep explosion in the mind; the idea suddenly enlarges, rounds up, bursts with new energy, and begins to replicate. At times there are chains of reverberating explosions, shaking everything: the imagination, as we say, is staggered."

Lives of a Cell, Lewis Thomas

In one of the most complete surveys of information in production in the U.S. (now very outdated, 1958), Fritz Maclup found that the production of knowledge accounted for about 29% of the GNP and that it was growing at the rate of approximately 10% per year, twice the rate of the economy as a whole.

And somehow that feels very much like an understatement; I can't always find the line between information gathering and dissemination processes and unrelated ones. It reminds me of how Marshall McLuhan pointed out to Xerox that they were really marketing information, not office equipment.

Depends on where you are, but most people get their information in non-print ways—by word of mouth, their own assumptions, touch, TV, radio—and then it seems this search for the wired library of Babel is somehow an aside.

"The keepers of the tower of Babel may forever lament its passing, because their ambition to storm heaven and make a name for themselves has been crushed in rubble . . . but their patrons never had any wish to storm heaven. All they wanted was certain tools—not an indiscriminate, overwhelming heap of books. . . ."

Library Journal cover, Sept. 15, '75

Daniel Fore, in the *Journal* article, describes the staggering problem of space keeping up with the information output. "In a very few years the majority of academic libraries will own more books than they can shelve, yet half the time they are unable to deliver the books they already own to a patron who wants them. Too many books and too few."

The output outstrips dissemination and access as "depressed scholars tell puzzled administrators that the Harvard Library of today, with its 9 million volumes, is less adequate to its users now than a century ago, when it was a tiny fraction of that size."

How much we need and when it gets where (and to whom) is a critical environmental problem.

"Many old maxims point out that talk is cheaper than action. A comparison of the entropy balance and the energy balance on the surface of the earth indicates that the maxims are indeed a reflection of our experience. The amplification of information is easier than the amplification of power."

Scientific American, Sept. '71

The assimilation and dissemination of information, such as in that there bits and pieces rag, *RAIN*, is often seen as a wheel-spinning, getting nowhere process; endless talk with no action. I have a sneaky suspicion that it ain't so, but maybe 'cause I'm on the hubcap looking out.

We'd like to share in this space some ideas and implications about the race going nowhere; between the library of Babel and the $1.25 all-you-need-to-know-about-everything paperback there's a steady-state, appropriate warning, feeling, knowing, eventually invisible, information network.

"Ambiguity seems to be an essential, indispensible element for the transfer of information from one place to another by words. Where matters of real importance are concerned, it is often necessary, for meaning to come through, that there be an almost vague sense of strangeness and askewness.

Lives of a Cell

In a study done by Stanley A. Elman, University of California, a comparison is shown between manual and computerized literature searches. The average cost of 48 manual searches at Lockheed's California company library was about $250.00 (22 hours of time) as compared with $47.00 and 45 minutes utilizing the Dialog on-line interactive information retrieval system.

"You cannot get something for nothing, not even an observation."—Dennis Gabor

It costs $57 to process every purchase order in the Oregon state government.

Networks are systems allowing for the movement of information from one part to another. They may be electronic delivery systems (broadbased cable or microwave systems) or cardboard containers used to interlibrary loan a book.

The National Committee on Libraries and Information Science has released their third and final draft, recommending continued federal aid in the form of categorical grants distributed through the state libraries, to coordinate public/private information services and to resolve the copyright dilemma so further library networking and sharing of resources through micro-publishing and copying can continue. A White House

conference on libraries and information science is planned for 1976 or 1977, but waiting appropriation from Congress.

The Library of Congress was recently awarded a $52,000 grant to pinpoint the role of the Library of Congress in the National Commission on Libraries and Information Sciences proposal for a National Library Network. Another grant will be administered through the NCLIS to update the ALA's "National Inventory of Library Needs."

The federal money that goes directly to the state library systems comes from the Library Services and Construction Act, which was passed for FY 1976 at the 1975 level, $49,155,000 (Title I money, for library services, not new construction); and $2,594,000 for inter-library cooperation—this in spite of advice by President Ford to do away with library cooperation funds and cut the $49 million to $10 million.

The state library systems, as administrators of LSCA money for local libraries, must submit a long-term plan each year in order to receive money.

How the money is dispersed on the local level depends a lot on the state of local financing. Oregon's state money has always been miniscule, so, unlike our neighbor Washington, very little money has been appropriated to library networking.

The money is being spent to help maintain existing services, providing book access for the blind and handicapped, and administering the state library (through which people living in areas without libraries can borrow materials).

Washington, on the other hand, has a library network figured to be one of the most advanced in the country. Individual libraries are hooked together into regional consortiums, which then are being related to a common bibliographic base, which will eventually allow anyone anywhere to be plugged into state-wide library resources, which will include academic as well as public library resources.

One of the larger undertakings in the Western States along the lines of the Washington State Library Network is being coordinated by WICHE (Western Interstate Commission for Higher Education) under two grants: from Council on Library Resources ($79,325) and U.S. Office of Education Research and Development ($65,135).

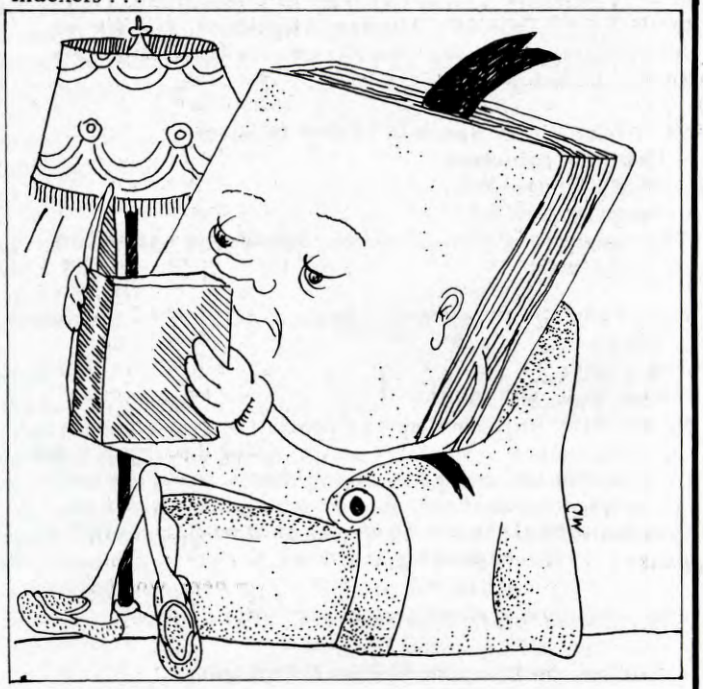
Ms. Maryann Duggan, with WICHE, explained to a gathering at the Oregon State Library recently how the planned library network would be similar to the Pacific Northwest Bibliographic Center in Seattle, the Bibliographic Center for Research in Denver, and the California State Library in Sacramento, which together include the holdings of 1,150 libraries and 2,515,000 title entries. She also spoke of two very advanced, very complete machine-readable bibliographic data base programs now available at the Washington Library Network in Olympia and with California Ballots in Palo Alto. These programs have online access and permit search by title, author, subject and call number.

It is the intent of the network planning task force that these two computer and three bibliographic systems be utilized to build the Western Interstate Bibliographic Network, thus making it possible for librarians anywhere in the region to participate.

If we ask something without knowing what the possible answers are, then we have not really posed a question; we have instead requested help in formulating a question.

How to Keep Track of Them Things

Bowker, a Xerox company (1180 Avenue of the Americas, New York, NY 10036), is the McDonalds of the book world (my mind gives up its metaphor searches after three minutes). They publish the *Library Journal, Publishers Journal, Books in Print, Literary Marketplace, School Library Journal, Previews* (audio-visual publishers' weekly), and many directories. The *Bowker Annual of Library and Book Trade Information* gives what seems like the most complete summary of the library of Babel, though of course not complete. Things like the *Annual Review of Information Science and Technology,* and innumerable other annuals, periodicals, proceedings, published by groups such as ALA Information Science and Automation Division (50 East Huron St., Chicago, IL 60611), Special Libraries Association (235 Park Avenue S., New York, NY 10003), Council of National Library Associations, Bibliographical Society of America (P.O. Box 397, Grand Central Station, New York, NY 10017), The American Society of Indexers . . .



HCL Bulletin
Hennepin County Library
7001 York Ave. S.
Edina, MI 55435
The way we index things, as Don Juan points out, circumscribes, perhaps even literally makes, the world we live in. The HCL Bulletin attempts to analyze the way we catalog books in order to locate prejudices, mind sets, misdemeanors, etc.

Booklegger
Booklegger Press
555 29th St.
San Francisco, CA 94131
$8/yr. A continuation of the style started by *Synergy* (published by the Bay Area Reference Center). Access/review, touching and going publication. Celeste West and Elizabeth Katz, who worked with *Booklegger* several years ago, published *Revolting Librarians*, an eclectic collection of essays on libraries struggling to change their images, and libraries—from archives to information centers. *Booklegger* makes a good supplement to *RAIN.*

Young Adult Alternative Newsletter
37167 Mission Boulevard
Fremont, CA 94536
$3/yr. Reviews of books, etc. for "children's" librarians.

Tall Windows
Topeka Public Library
1515 W. 10th
Topeka, KS 66604
$5/yr. A literary magazine for librarians.

continued on page 8

continued from page 7

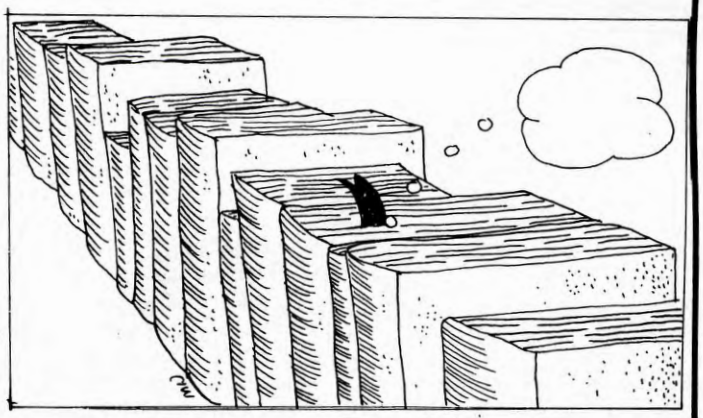
ALA/SRRT Newsletter
Social Responsibilities Round Table
60 Remsea St., Apt. 10E
Brooklyn, NY 11201
$5 ALA members, $3 non-members, $10 institutions. The SRRT is the "Alternative" Library Association, with groups throughout the country. Newsletter mainly for librarians. Rights/censorship issues.

CALL (Current Awareness in Library Literature)
Goldstein Associates
35 Whittemore Rd.
Framington, MA 01701
Good source of smaller press items. Supplement to standard library journals.

*The U*N*A*B*A*S*H*E*D Librarian: A Letter for Innovators*
G.P.O.
Box 2631
New York, NY 10001
4 issues/$10. "Ingenious editor-iconoclast Marvin Scilken rounds up ideas for improving service, saving time, money and tempers. Fast processing, streamlined forms, relevant classification schedules and headings, unique supplies, etc. It's an Occam's razor all the way—with a twist of wry. . . . Total media. . . ." (From *Booklegger* review)

A Mechanized Information Services Catalog
U.S. Dept. of Commerce
Institute for Computer Science & Technology
National Bureau of Standards
Washington, DC 20234
90¢. "A few statistics illustrate the dimensions of the problem: at least 80 commercially available machine-readable bibliographic data bases; at least 150 general purpose data management software packages and about 50 interactive information retrieval systems; at least 66 informatin centers offering current awareness or retrospective search services."

Alternatives in Print
Glide Publications
330 Ellis St.
San Francisco, CA 94102
$8.95 paperback, 50¢ handling. Along with COSMEP, listed elsewhere in *RAIN*, is a bibliographic search and find compilation of small press publications, usually not listed in *Books In Print*, etc.



We've previously mentioned publications that supplement the Bowker-Xerox world (and *RAIN*s too):

Co-Evolution Quarterly
558 Santa Cruz
Menlo Park, CA 94025
$6/yr., quarterly.

Workbook
Southwest Research and Information Center
P.O. Box 4524
Albuquerque, NM 87106
$7 individuals, $10 institutions.

Sipapu
c/o Noel Peattie
Rt. 1, Box 216
Winters, CA 95694
$2/yr. (S.J.)

EDUCATION

continued from page 5

Calendars
All in about a week we received three calendars:

When To Do It Homestead Planning Guide
Doug & Barbara Schulz
Rt. 1, Box 794A
Wilsonville, OR 97070
Lots of useful information for the homestead type. When to plant what, family food supply, herbs in medicinal use.

Simple Living Calendar
Center for Science in the Public Interest
1779 Church St., N.W.
Washington, DC 20036
$3.00. With some of the ideas of the Lifestyle Index but somehow lacking the punch of that.

Family Energy Watch Calendar
Dept. of Energy
528 Cottage St., N.W.
Salem, OR 97310
The most informative, dense calendar I think I've ever seen; yet laid out in such a way as to still be useful as a calendar. The information included is of near book proportions. Many, many good energy use charts, facts, quotations. Designed to help people keep a watch over their energy intake. Though copies we got were free, I think they will be charging $2.95.

National Science Teachers Association
1742 Connecticut Ave., N.W.
Washington, D.C. 20009
Has produced some of the best classroom energy materials available. *Energy-Environment Source Book*, $4; *Energy-Environment Materials Guide*, $2; and mini-unit guide, $3.

ENERGY

OMSI Energy Center
Designer and coordinator of Energy Center exhibits is Jeff Kennedy, recent staff addition to OMSI. An alumnus of Brown University, he earned a master's degree from Rhode Island School of Design. Prior to coming to the museum, Jeff worked with the Research and Design Institute of Providence, R.I., in alternative energy research.

Three energy exhibits are on loan to the museum. From the U.S. Army Corps of Engineers is a working model of a typical dam and turbine and generator, through which water flows at the push of a button. Also from the Corps are two hand generators that produce electricity and show beautifully the relation between human energy input and electrical output in measured horsepower

(one of these exhibits is for children). From NORCAS the museum will receive a two-dimensional breeder reactor exhibit that includes a quiz and slide presentation.

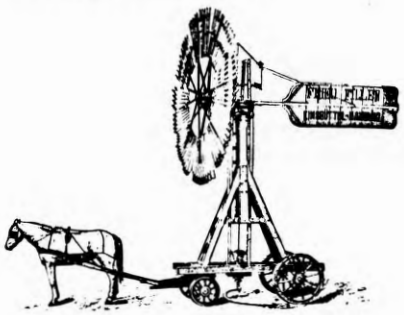
Construction has begun on TERA ONE, the experimental solar-heated house to be built near OMSI. Pacific Power and Light Co. initiated the project and coordinated donations of materials and labor. The energy-conserving three-bedroom house has been designed by Skidmore, Owings and Merrill.

Two evening education programs of the Energy Center are planned for December: On Monday, the 1st, Dr. George Tsongas of PSU will talk about Future Energy Sources at 7:30 p.m. in the Arend Auditorium. Tsongas, Associate Professor in the Department of Applied Sciences and Engineering, will examine energy resources and demands in the near future and beyond. On Tuesday, the 9th, Energy Center staff will offer "Solar Energy: An Introduction," designed for those with non-technical backgrounds. These programs do not require registration and are open to high school students and adults. Both are at 7:30 p.m. There is no admission charge for OMSI members; non-members pay $1.

***The Spoils of Progress: Environmental Pollution in the Soviet Union*, by Marshall I. Goldman, 370 pp., 1972, $3.45 from:**

MIT Press
Cambridge, MA 02139

An impressively documented account of the Soviet situation. Goldman demonstrates that it is industrialization rather than capitalist conquest which has produced environmental damage comparable to the U.S. He suggests a "Limits to Growth" kind of solution as her only salvation. Contains an exhaustive 23-page bibliography.



***Prometheus Crisis*, by Thomas N. Scortia and Frank Robinson, Doubleday, 1975, $8.95. *We Almost Lost Detroit*, by John G. Fuller, Readers Digest Press, 1975, $8.95.**

Hot off the press. Two amazing books on nuclear accidents—one truth, one fiction. Both scary. The *Prometheus Crisis*, written by the authors of *Towering Inferno*, is soon to be made into a major film.

***Fort Union Coal Field Symposium*, sponsored by Montana Academy of Sciences, Eastern Montana College. $8.75, order from:**

Eastern Montana College Bookstore
Billings, MT 59101

This five-volume work is an important technical compilation on the development and use of coal resources, especially in Montana, though applicable in general. An impressive range of considerations, including one volume on social impact. A six-month turnaround between conference and published proceedings, too!

***Economics of Energy*, ed. by Leslie E. Grayson, 457 pp., 1975, charts, graphics & index, $16.95 from:**

Darwin Press, Inc.
Box 2202
Princeton, NJ 08540

Focuses mainly on the governmental and industrial aspects of the problem, with texts of Nixon & Ford policy statements, and reports from the major power industries of oil, coal, gas, nuclear and explores supply and demand, anti-trust, environmental and future concerns. The new technology section covers new avenues of non-renewable as well as renewable resources.

Geothermal

***A Technology Assessment of Geothermal Energy Resource Development*, 500 pp., NSF-RA-X-75-011, by The Futures Group, Glastonbury, CT 06033, available for $6.00 from:**

Assistant Public Printer
U.S. Government Printing Office
Washington, DC 20402

Suggests potential futures for geothermal energy in the U.S., evaluates these, and makes recommendations based on these evaluations which can help policymakers capture the desirable aspects of this energy source while avoiding its pitfalls. All persons interested in geothermal energy should have this in their library.

***Definition Report: Geothermal Energy R, D and Demonstration Program*, by ERDA, Division of Geothermal Energy, Oct. 1975, $5.45 print, $2.25 microfiche from:**

NTIS
U.S. Dept. of Commerce
5285 Port Royal Rd.
Springfield, VA 22161

This document explains what the federal, i.e. ERDA, effort will be in relation to geothermal energy in the U.S. and is a useful companion to the NSF Technology Assessment of geo-power.

Solar

***Soap Lake Community Newsletter*, No. 1, mentioned in last issue, (*RAIN*, vol. 2, no. 1, p. 14) is out of print and no longer available. However, the solar collector-thermosiphon hot water heater plans used in the community workshop are available for $1.00 plus a business-sized SASE from:**

Greg Higgins, Project Manager
Soap Lake Solar Community
502 E. Main Ave.
Soap Lake, WA 98851

***Industry Opinions on the Formation of a Solar Energy Research Institute (SERI)* by MITRE, Oct. 1975, available from:**

ERDA
Division of Solar Energy
Washington, DC 20545

Recommendations and caveats on SERI; one big one, many little ones in each bio-climatic region, SERI's mission, site-selection.

***A Simple Solution to the Energy Problem*, by Stephen Tarver, 88 pages, paper bound, 1975, $4.00, from:**

Wyoming Specialties, Inc.
Gillette, WY 82716

This book proposes a legislative solution to the problem, based on the concept of depletion allowance presently applied to petroleum production, gas production, mining and forestry. The author traces the history of this concept, showing that its application encouraged the huge capital investments in petroleum production facilities which have made possible the tremendous fuel-using economy of the present day. Noting that the use of the percentage method for depletion allowance makes it possible for the taxpayer to deduct up to 50% of the net profits from his taxable income, the author proposes that a similar principle be applied to renewable sources of energy. He argues that this would furnish the tax incentive needed to attract private capital to companies manufacturing solar equipment, wind generators, waste degradation equipment for gas production, etc. Also, he would extend the principle to power companies for the sale of electricity produced by renewable sources of energy. The author presents figures and arguments to show that renewable sources of energy, coupled with an extensive pumped-storage development, could lead to energy independence for the U.S. This book should be read by legislators and all those who may be interested in the possible use of tax incentives to further the use of renewable sources of energy.

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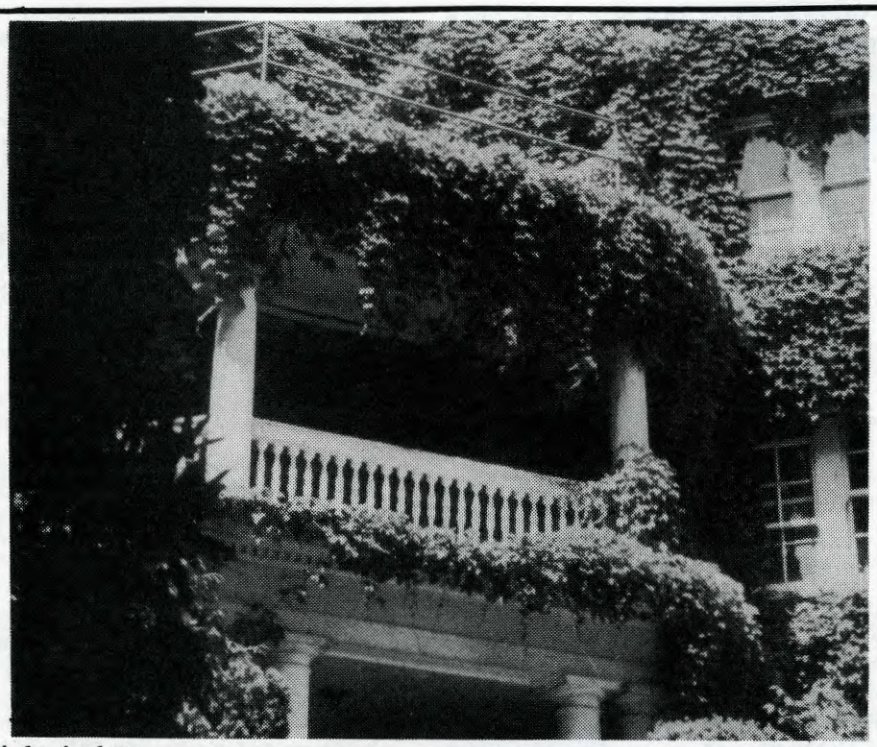


Biological Sewage Treatment

Natural systems are almost always cheaper and more effective than our mechanical ones. NASA has discovered the value of common plants and has reached the unsurprising conclusion that common plants can process sewage much more economically than our mechanized sewage treatment facilities.

The town of Bay St. Louis, with a population of 8,000, is using water hyacinth plants for its sewage filtration system. After the sewage flows through 4 acres of hyacinth, the water meets all EPA and state standards. The city is able to harvest the plants and use them for fertilizer and cattle feed. Eventually the 4 acres of plants may be able to supply the town with all the natural gas it needs. (*C.B.S. Morning News, 8/29/75*)

***Waste Water Renovation and Conservation*, Richard Parazek, Pennsylvania State University, 1967.**
Contains a summary of the pioneering work at Penn State on using cropland and forests for sewage treatment, aquifer recharge, and nutrient recycling for plant growth. Ask for list of reprints covering stripmine spoils revegetation, soils as nutrient filters, and use of sewage sludge and liquids for fertilizer.

The Energetics of Beauty

Something as unquantifiable as beauty can provide both energy conservation and monetary savings. We spend large amounts of money travelling to get away from our ugly places to better ones, while, if we spent the same money making where we live good so we wouldn't want to leave it, we would substitute permanent improvement for momentary consumption of depleting energy supplies. Don't travel—MAKE WHERE YOU ARE A PARADISE!

***Plants, People and Environmental Quality*, G. O. Robinette, 1972, from:**
Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402
$4.35. An excellent guide to use of plants for climatic control, engineering, privacy and beauty. How to control sun, ventilation, temperature and wind. Important information to know before building or planting.

Moonlight Gardens

The Moghul rulers of India were famed for their moonlight gardens—gardens designed for special beauty at night. Waterfalls with flickering lamps behind, candles floating on mirror-smooth lakes, plants selected for their evening fragrances, patterns of foliage silhouetted against marble pavillions glowing softly in the light of the moon.

"Why Not Plant for Moonlight?," Louise Riette, *Organic Gardening & Farming*, May, 1973.
Contains numerous suggestions for night-blooming plants.

Floral Clocks

The famous European botanist, Linneaus, had a floral clock known all over Europe, with flowers that opened at different hours of day and night arranged in the form of a clock. Some night bloomers are: Midnight to 2:30 a.m.—night-blooming cereus; 3 a.m.—Amazon water lily is open; 4:30 a.m.—Virginia spiderwort is unfolding; 5 a.m.—Purple morning glory opens, so does wild rose, Iceland poppy and blue chicory; 5:20 a.m.—Common blue flax is "fully unscrewed."

FREE

Getting Trees

Bare root forest trees can be gotten for as little as 3¢/tree from forest tree nurseries in all but 5 states.

***Forest Tree Nurseries in the United States*, from**
Chief, U.S. Forest Service
Washington, DC 20250
Lists local nurseries.

If you want to get serious about it, request:
***Public Assistance Programs in Cooperation with State Forestry Agencies* (Nov. '72) and *Public Assistance for Forest Landowners*, PA-893 from:**
Forest Service
U.S. Department of Agriculture
Washington, DC 20250
Contain information on local forestry aid programs and government aid for planting trees, improving young stands, controlling erosion, fire and flood.

***Plant A Tree*, Michael Weiner, MacMillan Publishing Co., 1975, $6.95.**
An excellent manual for planting and maintenance of trees. Describes many city street planting programs, urban tree maintenance, planting for rural conditions, and a photographic survey of American, European and Oriental trees.

Giving Trees

Give trees for Christmas—something that grows in value and benefit rather than wearing out. Give someone six trees—two to make where they live a better place, one to make a public place a better place, one to make a friend's place better, one to give to a stranger, and one to plant where no one else will know. Grow them yourself. Or start a neighborhood plant exchange . . . trade cuttings, rootings and starts of your favorite plants.

Biological Pest Control

Over the last several years the use of chemical insecticides has been virtually eliminated in several California cities, and more than $20,000 saved each year

TREE ENERGY

in Berkeley alone, through the use of programs employing biological, microbial, cultural and physical controls. Similar programs for gardening, agricultural and special applications have been developed. Contact Bill and Helga Olkowski, 1307 Acton St., Berkeley, CA 94706.

***Commonsense Pest Control*, Helga Olkowski, $2, from:**
Consumer's Cooperative of Berkeley, Inc.
4805 Central Avenue
Berkeley, CA 94804

If your paradise includes birds and animals,
***The Dutch Mountain Nursery Catalog* from:**
The Dutch Mountain Nursery
Augusta, MI 49012
(Would probably appreciate $1 or SASE) Specializes in plants which birds and wild animals eat—information on who eats what when, how many species are supported by different plants, lifezone studies, and how to encourage different species.

***The Man Who Planted Hope and Grew Happiness*, Jean Giono, 1967, from:**
Friends of Nature
c/o Miss Ellen R. Riggs
92 Arlington St.
Winchester, MA 01890
$.75. The story of Elezand Bouffier's successful, one-person, unfunded campaign to restore the landscape of Provence. Every day he planted 100 acorns as he shepherded his flocks on the barren hills. Thirty years later the hills were covered with forests, the streams ran again, and healthy, happy people again have settled on the land. (See *Whole Earth Epilog* for great excerpt, p. 484)

Everything was changed. Even the air. Instead of the harsh dry winds that used to attack me, a gentle breeze was blowing, laden with scents. A sound like water came from the mountains; it was the wind in the forest; most amazing of all, I heard the actual sound of water falling into a pool. . . . The old streams, fed by the rains and snows that the forest conserves, are flowing again. Their waters have been channeled. On each farm, in groves of maples, fountain pools overflow onto carpets of fresh mint. Little by little the villages have been rebuilt. People from the plains, where land is costly, have settled here, bringing youth, motion, the spirit of adventure. Along the roads you meet hearty men and women, boys and girls who understand laughter and have recovered a taste for picnics. Counting the former population, unrecognizable now that they live in comfort, more than 10,000 people owe their happiness to Elezard Bouffier.

Growing Food From Rocks

Labor intensiveness and the long-term nature of investment has made tree farming unpopular while we have had cheap, mechanized energy. Tree crops grown on hillsides, marginal and rocky land offer many advantages for erosion control, microclimate improvement, food and livestock crops, lumber and biological chemicals.

***Tree Crops*, J. Russell Smith, 1950, $7.95 from:**
Devin-Adair Co.
143 Sound Reach Ave.
Old Greenwich, CT 06870

International Association for Education, Development and Distribution of Lesser Known Food Plants and Trees
P.O. Box 599
Lynwood, California 90262
We finally found their address. A research group working to expand knowledge of edible wild plants and less known cultivated plants of potential economic or social value, and to establish nurseries and seed banks to make their wider growth possible.

If you really want to get into plants:
***Biology of Plants*, Peter Raven and Helena Curtis, 1970, $12.95 from:**
Worth Publishers
444 So. Park Avenue
New York, NY 10016
Flower shapes, pollination, energy, origin of life, plant family groups, evolution and coevolution, cell life, water and soils. Beautifully illustrated.

Energy Conservation With Plants

We all know it's cooler under a tree than out in the sun on a hot day, but we don't design our buildings as if we knew. It's time to plant trees and vines now so they will be big enough to shade our buildings as energy to operate air conditioners gets more and more expensive. Careful use of plants to create a microclimate around our buildings that minimizes the amount of heating and cooling we need can be one of our most effective and economical means of energy conservation, as well as the most beautiful.

***Regional Climate Analysis*, A.I.A. and *House Beautiful* (*RAIN*, Oct. '75)**
Gives graphic information on climate conditions.

***Plants, People and Environmental Quality*, G. O. Robinette (see above).**
Gives information on general principles of use of plant materials.

***Design With Climate*, Victor Olgyay, Princeton University Press, 1962, $25.**
Probably the best basic guide for siting and designing climatically sensitive buildings. Climate factors affecting comfort. Weather. Microclimatic effects. Solar orientation and solar control. Building form. Wind effects and air flow patterns. Thermal effects of materials. Design for regional conditions. Quantitative information and techniques for measuring and calculating needed information usually given.

***The Climate Near the Ground*, Rudolf Geiger, Harvard University Press, 1960.**
Gives the most comprehensive coverage of the effects of sun, wind, water, vegetation, topography and dwellings on microclimate.

"The Technology of the Cooling Effects of Trees and Shrubs," Robert Deering, *Housing and Building in Hot Climates*, Building Research Advisory Board, Report #5, 1952.
Gives an excellent and detailed presentation of how and how much cooling takes place under different conditions.

***Natural Air Flow Around Buildings*, Benjamin Evans, Texas A&M Research Report #59, March 1957.**
Presents a basic study of the influence of building shape, size and orientation upon ventilation and airflow. Includes model and wind tunnel tests.

***Effects of Landscape on Natural Ventilation of Buildings*, Robert F. White, Texas A&M Research Report #45, March 1954.**
Continues study of natural air flows and extends evaluation to the effects of location and nature of trees, shrubs and other landscape materials upon air flows in and around buildings.

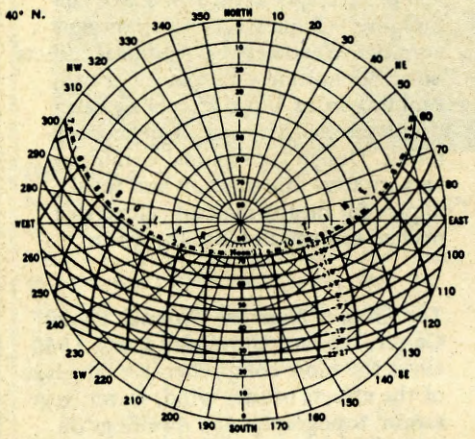
(T.B.)

ENERGY

(continued from page 9

Solar Heating Papers (Guide, $.50; Basics, $4; Supplement, $4; Builders Set, $4; Index, $1), from:
Norman B. Saunders, P.E.
15 Ellis Rd.
Weston, MA 02193

A phased self-teaching course that begins at the layperson high school level, proceeds through construction to a high professional level. Questions are answered clearly and comprehensively. Emphasizes use of passive methods and energy conservation before application of more expensive, active solar heating systems. Covers cost tradeoffs and economics of life cycle. Excellent and highly recommended.



—Solar altitude and azimuth for selected days of the year at 40 degrees north latitude.

Stirling Engine for Classroom and Research Use, $650 from:
Sunpower Inc.
48 W. Union St.
Athens, OH 45701

Useful in illustrating thermal efficiency measurements; effects of various working fluids and pressures, of hot and cold end temperatures; studies of piston, displacer and load dynamics. Model 10-B is especially adapted for solar energy experiments using either high or low temperature collectors. A tool for high school and college labs.

ERDA Chicago RFP (Request for Proposal) List, write:
Harold N. Miller, Director
Contracts Management Office
ERDA Chicago Operations
9800 S. Cass Ave.
Argonne, IL 60439

Ask to be put on their list for RFPs, after you fill out the questionnaire, which covers solar, wind, bioconversion, as well as other areas ERDA is interested in receiving grant proposals on.

***Solar and Terrestrial Radiation: Methods and Measurement*, by Kinsell Coulson, 336 pp., 1975, $27 from:**
Academic Press
111 Fifth Ave.
New York, NY 10003

Detailed professional study of the theory and measurement techniques and instrumentation. Everything you always wanted to know about. . . . Excellent for college libraries.

***Solar Water Heating*, by S. Paige, 30 pp. paperback, $4 from:**
Edmund Scientific Co.
555 Edscorp Bldg.
Barrington, NJ 08007

A complete guide to solar water heating including how a basic heater works, effects of climate on your solar heater and how to compute your solar water heating needs. Full of large charts & diagrams on building solar water heating systems. An excellent, practical introduction.

Wind

***Wind and Solar Thermal Combinations for Space Heating*, by McGowan, Heronemus and Darkazalli, single copies free with business-sized SASE from:**
Wind Power Group
University of Massachusetts
Amherst, MA 01002

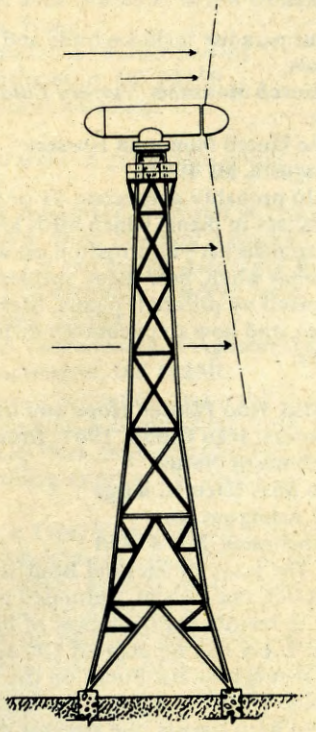
Results of an analytical study to determine the feasibility of a residential heating system for the northeastern U.S. designed to be powered or augmented by a wind generator system, with and without thermal energy storage, and combining these systems with a solar flat-plate collector. Also includes a description of an experimental system, "The Wind Furnace Project" built at U. Mass. Presented at 10th Intersociety Energy Conversion Conference (Delaware).

***Energy from the Wind: Annotated Bibliography*, by Barbara Burke and Robert Meroney, Aug. 1975, available from:**
Solar Energy Applications Lab
Colorado State University
Foothills Campus
Fort Collins, CO 80523

The best I have ever seen. It covers everything from laymen articles to dense theory, and covers it year-by-year. It is possible to find all the wind publications in any one year if you only know about when something was published, or you can find out how many items your favorite windpower author has written, and in what years by looking it up in an author-year index. Well done and thank you!

"Generation of Power from the Wind," by E. Wendell Hewson, in *American Meteorological Society Bulletin*, vol. 56, no. 7, July 1975, pp. 660-675, single copies free from:
Dept. of Atmospheric Sciences
Oregon State Univ.
Corvallis, OR 97331

Excellent introduction to windpower done by Prof. Hewson for the Oregon State Senate Subcommittee on Environment and Energy. Covers history, the atmosphere, large wind turbines, wind site surveys, power duration curves, aerogenerator design, windmill farms, novel designs, environmental impacts, cost estimates, time schedule for implementation, and general conclusions. Includes an excellent bibliography.

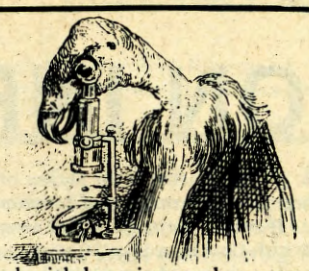


ERDA-NASA 100 KW Wind Turbine, dedicated Oct. 29, 1975 at Sandusky, Ohio.

***Windpower, Part I—Windpower Potential in Selected Areas of Oregon* (2nd Progress Report); *Part II—Structural Aspects of Wind Machines*. Single copies free from:**
Dept. of Atmospheric Sciences
Oregon State University
Corvallis, OR 97331

Continued progress is being made at OSU on the question of where to put Oregon's wind turbines, if and when the utilities decide it is time to start producing wind electricity. The Columbia Gorge is looking better than coastal sites and would be less expensive since transmission and distribution networks are already in place for hydro-electricity.

Learning and Skill Exchange



That people exchange goods, services and information of course preceeds the exchange of money for more money, information, services or goods. It seems reasonable that when money is short barter exchange ventures increase, and indeed during the 1930 depression hundreds of exchanges sprung up—over 150 in the Los Angeles area alone. (People even bartered their ways into sports and cultural events with fur belts, sculpture, etc.)

In 1971-72 I was aware of a growing number of skill exchange projects, which arose out of somewhere along with free universities, learning exchanges and people-to-people indexes. A pioneer in Portland was called Labor Donated, which was funded by O.E.O. monies and consisted of a rotating staff who kept track of files kept on people willing to exchange their skills with others. Of course the major pitfall was that certain skills were more in demand than others, so, for example, the auto mechanic got burned up while the piano teacher was seldom called upon. Consequently a few key skills dropped out.

It seems there was a nationwide pattern of these original skill exchanges failing (though I'm not always sure what that means), and now it seems there's a revitalization.

Just down the street from us at the Northwest Hotline a compilation is underway; to inventory the skills in NW Portland. There are similar exchanges in NE and SE Portland.

The Self Help Center in SE Portland, sponsored by Portland Action Committees Together through G.S.A. money, seems to be working successfully, with a membership of around 230 people. They maintain a tool lending library (there's also one of these, I hear, at the Corvallis, Or., Library), which includes sewing machines, food dryers, and a selection of moderately expensive, or infrequently used (but useful) tools. They are also sponsoring winterization workshops, a firewood co-op, and some on-site help from carpenters, auto mechanics. (3534 SE Main, Portland, OR 97214).

One of the most intriguing exchange networks is being developed in the Bay area. The Briar Patch network created in 1974 consists of over a hundred individuals, including many businesses, that have formed a federation in order to sustain and foster a spirit of cooperative business ventures and create work situations which are educational (learning how the world works). Plans underway include an open-ended people directory (like *Whole Earth Catalog*, but individuals in the network as entries). Get a copy of their "Review" by sending $1.00 (plus 25¢ mailing) to: 330 Ellis St., San Francisco, CA 94102.

This summer I helped coordinate a workshop on "neighborhood classifieds" and was rather astonished by the level of awareness among the participants about the necessity to inventory the skills of a given neighborhood to increase the effectiveness of neighborhood groups in the political arena, and increase the possibility of groups enhancing their own neighborhoods with minimum outside economic aid. How odd, sitting around talking about varieties of card index filing systems; taking a simple leap I imagined the card index makers wondering what was going on, like cigarette paper manufacturers or grape growers.

An inventory that Ken Davis did when at the University of Michigan listed 30 to 40 different learning exchanges around the country. That number has surely increased and includes many large indexes on college campuses such as the University of Illinois, where the HELP file is 4 to 5 inches thick (computer paper). Free universities tend to go hand in hand with learning exchanges—or they are another way of saying somewhat the same thing.

Seems too that more and more conferences result in cross-indexed learning/skill exchanges among the participants. This style of follow-up tends to create autonomous networks of interest, free from economics, maintained by the participants; it also enhances the experience of getting together—the conference is in effect continued.

Libraries such as the Vancouver Regional Library (Washington) have created exchange networks by maintaining card indexes, structured similarly to book indexes, only with individuals in the local area willing to teach, wanting to learn, etc. The program just recently expanded to include most of the southwest part of the state.

Libraries in the eleven-county area around the Portland/Vancouver metropolis have banded together in order to inventory the reference skills of libraries, librarians and other information nodes, and have to that end recently published a people-to-people index which may be gotten from Marion Otteraaen, Longview Public Library, 1600 Louisiana, Longview, WA 98631, (206) 423-2340.

One of the most ambitious networks was established in the Bay area several years ago: Resource One/Community Memory established a community access computerized bulletin board with terminals in San Francisco, Berkeley and Palo Alto. For a good description, write to: The Journal of Community Communications, LGC Engineering, 1807 Delaware St., Berkeley, CA 94703 (send $1.00).

(S.J.)

FILM/VIDEO

Open Screening Set

Film and video artists around the region are invited to submit recent work for the Film Study Center's next open screening, Sunday, November 30, at 7:30 p.m. Contact the Center (503-226-2811) if you have work you would like to have shown. No admission is charged for those interested in attending the screening, and there is no charge to show films or tapes.

Washington State Student Film Contest

The Washington Association for Educational Communications and Technology and Central Washington State College will hold the 4th Annual Washington State Film Contest March 20, 1976 at the Olympic Hotel in Seattle. Students from kindergarten through college living in Washington, Alaska, Montana and Idaho are invited to submit work in super 8mm and 8mm completed in the last year.

Winning films will be presented at the March 20th program and awarded trophies and certificates. First place winners in four age categories will be entered into the A.E.C.T. National Student Film Festival in Annaheim, California.

Deadline for entry is March 1, 1976. For information and entry blank, write Dr. William D. Schmidt, Audiovisual Division, Bouillion Library, Central Washington State College, Ellensburg, Washington 98926, 509-963-1842.

WANTED: Used Portapak in good condition. Peggy or Joanie, Oregon Legal Services, 2328 N.W. Everett, Portland, OR 97210, 223-7502.

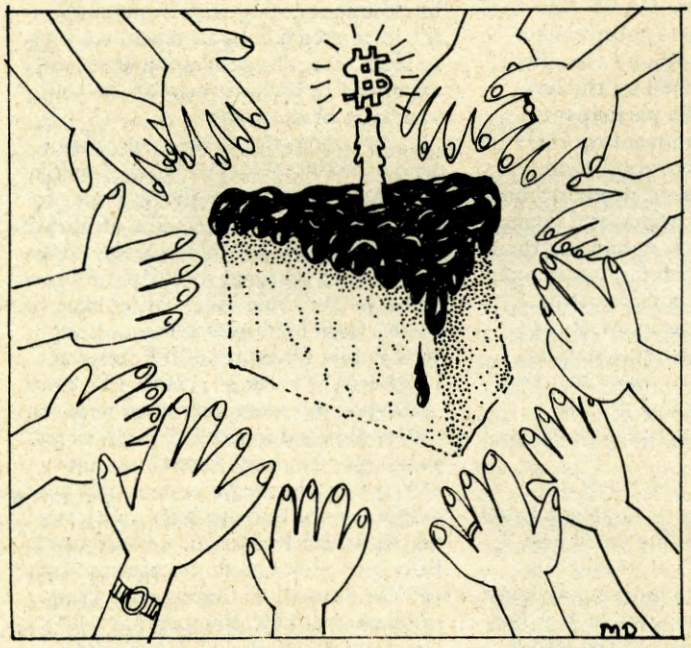
continued on page 18

ON INFLATION

E. F. Schumacher

E. F. Schumacher is the author of the small book that is causing upheaval in our concepts of economics—*Small Is Beautiful: Economics As If People Mattered*. Chief economist and head of planning for the British Coal Board for 20 years, Schumacher predicted in 1961 the precise timing of our present energy problems. As an economic advisor to the British Control Commission in postwar Germany, he was one of the principal architects of the postwar German economic recovery. While economic advisor to Burma in the 1950s, he wrote the pioneering essay, "Buddhist Economics," which bared the value structure beneath our "value-free science" of economics, and demonstrated the fundamentally different kind of economics that would arise from different values.

He is the founder and director of the Intermediate Technology Development Group in Britain, which has developed viable small-scale, employment-intensive, energy and capital conserving industrial and agricultural technology. In addition, he is president of the Soil Association in Britain, which is developing biologically sound agricultural practices; a director of the Scott Bader Company, one of the pioneering firms in employee ownership and operation; and a contributing editor of *Resurgence* magazine. His essays for *Resurgence* will appear here regularly, through the kind permission of the editors.



Everybody wants to know why there is inflation and what should be done about it. We can go and ask people for a definition of inflation, and we are likely to obtain a variety of answers which will fall into two groups, relating either to the *upward movement of prices* or to the *downward movement in the value of money*. It may seem that there is nothing to choose between these two modes of expression. What does it matter whether I say: "Inflation is when prices rise" or "Inflation is when the value of money falls?"

Actually, it matters a great deal for our understanding of the phenomenon. The first definition leads straightaway to real, observable things in the real world—to price labels and changing inscriptions upon them. Prices are not like balloons, capable of rising on their own accord. Prices do not rise; somebody puts them up. We can find that "somebody" and ask him why he does it. In fact, to inquire into this matter of actual people continuously putting up the prices they charge for goods or services may well be the most fruitful line to pursue, if we want to understand why there is inflation and what can be done about it.

The other definition: "Inflation is when the value of money falls" leads us, not to anything as tangible and familiar as price labels, but to a highly complex mental construct, the value of money. What is money? What is the value of money and how is it determined? Does it rise or fall of its own accord? Is it subject to laws of gravitation or levitation? If not, who puts it up or down? Is there somebody who actually does this thing, and can we go and interview him? Can we ask him how he makes the value of money fall and why he does so? Obviously we can't. While shopkeepers and other suppliers of goods or services have often been observed in the act of changing prices, no one has ever been caught in the act of changing the value of money—except (it might be said) when he was actually changing prices!

The first definition leads to actual people and to fruitful lines of questioning, the second definition leads not to people but to mental constructs, into a dark and mysterious field where even the experts stumble. We shall be wise, therefore, to follow the simple lead provided by the first definition.

We can go immediately to the first person caught in the act of raising a price and ask him: "Why did you do it? " His answer will be disarmingly simple: "The price I charge must cover my costs and also give me an adequate income. As the prices I have to pay have been raised by my suppliers, I should be left without any income at all or even with losses if I did not put up the prices I charge."

Now, of course, this answer does not get us very far. The person we just interviewed merely passes on rising costs and defends his own income. His suppliers may well say the same, but ultimately we must get to somebody who set the whole process in motion. There are two possibilities: maybe he did *more* than defend his income by passing on higher costs; maybe he found himself in a position of being able to *increase* his income. The other possibility would be a situation where a substantial number of suppliers found themselves obliged to turn to relatively inferior resources—low-grade ores, marginal land, and such like—so that their (so-called) productivity declined, the same output requiring more human effort than before and higher costs being incurred without any single person (on average) obtaining a higher income. This second possibility can quickly be dismissed as being quantitatively insignificant—quite incapable of accounting for the volume of price increases, the volume of inflation, we are currently experiencing.

The underdogs have discovered their power

We are left, therefore, with the first possibility, the actuality of which can easily be demonstrated. A significant number of people have been able not merely to defend and maintain their incomes but actually to increase them relatively to most other peoples' incomes. Who are these people and what has enabled them to do this?

The answer is not difficult to find. An increasing number of groups of *essential* producers have discovered their power. Garbage collectors, airline pilots, coal miners, oil exporting countries, power station maintenance men, even nurses, railwaymen, postmen, teachers—in various places and at various times have discovered that they can successfully insist on much higher incomes than society or the so-called market mechanism had hitherto granted them. They can insist because by withholding their goods or services they can bring the whole of society, or essential parts of it, to a standstill.

Most, although not all, of these groups of essential producers have had a poor deal in the past. The "Market" does not recognize the essentiality of a service as a criterion for in-

(Courtesy E. F. Schumacher and Satish Kumar, editor, *Resurgence*. Subscriptions are $7.00 U.S. surface mail, $10 airmail, from *Resurgence*, 275 Kings Road, Kingston, Surrey, U.K.)

come distribution. It settles prices, and therewith incomes, in accordance with Supply and Demand where there is free competition, and in accordance with Power where there is organization. Free competition can be effective only in markets with a large number of small producers, in which no one has any real bargaining strength. As a Big Power system actually exists alongside the Free Competition system, the latter's incomes tend to lag behind, no matter how essential its services may be for society, including the Big Power System. Not surprisingly, the people trapped in the Free Competition system gradually grow wise to the brutal truth that they, too, can acquire power through organization, and that they must do so if they want a fair deal. As they get themselves organized, often very much against their normal inclinations, those who in fact provide essential services discover their essentiality and therewith their bargaining power. The services of the dustmen of a famous city, for instance, were found to be so essential that society was forced to grant them an income marginally higher than that of the senior lecturers at a nearby university. The lecturers complained, but the dustmen remained unmoved. "If you do not like it," they said, "come and join us."

The case of the oil exporting countries is another telling example. Until fairly recently, these countries counted for nothing in the world. Immensely rich and powerful international oil companies controlled the world's oil business with virtually no regard to the economic interests of the producer countries, which finally saw no other way of defending themselves but by setting up the Organization of the Petroleum Exporting Countries (OPEC). OPEC's first Secretary General, Dr. Fuad Rouhani, referred to this in a speech delivered on July 1st, 1963, as follows:

"There is a Persian proverb which says that if God so wills good will come out of evil. That is not a bad adage to apply to the birth of our Organization. . . . What was the evil source from which it sprang? It was the exercise by the oil companies of a unilateral ability to modify, without consultation with the producing countries, the posted prices of oil. In 1960 they modified these prices downwards for the second time in two years, thereby seriously cutting the per-unit revenues earned by those countries from their exports . . . (At the same time) the prices of manufactured goods which our countries have to buy from the industrialized countries continue to increase year after year."

There was never any lack of voices among the rich and powerful deploring the poverty of raw material producers in the Third World. President J. F. Kennedy said in June, 1963, in the course of his visit to Germany: "We can't help to be concerned by the fact that the price of raw materials of the underdeveloped world steadily declined relative to the price of manufactured goods, and therefore the economic position in some ways is worse in spite of all the aid we've given." But presidential concern failed to alter the situation. It took the oil exporting countries (and others) another ten years to become fully conscious of the essentiality of their role in the world economy and therewith of their power.

The share of the cake

When substantial groups of producers, who had previously been considered powerless—so considered by themselves as well as by their customers—discover and use their bargaining power, they put up the prices they charge for their goods and services solely and simply in order to obtain a bigger "share of the cake." It is, technically speaking, perfectly correct to say that the resultant rise in prices, called inflation, is due to their action. From their own point of view, however, whether they be dustmen or OPEC, the cause of inflation is something quite different: it is the ruthless determination of others to defend their own incomes by passing on higher costs and insisting on the maintenance of previously established relativities. Obviously, no substantial group can obtain a bigger "share of the cake" if the rest refuse to be content with a smaller "share of the cake."

The rich (to use a convenient shorthand expression) have always been reluctant to acknowledge that bargaining power is the principal factor in the determination of income distribution, that people without the power have to be content with small incomes and people with a lot of power can hold out for high incomes. When power relativities change, it follows, as night follows day, that income relativities will change. The resistance against change in income relativities can take a variety of forms—the substitution of military or police power, to make up for the loss of economic power, or the escape into the cloud-cuckooland of inflation where increased money incomes are promptly eroded by increased prices. The latter is a process which will go on and on until a sufficiently large number of people without effective bargaining power have "gone to the wall," and new income relativities, in line with the new power relativities, have thereby been established.

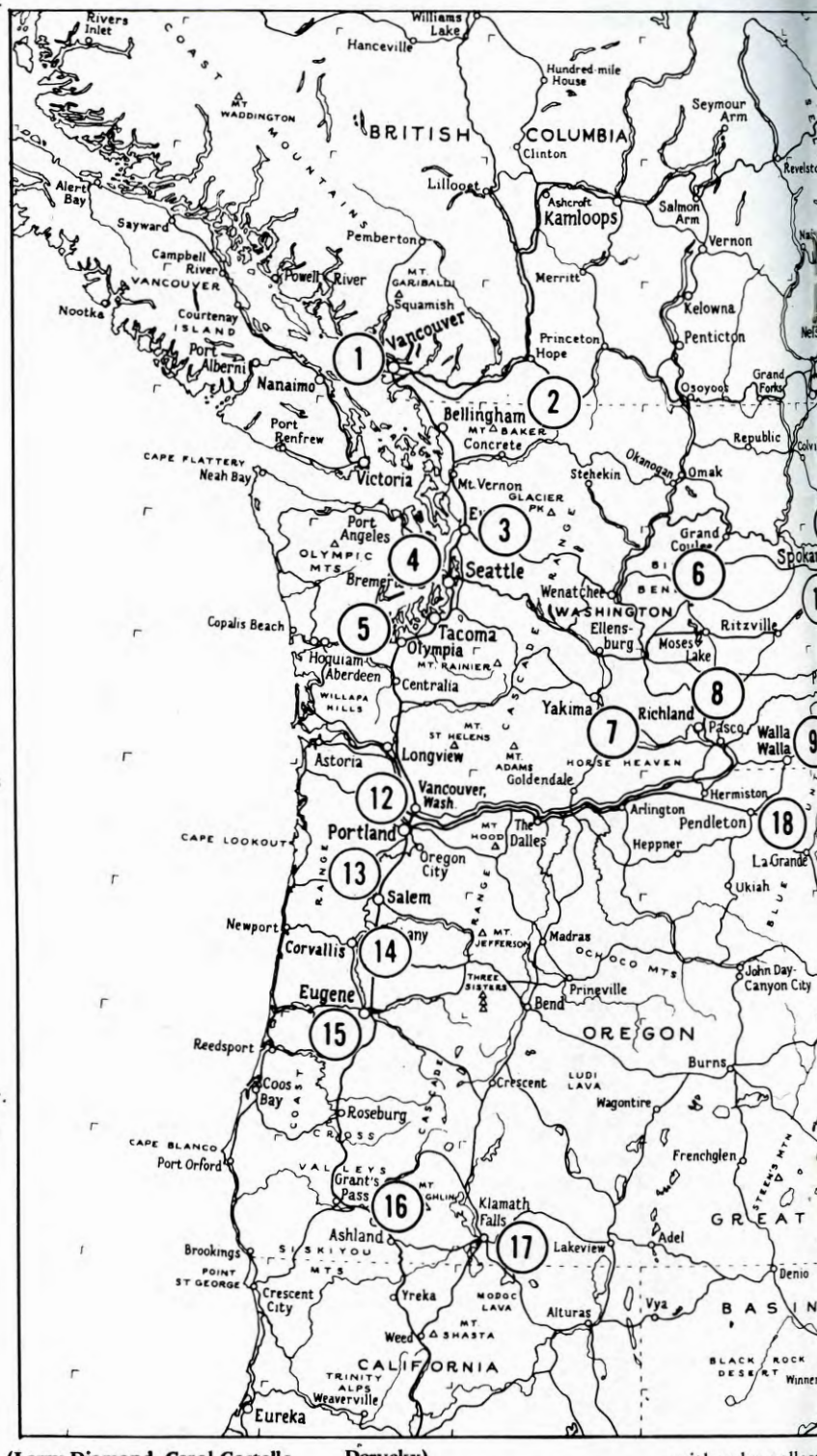
There are many people who seem to believe that inflation is a monetary phenomenon and can be cured by various restrictive measures with regard to the supply of money and credit, for instance by the raising of interest rates. This, of course, is an extremely agreeable view for people whose income stems from the lending out of money, as they can feel that by enlarging their income they render a public service and combat the evil of inflation (which, as we have seen, is the result of other people's efforts to enlarge or defend their incomes). It is true, however, that inflation can be stopped by monetary means, just as a car can be stopped by the withdrawal of lubricants. The engine can be made to seize up. By reducing the availability of cash one can easily produce a run on the banks; by withholding credit one can easily bankrupt a large number of firms; and by creating unemployment and general paralysis one can easily destroy the bargaining power of many of the people who have to work in order to stay alive. The fact remains, however, that there is little merit in cures that kill the patient, and that, when the patient is a whole society, he will find political means of getting rid of doctors who are out to kill him.

Although we all dislike and are bothered by price rises of the goods and services we have to buy, the people who actually provide essential goods and services and have discovered their bargaining power are, as a matter of fact, not unduly worried. To them, inflation is not the greatest evil; it is, rather, a challenge to the rest of society to concern itself with social justice. Insistence on the part of the rest of society on maintaining the previously established income relativities is—to them—a denial of justice. Although the present situation lends itself also to ruthless exploitation, i.e. a denial of justice, it cannot be doubted that it stems from the neglect of social justice in the past—both internally and internationally. There is no "arithmetic of justice;" no one can work out what is "fair reward for fair work." But this stark fact is no excuse for pretending that the problem of social justice does not exist and the distribution of incomes can be left to so-called market forces.

Until we concern ourselves seriously with social and economic justice, we shall find it impossible to conquer the problem of inflation.

RAIN works, among other things, at making all kinds of networks visible and thereby focusing attention on the potential for cooperation in solving our common human problems. We'd like your suggestions, corrections and comments on the Pacific Northwest Energy Map and your ideas on what networks we should map in future issues.

NORTHWEST ENE



B.C., Canada (1)

Smallholder
Argenta, B.C.
CANADA
Energy-efficient agriculture magazine.

Greenpeace Experimental Farm
Denman Island, B.C.
CANADA VOR 1TO
604-338-8918
(Tom Lang, Jim Bohlen)
Integrated and energy-efficient food production, appropriate technology shelter and lifestyle; work-study program.

Ministry of Housing
Parliament Bldg.
Victoria, B.C.
CANADA
(Lorne Nicholson)
Energy conservation and solar heating of buildings.

Bellingham (2)

Huxley Environmental Reference Bureau
Huxley College
Western Wash. St. College, 98225
206-676-3974
(Carola Burroughs)
Energy-environment info center, library, speakers bureau, workshops, conferences, *Huxley Humus* monthly newsletter.

Outback Program
Fairhaven College
Western Wash. St. College, 98225
206-676-4860 / -3600 / -3680
(Tom Thornton, Arnie Klaus, Lou Young)
Energy, food and shelter self-sufficiency education, conferences

Whatcom Energy Council
203 W. Holly, 98225
206-734-7426
(David Cook, Keron Ericson, Will Davis)
Solar, nuclear energy information, workshops

Snohomish (3)

Ecotope Group
Box 618, 98290
206-794-8503
(Evan Brown, Ken Smith)
Non-profit education, research; methane, solar, wind, energy conservation, wood heating

Seattle (4)

Energy Action of Washington
P.O. Box 4244, 98104
206-392-3538
(Dana Davis)
Energy lobbying, newsletter

Environmental Works
402 15th Ave. East, 98112
206-329-8300
(Stevan Johnson, Bob Fish)
Energy-environment education, solar energy information center.

Federal Energy Administration Region X
1923 Federal Bldg.
915 2nd Ave., 98174
206-442-7260
(Jack Robertson, Lee Johnson, Marie Davidson)

Model Environmental Farm Project
Intermed. School District No. 110
100 Crockett St., 98109
206-284-3660
(Tony Angell)
High net energy farm, teacher training workshops.

Project Weathervane
Seattle City Light Community Affairs Office
1015 Third Ave., 98104
206-447-3112
Solar, wind, heat pump home tours.

Washington Environmental Council
107 S. Main St., 98104
206-623-1483
(Martin Baker)
Energy legislation lobbying, monthly newsletter, energy publications

Washington State Energy Information & Conservation Center
Institute for Environmental Studies
112 Sieg Hall, FR-40
University of Washington, 98195
206-543-7749
(Ed Sheets)
Research and dissemination of Pacific Northwest energy info.

Olympia (5)

Applied Environmental Studies
Evergreen State College, 98505
206-866-6380
(Oscar Soule)
Energy research in solid waste disposal, aquaculture, regional plan.

Evergreen Environmental Research Center
Evergreen State College
CAB Building, Rm. 305, 98502
206-866-6089
(Don Blanchard)
Energy-environment education, nuclear power.

Environmental Systems Project
Evergreen State College, 98505
(Bob Filmer)
Integrated energy and building education program; conservation, solar, wind.

Geology and Earth Resources Div.
Wash. State Dept. of Natural Resources, 98504
206-753-6183
(Vaughn Livingstone)
Oil & gas development.

Office of Energy Management and Allocation
2119 General Administration Bldg. 98504
(Keith Sherman)
Gasoline, heating oil allocation.

(Larry Diamond, Carol Costello, Bill Kingrey)
Research and dissemination of Pacific Northwest energy information, monthly newsletter, directory of county energy affairs assistants with solar collector construction experience.

Tilth
P.O. Box 2382, 98507
206-866-1520
(Mark Musick, Becky and Woody Deryckx)
Energy efficient agriculture research, experimentation and publication, land reform, organic gardening.

Wash. Assoc. of Community Action Agencies
Capitol Theatre Bldg.
Suite 202, 98501
(Frank M. Bestor)
Winterization program, directory of county energy affairs assistants

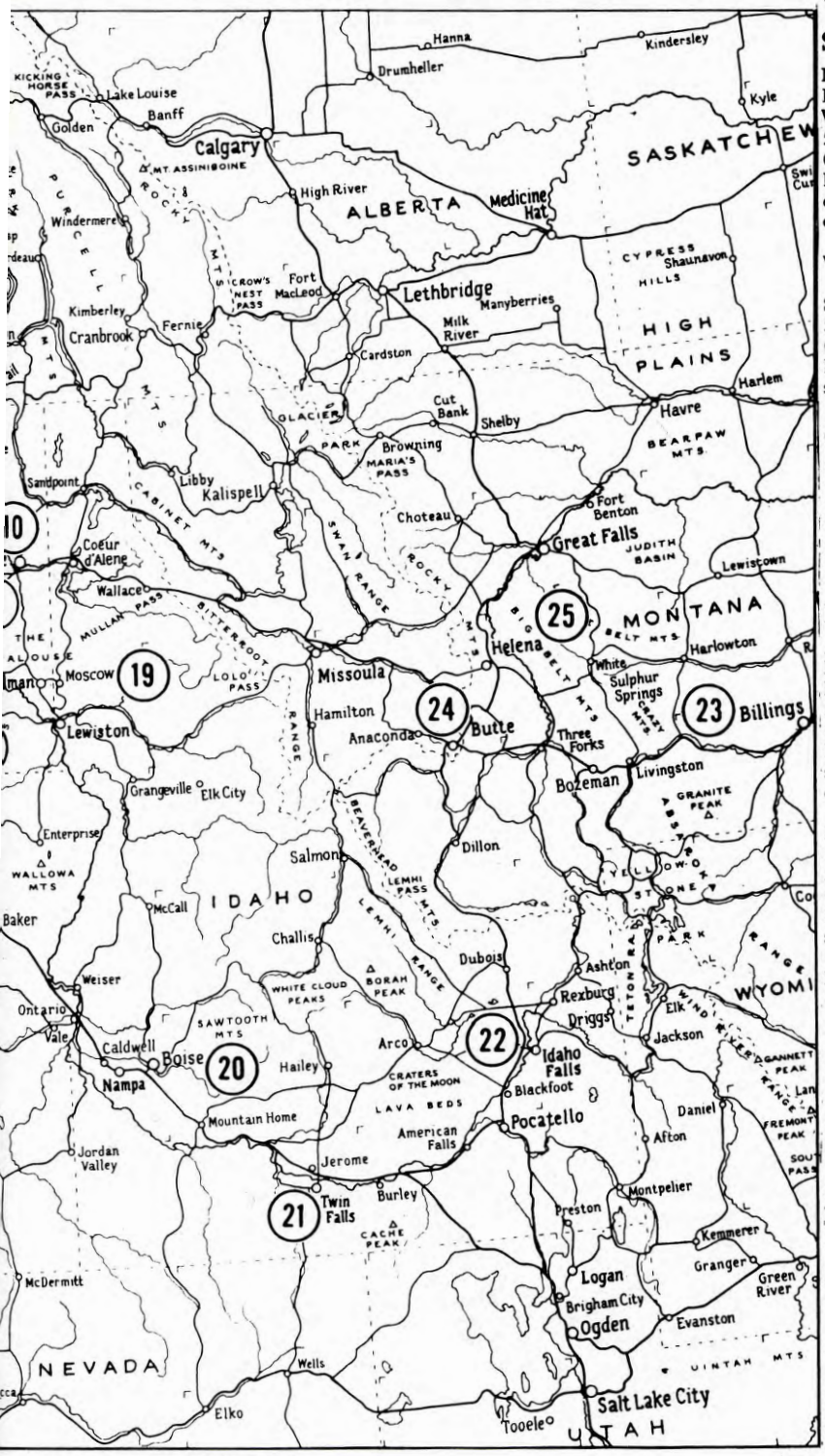
with solar collec
experience.

Wash. State Ener
and Conserva
4220 E. Martin
206-753-5420

Soap Lake (

Soap Lake Solar
P.O. Box 777, 98
509-246-9021

:RGY DIRECTORY



r construction

(Greg Higgins)
Energy conservation, solar energy information center.

y Information
on Center
ay, 98504

Community
51

Toppenish (7)

Rural Resources and Information
P.O. Box 469, 98948
509-865-2250
(Bart Alexander)
Energy-efficient farming methods, library.

Richland (8)

ERDA Hanford Science Center
Federal Bldg., 99352
509-742-7411 / 942-7322
(Lyle Wilhelmi)
Energy exhibits, information; energy conservation, solar, wind, nuclear

Walla Walla (9)

Whitman College, 99362
(Walter Brattain, Gunsul Craig)
Windpower.

Spokane (10)

Network of Global Concern
Ft. Wright College
W. 4000 Randolph Rd., 99204
509-326-5270
(Diane Thomas, Ellen Wilson)
Energy, environment, education, economics, food, health conferences.

Wash. State Energy Information and Conservation Center
S. 157 Howard, #1, 99204
509-456-4295
(Linda Hattell)
Energy legislation, conservation, solar energy information center.

Cheney (11)

Red Barn Program
Eastern Washington St. Coll, 99004
509-235-6221
(Horace Sims)
Energy, food and shelter education programs.

Portland (12)

Applied Sciences
Portland State University
P.O. Box 751, 97207
503-229-4631
(George Tsongas)
Energy conservation and oil heat study, solar heating, weekly energy seminars

Bonneville Power Administration
1002 N.E. Holladay, 97232
503-234-3361
(Johannes Schimmelbusch, x4445)
Library and technical information services.
(Eugene Starr, x4521)
Non-hydro power sources section (solar, wind, geothermal).

Coalition for Safe Power / Forelaws on Board
Senator Bldg. 97204
503-228-6403
(Lloyd Marbett, Bob Cobb)
Public information on energy, nuclear intervenors.

Delphian Foundation
Rt. 2, Box 195
Sheridan, OR 97378
503-843-3521
(Paolo Leone)
Causepoint Energy Conferences, energy research and publications.

Dept. of Geology and Mineral Industries
1069 State Office Bldg., 97201
503-229-5580
(Raymond Corcoran)
Geothermal, oil, gas; library and publications.

The Energy Center
Oregon Museum of Science & Industry
4015 S.W. Canyon Rd., 97221
503-248-5920
(Mary Lawrence, Linda Craig)
TERA One solar home; energy conservation, solar, wind, oil, gas, coal, nuclear library and information center; education programs, exhibits.

Energy & Man's Environment
P.O. Box 200
Beaverton, OR 97004
503-649-0404 / -0405
(John Jones)
Energy-environment education curriculum materials, teachers workshops.

League of Women Voters
732 SW 3rd, 97204
503-228-1675
(Thelma Lester)
Energy information packets, conferences.

Linfield Research Institute
Linfield College
McMinnville, OR 97128
503-472-4121
(William Mackie)
Solar, wind energy workshops.

Natural Resources Law Institute
10015 S.W. Terwilliger Blvd., 97219
503-244-6161, x545
(Jeff Foote)
Curriculum development, community education, research, information clearinghouse on how law affects resource use and conservation.

Northwest Electric Light and Power Association
220 Mohawk Bldg., 97204
503-226-3039
(Alden Krieg)
Private and public utility group, publishes bi-monthly *NELPA News*.

N.W. Public Power Association
113 W. 1st
Vancouver, WA 98660
206-694-6553
NWPPA News monthly, conferences.

Oregon Environmental Council
2637 S.W. Water Ave., 97201
503-222-1963
(Larry Williams)
Energy lobbying, *Earthwatch* monthly.

Oregon Solar Institute
3225 S.W. 1st, 97201
(Ron Warsher)
Solar research, newsletter, workshops.

Oregon Student Public Interest Research Group
333 Smith
Portland State University, 97207
503-229-4500
(Laura Williamson, John Ullman)
Community energy workshops, utility rate research, RUCAG development.

Oregonians for Nuclear Safeguards
430 S.W. Morrison, Suite 404, 97204
503-228-3343
Nuclear safeguards initiative campaign, legislative lobbying, energy information and conservation publications.

RAIN Magazine / Full Circle
2270 N.W. Irving, 97210
503-227-5110
Information and referral on appropriate technology, energy, environmental education, urban agriculture; networking, conferences and consulting.

continues on page 19

HOME INSULATION

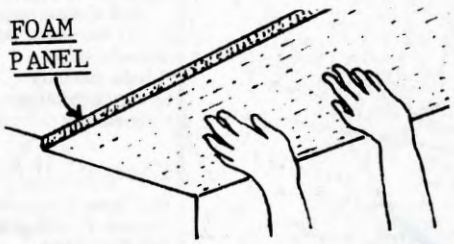
Improving the thermal insulation in your home is an easy way to save energy and money. But it's not always easy to come up with the initial investment capital to pay for the job. A utility in Colorado helps consumers finance insulation by adding the cost to their monthly bill. In Montana, the government is financing winterizing homes for low income homeowners.

The Public Service Company of Colorado has initiated an innovative program to encourage its customers to insulate their homes. Interested customers can call PSC for a free attic insulation inspection. PSC inspectors report to the homeowner how much insulation is needed to optimize savings and will even arrange for a contractor to install it. When the work is done, PSC will look over the job and make sure it is adequate.

Homeowners with a good credit rating can pay for the work in monthly installments added to their utility bills and take up to 30 months to pay at 9.5% interest. PSC says it typically costs from $150 to $300 to adequately insulate a Denver-area home. Energy savings could amount to 15%, says PSC.

PSC customers interested in a free inspection or more information on the program should call 571-7721 or 571-7012.

During the next three months, the government will be insulating the homes of low income families in three counties in Montana.



"If it makes sense for the average taxpayer to insulate their homes in winter, then it makes sense to insulate homes of the people they (taxpayers) are already paying benefits to," says Mike Barton, assistant director of District 11 Human Resources Council and director of the winterizing project.

The program is funded through a $40,000 federal grant which will be used primarily to buy materials. Thirteen CETA (Comprehensive Employment and Training Act) employees will do the work.

"We're talking about spending $40,000 to save $30,000 this year," Barton told *The Missoulian*. "But that $40,000 is a permanent thing. It'll save $30,000 again next year."

The District 11 HRC is hoping to insulate 250 homes in Missoula County, 230 in Ravalli County, and 100 in Mineral County. To qualify, a low income person must own his residence and receive income below 125% of the federal poverty level. A family of two with an income of $4,263 a year would qualify, as would a family of four with an annual income of $6,313.

"We've gotten calls asking 'why are you doing this for welfare people—haven't we done enough for them already?' " says Barton. "We tell them fuel is a finite quantity. It's either this or subsidize fuel bills (for persons on welfare)."

Barton says many elderly welfare recipients in rural Montana pay 60% of their income from November to March heating their homes.

Reprinted from High Country News, Sept. 26, 1975.

FILM/VIDEO

continued from page 13

Young Filmmakers Festival

The Northwest Film Study Center's Young Filmmakers Festival, co-sponsored by the Oregon Educational Public Broadcasting System and the Oregon Educational Media Association, will be held January 31, 1976 at the Portland Art Museum. The Young Filmmakers Festival is an annual event, nationally coordinated by the Center for Understanding Media in New York City.

Filmmakers between the ages of 6 and 18 are invited to submit Super 8, 8mm, and 16mm films completed in the last two years, not previously entered in the festival. First, second and third place prizes will be awarded in three age categories: Primary 6-10; Junior 11-14; and Senior 15-18. Winning films will be selected by a panel of filmmakers, teachers and critics.

The winning films will be shown at an awards program on January 31st at the Portland Art Museum. In addition, the winners will be shown statewide on OEPBS in February. Films winning first place awards in the three age categories will be sent to New York for the National Young Filmmakers Competition, the winners of which will be shown on a special nationwide PBS program.

Entry deadline for the festival is January 15. Additional information about the festival and entry forms may be obtained by contacting:

Young Filmmakers Festival
Northwest Film Study Center
Portland Art Museum
1219 S.W. Park Ave.
Portland, OR 97205
503-226-2811

Cable 13 — Portland

Cable 13 is a new cable channel which the Transvideo Cable Company has made available for community programming. The Center for Innovation and Research in Cable Television is coordinating this effort. CIRCT will be doing much of the programming, but their facilities will be open to anyone on the cable who wants to contribute material. Programming will start on October 8 and continue each Wednesday at 7:30 p.m. Contact CIRCT, 519 S.W. 3rd Ave., Portland, OR 97201, 503-223-3419.

LAND USE

More Is Less
Elizabeth Bardwell
Capitol Community Citizens 1973
114 N. Carrol St.
Madison, WI
$1. A specific case study done by a community group of the costs of urban growth in Madison, Wisconsin. It analyzes costs of services, amount of open space per capita, noise and pollution levels, manufacturing and industrial statistics, employment levels, etc. over several decades of continuous growth. A good companion to "Costs of Urban Growth."

The Cost of Urban Growth: Observations and Judgements
Richard C. Bradley
Pikes Peak Area Council of Governments 1973
27 East Vermijo
Colorado Springs, CO 80903
$2.32 (postpaid). A good, clear documentation of the problems connected with urban growth that debunks the myth that an increasing population improves the quality of services or eases the tax burden. It's full of good statistics:

"Among the 148 Standard Metropolitan Statistical areas with populations larger than 200,000 people in 1970, those that *lost* population during the 1960s averaged a 9% increase per capita cost . . . whereas those that *gained* population averaged a 12% increase in per capita costs."

continued on page 23

ENERGY DIRECTORY CONTINUED

Trojan Nuclear Plant Information Center
Rt. 2, Box 120
Rainier, OR 97048
(George Carter)
School tours, exhibits, films.

Salem (13)

Dept. of Energy
528 Cottage St. N.E., 97310
503-378-4040 / -8445
(Lon Topaz, Dave Piper)
Energy policy, monthly newsletter.

Institute for Applied Energetics
4490 Croysan Creek Rd., 97302
503-588-0248
(Joel Schatz, Earl Adams)
Net energy analysis.

Ore. Public Utility Commissioner
200 Public Service Building, 97310
503-378-6611
(Charles Davis)
Utility regulatory agency.

Oregon Senate Environment and Energy Committee
State Capitol Bldg., 97310
503-378-8265
(Ted Hallock)
Energy legislation, hearings.

Oregon House Environment and Energy Committee
State Capitol Bldg., 97310
503-378-8721
(Norma Paulis)
Energy legislation, hearings.

Corvallis (14)

Office of Energy Research and Development
Oregon State University, 97331
503-754-2344
(E. Wendell Hewson, windpower; Bernard Spinard, nuclear; Arthur Anderson, bioconversion)
Research, conferences, publications.

Eugene (15)

Center for Environmental Research
School of Architecture
University of Oregon, 97403
503-686-3656
(David Sandahl)
Energy conservation, solar energy publications.

Cerro Gordo / Town Forum
704 Whitaker St.
Cottage Grove, 97424
503-942-7720
(Chuck Missar, energy)
New community planning.

Environmental Studies Center
11PLC
University of Oregon, 97403
503-686-3516 / -5006
(Manette Moses)
Energy workshop for elementary school teachers, energy-environment education.

Solar Energy Center
The Graduate School
University of Oregon, 97403
503-686-5128
(Naomi Rezvin, Aaron Novick)
Solar energy research, seminars, library, tape cassettes.

Student Resource Center
Lane Community College
4000 E. 30th Ave., 97405
503-747-4501
(Colin Messer)
Alternate energy sources information center.

Jacksonville (16)

Southern Oregon Alternative Energy Exchange
Rt. 1, Box 7, 97530
(Chuck James)
Solar, wind, energy conservation information center.

Klamath Falls (17)

Oregon Institute of Technology
Campus Drive
503-882-6321
(Paul J. Lienau)
Geothermal space heating utilization.

Pendleton (18)

Blue Mountain Comm. College
Technical Agriculture Dept.
P.O. Box 100, 97801
503-276-1260, x59
(Woody Dow)
Energy-efficient solar-based agriculture, energy conservation, conferences.

Moscow (19)

Advanced Building Technology Group
Architecture Dept.
University of Idaho, 83843
208-885-6111
(Anton Eder)
Energy conservation, solar, wind, research and classes.

Idaho Bureau of Mines & Geology
Mines Building
University of Idaho, 83843
208-885-6785
(Rolland Reid)
Oil, gas, geothermal.

Boise (20)

Idaho Public Utilities Commission
Statehouse, 83720
208-384-3420
(Marlyn Bourner)
Utility regulatory agency.

Office of Energy
Capitol Plaza
Statehouse Mall, 83720
208-384-2885
(Richard Brown)
Energy policy, legislation.

Twin Falls (21)

South Central Community Action Agency
P.O. Box 531, 83301
208-733-9359 / -9351
(Dick Leslie)
Energy conservation and solar energy technologies; Idaho directory of county CAAs with solar collector construction experience.

Idaho Falls (22)

Idaho Environmental Council
P.O. Box 1708, 83401
Energy-environment legislative lobbying.

Office of Nuclear Energy Development
P.O. Box 2234, 83401
208-523-2586
(Gene Rutledge)

Billings (23)

AERO (Alt. Energy Research Organization)
421 Stapleton Bldg. 59101
406-259-1958
(Kye Cochran)
Solar, wind, energy conservation newsletter.

Friends of the Earth
P.O. Box 882, 59103
Energy legislation lobbying and information.

Northern Plains Resources Council
421 Stapleton Bldg., 59101
406-259-1958
Citizens legislative lobbying group; stripmining, coal development.

Butte (24)

Montana Bureau of Mines and Geology
Main Hall
Montana College of Mineral Science & Technology, 59701
406-792-8321, x274
(S. L. Geoff)
Efficient development of oil, gas, mineral resources, library.

Helena (25)

Montana Energy Advisory Council
State Capitol, 59601
(Bill Christiansen)
Energy policy.

Montana Public Service Comm.
1227 11th Ave., 59601
406-449-3007
(William M. Johnson)
Utility regulatory agency.

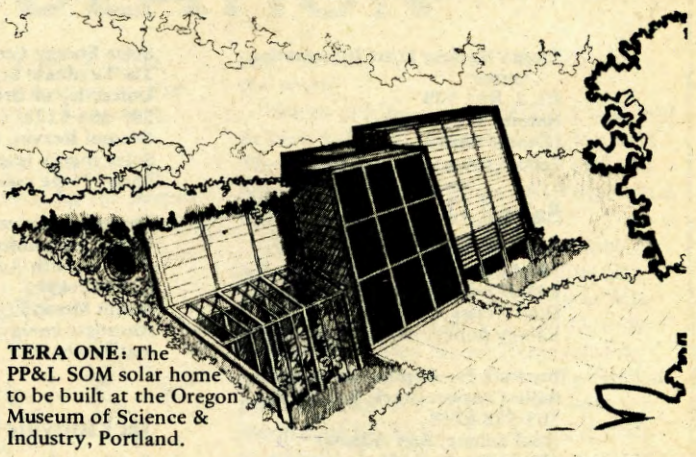
Most of us recognize the common problems we share with others only when those other people, whom we may disagree with in other areas, start saying, "Yes, I see the same problem you do." Only then do we usually begin thinking and working toward the solution together. We hope you'll notice, as we did, the hopeful areas of agreement on answers to our energy and material shortages as viewed by an electric utility executive and a university professor/utility board member. Reis Leming, general manager of customer and technical services at Pacific Power & Light in Portland, is deeply involved not only in solar and energy conservation technologies (ECTs) but also in getting across these ideas to other groups, such as the financial community, not as aware of the "common problem" and some solutions to it. Reis and his technical services staff (Bill Goldbach, Andy Schmitt) are not just talking about it; they are working on TERA ONE, the OMSI-SOM-PP&L solar home, and on ECTs such as the snap-on retro-insulation module for home water heaters which reduces energy use 200-500 KWH per year and which may soon be mass-produced and sold locally.

John Reynolds, professor of architecture at the University of Oregon in Eugene and member of the Eugene Water & Electric Board (EWEB) of Commissioners, has, along with such solar architects, builders and engineers as Bill Church, Henry Mathew and Eric Hoffman, done much to change the Pacific Northwest's "solar inferiority complex" to a practical vision of solar power at work for us.

When people working on the cutting edge of our nation's and the world's problems start saying the same thing, it is time to pay attention and deal with those problems, both as individuals and as institutions. It is not a time to hike our feet up on our desks and lean back to sleep.

Comments by Reis L. Leming to the Oregon Savings & Loan League, Thursday, October 2, 1975.

PATHS TO A



TERA ONE: The PP&L SOM solar home to be built at the Oregon Museum of Science & Industry, Portland.

We're headed for another depression . . . an energy depression.

"The region's future level of electric energy use must be brought in line with the available resources." That quote from Don Frisbee, chairman of the board of Pacific Power & Light Company, was directed to a special meeting of all the managers of our six-state system on September 9.

Somewhat of a departure for an industry whose function has historically been to provide all the energy our customers demand. The shortage of 1973, in the Pacific Northwest, may be back . . . with a different slant . . . a different dimension . . . and we must learn to live with it. This time it is not as easily definable as low water affecting our hydro base, nor as easily corrected. It is much more complicated. Basically evolving from construction delays caused by vacillating regulations, both federal and state, manufacturers' delays in meeting delivery dates on equipment, increased growth caused by conversions from oil and natural gas, unequaled growth in new construction applications of electric energy—and let me just highlight these for the state of Oregon:

Since January 1, in the Oregon system served by Pacific Power, 85% of all single-family construction has been total electric, 92% has had electric water heating, 97% of the apartments are total electric, 94% of the apartments have electric water heating, 81% of the mobile homes have electric heat, and 87% of the mobile homes have electric water heating. Our conversions from gas and oil in the state of Oregon is numbering some 75% at the present time.

These problems, plus the extreme anti-growth, anti-logic, anti-reason of many environmentalists, both confirmed and dedicated, and unaware and unassuming, have caused the delays in plant construction that will materialize in a shortage of energy for the Pacific Northwest in the near future. That is what I want to talk to you about today, particularly the area of environmentalists.

The confirmed and dedicated breed is irreproachable. He has his set of facts and opinions and there seems to be no logical compromise or arbitration possible. It's the other brand that concerns me. We are all environmentalists to some extent, I hope. But the unaware, unassuming variety that "just goes along" without questioning, that's the guy we'd like to get to with our story and let him draw his own conclusion. Realizing that all progress requires trade-offs and no solution is perfect and not all technology is complete, we can, nevertheless, proceed safely and efficiently until technology arrives at a complete solution.

"But that is your problem, Leming. I've got my own." "Let me tell you about the savings and loan business today," you say. No, it is not just my problem. It is our problem, yours and mine. The solution will come only from you and businessmen like you. If my problem is not solved, I will guarantee you that your problems will be multiplied.

Let me see if we can reason this out together. Managing a shortage requires help from every customer. It means buying the conservation ethic and using energy efficiently and eliminating waste. If the shortage develops into an energy depression, it will mean curtailment of energy to business, industry and ultimately residential customers.

Part of the dilemma we face will be the decision as to who goes first. What is more important, a paycheck or a warm and lighted house? (I would favor the paycheck, perhaps, because at least with it you would be able to buy candles and sweaters!) Hopefully, it won't get that bad, but it doesn't look good.

When, how much and how long are still unanswered questions, but one thing is for sure, the region has lost its ability to provide unlimited quantities of electric power to customers, and with the depletion of fossil fuels, there is no answer there either. (Someone suggested the other day that the first of the nation's natural resources to be depleted will be the American taxpayer, and I'll buy that!) So we are faced with the task of learning to manage a shortage, and that's where you come in. Recognizing that Oregon's a lumber-based economy, curtailment to that industry will have a direct effect on that industry's ability to manufacture construction materials—and shortages of building materials means higher prices first and eventually curtailment of that industry's activity.

Now, we are getting to the point. At least we are closer to where you live in the savings and loan business, right?

Let me say that I am not too encouraged either by past performance of your industry when we have asked for help. Let me be specific. In 1973, during the critical shortage, our industry presented evidence early in the game that proved beyond a shadow of a doubt that insulation could effectively reduce the residential consumption of energy 40 to 50% in the Pacific Northwest. We made contact with various savings and loan organizations around the state. We said, look, decisions on insulation are made by builders, you finance the builders and the ultimate customers . . . you hold the key! If you require builders to insulate to a quality standard, you will get the job done. It is that simple. In reality, you can't afford not to because with escalating costs of energy, your mortgage holder who was barely qualified to support a mortgage may well walk into your office in a few years and hand it back to you since he can't afford to live in the house.

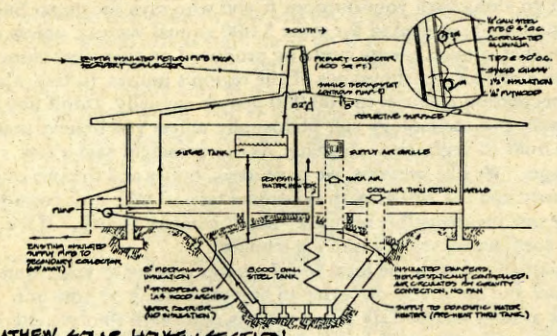
Let me give you an example. In New York city last winter, customers with a $250 mortgage payment on their residences were faced with energy bills equal to that amount—$250 a month! You say it won't happen in the Pacific Northwest? Well, how about an annual increase of 10% for as many years down the road as we can see? Now, if the customer just barely qualified in the first place, how does he cope with this economic problem?

We met with several savings and loan associations. They were cordial, attentive, polite and continued business as usual. So, we approached the state building codes, sold our concept and asked for the backing of the savings and loan associations. We received none!

Then there was TERA ONE. A unique experiment in residential construction. A home designed to use a minimum amount of purchased energy. A home that could incorporate products and technology al-

continued on page 22

SOLAR TRANSITION



MATHEW SOLAR HOUSE: SECTION

Reprinted from *Willamette Valley Observer*, Oct. 31-Nov. 13, 1975, p. 8-10.

WILLAMETTE VALLEY OBSERVER: How important a place in the forseeable future do you assign to solar power?

REYNOLDS: First of all, I think we need to make a really important distinction. When I talk about using solar energy now, I'm talking about making heat with it, not electricity. That's fundamental.

WVO: So it's actually more of a conservation factor at the moment?

R: It is, in that it would simply shift kilowatt hours that are now being used in shamefully low ways, like heating water and heating air, to doing jobs like lighting lights and running motors, which it does very well. I think the prospect for solar heating is excellent. It would be superb except that the whole thing has become politicized, and we're seeing in Washington month after month of fighting and squabbling about who's going to do what. If they'd finally get something enacted and signed, like tax credits for people who put solar systems on their homes. . . .

The conversation then turned to the Henry Mathew house outside of Coos Bay. Mathew constructed a solar home in 1965, long before it became popular, and his innovative method has been the wonder of the experts since he was "discovered," after some detective work by Reynolds following up an obscure reference in *Popular Mechanics*.

WVO: How practical is the model that Henry Mathew created? Is it a good prototype?

R: Yes, an excellent prototype. If you read the literature on solar heat, generally you'll be told that your collector, for best wintertime performance, should be placed at an angle to the ground equal to the latitude at which the house sits, plus 15 to 20 degrees. For us that gets us to about 65 degrees or so, which is a pretty steep roof.

What Henry did was to simply do some very, very simple experiments beforehand, and come to the conclusion that a 90 degree tilt—his is actually 82 degrees—with a horizontal reflective surface in front of it—would be even better, and that's what he built. . . .

There are two things we will always be indebted to Henry for. One, he actually built a solar house, which actually works, and actually in Oregon, which is one of the worst places in the country. And the other thing is that he came up with the vertical collector/horizontal reflector combination, which is quite unique.

WVO: He gets about 80 per cent of his heat from his solar system, doesn't he?

R: Our study of his house last winter, on a detailed basis month-by-month, indicated 85 per cent of his space heating came from solar.

WVO: Can you generalize from that to say that of the total EWEB power load that's used for heating and cooling, 85 per cent could be diverted to other uses through solar systems?

R: I think 85 per cent in Oregon is ambitious at the moment. The thing is, right now most solar collectors for space heating purposes operate at about 35-40 per cent efficiency; that is, of the solar energy that falls on the collector's surface, only abot 40 per cent gets turned into useable heat. . . . (But) I'm reading about manufacturers who claim that they are getting 50 per cent right now. Well, heck, all we need is those things being commercially available, and 80 per cent in this state isn't too terribly far off.

WVO: So it is possible to get 85 per cent of your needs met?

R: Oh, yes, it's just that right now you'd have to build so much collector . . . I mean, Henry Mathew has 1600 sq. ft. of heated floor area, and he has almost 800 feet of collector. . . . Good heavens, you start thinking about just the visual impact of 800 feet of collector, that's pretty enormous on most houses. So our aim, really, is to get the collectors smaller, and the percentage of service they give the house larger.

WVO: Is this situation at all changed when talking about other than single-family residences?

R: Yes, multi-family residences generally are a better bet, because you tend to lose less heat . . . they generally have shared floors or shared walls, which means that for the amount of floor area you're living in, you don't have as much heat being lost. Therefore, a smaller collector could deal with your load. Also, the larger your storage tank gets, up to a point, the more efficient it is, in terms of the ratio of the area of the skin, which loses heat, to the volume of the tank.

WVO: And presumably it's even more so with a large office building.

R: Now, the only problem there is that that gets me into another whole bag of mine, and that is too much electric lighting that these commercial institutions are so fond of installing. They put so much light in their buildings that they never need. Their problem is getting rid of heat. We've got schools in this town that need air conditioning at 21 degrees outside. We've got to change our ways. When we get rid of this idea that you have to pour light all over everything all the time, then I think that using solar energy to make up the heat deficiency in commercial buildings will be a little more attractive than it is now.

WVO: What are the immediate steps toward making a shift in this area?

R: In terms of the components being available, that's probably not a problem. There are a lot of people getting into the producing end. We need a lot more professionals to help design the systems. We need architects and engineers who are knowledgeable about solar systems. That's one of the bottlenecks. And we need low interest loans made available for people to make this investment.

WVO: EWEB and the group on campus are doing experiments both theoretically and practically? What are some of those?

R: Most of the theoretical work is going on at the University. What EWEB is doing is a fairly simple experiment in testing collectors. You know, the amount of money that the board authorized is peanuts. I mean, $7000 to build collectors and test them is not much money at all.

So what EWEB did was to build 8 or 10 collectors, essentially identical, which are oriented in different ways. Some face southeast, some south, some southwest, they even have one facing north, just as an indication of, if literally you only had the north side of a roof, could you expect any performance at all?

They're trying different angles of tilt, as well as different directions they face. It's a super low-budget job—very ingenious. . . . It's also inadequate, a lot more could be learned if more were invested in a monitoring system, let's put it that way.

WVO: What is the University group doing?

R: There will be testing of various collector/reflector combinations here at the University. EWEB's effort mostly so far has been in collector orientation. Whereas I think most of our work will be in homing in on the collector/reflector relationships. Also, the U is doing the job of taking solar radiation readings, which isn't as simple as it sounds, particularly if you want to get direct sun readings as well as overall readings. There are only a couple of places in the country that are getting direct sun readings, and this will be one of them, once they finally get the pyroheliometer hooked up on the roof of the Physics Building.

That's funded research. Then, the architecture and physics students have built on their own time and with donated materials this retrofitted Agate Street house, and are finishing that this term. . . . We on the faculty have essentially stepped back from that and thought that it would be good if students could illustrate that they could put this together, and they have.

WVO: So that can be studied as a working model?

R: Yes, and it uses the Henry Mathew vertical collector/horizontal reflector combination. So Henry's influence is spreading. There's another student effort too, and that is that some students in this department (architecture) are building what is called a passive solar system, and these are very exciting, because they're so low tech.

Essentially what you do is you put a highly thermal absorbing mass—granite would be ideal, but practically you're talking about maybe solid concrete—a fairly thick wall right behind a sheet of south-facing glass. Sun comes through the glass, warms the concrete, and you have a little opening at the top and bottom so that air can circulate up through that space. . . .

WVO: What's the next step? Is EWEB going to become involved in helping people build these things? Or how is that going to work?

continued on page 22

Leming Speech Continued

ready available. A home designed to utilize solar heat, ground heat and cooling, optimum insulation, natural ventilation, natural light, efficient appliances, improved operation and other features to reduce energy usage. A home to demonstrate to the building industry and allied fields that there are some now solutions toward achieving efficient energy use solutions and at a cost that the average family can now afford. A home designed to focus the need to modify conventional thoughts of housing design to meet structural and space requirements of families in the face of housing costs that will continue to rise. A home designed to keep the public current on the changing technology by adding new energy conserving techniques and equipment as they become available. We asked the savings and loan people in the state of Oregon to become involved in this project, along with the other participants. Major industries from the Northwest were donating their time and services—General Electric, Georgia Pacific, Hoffman Construction Company, Skidmore, Owings & Merrill, Honeywell, Louisiana Pacific, Western Wood Products and many other companies, as the list goes on and on. Backed by the Portland Homebuilders' Association and of interest throughout the nation, we went with our story to the savings and loan people and were rejected in our request for any backing.

So, my track record isn't too impressive with savings and loan people, but I am a salesman and I never give up. I am back with another pitch today—a challenge really—an opportunity for your consideration. I am asking for a commitment, individually and corporately, to stand up and be counted. We need your help, your understanding and your assistance.

When you go home tomorrow or next week, take a few moments out of your corporate day to talk with and become re-acquainted with your local utility manager. Let him fill you in on the problem as he sees it in your community. Be he REA, PUD, municipal or private company . . . he's got a problem because the region has a problem. He needs your help to get the message out to your friends and acquaintances.

There is a lot you can do. Take a look at your financing availability. How acceptable is it today in terms of insulation financing and solar installations? Become informed! . . .

Don't go along with your outdoor friend who says the upper Snake River should be perpetuated for some 5,000 annual visitors, unless you recognize that enough energy could be produced on that river alone to guarantee electricity to thousands of the region's homes. In fact, also provide recreation facilities to 500,000 people annually. Don't buy the anti-growth, anti-technology cult philosophy unless you believe that man was built to vegetate or stagnate. As our president said a few months ago, "We like progress, we have ideas, hopes and dreams of a better world and the anti-growth syndrome fails to take into consideration the one inexhaustible resource—man's creative ability." If we lose our confidence, society is in big trouble!

Get acquainted with the local social studies teacher at your junior high school and see if you can offer an objective study of how our economic system works. Talk about what is right with the free enterprise system and why profit isn't a dirty word.

We have got to have confidence, commitment and dedication. We can't let a vocal minority speak for the majority. The effectiveness of our economic system is in jeopardy today not because it is unable to withstand criticism, but because it is not understood.

Of the unresolved challenges we face as a nation—correcting social and economic inequalities among our people, revitalizing our cities, expanding our health care, maintaining and improving our environmental image—not one single one can be met without the wealth this economic system creates by business. Pressure groups have been far too successful in selling the idea that obstructionism is in the public interest. Stand up and be counted. We need you to back insulation standards . . . to support TERA ONE . . . to take an active part in conserving the lifestyle and economy of the Northwest.

If not you . . . who?
If not now . . . when?
If not here . . . where?

(Courtesy of PP&L)

Reynolds Interview Continued

R: At the moment, this is the source of yet another disagreement between me and the other people I know at EWEB. EWEB feels that the way to become involved is for EWEB to completely own the solar energy system, and simply sell the heat that they collect to the owner of the house. I think there's little question that legally and financially this is the easier way for EWEB to go.

In terms, however, of what a public utility's relationship to the public really ought to be, it seems to me the EWEB would be doing its own system a favor . . . by making the low interest loan to a homeowner, to put this solar system on their house. . . . EWEB's point of view is that if EWEB owns it, then EWEB will also continue to maintain it, which is a good point.

WVO: There isn't a way for EWEB to own a large collection facility and then distribute the heat?

R: Yes, there is, but it's only practical when houses are very close together, and I don't think anybody would particularly like the way one big collector looked. I really feel that . . . solar energy is by nature a diffused resource, and I don't think we ought to pretend that we can concentrate it with one big collector someplace.

And frankly, I'm just so tired of hands on the energy valve that I'm really relieved to see a source come along that's renewable and diffused. . . . We have to take fundamentally different approaches. And one of those just might be EWEB turning loose and saying to a customer, you are partially on your own.

WVO: So far, we've been talking about solar collectors. Would EWEB become involved in the next step, direct solar generation of electricity?

R: It's conceivable that EWEB would be. My own hunch is that it's going to be a while before solar electricity is practical in the Northwest. The first place that solar electricity is likely to be practical is in the Southwest.

If we can every get to the place where enough of it is being done there that the mass production thing sets in and costs begin to plummet . . . the pocket calculator is a favorite example; I think solar cells have the potential to have the same thing happen. I am tempted to say that the faster we go nuclear, the faster solar electricity is going to become feasible, because the cost of nuclear energy is doing nothing but skyrocketing.

At this point the conversation turned to recent breakthroughs in solar technology. The technology is evolving extremely quickly, in the direction of vastly reducing the size of solar cells.

And theory has it that the Northwest can adapt rapidly to solar energy, because the existing system of hydroelectric dams could be used for "pump storage." That is, water, after being used once for electricity generation on its way over the dam, could then be pumped back up by pumps operated directly on solar power. The water could then be spilled over the dam again, thereby increasing the generating capacity of the dam.

WVO: It's been said that the Northwest is ideally suited to photovoltaic (solar generated) energy because of facilities for pump storage.

R: I think that's very exciting. But I do consider myself an environmentalist, and because I do, the first question that occurs to me is, if water is already nitrogen-supersaturated, does one send it over the dam a second time? That is one potential disadvantage.

Another thing I would say is that at the moment it probably is more practical to build large-scale wind generators to take advantage of those fantastic (Columbia) gorge winds. My hunch is that it's more practical to build wind generators to do the pumping over the dams the second, third and fourth times than it is to use solar energy directly.

WVO: How fast could that become a really significant factor?

R: I would say that one of the main things we need here is a BPA administration which is willing to look seriously at this as an alternative. (The federally-mandated Bonneville Power Administration, which operates the major dams along the Columbia, sits at the center of the Northwest power grid. EWEB currently purchases about two-thirds of its power from BPA.)

My feeling is that at the moment BPA is so tied in with nuclear suppliers and with the utilities who can see only the nuclear alternative that BPA is helpless. It's going to take some fairly radical shoves and pushes to get them to look elsewhere. . . .

WVO: Aside from the political obstacles, do you think it's possible that a large percentage of the state's energy needs could be met with photovoltaic power?

R: I tend to see things in terms of events which would raise the public consciousness to the place that the public starts saying, "Why haven't you been looking at solar?" . . . Some of us see within shortages

the possibility of truly making people think carefully about consumption. . . . If we did make a fairly large supply of kilowatt hours available by going to solar heating, if we stop overlighting buildings, and if we take energy conservation seriously in other ways, and if industries stop going to more and more energy intensive stuff and laying off people, we might well find that massive new sources of energy are not necessary.

I frankly would just as soon make do with what we're doing now in electricity generation, without having to add solar power plants. I would like to add solar plants only as we could replace fossil fuel.

WVO: In other words, you're optimistic about conservation?

R: Yes, I am. Because I still see flagrant waste, absolutely flagrant waste, from people who think that they're conserving.

WVO: How do you see EWEB surviving as an independent entity in the midst of the entire nation's power needs?

R: Oh, not very well. I think the best thing we can do is to set a positive example. And I think by doing a little bit of research in solar—previous little research, so far—and by joining in and helping the wind project at Oregon State University, by building a little methanol plant, by doing this thing at Weyerhaeuser where we'll be getting roughly 80 per cent efficiency from fuel oil, rather than 40 per cent—I think these are positive things that EWEB's doing.

Keith Parks (EWEB general manager) says that in the event of another national shortage, he believes that there will be across-the-board allocations that won't take account of an individual facility's contributions.

I think in the first stages of a strict allocation, the heavy hand is likely to fall. But there's going to come a day when, in all fairness, a utility which has put its neck on the line, and gone out and tried to find positive alternatives, is going to be rewarded. I refuse to say that our society is not going to eventually recognize innovation.

WVO: So you might be called a middle-term optimist—you do see that the Eugene area could have its legitimate needs met at some time in the somewhat foreseeable future?

R: (laughing) Yeah—there's a lot of modifiers in there, but how else can you speak when the picture is so incredibly complex?

WVO: But you do think it's going to happen?

R: I don't see how it could help but happen. I guess there are really two ways of being optimistic. One is that we're going to discover something like fusion, and it's going to solve all our problems. We're going to have all the electricity we're ever possibly going to use. The other optimistic viewpoint is that we're going to learn to live within our budget of incoming energy. And I think we'll do that. . . .

It's all in recognizing that the earth wasn't just made for man. . . . We're only one of many species, and we cannot continue to not only increase our numbers but our consumption. The resources aren't there. That's one of the fundamentally attractive things about solar energy. It's limited. It's ongoing, It's steady state, but you're not going to have any more of it.

LANDUSE continued from page 18

***Interceptor Sewers and Suburban Sprawl: The Impact of Construction Grants on Residential Land Use*, Vol. 1, Analysis, by Urban Systems Research & Engineering for Council on Environmental Quality, 1974, available from:**

National Technical Information Service
U.S. Department of Commerce
Report No. PB-226 477

A long title and a longer report, but there's some stuff in here worth digging out. "Study findings indicate that current financing procedures—both on the local and federal level—may encourage construction of sewage systems tailored to the needs of future developers rather than the control of pollution problems." EPA funded sewage systems with large excess capacity further expensive suburban sprawl and rapid growth. The report includes 200 pages of data and case histories to substantiate this conclusion.

MISCELLANEOUS

Eugene Update
Our Federal Credit Union
380 W. 13th
Eugene, OR 97401

Youth Rights Center
1236 Kincaid
Eugene, OR 97401

Planet Drum sent out a mailing (originating from the Linn House: Rt. 1, Box 311, Anacortes, WA 98221). Mainly about the upcoming Rocky Mountain Consciousness Packet, "Continental Backbone Bundle." Elaborate, too much and interesting outline—a large clue as to what it takes to inventory a region.

COSMEP (Committee of Small Magazine Editors and Publishers)
P.O. Box 703
San Francisco, CA 94101

Especially a network for publishers of literature in its various facets and disguises. The COSMEP newsletter tries to keep track of small magazines and book publishers. For $20 membership now you can also get their series of booklets on: distribution, library and booksales, printing, promotion, finances and miscellania, production/design. All of these are useful, quite good introductions. COSMEP also produces extensive mailing lists for small publishers, including bookstores, libraries, etc.

"One mag recently announced its impending birth with the statement: 'Each issue will have a different name.' You can imagine the happiness of the whole library staff. That was just what we'd always been waiting for! Let me share with you a letter that reads, verbatim: 'Thank you for your enquiry about Big Venus, the latest issue of which you would like to receive at the library. I'm not exactly clear which issue it is you wish your sub to begin with—Big Venus began is (sic) 1969 with Big Venus, followed by Big Venus and then Big Big (sic) Venus. Next came Queen Camel, officially Big Venus 4, and the most recent in the series to date. I have copies of each of these issues and would be grateful if you could tell me whether you want to order a set or whether in fact it is Queen Camel you require, even though it doesn't bear the title Big Venus.' " (From: Library/Bookstore sales)

***Keeping Healthy in a Polluted World*, Harold Taub, Penguin Books, 1975 (Harper & Row, 1974), $2.95**

I have mixed feelings about this book by the former editor of *Prevention* magazine. Is there *anything* I can eat or breathe safely? Lots of good information here about health problems, from allergies to cancer caused by pollution, food additives and other chemicals in our environment, along with lots of preventive ideas. Vitamin C seems to be an incredible cure-all (and the fact that our bodies can't produce it like virtually all other animals may be a genetic mutation). Much of his advice jibes with my own knowledge and instincts, though he tends to recommend pill supplements rather than natural sources and makes a couple of inexcusably sexist comments. It's all so complicated.

***Memoirs of a Survivor*, Doris Lessing, Alfred Knopf, 1974 (should be out soon in paperback)**

Future scenario? It is set in a large British city, presumably London, where things have just about ground to a halt. Electricity and most services have been cut off, bands of people roam about. Though the government is keeping up the appearance of functioning, most people ignore it. It's wiser not to attract their attention. At times it seems as if things are improving—a gang of children begins to settle in an abandoned neighborhood and relearns gardening, a wondering crowd gathers around an old, old man repairing watches. At other times it looks grim.

Maybe it will be like this if we never stop to see what's happening and stay dependent on our fossil fuel subsidies until the well runs dry. Doris Lessing is definitely a powerful writer. Chaos doesn't look too cheerful.

continued on page 28

APPROPRIATE TECHNOLOGY

Volunteers in Asia (VIA), Appropriate Technology Project
Ken Darrow
Box 4543
Stanford, CA 94301
415-323-2724

VIA is involved in the delivery of information to Asians on developments in "a simpler technology appropriate to the needs of short-on-capital, long-on-labor developing areas." They are located within an American university with a regional office in Asia (Kotak Pos 2733, Jakarta, Indonesia). VIA sees itself as a link between the overdeveloped, information-rich countries and the organizations and people who are helping to adapt a reasonable technology to developing countries.

VIA plans to deliver relevant information to Asians from several sources, including: Intermediate Technology Development Group (England), Brace Research Institute (Canada), Gobar Gas Research Institute (India), The International Rice Research Institute (Philippines), Volunteers for International Technical Assistance (U.S.), as well as various schools of engineering around the world, community development organizations and domestic volunteer programs.

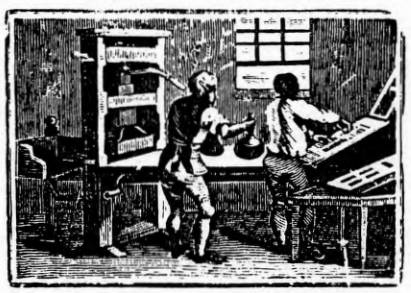
VIA has focused most of its attention on agriculture. Examples of appropriate agricultural technology include: simple irrigation pumps, seeders that simultaneously inject fertilizer, grain storage bins, composting methods, simple methane digesters and animal-driven power gear.

VIA has outlined a proposal for a "data service," They plan to filter and select relevant and useful information for Asian and third world countries. Ken is collecting and disseminating plans for equipment and descriptions of techniques of the kind of intermediate technology that is relevant to Asia. If you can give him any help in his tool search, write him. For this service will also benefit the 1st and 2nd world countries. The appropriate application of technology is just as relevant in our culture as others. We are having a difficult time maintaining our high (energy) standard of living (leisure). The long term future looks more realistic if we make an investment in a reasonable technology that can be sustained. (Partially reprinted from *Tilth*, vol. 1, no. 7, pp. 11-12, $5/yr., P.O. Box 2382, Olympia, WA 98507. Article by Evan Brown, Ecotope Group)

Cooperative Community Development
Joe Falk, Ed.
The Future Associates, 1975
P.O. Box 912
Shawnee Mission, Kansas 66201

Subtitle: A Blueprint for Our Future. A good, solid "how-to" on organizing a cooperative neighborhood, block by block. Real estate acquisition, rehabilitation, new construction; cooperative purchasing and rental of all kinds of goods and services; creation of neighborhood jobs and other home income producing opportunities; and the creation of a neighborhood capital base through a neighborhood investment fund, volunteer labor bank and credit union, plus good working relationship with local financial institutions. It's all laid out in such loving detail that it's obvious he's had a lot of experience—and faith. And it comes out of Kansas!

"The irony of all this is that those now making decisions for us all live on a block, in a neighborhood, with their family, so they are also one of us; they just do not realize it and therefore we have not been a factor in their decisions and actions. This approach we are taking should change this situation almost overnight and thus start every organization cooperating with us while they are pursuing their own interests."



The Community Organizer's Guide to Appropriate Technology
National Council for Public Assessment of Technology
1785 Massachusetts Ave., N.W.
Washington, DC 20036
202-462-3338

John Ussery putting this directory together, with base information gathered on a nationwide trip (when we met as he toured the NW). The guide to be published in early '76 is to focus attention on the uses of appropriate technology in various segments of society, especially those not now given adequate attention. They are looking for input.

The Laboratory for Maximum Potential Systems
School of Architecture
University of Texas
Austin, TX 78712

Max's Pot, the research group working with Pliney and Daria Fisk at the School of Architecture at the University of Texas, Austin, is continuing their excellent and practical experimentation with simpler and more appropriate energy sources and conversion devices at a new location. Their combination of solid technical and engineering skills and strong concern to develop things that are simple, wise, effective and home-buildable is producing excellent results. Among their current projects is an elegantly simple water-filled concrete block Trombe wall, heat storage units using water-filled beer cans, muffin tin solar-air collectors, and a quite detailed series of charts bringing together information on appropriate building materials, bioclimatology, waste systems, conditions affecting choice of heat source, etc. They've moved from the Balcones experimental site and are now located in a former church on the edge of the campus at Austin.

Community Industry in Vermont
Vermont Alliance 1975
5 State Street
Montpelier, VT 05602

$1. These folks have written up a lot of the ideas we've all been having about small-scale, labor-intensive, cooperative industry (i.e., appropriate). The report argues well the need for regional and community self-reliance and also deals with problems and issues of a range of existing examples of self-management. Nice bridge between philosophy and practicalities. We've written to find out where they're going from here.

Biggest Little Conglomerate in the World
Barry Stein
Center for Community Economic Development
1878 Massachusetts Ave.
Cambridge, MA 02140

$1. 25 pages on community development in Kentucky through the Job Start Corporation and the Knox County Corporations. Disappointing in the lack of detail on how they work, but it gives a brief look at what is possible at the grassroots level.

In the Making
221 Albert Road
Sheffield, York, England
65p single copy, £1.90 subscription (they accept only International Money Orders in UK). "A directory of proposed productive projects in self-management or radical technology"—a typically British publication (with typically British humor) that seems to cover just about everything going on in the field of "jobs without bosses."

Industrial Common-Ownership Movement (ICOM)
8 Sussex Street
London SW 1, England
A group of British companies, most of them small, who are self-governing (including the Scott Bader Company described in *Small Is Beautiful*). They run a non-profit loan group to assist new ventures and put out a series of publications, including one which describes each of the member companies. Write for information and a publications list (include SASE).

IT—USA
556 San Cruz Ave., #6
Menlo Park, CA 94025
Meetings were held with E. F. Schumacher on the east and west coasts last month by people interested in establishment of an American group similar to Schumacher's Intermediate Technology Development Group in Britain. For further information, contact Peter Gillingham at the above address.

Appropriate Technology An Introductory Bibliography

***Small Is Beautiful*, E. F. Schumacher (Harper & Row, 1973), $2.45.**
Subtitled "Economics As If People Mattered"—fast becoming a classic—by the "father of a.t." Deriving economics appropriate to new philosophical bases, operation of industry on new value systems, and far-reaching insights into restructuring our principles, actions and dreams.

***Tools for Conviviality*, Ivan Illich (Harper & Row, 1973), $1.25.**
Probably the clearest overview of our need for changes in all our institutions and the framework within which those changes best occur.

***Sharing Smaller Pies*, Tom Bender, 1975 (2270 N.W. Irving, Portland, OR 97210), $1.50.**
Good discussion of need for institutional change tied in with energy and economic realities. Begins to lay out new operating principles, including some criteria for a.t. Excerpted in April *RAIN*.

***Futurist*, February, 1975, Sam Love, Ed.**
A good summary on a.t. with articles on E. F. Schumacher, clivus multrum, experiments in England, etc.

"Global Reach," Richard Barnet and Ronald Muller, *New Yorker*, Dec. 2 & 9, 1974.
These articles contain an excellent analysis on the claimed and actual effects of multi-national corporations on our societies (tax dodges, organizational structures, etc.)

"Solar Era," Harold Hay, *Mechanical Engineering*, Oct., 1972.
Demonstrates the necessity for insight into the elegance of simple ways of doing things in addition to careful engineering. Making ice in the desert, why black is cooler than white, and elegant houses that heat, cool, make ice and hot water in their roofs.

***Fire in the Lake*, Frances Fitzgerald (Vintage Books, 1972), $2.25.**
A book about the cultural interfacing of the traditional Vietnamese, modern Communist and our own American societies in Vietnam with very perceptive views of the fundamentally different base from which three cultures arise, act and affect their people. Shows that a range of totally different cultural forms as viable as our own is possible, and that new and more desirable forms can be developed.

***Ecotopia*, Ernest Callenbach (Banyan Tree Books, 1975), $2.75.**
A scenario about how things might be 20 years after Northern California, Oregon and Washington secede from the union in 1980—he's given form to all our fantasies.

"The Other Way," BBC (Time Life Multimedia, 100 Eisenhower Dr., Paramus, NJ 07652), $35 rental.
The "Nova" program on Schumacher and intermediate technology—gives lots of examples including a brick works, egg carton plants and a cable-drawn tractor that uses only 1% the energy that our normal tractors need. *RAIN* / Full Circle have a 1/2" video which may be borrowed.

"Conscious Culture of Poverty," E. F. Schumacher, *Undercurrents/Resurgence*, April, 1975, or *RAIN*, Oct. 1975.
Raises the concept of ephemeral vs. eternal goods and our mixed-up sense of values.

"Directory of Appropriate Technology," *Architectural Design*, April, 1974.
As good a summary as can be found anywhere on the resources available.

***Whole Earth Catalogue, Whole Earth Epilog, Co-Evolution Quarterly*, Portola Institute**
Continuing update by the granddaddy of the access catalogues—appropriate tools, books, philosophy and stories all mixed in with a bit of gossip on the state of the art. A must if you're not already addicted to it.

RAIN Magazine
Of course, we think our monthly bulletin board is important—we intend a regular section for a.t. information in the N.W. and beyond.

This bibliography is the introductory, general section to a much larger one which is being prepared. Additional sections will appear in future issues of *RAIN*. The complete thing—about 6 pages—can be had now for $1 from Full Circle.

THE WORLD

The beautiful jewels of cities at night, of sunset and moonrise on the clouds, of pastel deserts, snow-capped mountains with glaciers and emerald pools of ice-formed waters. The history of the life of our planet in the faint traces of vast floods, river-cut gorges and canyons, layering of rock, the building and destroying of soil and vegetation. The devastation we have brought to places we have loved, and the painful and joyful making of things we cherish. All give new dimension and images to the events that are so closely interwoven with our lives that we cannot conceive of their total nature and form. Seeing from above or afar, and the maps such visions create that guide our future actions and dreams, gives new dimensions to our consciousness of ourselves, our actions and our planet.

***Natural Regions of the U.S. & Canada*, by Charles B. Hunt, W. H. Freeman & Co., 1974, $15.95**
Our personalities and our cultures are strongly influenced by the geology, climate, landforms, soils, vegetation and resources that are specific to different regions, and a tracing of geomorphic regions reflects closely the boundaries of our regional cultures, dreams and ways of life. *Natural Regions* gives a detailed explanation of the forces forming and transforming our various regions and the characteristics and history of the different regions. Heavily illustrated with maps, charts and drawings.

***The Explorers Ltd. Source Book*, ed. by Alwyn T. Perrin, Harper & Row, $4.95.**
Contains an outstanding section on maps in addition to a wealth of other information on wilderness travel and living, navigation, ballooning, caving, survival, etc. Government sources of maps—U.S. and foreign. Geological survey maps. Navigational charts—worldwide. Sources of old maps & surveys. Foreign and domestic road and street maps. Plastic relief maps. Moon and star maps. Aerial photographs. Weather maps. Directories of all U.S. government map sources, and much more.

Powers of Ten
Office of Charles Eames
910 Washington Blvd.
Venice, CA 90291
$125.00 film purchase. Latest status uncertain; awhile back it was unavailable. Check your local library. A cosmic zoom from here to outer (or out to inner) space.

***Interpretation of Aerial Photographs*, 2nd Ed., T. Eugene Avery, $10.95,**
Burgess Publishing Co.
426 South 6th St.
Minneapolis, MN 55415
Thorough coverage of aerial photography—processes used, techniques of interpretation, sources of aerial photographs and maps; uses in agriculture, forestry, landforms and geology, engineering, urban-industrial patterns, and air intelligence and military target analysis. A goldmine of interesting information.

Photo-Atlas of the United States
Photo-Geographic International
Ward-Ritchie Press
Pasadena, CA
$5.95 (?). First complete photographic atlas of U.S. using satellite photography. Color enlargements of 10 major cities. A valuable concept, but hopefully will be followed by photo atlases with greater sensitivity. Little range of scale is given—no sense of U.S. as part of globe, of detailed close-in enlargements of various regions, of earth and weather, of the real beauty of color that has made every air traveler fall in love with the beauty of our planet. Scale used corresponds more to traditional political boundaries than either to geo-cultural regions or ability to clearly reveal landform patterns.

***The Third Planet*—Terrestrial Geology in Orbital Photographs, Paul D. Lowman, Jr., $32.00 (plus $10 airmail) from:**
Weltflugbild
Verlag Reinhold A. Muller
Feldmeilen
Zurich, Switzerland

***Weltraumblider*, J. Bodechtel & H. G. Gierloff-Emden, $15.00 (plus $7.20 airmail) from:**
Paul List Verlag KG, Munchen
SV Sudwest
Munchen 33
Postfach, 780 Germany

***The Earth From Space*, J. Bodechtel & H. G. Gierloff-Emden, $16.95 from:**
Arco Publishing Co., Inc.
219 Park Avenue S.
New York, NY 10003
Planetary systems of weather, water, rock and life becomes much more comprehensible when viewed from above. These collections of photography from space flights are both beautiful and highly informative. Weltraumbilder is the most recent and comprehensive. All three form useful tools for understanding, politics, geology, weather, navigation.

***Cosmic View: The Universe in 40 Jumps*, Kees Boeke, John Day Books, $4.50.**
From a fly on a hand out into galaxies and then back into the hand and down to inner space, which of course might as well be outerspace. There's also a movie I wasn't able to find a reference for.

***Star Maker*, Olaf Stapledon, Dover Books, $2.50.**
A science fiction of an account of a journey through space (without the usual federal subsidy or aircraft).

***Rock, Time & Landforms*, Jerome Wyckoff, Harper & Row, 1966, $8.95.**
The natural forces and processes that create and change our landscapes—presented vividly yet accurately. "To become more aware of landscapes is to gain a wider consciousness of life; it is to share, in a sense, the physical existence of the planet itself." Good perspectives from which to develop an enduring society. Less technical than *Natural Regions*, with vivid photographic illustrations.

The EROS Data Center
Sioux Falls, SD 57198
The ERTS (now called Land-Sat) satellites launched in 1972 and 1973 have photographed nearly the entire globe from an altitude of about 900 kilometers. The ground resolution of Land-Sat images is about 180-275 meters, compared with Gemini and Apollo from 70 to 125 meters, Skylab's multi-spectral camera at 40 to 100 meters, Skylab's earth terrain camera, 10 to 40 meters, high altitude aircraft cameras 4 to 10 meters, and military satellite cameras, which can obtain a resolution better than 3 meters.

In order to make use of the images effectively, it is recommended you have access to a computer—otherwise it's kind of like the proverbial bird that sings too high to hear. The data produced is staggering. "It will produce 15 million bits of information per second, the equivalent of an Encyclopedia Britannica every couple of minutes."

The ordering of Land-Sat images is complicated. We recommend you write for details. (High flight aircraft—U-2—and Skylab images also available).

In Oregon, for data on the Northwest, contact the Environmental Remote Sensing Applications Lab, Oregon State U., Corvallis, OR 97331, 503-754-3056.

FROM ABOVE

***ATS II Pictures of the Earth* and *Indian Ocean Cloud Patterns*, from:**
National Center for Atmospheric Research
P.O. Box 1470
Boulder, CO 80832
The first home movies of our planet and the rhythms of weather change through time lapse photography. Other films available.

***The World From Above*, Hanns Reich, Hill & Wang, New York, $6.00.**
Contains the magic and meaning lacking in *Photo-Atlas of U.S.* Beautiful images that coalesce and retain new understanding of the events that we are usually so close to that we cannot see and comprehend. Weather, glaciers, terraced rice paddy, cities, elkherds and bird flocks, swimmers, plowed fields, strip mining, river meanders, bomb craters, desert oasis, and our small earth-hall home.

The Map Information Office
U.S. Geological Survey
Washington, DC 20242
Vertical and low oblique (20° from vertical) and referral to status of aerial photography in general. The status of images in any one area changes often, so best write with details of what area you are interested in. Ask also for helpful guides, "Twin Low Oblique Photography" and "Status of Aerial Photography."

National Ocean Survey
Rockville, MD 20852
Aerial photos mostly of coastal areas.

Aerial Photography Division
Agricultural Stabilization & Conservation Service
U.S. Dept. of Agriculture
Washington, DC 20250
Especially important if you're looking for a photographic description of how things have changed. They have negatives back to 1933 and presently have images of over 80% of the nation.

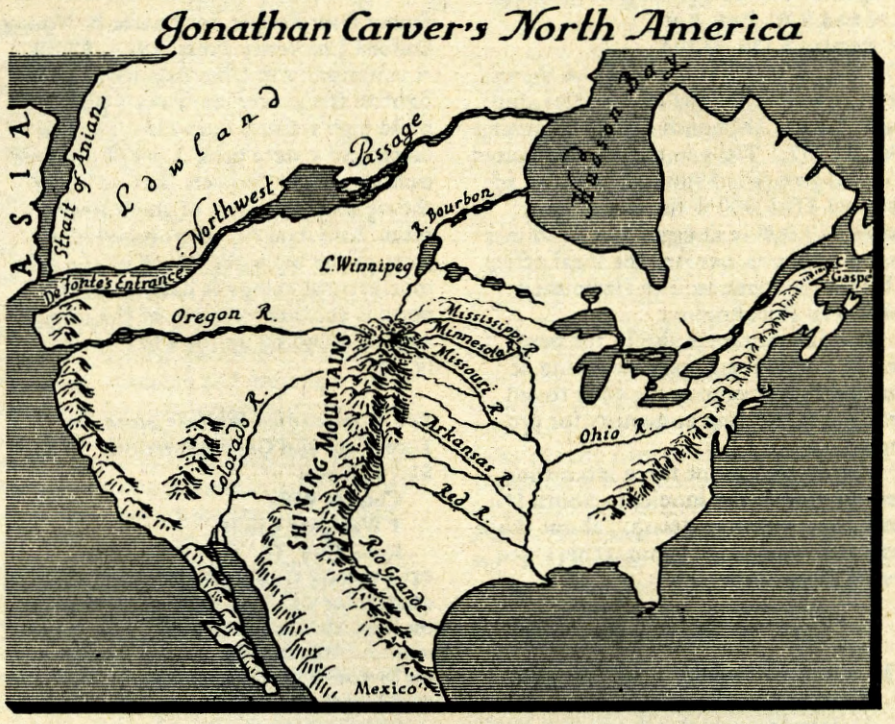


Fig. 66. The prevailing idea in the mid-eighteenth century was that North America was a sort of pyramid with all great rivers rising from the Shining Mountains in the center
(*From B. De Voto*, The Course of Empire, *Houghton Mifflin, 1952.*)

Ocean Floor Maps
National Geographic Society
Washington, DC 20036
Extraordinary views of the world—as the Paul Bunyan ox, Babe, drank the seas dry—its mountain ranges. Lovely blue. We have one in front of our typewriter. $2.00 each. Arctic, Atlantic, Pacific, Indian.

***Our World From the Air*, E. A. Gutleind, 1952. Also essay "Our World From the Air," in *Man's Role in Changing the Face of the Earth*.**
Gutland's pioneering work with aerial images has been instrumental in giving us visual perspective on the patterns of our activities and the changes they have made in our planet.

***Making the City Observable*, Richard Saul Wurman, 1971, M.I.T. Press and Walker Art Center**
Vinland Place
Minneapolis, MN 55403
The scoop on maps and images of cities. Sources of old maps, urban atlases, aerial drawings of cities, aerial photographs, guide books, city images, subway maps and special purpose images and maps.

On a local level, you can often get aerial maps or reference to resources from State Departments of Geology, Regional Planning Associations and State Highway Departments. Or buy yourself or a friend a special treat: rent an airplane and pilot and photograph your home from above.

"Viewed from the distance of the moon, the astonishing thing about the earth, catching the breath, is that it is alive. The photographs show the dry, pounded surface of the moon in the foreground, dead as an old bone. Aloft, floating free beneath the moist, gleaming membrane of bright blue sky, is the rising earth, the only exuberant thing in this part of the cosmos. . . . If you had been looking for a very long, geologic time, you could have seen the continents themselves in motion, drifting apart on their crustal plates, held afloat by the fire beneath. It has the organized, self-contained look of a live creature, full of information, marvelously skilled in handling the sun."

Lives of a Cell, Lewis Thomas

MISCELLANEOUS
continued from page 23

Oregon Committee for the Humanities
1633 S.W. Park Ave.
Portland, OR 97201
The Committee has received the National Endowment for the Humanities alotment for the 18-month period beginning Oct. 1, 1975. The grant to be distributed to local groups is $300,000, with an additional $165,000 if the committee raises $10,000 in Oregon. For deadlines and procedures, contact the local office. This year's theme is: The Unfinished American Revolution.

The Committee is also in the process of compiling a resource listing of humanists throughout the state to aid grantees in locating humanists for projects.

For an account of three interesting uses of humanities monies in South Dakota (one—"Broken Hoop," about thinking small, with E. F. Schumacher)—see *Small Town*, Sept. '75.

The Mariner's Catalog
International Marine
21 Elm St.
Camden, ME 04843
Vol. I and Vol. II, $4.95 each. The *Whole Earth Catalog* of the sea. Even if you're landlocked. The catalog is more than just hardware; it is history, shores, lore. Indexing/design ideal for either browsing or research. Ask also about other publications.

PUBLIC INTEREST

***Power Over People*, by Louise B. Young, Oxford University Press, 1973, $7.50.**
A community in Ohio decides to give fight to the power company's plans to build high tension lines through their farms and a state park. Lots of information about the "powers that be" over the rights and desires of small town folks. Also data on environmental effects of the big wires. Much of the info on electrical energy is dated, but the book is another example of the importance of standing up for what one believes.

***The Upsidedown Welfare State*, by Tom Walz and Gary Askerooth, 1973, $1.75, from:**
Charles Walz
1 Wastgate Circle
Iowa City, IA
"The Welfare State is a complicated system in which those who need the help the most get the least, and those who need it least get the most. . . . We call it upsidedown because it is the inverse of the common view of the liberal government playing Robin Hood."

This little book, done by some old friends of mine, is still the best thing I've seen for documenting the subsidies available to them what gots it already—airports, freeways, university systems, home mortgage insurance, etc., etc. It asks penetrating questions—"Who is benefiting the most from a system which sends 100 state policemen to smash Indian canoes and slash their salmon nets while spending up to $2,000 per salmon to save the fish for sportsmen and commercial (white) fishermen?"—and is filled with hair-raising data and quotable quotes. A real eyeopener for the politically naive and an excellent ammunition source for those in the midst of it all.

***The Grassroots Primer*, James Robertson and John Lewallen, ed., Sierra Club Books, 1975, $7.95.**
Is your marsh about to be paved over? Want to outlaw non-returnable containers in your area? Here's the book that can give you a feel for how to save your piece of the planet by the people who are already doing it. Firsthand examples to show you that individuals and groups really *can* make a difference. The most encouraging book I've seen in a long time. Don't just stand there—*do* something!

RECYCLING

Recycling—Gearing Up for a Conservation Economy
Community Environmental Council
109 E. De La Guerra
Santa Barbara, CA 93101
$1. Good description of the council's experiences in helping the city of Santa Barbara's recycling program.

Comprehensive Education and Training Act

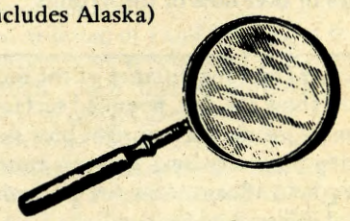
The Comprehensive Educationand Training Act is federal legislation that provides training and jobs for unemployed or underemployed persons. CETA funds are administered on a county basis in each state. Your county may have its own program, be part of a consortium, or have opted to go with the "Balance of State" if it's a really rural area. Since each program is set up to meet the particular needs of its area, programs vary considerably. You'll have to check with your local prime sponsor (administering agency) to see how they run their show.

Prime sponsors have to find non-profit organizations who will provide jobs for their people. CETA pays the salary. In some cases they will expect you to pick their client up after one year on your own payroll. In others it may simply be a temporary placement with no financial commitments from you. It is even possible for qualified individuals (county residency and low income or unemployment are the only criteria) to request a suitable job site as I did. N.W. area prime sponsors have funded personnel for *RAIN*, Evergreen Land Trust, Art-In-Public-Places Projects, Project Survival, and the Portland Poetry Festival. Some have run into real bureaucratic hassles in trying to implement their new program. Others, like the program I dealt with, are really quite reasonable. To locate your prime sponsor, call your County Courthouse or Commissioner's office, the State Employment Service, or write your regional Department of Labor office in care of:

Assistant Regional Director of Manpower
U.S. Department of Labor
Manpower Administration

at one of the following appropriate addresses:

JFK Bldg., Boston, MA 02203
1515 Broadway, New York, NY 12036 (includes Canal Zone, Puerto Rico, Virgin Islands)
P.O. Box 8796, Philadelphia, PA 19101
1371 Peachtree N.E., Atlanta, GA 30309
230 Dearborn, Chicago, IL 60606
911 Walnut, Kansas City, MO 64106
1100 Commerce St., Dallas, TX 75202
1961 Stout St., Denver, CO 80202
450 Golden Gate Ave., San Francisco, CA 94102 (includes Hawaii, Samoa, Guam)
1321 2nd Ave., Seattle, WA 98101 (includes Alaska)



***Recycle?*, 1972, $.75**
League of Women Voters,
1730 M Street, N.W.
Washington, DC 20036
The most comprehensive, concise and accurate study we've seen on the reasons for recycling; obstacles to recycling such as price biases, taxes, shipping rates and other laws favoring use of virgin materials; the present state of the art; and ways to encourage recycling. Solidly documented and unarguable logic.

***Reduce?*, 1975, $1.**
League of Women Voters
1730 M Street, N.W.
Washington, DC 20036
Companion to *Recycle?* Pinpoints the sources of our excessive use of resources and generation of solid waste. The best case we've seen for reducing our unnecessary consumption of energy and materials. 47 pages jammed full of data.

"It is estimated that using 1,000 tons of corrugated containers 5 times would use 80% less energy, produce 57% less air pollution, 98% less water pollution and 77% less solid waste than using single-use corrugated containers."

"Almost half of all paper production, 3/4 of all glass produced, more than 8% of all steel, 14% of all aluminum and 29% of all plastics are used for packaging and containerization."

TRANSPORTATION

***Bicycle Transportation*, by Nina Dougherty and William Lawrence, Environmental Protection Agency, 1974, $.94.**
Supt. of Documents
U.S. Government Printing Office
Washington, DC 20402
Just about everything you wanted to know about bicycles as alternative transportation: energy efficiency, use statistics, problems and programs (both in the U.S. and abroad). Also an extensive bibliography. Good, hard data.

LETTERS

B.C. News
On the shelter front: *Matter To Build On*, collected by Nette Pereboom and Ralph Sonen, printed by The Press Gang, non-profit community printing on recycled paper, 1000 copies printed and distributed free from September '74. Breakaway front runner best book on shelter in the material world I've seen and will send you my copy when I ever get it back. Covers government programs (loans, lease, co-ops, rehabilitation of existing dwellings), purchasing, squatting, salvaging and grading to building codes, used materials, alternate sources of new lumber, logs, stone, how to build a house in six months (by the 38 mothers—architectural designer/builder group with some professional training and a lot of imagination) from first inspiration to last hammerstroke. Could try to gabble on about this slim volume for pages, alternatively will try to find you a copy. This book was funded by one of the two Guv'mint innovative redistribution of the wealth plans: Local Initiative Program (LIP and Opportunities For Youth) of which Alvin Toffler reports in the Eco-Spasm report—"invites the unemployed to come up with proposals for projects that will provide jobs and serve some useful need. It then funds the best of these projects. In this way, projects vary from place to place; they meet distinct local needs; they draw on the talents and energies of the unemployed themselves. The problem, in short, is attacked from the bottom up, rather than the top down." The coverless copy of *Credit Union Magazine* is for your Salem group. The manager of the local credit union was of the opinion that it contained many stateside addresses that would be useful to such a group.

I have included some copies of the Fed Up Food Co-op's *Newsletter** to make into courage amulets for those just starting out. Fed Up has gone from a tiny storefront through various OFY, LIP and other bits of grant manipulation to being a fairly large (though as yet not institutionalized) operation as the list of co-ops served will indicate. Wish I could find their early issue with the essay on "Prime Mover Burn-Out" (the tendency of all novice alternative groups to produce a "prime mover" ace fund manipulator, energy channeler, shaman firstaidperson who overloads himself, burns out and leaves the group hanging with its individual decision-making apparatus in a dangerous state of atrophy) and "Paternalism Is Alive and Well at Fed Up" (which relates the complaints of a bigender kitchen crew who have been left out of some essential decision making when they were unconsciously rated by their work, which still had the traditional classification "kitchen work—shit work") as these are two, if not *the* two petards on which co-operative endeavors habitually hoist themselves.

The *Land Acquisition Series* may or may not have its parallels in the states (I got a lot of enabling legislation relating to preserving agricultural land out of the *Tilth* newsletter, which I use to point out to grumblers about our Land Commission (Land Freeze) Act, "See, even the yanks are doing it," but for folks already here or thinking (and immigration is essentially closed to out front back-to-the-landers without cash and highly marketable talents) of coming, it points out the two major obstacles to low cost lease land (access road cost and survey cost), which, I maintain, are surmountable if the rural hair ghetto reenfranchises itself and shows the government how many people (it will still be a comparatively small number) are willing to take on such a project and have come up with believable self-support systems (Jerusalem artichokes, which grow virtually anywhere and are being viewed as a potential low tooth cavity sugar source, or frost-resistant soybeans, for example). The news release on whales is self-explanatory.

*The Fed-Up *Newsletter* is impressive. Only equivalent I can think of is *Food Coop Nooz*. 2141 Pandora St., Vancouver, B.C. $3.00/yr. Randolph also includes a news reading on the banning of capturing killer whales in the territorial waters of B.C.

Ellensburg Library
I'm in the process of starting a library here. It consists of a file box of 3x5 cards having name of book, author, summary, and name of person who owns the book on each card. A person who wants to use a book listed in the interpeople library makes arrangements directly with the owner of the book as to conditions of use or borrowing. One of my main purposes in organizing this library is to make individual subscriptions to periodicals available to many people. The file boxes I have at present concern agriculture and natural life styles.

Joyce Showalter
211-1/2 S. Pearl
Ellensburg, WA 98926

continued on page 30

LETTERS CONTINUED

Ecologically Sound Human Settlements
When I talk with people about an ecologically sound human settlement, some say it can't be done; others say it isn't necessary; some say it's a good idea, and the government should do something about it; others say, "Let's find some more people who realize how important it is and get on with it." If you are for it and want to know more about what we are doing, please write.

J. H. Vowles
106 Donlea Drive
Toronto, Canada
M4G 2M5

Newport Co-ops
I forgot to tell you about a fledgling co-op movement in Newport. The DEQ is cracking down on packing plant wastes in Yaquina Bay and will supposedly issue no more permits or extensions after March of '76 for waste discharges. The local water co-ordinator, a job I have yet to understand, and the local agricultural agent, who came to us from Utah, are spearheading the effort to form a co-op among farmers to utilize the wastes of crab and shrimp-packing plants as fertilizer. The feeling is that this day will come anyway, but that if local people wait too long, a large corporation will scoop up the opportunity. This is in fact what happens in colonies, no? The farmers, on their part, are talking about a larger co-op, which would entail group purchasing of farm feed, etc., a meat-packing plant (nearest one is the Valley), and who knows what all else? So far everything is still in the talking stage; and this isn't, of course, the first time for that, here or elsewhere, but say the spirit is alive and well among us on the Mid-Coast, Fall 1975.

Randy Chakerian
Newport, Oregon

The Mariner's Catalog
Peter Spectre, my co-editor on the *Mariner's Catalog*, has, I believe, sent along volumes one and two of the catalogs. The third volume will not be out for a couple more weeks. Each volume is utterly different, not only in content, but in feel and sense as well. Hope that you enjoy them.

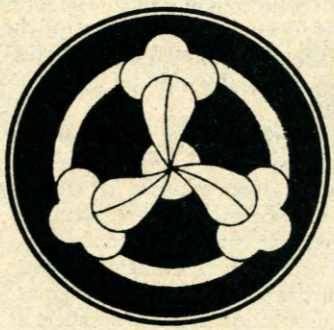
That said, hazzahs for your publication! I like it and would like to continue receiving it at the above Vinalhaven address. Any subscription costs?

Do take care of my city. I grew up there (Mt. Tabor, Grant H.S., etc.) and miss it often. Have found a fecundity and depth in the east, though; a cultural apprenticeship that grinds, but then hones. Few in the west ever get near the stone. Not enough belief in evil. Too many hi theres. Laughter that's always free, instead of doing its real work amongst the dour. Must return one day and share with you a good laugh that comes from a place that knows what one is worth.

A hundred yards from here there is a colonial cellar hole. About the time Lewis & Clark were trying to get their wagons converted into rafts to float down the Columbia, the old fellow of the Cellar Hole planted lilacs. Now wild and rampant, covering a quarter acre, I use the stock for tool handles. Here's a chip.

Above and behind the crater at Mt. Tabor there is a large Douglas fir to which I would sneak and learn cigarette smoking. Please chop it down.

George J. Putz
P.O. Box 543
Vinalhaven, ME 04863



Vermont Institute of Community Involvement
We would very much like to receive *RAIN*. We are engaged in an energy accounting of Vermont agriculture and an examination of possible models of regional decentralization of food production.

George Burrill
Co-Director
182 Main Street
Burlington, VT 05401

Spokane Community Video
We shot about 30 minutes of tape with Mike Nuess at the ARK (new alchemy) he built on the expo site this past summer. We want to edit it with him when he has time, but would be glad to dub it right now if people want to see it. It is in color—someone sending us 1/2 hr. of blank tape, or stuff we might like to see (a Schumacher talk or . . .) will get this back. I haven't had time to look at the tape, but think it is of general interest—shows what an ark is and how it works.

Our cable franchise has been approved—Cox Cable—and they expect to have 1/3 of the city wired by next July. We are involved with a group at Whitworth who have a humanities grant to do a city-wide education project on ways people can use cable (public access and local origination). This will go on in Nov., Dec., Jan. this year. Would like input for this project and see some neat areas for cooperation.

Another project of interest is the city of Spokane's application for federal money under the Housing and Urban Development Act of 1974. The money is allocated to several neighborhoods who help decide how their portion should be spent. We'll be working with the people in each neighborhood to do a 5 to 10 minute tape documenting their needs and showing their proposed plans to spend their share. They play these tapes to city hall types as a report of their work. Also, we hope to get the public TV station to feature one neighborhood each night for a week and have people from there come, play their tapes and talk about their needs.

This is a Northwest Regional Foundation project. They are the prime contractor with the city to prepare the HCD application.

We'd be glad to hear ideas, comments, etc. from anybody into this sort of neighborhood taping.

Chris Venne
Don Jensen
Spokane Community Video
W 623 26th
Spokane, WA 99202

TOUCH and GO

KENTUCKY Fried Chicken uses 9% of all poultry raised for meat in the U.S. . . . IN A live, healthy, fertile soil, there may be as much as 7,000 lbs. of microorganisms in one acre of soil one foot deep. . . . YOU may have missed the National Whale Symposium (c/o John Jay Goodman, 605 South Fess St., No. 3, Bloomington, IN 47401). . . . FRYS, 879 Park Ave., Perris, CA 92370. How to survive the coming depression, suppressed inventions. Like with some kinds of mushrooms, odd, slightly unbelievable, I don't know what to make of his stuff. A banana's kind of design. Range of subjects special. I don't know. . . . IT'S an old joke that a camel is a horse put together by a committee, but a more recent joke in computing circles is that "hydraulic ram" was once translated by a computer as "water buffalo." . . . ADAM West, the crime buster on the Batman TV series, is really Bill Anderson of Walla Walla. Bill has returned to his home town to play the role of William Craig, the narrator-star of "Trails West." The play will open the new outdoor drama theater at Fort Walla Walla State Park next July. Bill says he may combine the play work with filming a movie in the Walla Walla area. The film would be about a motorcycle racing champion who, as a convict, uses a ramp and a motorcycle to jump prison walls. . . . CAL Transportation classifies walkers as "non-motorized units." . . . RED Alder fixes nitrogen at the rate of about 200 lbs. per acre year, that is, takes nitrogen out of the air and puts it into the soil in a form usable to plants. . . . THE Center for Science in the Public Interest has figured out that Alpo dog food is nearly twice as nutritious as one McDonald's hamburger patty. . . . A TEAM at Rutgers Medical School reports that the brain's right hemisphere has a more pronounced involvement in sexual climax than the left. Harvey Cohen, one of the researchers, said, "Phenomenological reports strongly suggested that sexual climax is associated with a unique state of consciousness." Such a state involves a certain loss of contact with external reality, a feeling of dying ("petite morte"). . . . A 1.5 MILE trip in a cold car takes twice as much fuel as the same trip in a fully warmed-up car. . . . BURGER King Corp. Engineering Dept., Biscayne, Florida, has announced the development of what it claims is the first combination of broiler heat reclamation and solar energy in a primary heating and cooling system. . . . "GET ready for another North vs. South 'war between the states,' fought over slavery. This time the battle won't be fought at Gettysburg, Vicksburg or Bull Run. The new skirmishes may be fought anywhere from Saskatoon to Singapore, and the arsenal of potential weapons may range from prices in your supermarket to nuclear weapons." (Plain Truth). . . . "SOUP time is the full-flavored 10 second soup. Ingredients: corn starch, hydrogenated vegetable oil, lactose, salt, natural flavors, dry chicken meat, chicken fat, monosodium glutamate (flavor enhancer), sodium caseinate, dehydrated onion, sugar, potassium phosphate, mono and diglycerides (stabilizers), silicon dioxide (flow conditioner), corn syrup solids, soy flour, sodium silcoaluminate (flow conditioner), dehydrated parsley, dehydrated garlic, turmeric, tricalcium phosphate, spices, thiamine hydrochloride, lecithin, polysorbate 60 (stabilizer), disodium inositate and disodium guanylate (flavor enhancers), turmeric extract, lactic acid, artificial color. Net wt. 0.6 oz.

S.J.

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Rush

. . . A PROPOSAL, "Social Sleepwalkers," calls for social impact statements involving agricultural research. Copies from U. of California, Davis, CA 95605. . . . THE Division of Technology and Environmental Education, directed by Walter Bogan, FY 1976 grant applications are due Dec. 1, 1975. . . . "TRANSITION," the final report of the State Energy Research and Planning Office, is out of print. The Oregon Times reported (October) that Lon Topaz, present director of the new State Energy Office, has no plans for reprinting it, though there are still requests coming in. . . . FOOD Day for 1976 is being planned by Center for Science in the Public Interest. Write to: Food Day, 1785 Massachusetts Ave., N.W., Washington, DC 20036. . . . SENATOR Packwood has introduced legislation to control the use of fluorocarbons in aerosols, refrigerants and air conditioners. . . . COMMUNITIES West, the magazine about the communal movement in the U.S., has moved to the Northwest and has plans to become more regionally and less commune (exclusively) oriented. P.O. Box 117, McMinnville, OR 97128. . . . IN THE first formal report from the Worldwatch Institute, Erik Eckhom draws attention to another energy crisis: "denuding the earth's forests for fuel and timber lies at the heart of what will likely become the most profound ecological challenge of the late 20th century. . . . "THE Potential of Handicrafts as a Viable Economic Force," U.S. Dept. of Commerce, May 1974, 80¢. Available from Gov. Printing Office, Washington, DC 20402. Surveys the present status of crafts as viable employment alternatives, good bibliographic references. . . . OPEN, NW Information Network, has moved and changed names, and with an as yet unstated new project focus. ComNet, Box 5599, Seattle, WA 98105. . . . According to a recent report, military spending creates unemployment. From 1968 to 1972 the net annual job loss nationwide, when the military budget averaged about $80 billion, was about 840,000 jobs. "The Empty Pork Barrel" is available at $1 from Michigan PIRG, 615 E. Michigan Ave., Lansing, MI 48933. . . . NEWORLD Fair, 998 Sanchez St., San Francisco, CA 94114. These folks are planning a Renaissance Fair/Bicentennial Celebration/Consciousness Festival for Summer 1976. Write to them for suggestions, ideas and information (SASE).

1975 CATALOG of Federal Domestic Assistance, U.S. Office of Management and Budget (order from: U.S. Gov. Printing Office, Washington, DC 20402), 1975, 872 pp., $17 includes looseleaf update. . . . ANOTHER People's Yellow Pages, $2/yr. Collective Research Committee, P.O. Box 371, Ukiah, CA 95482. . . . TWO energy conferences planned in Oregon: one for about Feb. '76 on energy conservation, funded by an EPA grant to Roy Hemingway (c/o Oregon Environmental Council, 2637 SW Water, Portland, OR 97201); and the other a statewide conference on "The implications of the end of the Hydro-Electric Era," funded by a HEW grant to OSPIRG, scheduled for around Jan. '76. . . . PAMPHLET No. 1, Shelter. P.O. Box 279, Bolinas, CA 94924, 25¢. Looks like a file box I had once (though it's a pamphlet)—facsimile of clippings, entries, miscellaneous how-to. . . . UTOPIAS On Puget Sound, 1885-1915, Charles P. Le Warnve, U. of Wash. Press, 1975, $12.50. Do you remember "Home," the utopian experiment development at St. Joe's Bay in 1896, with its nudity, radical press, etc. . . . ANOTHER People's Yellow Pages: New West Trails, for Tucson, 745 E. Fifth St., Tucson, AZ 85719, $1.50. . . . SIM VanderRyn (director, Farallone Institute) has just become state architect of California. He'll be working to facilitate appropriate technology within that system. . . . ACCORDING to an opinion poll by Opinion Research Corporation, six out of ten Americans feel it is important to pay the price to clean up the environment. . . . FOXFIRE III is out. 512 pages of new similar type goodies. Also a new book, "The Foxfire Experience," by Eliot Wigginston. Published by Institutional Development and Economic Affairs Services, distributed by Cobblesmith, Star Route, Box 18, Ashville, ME 04607. . . . "PUBLIC and Private Rights in Land: Regulation vs. Taking," will be the subject of a conference to be held Jan. 30-31, Pacific Science Center, Seattle. Write to Polly Dyer, Institute for Environmental Studies, 112 Seig Hall, Fr-40, University of Washington, Seattle, WA 98195. . . . OREGON House Joint Resolution 66 directs Oregon schools to teach and practice skills of recycling and resource and energy conservation. . . . ACCORDING to the NW Chamber of Commerce, "Forest Products Industry," the most complete and accurate study of Oregon's total forest resources is soon to be complete at Oregon State U. . . . "A NEW Life for the Abandoned Service Station," A.L. Kerth, P.O. Box 142, Massapequa Park, NY 11762, $15 for 83 pp.

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