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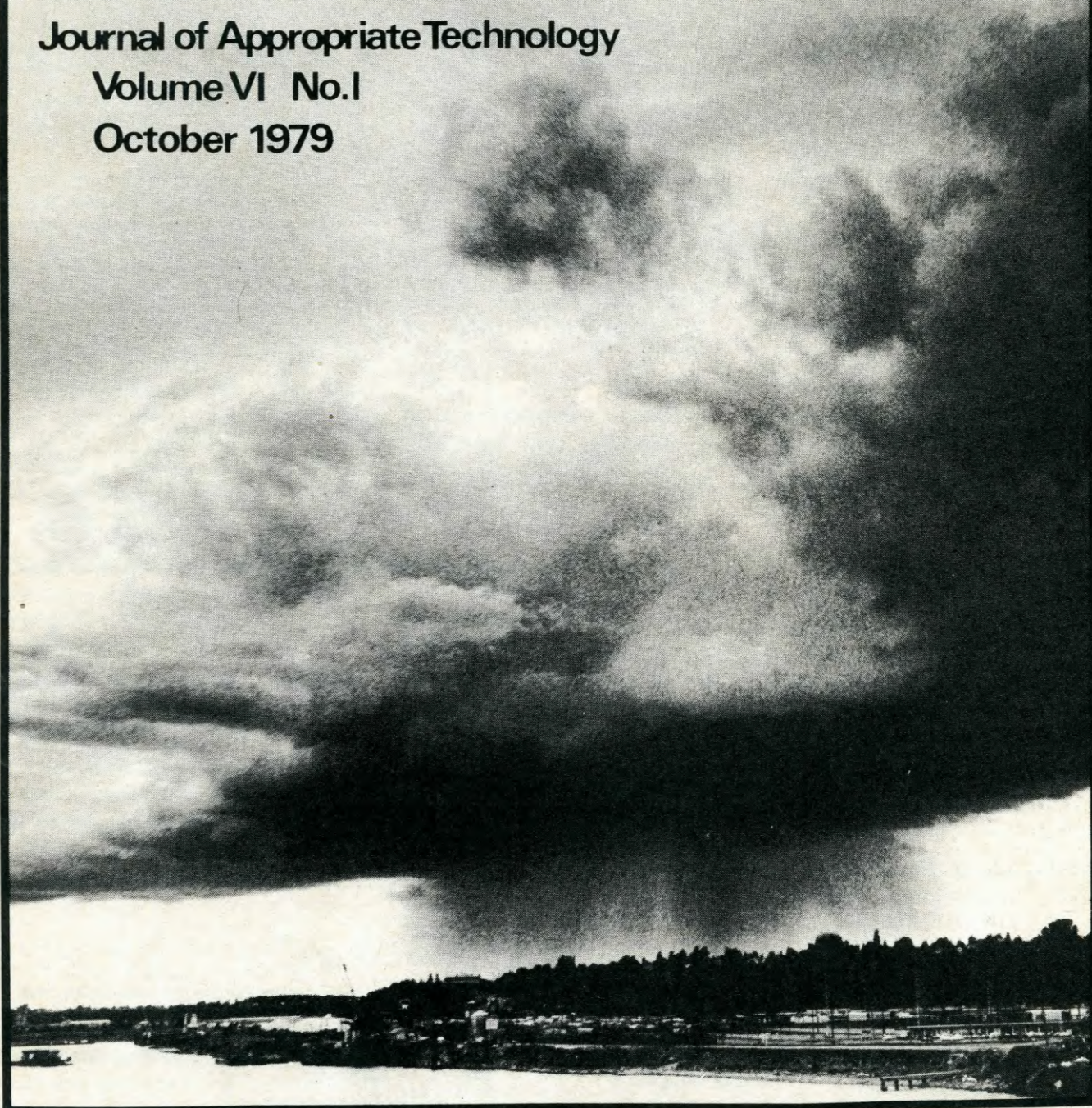
RAIN

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REDEFINING LOCALITY, p. 6

A.T. and COMMUNITY POWER, p.14

FINDING GOOD WORK, p. 10

WOODSTOVE NEWS: on winter coming, fireplaces and the DOE

by Bill Day

Colder weather in the next few months will mean that your woodstove or furnace will be asked to perform faithfully for another winter. To achieve that expected performance, it is wise to perform a few simple maintenance chores before the season begins.

A good cleaning and inspection can be accomplished by wire brushing and vacuuming the stove interior. If you are interested in efficiency, then note that one-eighth inch of soot inside the stove walls decreases heat transfer approximately 30 percent. Potential problems discovered early will not likely become critical. Stoves which have developed air leaks, have also begun to lose heating efficiency. Leaky stoves or furnaces tend to develop "hot spots," become overheated, and often will deteriorate much faster than normal. Welded steel box stoves whose doors or door frames have warped should be returned to the dealer or manufacturer. If the warranty has expired or is unenforceable, I suggest you replace the unit with one which is both repairable and more efficient.

Listed below are some common chores and examinations to perform.

Common sense dictates that your chimney needs an inspection and cleaning unless it was done following the "78-79" heating season. All chimneys deteriorate over a period of years. Masonry chimneys tend to lose mortar and need minor repair. Prefabricated chimneys tend to be affected by chimney fires and should be examined occasionally to determine that the steel liner has not "sagged" or become distorted. In-

structions for cleaning chimneys are found in:

Chimney & Stove Cleaning, by Christopher Curtis and Donald Post, 1977, Garden Way Publishing, Dept. 1717, Charlotte, VT 05445, \$1.00 postpaid.

Bill Day's Consumer's Guide to Wood Stoves, RAIN, *Journal of Appropriate Technology*, 2270 N.W. Irving, Portland, OR 97210 (\$2.00 plus 20 percent postage and handling).

Observation

1. Place trouble light inside stove in darkened room. Examine door and door frame for light leaks.
2. While trouble light is inside stove, check for light leaks around seams and joints.
3. If the appearance of the stove is rusty or pale grey-white.

• During the past few years, I have seen a great many government funded "research" or "development" projects. A great many of these are simple duplications of existing work published in the 1920s, '30s or '40s by engineering experiment stations at "land grant" colleges. One of the worst yet is titled "Analysis of Heat-Saving Retrofit Devices for Fireplaces" authored by Robert D. Busch and Richard Irland, published March 1979 by the New Mexico Energy

Institute. This report features inaccurate statistics developed under unscientific conditions: misleading conclusions which could encourage use of inefficient fireplaces as sensible heat sources, with no mention of possible consumer safety problems resulting from the use of the devices studied. On the other hand, a previously published document, "Measured Performance of Fireplaces and Fireplace Accessories" by Jay Shelton, \$2.00, 36 Hawthorne Drive, Williamstown, MA 01267, is the most useful and accurate study presently available.

• The Department of Energy, at this time, seems to be encouraging (perhaps at the expense of other options) industrial wood fuel use. The domestic consumer is completely ignored in the budget planning of three of the four Regional Solar Energy Centers. Federal

Mode of Action to be Followed

- Replace door gasket if light is visible. Some older stoves did not use gaskets, and a good seal cannot be achieved. Maintenance of newer welded stoves must be done by the stove dealer or manufacturer usually under the implied or limited warranties. I consider stoves one to five years old with warped doors or door frames to be defective.
- Fill any gaps by applying furnace cement (usually a clay, asbestos and water mixture) from the inside. No special tools are needed. Wipe off any excess cement which appears on outside of stove.
- Remove rust with a wire brush or emery cloth. Do not sandblast! Apply stove polish or high temperature silicone finish.

DOE thinking seems to be at odds with the stated wood use policy vocalized by President Carter. Recently, the President endorsed the use of wood heating stoves and is sponsoring a 15 percent income tax credit to encourage their use. Skyrocketing sales of wood burning home appliances are an obvious reflection of the positive economic benefits now available from wood fuel. If the DOE policy makers were awake, they could direct and promote the cur-

RAIN

Journal of Appropriate Technology

RAIN is a national information access journal making connections for people seeking more simple and satisfying lifestyles, working to make their communities and regions economically self-reliant, building a society that is durable, just and ecologically sound.

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RAIN ACCESS

rent stampede of wood fueled appliance buyers in such a way that the use of these alternative energy products is safer. Present marketing does not include durability standards. Safety testing is performed by a variety of agencies or laboratories using a multitude of sometimes ill-conceived standards. A positive direction toward greater product durability, encouragement of safe installation, and promotion of extensive consumer education projects could be a positive, beneficial undertaking directed by the DOE.

ENERGY

The Politics of Energy, Barry Commoner, 101 pp., 1979, \$4.95 from:

Alfred A. Knopf
201 E. 50th St.
New York, NY 10022

In this world of critical analysis, it is hardly unusual to hear anyone and everyone comment about the contemporary energy predicament. Politics and energy issues have become one and the same, reaching the hearts, minds and pocketbooks of all. But for one to offer a "solution" amongst the critical crowd is a true event. Dr. Barry Commoner, in *The Politics of Energy*, offers us all such a rarity. This book is a factual, realistic and semi-philosophical account of how the United States' perplexing energy situation (based on nonrenewable energy resources) has materialized, and how the U.S. can relinquish itself from this dangerous addiction (through a future society based on renewable energy resources). After presenting some energy related political rhetoric, Commoner goes on to prove that symbiotic (yet controversial) relationship between politics and economics. "All of the harmful consequences of the nonrenewability of the energy sources on which we now depend are economic," fueling inflation, reducing the standard of living, hinder-

ing new industrial investments, and aggravating unemployment. "Here, then, is the real meaning of the nonrenewability of an energy resource. The problem is not that it will become totally depleted, but that it will become too costly to produce. We will exhaust not our oil but our ability to *pay* for it." Commoner's suggestion is to "switch from nonrenewable energy sources to renewable ones. This would eliminate the interactive link that drives the cost of nonrenewable sources exponentially upward, for if an energy source is renewable, producing it has no effect on the accessibility of further supplies." Commoner, advocating solar energy for this renewable energy system, puts out the following plan:

1. Energy sources to be related to the regional resources;
2. The energy using task to be supplied with the appropriate energy form;
3. The energy generation to be satisfied by a localized, decentralized technology;
4. Energy transmittance to be satisfied by the above three whenever feasible.

Since all is possible "in theory," Commoner goes on to piece these abstractions of the future into the realities of the present. The initial calling is for an increase in the production of methane, since it is completely interchangeable with a present fuel: natural gas. Methane also satisfies the most salient components in a healthy national energy system: it is a liquid fuel; after hydrogen processing, it can store initially produced electricity; it can be transferred and stored. Commoner, in *The Politics of Energy*, offers us the momentum and layout for the future solar transition. Being skeptical towards panaceas, I can still advocate and support this feasible, well thought-out plan. Knowledge and effective debate skills will be increased by all, after absorbing this book, amongst the critical crowd. —DW

A Citizen's Party?

Convinced that it'll take a lot more than words in books, Barry Commoner is now heading up The Citizens Committee, a unique coalition of activists seeking to build a long term political party ("not a third party, for we reject the relevance of the two existing ones") around the crucial choices facing American voters in the coming years. It's an eclectic platform they're pulling together, bravely attempting to overcome all those old Left battlelines to suggest the building of a new American consensus based on a *wide* range of political convictions: public control of energy industries and guaranteed jobs, housing and medical care; decentralized, renewable energy sources and community owned enterprises; military cutbacks and a halt to nuclear power; environmentalism and feminism; and more. If there is a clear adversary, it's the large corporate interests which now dominate the economic landscape: "Our system today no more resembles free enterprise than a freeway resembles a dirt road . . . Beholden to no one but stockholders, beyond the control of most governments, protected by the myth that they are merely small business writ large, large corporations unaccountable to us increasingly shape our lives . . . a whole lifestyle — energy-intensive, ridden with cancer-causing pollution, fueled by advertising — has been given to us. It is a lifestyle we did not choose for ourselves . . ." It's a quiet beginning, and an extremely ambitious goal, but here are the seeds of a Citizens Party of unique potential. What do RAIN readers think? Is there a place for it in our scheme of things? Let us know. —SA

For more information contact:

The Citizens Committee
National Office
1737 DeSales St., N.W., No. 300
Washington, DC 20036

people and energy in portland

The City of Portland, Oregon, with the guidance of Mayor Neil Goldschmidt, recently passed an Energy Conservation Policy which, when implemented, should reduce energy consumption in the city by 30 percent or more by 1995, representing a financial savings of over 162 million (1979) dollars annually.

This plan has already been hailed as the most comprehensive and innovative attempt by a municipality to save energy yet devised. Official recognition of Portland's plan has been high—from Walter Cronkite right on up to Jimmy Carter—and requests for information have been coming in by droves to the City Energy Office. After one takes a look at this plan, one can see why it has been so popular.

A most important part of the plan—and my favorite feature—is how it was drafted. A group of local citizens who were appointed by the City Council volunteered over 3,500 hours of work to develop this document. This committee represented neighborhoods, utilities, industry, organized labor, environmental groups and elsewhere—quite an unusual working group! The perspectives these people added truly made it an effort of the community. After the committee had met for

over a year, a "Discussion Draft" was written and the proposal was brought to the people for input. The city held a number of workshops where people were encouraged to comment on specific aspects of the policy, ask questions of the committee, and to make specific suggestions for amendments, etc. After two such workshops were held in different parts of the city, two days of formal hearings were held where people were able to make their feelings known and their suggestions became part of the record. As an effect of this process, new objectives were added—e.g. *making recycling options mandatory for all garbage collectors in the city*, certain sections of the policy strengthened—e.g. *requiring the commercial sector to prepare energy audits not just on heating and cooling use, but industrial processes as well*, and many other small items included, which increase the overall effectiveness of the plan.

We here at RAIN, as well as many other groups throughout the city, have been getting numerous calls for information about this important document. Because of this great interest, we have decided to outline the general goal and individual policies of the plan. Even so, this listing does not include the many pioneering objectives of the different policies, including such things as the establishment of Local Improvement Districts to help finance neighborhood power facilities, help for

ENERGY

*Energy and Downtown Revitalization:
The Austin Opportunity,*

Renewable Energy Resources Commission,
Austin, Texas, August 9, 1979, from:
Ray Reece
Renewable Energy Resources Commission
516 Terrace Drive
Austin, TX 78704

Typically, urban revitalization projects are grand attempts to bring big development and big bucks to the center city. While such efforts are usually unresponsive to housing and community development needs, it's now becoming apparent they are oblivious of progressive energy planning as well. When new office/commercial complexes move in, replacing old businesses and residential areas, they tend to reinforce the city's most inappropriate energy-use patterns. High gloss development is noticeably out-of-touch with conservation and renewable energy goals — and it's starting to look very vulnerable on these grounds.

In Austin, Texas, such a prospect has spurred members of the city's Renew-

able Energy Resources Commission and its advisory citizens' groups to urge that the city instead take advantage of known conservation measures and renewable energy sources to make its proposed downtown revitalization project a national model for energy-conscious urban redevelopment. With the establishment of a Model Energy Development Demonstration District (MEDDD) they estimate that energy consumption could easily be reduced by 50% over conventional development approaches, while having many other positive impacts on the city. *The Austin Opportunity* is a straightforward report to the city council which outlines how a MEDDD can be implemented, along with the multitude of concepts that could be incorporated into an energy-conserving downtown strategy. This preliminary report, one of the first of its kind, signals the beginning of a dialogue critical to any major city caught between the desire to revitalize and the absolute necessity of cutting back on energy use. It also identifies a new kind of political tangle:

The MEDDD proposal, for example, did not just appear in a vacuum. The American City Corporation — a subsidiary of Rouse Corporation, developer of Columbia, Maryland and two major shopping malls in Austin — has already completed a conventional revitalization plan for the city, slating large areas of downtown Austin to be levelled for an office/commercial mega-block. Existing urban renewal designation would give the developers legal authority to condemn these areas, and a group of investors would be drawn together for the project. A few city officials are pushing hard for the Rouse approach to revitalization. Not surprisingly, references to renewable energy in this plan are nearly non-existent. Instead, it relies on such increasingly energy-inefficient features as developing a convention business trade in Austin, and moving people around on exclusive monorails.

The Renewable Energy Resources Commission, on the other hand, has become the advocate for the alternative MEDDD approach, taking advantage of the crucial time factor to generate



local oil distributors in finding alternative business to help offset the reduction of business through conservation, encouragement for transportation companies to establish terminals within the city to reduce energy consumption and encourage small, independent trucking firms, and many other worthwhile intentions.

The Energy Conservation Goal of the City of Portland is to: Increase the energy efficiency of existing structures and the transportation system of the city through policies and programs which encourage conservation of nonrenewable energy resources, while maintaining the attractiveness of the city as a place to live and do business. In order to accomplish this goal, the following six policies have been adopted as the Energy Conservation Policy of the City of Portland.

1. The role of the City is to ensure the accomplishment of the goal. All of the energy policies are to be policies of the City and depend on City action. The City shall implement conservation actions directly within City government and encourage conservation actions by the private sector. This shall be accomplished through education, incentives, and mandatory actions. The City's efforts shall include promoting conservation; informing all sectors of available programs and conservation techniques; developing financial incentives; advocating the support of the City efforts at the state, regional and federal levels; and regulating conservation actions where appropriate. The City shall evaluate indicators of energy consumption to assure the effectiveness, comprehensiveness and fairness of private sector actions.

2. All buildings in the City shall be made as energy efficient as is economically possible as determined by costs of conservation actions and price of energy. The retrofit of existing buildings for the purpose of energy conservation shall be accomplished through voluntary actions initially, with mandatory requirements imposed five years after the adoption of the policy. Retrofit programs and the requirements must be cost-effective, comprehensive, and have the most equitable impact possible on all sectors of the community.
3. The City shall develop land use policies which take advantage of density and location to reduce the need to travel, increase access to transit, and permit building configurations which increase the efficiency of space heating in residences.
4. The consumption of nonrenewable resources for residential and business use shall be reduced by encouraging the application of renewable and alternative energy sources.
5. The consumption of nonrenewable fuels for transportation shall be reduced through actions which increase the efficiency of the transportation system operating within the City. These actions will encourage individuals to choose the method of travel which is the most fuel-efficient for the purpose of the trip; promote the energy-efficient movement of goods; and provide incentives for the use of fuel-efficient vehicles.
6. City bureaus shall reduce energy consumption by investing in energy conservation opportunities and changing operational procedures to the most energy- and cost-effective extent possible.

Clearly, the Portland plan is a momentous event—one which is sure to inspire others to draft their own. Due to the heavy volume of requests, the City of Portland is making copies of their plan available from the *President's Clearinghouse for Community Energy Efficiency*. This office has been set up at the White House to assist local officials in preparing their own conservation plans. Copies of other communities' efforts as well as technical assistance are available from:

President's Clearinghouse for Community Energy Efficiency
Suite 185
400 North Capitol St., N.W.
Washington, DC 20001

—YL

public support for energy conservation, including substantial backing among Austin's city council. Still, there's a lot of work to do: educating key city planning and development people to the full-scale possibilities and implications of energy-conserving downtown redevelopment, and seeking out Federal financial backing for their innovative concept in order to begin making the proposal more comprehensible. In the long run, if MEDDD flies, a tougher challenge looms: making progressive redevelopment happen in a relatively conventional investment context, providing enough openings for small, local investors willing to be innovative. For now, the main objective is to get Austin city council to approve MEDDD designation for downtown. This would, in effect, put the developers' plan back at ground zero.

For better insights into the basic components of the MEDDD plan, and how it proposes to deal with specific energy sectors in the context of downtown revitalization, write for a copy of the above report. And stay tuned for further developments. —SA

Sources Sought: Renewable Energy Policy Analysis

The Department of Energy seeks information from organizations with capability to perform innovative planning, research and analysis for the development of renewable energy resources at the local, state, and regional levels. Renewable systems that are efficiently matched to local needs in scale and thermodynamic quality, and that can be locally developed and controlled are of primary interest.

Capabilities to perform planning, research, and analysis are sought for a broad range of factors—economic, environmental, administrative, technical and others—that affect the use of renewable energy resources. Such analyses would account for local variations in resource availability, climate, economic activity, and end-use demands. Analyses would emphasize inexpensive systems that might be locally implemented in the near-term, and frequently would require involvement of state and local governments and public participation.

Organizations are invited to send a brief (not more than about 5 pages) de-

scription of their interest, capabilities, and experience in this area of work to:

U.S. Department of Energy
Division of Advanced Energy
Systems Policy
Room 6E-068 AA
Forrestal Building
Washington, DC 20585

Statements should describe specific areas of interest in local renewable energy systems development, background and experience of principal staff, and organizational resources and capabilities. Statements should be sent by October 30, 1979, or within 30 days of the publication date of this notice, whichever comes later.

This notice invites expressions of interest and capability. Responses will be used to assess program feasibility and to aid design of future programs. DOE will not award contracts or grants on the basis of this notice, or otherwise pay for information solicited.

A summary of the responses to this notice will be available to the public upon request.

—Lee Johnson

New Awareness, New Regions

by Phil Henshaw

Just two years ago the country was shocked by the reported possibility that demand for liquid fuel would exceed supply by as soon as 1982. No one had a feeling for what that meant or what our response would be when it came. Now, three years earlier than the earliest predicted date, we've found that the way in which supply fails to accommodate demand is in unpredictable and disquieting surges of broken expectations

We hear so much talk nowadays about political crises, the need to be reshaping our values, uniting for political action, innovating new kinds of technology. It can all become an overwhelming blur at times. And always, it comes down to a tricky question of where to best invest our precious time. The heavy imperatives compete for our attention with the daily rhythms—earning the bread, making a home, being with friends or just being. Yet these are the things that make life grow, and go on. They also have their roots in the context of "place." Such localized rituals can provide us with an appropriate focus for framing those bigger-than-we-care-to-imagine problems—and give us a scale of involvement that nourishes solutions we can relate to.

In piecing together this issue of *RAIN*, we saw some recurring threads of thought present themselves in our various contributors. So we've strung their diverse ideas together to see what patterns emerge. Regions that are tangible. Localities that have perceived boundaries. Neighborhoods of familiar faces.

I think it was Peter Warshall of *CQ* who once asked his friends if they could identify the watershed they lived in. A truly great question for raising water consciousness! And there are so many related probes: What weather patterns define successful gardening in your city? How far can you travel before you're no longer on home turf? Who are those people living down the block you saw at the co-op grocery? In each case sensing place is a tool for focusing on the next, best move . . . and dealing with too-big problems can begin most appropriately at our own back doors. —Steven Ames

and futile efforts to balance sudden changes. The way demand exceeds supply is not smooth. New habits for change are surfacing.

The new habits we're developing as we become more and more sensitive to the vicissitudes of the thirsty tank are changing our overall felt impressions of, and actual relations to, our greater landscape. Some places are now becoming further away; and some places are becoming more familiar. One of the sharpest new distinctions is a new definition of distance—one not apparent as long as fuel was plentiful, but now likely to be of permanent interest no matter how expensive or restricted fuel supplies become. It's the distance of free travel on one full tank of gas—generally two to three hundred miles, a maximum of one hundred fifty miles in any one direction.

Suddenly this summer, the towns and recreation areas beyond a half tank's distance from major population centers have felt an unfamiliar pinch, while ones within range are busier than ever. Having gone through the minor or major trauma of filling up the tank, one still feels free to zip out of

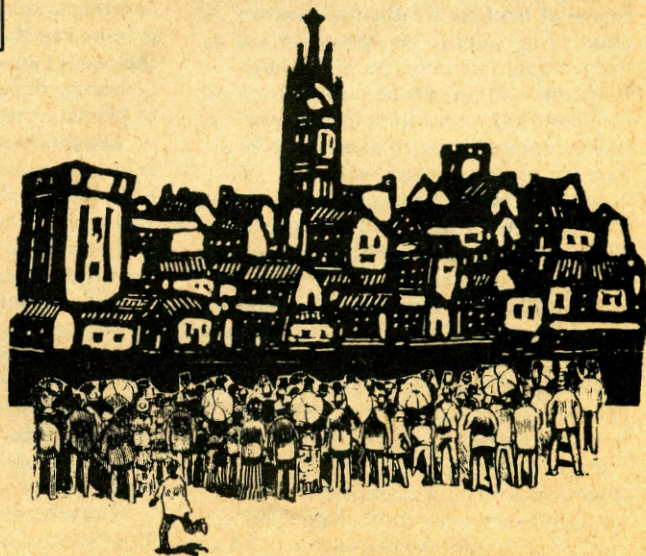
Local Climates

by Steve Johnson

The effects we are having on climate on a global scale is one of those notions that's hard to keep in mind all the time. When I first got wind of the news that such climate change was apparently occurring as a natural, possibly cyclical pattern, and also due to the effects of industrialization, I was convinced this would be one of those large and dramatic shifts that could bring about necessary social changes.

But it's hard to keep in mind. It mostly feels normal. Now and then I realize my folk wisdom concerning climate—and that of old timers more well-founded—doesn't always hold as much water. It's difficult to talk with assurance about what

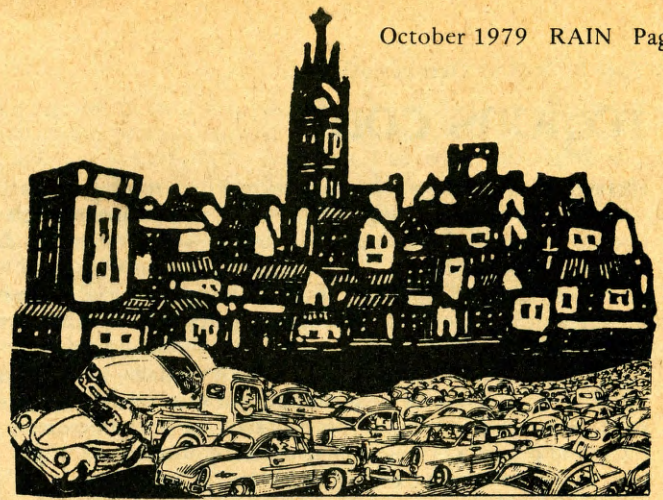
René Dubos on Neighborhoods



the city, but there's a nagging feeling about trying to go very far beyond. It's not that you can't or don't ever fill-er-up on the road. It's just that it isn't the same old nonchalant thing. Once out of the urban gas hassle, it just doesn't feel like part of the trip to be reminded of the need, look for that open station, or watch the pennies fly by on the pump. We seem to clearly prefer travel free of worry, and are tending to re-discover the luxuries of our own home ground rather than continue the old habit of looking always just a bit further.

There are still lots of choices. That 150 miles out and back opens up seventy thousand square miles of area to explore with wheel freedom. We probably haven't really looked at our city's "neighborhood" much, where there's lots to find and get involved with. I think that's a switch, a real change in direction, if you will. Instead of always looking to see what's "beyond," we seem to be turning—slowly perhaps—but turning to see what's "around." When you see this pattern as just one more part of a general turning inward, of regional community forming, of the progressive trend of adapting to local climate, lifestyle and resource conditions, the nature of the city's home-base can be seen taking shape.

To me, it's suddenly obvious, though still soft-edged and changing, that America is complete. The physical building thing we've unwittingly been pursuing for the past three hun-



dred years is what we have now achieved—the becoming of a large, closely grouped family of "regional neighborhoods" of large communities, neighborhood regions measured by what opportunity is conveniently within reach in a single motion and shaped by local adaptation. In somewhat the same way a pedestrian community takes shape from the opportunities within convenient walking distance, the definition of our



one can expect in a given season. But trying to keep the larger climate in mind is like trying to keep aging, death, time in mind. One toddles along, only occasionally thinking of such

... I was brought up in a very small village of 450 people. So perhaps being brought up in a highly integrated village in France made me aware of a kind of biological aspect of human nature which is essential for the definition of neighborhood.

Most people cannot relate to a very large number of people. What is the optimum number is very difficult to decide. But there have been experiments on that. The experiments ask,

It's only if we become sufficiently stable that we can rediscover some principle of integration that will solve the problems of our cities. This will be through the neighborhoods . . .

how many persons can you remember? How many can you identify sufficiently well, so that if you see them you will not only recognize them but know what to expect of them? It's not that you like them or dislike them, but to some extent

overwhelming notions.

Perhaps, as with the method described in *The Canadian Alternative* (RAIN, Aug./Sept. '79), which concerns the geography of the urban environment as a complex interaction between human needs and values, one has to relate the immediate to the far away, the small to the large, the obvious to the hard-to-see and invisible:

At the small end of the picture, there's our very own, subjective climate. Inside our physical envelope is the most precious climate of all. We perform our own weather modification by what we eat, by what we wear, even by what we think and feel (you know, "he was hot under the collar").

Just beyond our physical envelope there's the shelter we construct to modify the climate we live in. Persons living 50 feet apart in different structures can have entirely different climates in their homes depending on the materials of the shelter, walls-to-window ratio, orientation to the sun, placement of trees, hedges, and so on.

The microclimate that exists up to 4 feet above the surface of the earth, as defined in the classic Rudolf Geiger study, *The Climate Near the Earth*, is yet another step out from the

you know what to expect of them. The numbers are never over a thousand. Beyond that, it becomes difficult to remember . . . there seems to be a limited number to whom we can relate.

In cities, it's very difficult to formulate that principle of limited numbers in a precise manner. Nevertheless, I have seen it in New York City. I have seen neighborhoods become re-established. There are streets where people know each other well enough so that when they walk, they recognize the people who belong there. I have seen block parties being organized. I see a spontaneous attempt at recapturing this kind of relationship . . .

Unquestionably, from the beginning, human beings lived in small limited clusters. The New Stone Age, about 10,000 years ago—villages that we know of—had about 500 persons. So, it seems, in some way there must be something in the human brain that limits the number of identifications we can make. The human brain doesn't change, biologically, so somewhere we still have that limitation. And, I suspect, it is reflected in practically all social organizations.

regions cont.

vehicular neighborhoods is being refined by a more sharply defined convenient driving distance. Just as pedestrian neighborhoods change shape as our freedom to walk changes, so do vehicular neighborhoods. As the range of travel shrinks and our attention turns relatively inward, the number and diversity of neighborhoods necessarily expands and personal care intensifies. Spending more time in our neighborhoods and discovering, operationally speaking, that it's all we have, we'll necessarily come to a clearer understanding of our communal living room. Perhaps for seeing it more clearly, we'll begin treating ours (and others') that way. The distance of one tank of gas serves as an interesting focus on this crystallization of new regional awareness.

What is the shaping of this new regionalism likely to be guided by? What personal and social energies will lead it to find its place in the local environment? Who are our scouts? Is there anyone who has taken a special interest in finding healthful new ways of fitting in, in this becoming world? Well, supposedly that's us, those involved with appropriate technology. A.T. is what works, right?—all the way down to the roots of the whole system.

But what about all those people who can't yet relate to composting toilets, canning berries or saluting solar collectors? They are still integral parts of the a.t. of the city—parts that

have found their niches, that depend on each other, that *we* depend on, and will still be part of the city as it finds its appro

As the range of travel shrinks, our attention turns inward, the number and diversity of neighborhoods expands.

priate spot in the new landscape. In discovering that the appropriate response to the environment is really the interest of the whole community and no longer just a special segment of it, will a.t. retain the same meaning it was held? In an important way, I think it will.

A.T. is not centrally the specific discoveries we've made—those elegant solutions to elegantly framed problems. It is the knack for elegantly framing the problems. A.T. should not serve so much as a model of technology to further develop as it should serve as a model of *learning* to further develop—not the simple and elegant things to be found—but ways of looking at complex relationships of things to find in them their natural elegance and simplicity. It won't be quite so much the political work or the selling of a.t. which is of real value, but more that we've richly shared ways of finding—of looking directly at the whole of our particular worlds and seeing what they're good for.

What's a city truly good for? With its complexity, its class systems and social and political segregations that seem to block



climates cont.

center we can take in examining different climates. Related to that and one step further are the climate differences that might occur in a city from neighborhood to neighborhood, or in a more natural setting, the climate differences created by changes in the shape of the landscape. It's an important step to take. Our perception of our local climate usually takes place a step beyond this kind of neighborhood area. We think of

ourselves in a climatic region that usually incorporates hundreds of square miles, even thousands. But in effect, we are often indoctrinated into believing climatic regions exist on some simple level of data as that provided by the chamber of commerce.

If you ask an outsider what he thinks of the climate in Oregon, he will most often say it rains a lot. In fact, two-thirds of Oregon is one of the driest regions in the country. And the

neighborhoods cont.

Now, the industrial revolution in Europe brought an enormous migration of people from the villages into the cities, concentrating them around large factories. That brought about the most awful human destruction one can imagine. I have no doubt that the immense human tragedies of the late 19th century were in large part a consequence of the total disintegration of the prior social structure caused by bringing people together who had not learned to function with each other. And we have been suffering ever since.

New York, or any other large city, still suffers from an influx of people with this problem. It's only if we become sufficiently stable that we can rediscover some principle of integration that will solve the problems of our cities. This will be through the neighborhoods. . . .

I am convinced that the social support of a person is the most important aspect of human life. By social support I mean

the whole set of forces that relate the person to the environment. And when I say environment, I mean physical and social, in which that person lives. I think our society is horrible in completely ignoring that. Increasingly, I am writing about, talking about and preaching about it. There is very little social study about the effect of this "environment." But I introduce it into all aspects of my life. If I become interested in energy, then I say the most important aspect of the energy problem is that we must not create a more centralized society where human contacts are completely broken up. So I say, let's think energy in terms of social units where people can once more become identified with the place where they live—where human relationships are not lost. For me, it's very clear. . . .

Excerpted from the July-August Community Service Newsletter (\$5.00 yearly from Community Service, Inc., P.O. Box 243, Yellow Springs, Ohio 45387), originally appearing as an interview in the December 1977 issue of *Neighborhood*, a publication of the New York Urban Coalition, 1515 Broadway, New York, NY 10036. ■

the opportunity in being composed of many non-communicating but mutually supportive parts?

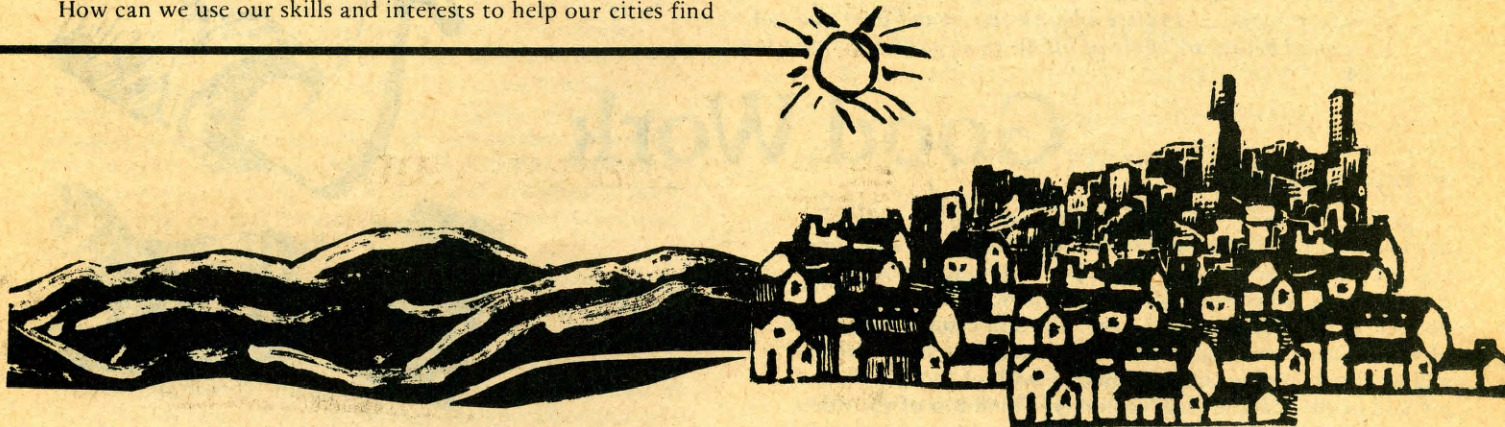
The simplest and most basic thing is just to look to the whole system to see the boundary-crossing relationships that develop, fostering those we care to. We might even do this sort of thing strongly enough to have it become a new method for planning—planning by observing relationships and opportunities. This kind of planning would be a discovery process in knowing the whole of a city and its many interests so that it could respond well when times for choice arose, rather than attempting to force present convictions on the future.

From this sort of planning might evolve new attitudes towards things such as zoning or resource and land development. We could evolve a way to replace ordinances which tell us how some ill-informed authority a long time ago thought we should act within a set of guidelines for how to understand what healthy action is. With a broad enough scope, any development or resource use which enhances the breadth of opportunity for the future might be allowed; any which restricts, not allowed. We would continually develop new and more creative ways rather than be stuck in tracks appropriate largely for some power play decision-moment of the past.

There are lots of other possible trends that parallel and contribute to such a new approach of asserting an interest in meaningful city-wide communication, how does it come to a unified and healthful response to its regional neighborhood? How can we use our skills and interests to help our cities find

the breadth of future opportunity. Not only the whole environmental movement and a.t. efforts, but also basic economic and behavioral forces drawing us in this sort of direction. The localizing of travel is one. New business investment patterns are another, where profit margins are becoming less important as the unpredictability of high-profit, non-renewable energy supplies become worse. This is guiding business to more frequently choose the dependable lower profit, ten-year pay-back of renewable energy development over the undependable high profit two-year pay-back for non-renewable energy development. Again, the trend is toward considering breadth of future opportunity as a basic value. Who knows—one thing may lead to more things to lead to others.

The taking hold of things to come is a learning process. While the exact shapes of things to come and the specific opportunities we'll find remain unknown, one thing is clear: we will have choices to make and will make them better for seeing all our relationships more clearly. As our communities begin to let go of their illusion of isolation from the environment, a.t.'s feeling of separateness and isolation from an unresponsive society will begin to let go as well. As our individual communities form and re-form and take hold of the challenge of building from what America has built for them and making it home, so will the rich way of a.t. discover new environments to take hold in. ■



small proportion of land influenced by the great ocean, the maritime climate region, is predominated by areas that get rainfall roughly on a par with the most highly developed areas in the U.S. The areas that actually receive rainfall greater than 40 inches are few and represent a very small proportion of the overall land area. In fact, the predominant effect of living in the maritime northwest is not so much the rain as it is the gray. Most of the region is under something like a 70 percent cloud cover for 9 months of the year. When people complain about the rain, in most cases one could easily substitute the gray. It grays a lot in the Northwest.

A lot of our awareness of climate is influenced by this kind of mass hallucination, based on broad summaries of climatic conditions that do not take into account local variations. Just in Portland, there are dramatic variations in rainfall amounts ranging from 27" to 64", depending on where one lives. Persons living in the east part of the city are much more under the stupendous effects of the Columbia Gorge, which can bring in gusty hot and dry winds in the summer, and frigid dry air in the winter.

Then there are the unique climatic conditions created by urban environments themselves. An average American town with a population of 1000 or more creates a heat island. A large metropolitan area will often have a nighttime temperature 8 to 10 degrees warmer than those in surrounding rural areas. "What to Do about Urban-Generated Weather and Climate Change," (by Stanley A. Changnon, Jr., *American Planning Association Journal*, January '79) is a good summary

A lot of our awareness of climate is influenced by a kind of mass hallucination based on broad summaries of climatic conditions that do not take into account local variations . . .

of some current research on the unique qualities of urban climate, like the six-year-long METROMEX project, an exhaustive study of the climate of St. Louis. The study uncovered such astounding effects as the fact that the east part of the city has higher summer precipitation, 10 percent more clouds, 30 percent more rain, 50 percent more heavy rainstorms and 100 percent more hail than nearby rural areas. The conclusions drawn in this article don't really speak to long-range solutions to urban-induced climate change, but take a more accommodating view that speaks to how to plan around known effects—like warning farmers to stay clear of the eastern edge of the city unless they don't mind being struck by 100 percent more hailstorms! More complete information on the METROMEX study is available from Stanley A. Changnon, Jr., Department of Geography, University of Illinois, Urbana, Illinois. ■

How to Find

Good Work, E.F. Schumacher, preface by George McRobie, 218 pp., 1979, \$9.95 hardcover, from: Harper & Row, Publishers, Inc. 10 East 53rd St. New York, NY 10022

Good Work, E.F. Schumacher's last gift of good work to us all, contains as ever his talent for cutting through the clutter, translating into universally compelling terms the clear strength of the economies of human scale. But *Good Work* is especially personable because its narratives are adapted from the many speeches made by Schumacher during his last tour of the United States. In its pages, the man is speaking to us, and he surely has his finger on the truth. Here is that rare animal, a book so lucid and direct that it's best read aloud to a friend—true-believer or doubting Thomas—to fully appreciate its insights and uplift.

A pleasant surprise in *Good Work* is the addition of Peter Gillingham's epilogue. It is, he says, a testament to Schumacher's positive impact on a typical confused, hesitant and self-doubting human. Peter adds spark and helps to localize Schumacher's oft-repeated advice for finding and creating good work: 1) Inform yourself. 2) Support others who are already at work. 3) Initiate where you can and how you can. Excerpted below are some of his down-to-earth interpolations.

—SA

Good Work

by Peter Gillingham

... get an atlas and some colored felt pens, and spend week-day evenings for three months marking up the atlas to connect real people with real places. The world will look entirely different to you. Whenever you learn about some interesting project, think of it as part of a specific mini-economy in terms of what is produced and used, where and how it is produced, and what part it plays in which sector both of the mini-economy and of the specific local economy. Think too of the other corners and other "markets" in that mini-economy, whom it could buy from or sell to (or barter), where needs and opportunities may coincide, where you might go to work.

Use your purchasing power selectively, both to inform yourself and to support good work in being. Think about how a given purchase or transaction serves to strengthen the meta-economy or the exhausting economy, how it can be targeted to strengthen something or someone you want to support. Remember Gandhi's remark that if your village barber gives a bad haircut, instead of going to Madras for a haircut from a city barber it is better to patronize the village barber and persuade him to learn how to give a better haircut. All of these things take effort as they become conscious, deliberate economic acts; they also take on reality in your own mind and give meaning where none existed.

Pay dues to the half-dozen groups closest to your place (where you are or where you might want to move) or to your specific interests as you start to identify them through day-dreaming. Get yourself invited to one of their work weekends. Do anything that needs doing on the first day; it may be rough or boring, but you thereby pay your dues so you can spend some time the next day poking around and asking questions. Find out what things they wish they could do next "if only." Think constantly in terms of mini-economies, local economies, and diversifying personal and family microeconomies (your own and others'). Identify where you might provide or help find the "if only" for them. Add more pages to your notebook, and mark up your atlas some more as your



own map of reality, conceptual and factual, starts to feed on itself and to grow and reach out.

Remember the three different groups of homecomers—those who remain within the macro-institutions, those who work on them from the outside, and those who go off into the meta-economy—and realize how much they need to work with each other (the second category often provides valuable skills for reducing constraints in any sector or "market" of a mini-economy: getting county commissioners to give a variance or change a regulation, for instance). You will need to understand the strengths and capabilities and mind-set of each to help bring them together where you can.

Don't be put off by the number of people whose professional expertise causes them to focus on a *problem* rather than on the potential resources to solve it or prevent it from arising in the first place; that is one of the problems with professionalization. And don't be put off by the extraordinary number of people with good motivation and underused vital energies whose initial idea of the way to make a constructive contribution is criticism.

Keep in mind the lethal summary of our whole situation that Hazel Henderson encountered in a bona fide serious question after one of her talks: "Where do you get federal funding for projects in self-reliance?" Our unconscious dependence on or at least in deference to large organizations, the legacy of the assumption that nothing effective happens except through their participation, is in our bloodstream. Self-immunization

takes prolonged and constant attention to unexamined assumptions, questioning, clearing away, letting the new and stronger emerge.

Combine your informing and supporting activities with others as you find them, pooling information and resources, ideas and energies and questions. You can contribute up to 10 percent of your income to existing nonprofit organizations (or new ones you form). You can invest more money and have it deductible by "losing" it in some kind of business enterprise that is pointed toward becoming a viable part of some corner or some sector of some mini-economy—so long as the endeavor makes basic economic sense and is making progress toward break-even. Good, imaginative, and principled lawyers and accountants love to help on projects like this, where the government subsidizes your work whether they like it or not.

... I would add another component to Schumacher's urgent dictum "Take back the value added," namely "Take back the imaging function." By imaging I mean that aspect of imagination which seeks a resulting action in the real world. As much as humanely possible, the crucial imaging function must be conducted by those who will actually make the entrepreneurial leap from thought to action, venturing their energies and resources and often their working lives. Professionals and specialists typically think that it is a regrettable waste of everyone's time when people "have to reinvent the wheel." The essential fact to the contrary is that professionals, specialists, and experts (few of whom, we might note, also have responsibility for any real action or risk-taking) have eliminated the imaging function, *when going through that imaging process is an essential precondition for the mobilization of thought and action and self-discipline required to carry through anything of substance and complexity*, most particularly any real business or any other productive economic process.

In the case of the urban professional or other knowledge person who is trying to find or create his or her own good work—or at least the part of it that comes from diversifying one's personal or family micro-economy—in a rural area or a smaller community, then that is where the imaging must be done. Going beyond the assemblage of experience and information to the formulation of actual what-if working hypotheses, which are tested until one of them gains enough weight and validity to be put into action—this all requires a focus on place, people and local economy and mini-economy in the actual environment where the work will take place.

One of the best ways to stoke the imaging fires is by means of County Self-Studies. The idea is to look at the county as if it were an independent island republic. What do we produce here? What do we consume or use? Where does it come from? What could we produce that we don't produce now? How could we meet more of our own needs? How can we diversify the local economy?

The County Self-Studies are usually conducted by self-selected pick-up groups of local people who together want to generate a picture of their local reality and potentials based on meta-economic principles and geared to locating new enterprises. The area doesn't specifically need to be a county. There should be a large enough mass of land and people to provide a diversity of mutually reinforcing conjectures, yet it should be small enough so that people can meet together frequently and bear the expense out of their pockets. Sometimes a useful study can be made on the basis of a Congressional district. There is an enormous amount of information available from the federal government already "broken out" on a district basis; because of reapportionment each district has about half a million people and therefore what has been done in one district may have direct usefulness to people in

another. Most important, perhaps, the project has a built-in interested audience of one, its member of Congress, for whom almost nothing generated from his or her own constituents is ever hand-tailored to his capacities to act.

The past of the locality and its economy can provide enormous resources of experience and information and ideas. These are "tailings" that can be "mined" by the present generation for concrete and relevant possibilities for economic activities that, for instance, once went on in this area but went out of business in the 1930s because of competitive advantage as transport costs rise. . .

These County Self-Studies are not antiquarian exercises. They aim at stockpiling past experience and present knowledge and imagination and conjecture in order to provide raw materials for the imaging processes of those people who must actually make individual decisions to take one particular possibility and run with it. They must be kept open and comprehensible to the ordinary public. They cannot be institutionalized or put into the hands of paid professionals; even academics and professionals and other sources of knowledge who yearn to help must learn to be "on tap, not on top." Existing prototypes suggest that teenagers and retired people between them often provide the best staffing and direction for such studies at minimal financial cost and with minimal institutional structure.

The idea is to look at the county as if it were an independent island republic. What do we produce here? What do we consume or use? Where does it come from? What could we produce that we don't produce now? How could we meet more of our own needs?

Once the imaging of the potential "entrepreneurs"—based in part on the raw materials stockpiled by the self-studies—has led to concrete decisions and commitments, another type of locally generated and directed institution can come into play. George McRobic, Schumacher's closest longtime associate in Britain, has been taking the leadership there with John Davie in helping stimulate and encourage the formation of what they call Local Enterprise Trusts. Here, by contrast with the self-studies, there is a slightly higher level of professionalization, though still the maximum resistance both to salaried staffs and elaborate institutional structures. People working through Local Enterprise Trusts generally have some concrete experience in small or large business, government, or a relevant profession such as law or accounting. Their role is to bring to bear capital and professional, technical and specialized help when the actual venturers need it and ask for it.

Such a Local Enterprise Trust is often nonprofit but concerned with helping both conventional for-profit businesses and other patterns of enterprise (such as production cooperatives or worker-owned or community-owned corporations) to succeed and flourish. It is frequently able to invest locally generated capital in such an enterprise, lend assistance sufficient to help make the enterprise a success, and then conclude its "grassroots investment banking" role by letting itself be bought out at an early stage and returning the capital thus recouped to a revolving fund for the assistance of newer enterprises.

The dynamic underlying the whole thing is the process of people taking back the imaging function. ■

California Water Atlas, Governor's Office of Planning and Research in cooperation with the California Department of Water Resources, William L. Kahrl, Project Director and Editor, July 1979, 16"x18", 124 pp., \$37.50 hardcover from:

William Kaufman, Inc.
One First St.
Los Altos, CA 94022

The environment of the western United States is delicate. One can see it from the air—isolated rivulets against a backdrop of brown (and in winter, white on brown). Lots of land. You could drop a Connecticut somewhere out there and lose it. And at the far western edge a strip of green so narrow that a jet landing on a slightly higher incline might just shoot right by it: the lush, narrow coastline extending from British Columbia to north of San Francisco, the area that most resembles the eastern United States, and even there people snuggle together in valleys, climbing only cautiously up foothills.

John Wesley Powell drew attention to the elementary differences between the eastern U.S. and the vast western lands in his 1878 "Report on the Lands of the Arid Regions of the United States," describing 4/10 of the U.S. continental land mass as an arid region with an average of less than 20 inches of rain a year—an area where eastern laws and social norms might not apply. Rules for sub-dividing land into 160-acre sections did not always make sense in the west, where one might own many times that and still have no water. One could also not expect the same uniformity. In the east, most all areas have 40-60 inches of rain a year. In the west, one might travel 35 miles and find annual rainfall amounts ranging from 15 to 200 inches—as on the Olympic peninsula.

The story of water as told in the *California Water Atlas* unfolds like an epic film, beginning: "This book sets out to tell the biggest story in the richest and most populous state in the union. Water lies at the basis of modern prosperity of California, and the history of the state is in large part the history of water development."

The *Water Atlas* was a 15-month project, involving over 50 contributors, prepared by the Governor's Office of Planning and Research in cooperation with the state Department of Water Resources. William Kahrl's forward and Stewart Brand's afterword describe the work as a labor of love (people working 80-hour weeks, etc.). It is evident that

those involved felt they had embarked on an important project and not for love of the subject alone, but also because new forms were being created: "avant garde" map-making, as one called it.

There was another issue indirectly addressed by the *Atlas* project. Brand in his afterword mentions in passing that while the project was in the throes of research, that historic event we call Proposition 13 passed on by. Here was brazen use of taxpayer money in vivid color (remarkable color throughout—fine graphic design like a perfected Time/Life series). A government agency (under lean Brown, no less) not just quietly announcing another report on water, but broadcasting government expenditures for an artistic event.

The artfulness of presenting environmental impact information to the public has surely matured in recent years, and the *Atlas* takes a giant step in declaring that it is not enough just to put information together in pages of type; the goal must be clearly seen as one of education. The story of water (and perhaps in future atlases, the story of energy, food, etc.) must be told in ways that can compete with the extravaganzas we are daily confronted with through the mass media.

In the middle of the new lines being drawn (are you anti-government or anti-incorporation?) along comes the *Water Atlas*, demanding to be appraised. Is this worth the \$500,000 (mid-project estimate) it cost to produce?

I've spent at least 5 hours with the *Atlas*, thinking about water, getting lost in the maps—sometimes just holding them up to look at as though they were paintings, reading the easy to read text, and wondering about the place of such efforts in post-Prop 13 days.

I found in Chapter 1, "California's Water in Context," some of these good frame-setting perceptions:

- "75 percent of our body weight is water."
- "It takes about five acre-feet of water (an acre-foot is the amount of water required to cover one acre one foot deep) to produce the food the average American consumes each year."
- "A single one-inch rainfall on a 160-acre farm delivers 4,365,000 gallons. To transport this 18,150 tons of water would require 544 tank cars operating as four trains each over a mile long."



California Waterscape



Photo adaptation from The California Water Atlas

• “Worldwide, about one-quarter of the total energy of sunlight is used to evaporate water, more than 4,000 times the total power now available to the world’s industrialized civilizations.”

I found in “The Natural Endowment” one of the handiest introductions to climate I’ve come across, and with this fresh in mind was able to understand California’s particular climate. The historical chapters present well-known and little-known facts of California history through the perceptual filter of the politics of water. Along the way, there are charts and maps of all kinds and shapes (for one skeptical moment I wondered if it wasn’t art for art’s sake), each one dense like the meticulous drawings of Dutch realist paintings.

Charts (though it’s hard to say what’s a map and what’s a chart), for example, of: hydrologic balance for California; precipitation variability; annual runoff and seasonability; Northern and Southern California urban delivery systems; and three most dense and unusual charts: measured and unimpaired stream flows (what river flows would be if they were not dammed); peak stream flows; and water supply and demand of regions within the state.

Maps of: annual precipitation; natural moisture demand (evapotranspiration); the virgin waterscape; historic water development; groundwater; California waterscape (seen above); and many more.

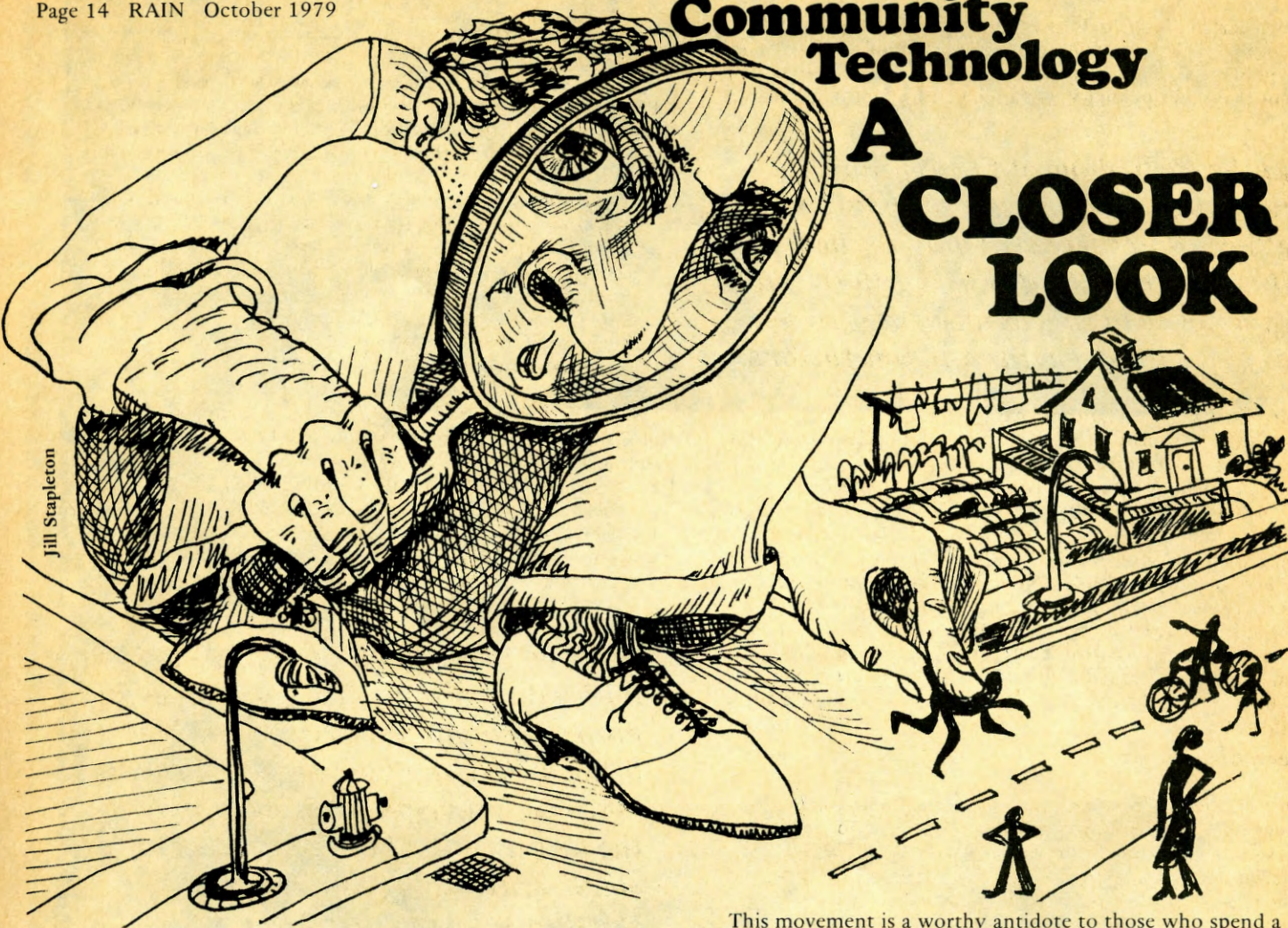
And aerial photographs. I still do not tire of these wonders. The ones in the *Atlas*, unlike some reproductions I’ve seen, are sharp—they even stand up to a small power magnifying glass.

The *Water Atlas* is fascinating in what it literally brings to bear on the critical issue of water, in what it potentially does to the art of atlas-making, as a recreational reading delight, and as a bold statement that government can and maybe should produce artful documents which can set boundaries and draw together implications for decision-making around critical issues, and importantly, bring these issues out of specialized fields into the public market place.

I would guess that in this experimental atlas project the next hurdle to pass (as with any publication) is to reach who could/should benefit from holding it. The value of the effort now becomes challenged by the need to find space in the daily onslaught of information for such a slow, complete, thoughtful appraisal of an issue that too few think much about.

—SJ

Community Technology A CLOSER LOOK



Jill Stapleton

Adams Morgan, an inner city, integrated neighborhood of Washington, D.C., was the setting in the mid '70s for some experiments in small scale food production, waste recycling and town meetings. Karl Hess tells of his participation in these projects in his book, *Community Technology* (1979, \$2.95 from Harper Colophon Books, New York, NY). The following excerpts are from a review of the book by David Morris, a 12-year resident of Adams Morgan and co-director of the Institute for Local Self-Reliance in Washington, D.C. The book has become a focus of a larger dialogue between the myth making of appropriate technology and the political realities of neighborhood self-reliance. David's comments about the book draw our attention to the need for more critical evaluation of the purposes of neighborhood technology by the people involved. These projects must be analyzed within the larger context of community needs and political power; only then can an honest appraisal of their success be made. The complete text of the book review can be found in the May/June issue of *Self-Reliance* available from ILSR, 1717 18th St. N.W., Washington, DC 20009, \$8/yr. —PC

by David Morris

The strength of the appropriate technology movement derives from its enthusiasm and sense of positive purpose. Citizenship is based on production. Community technology encourages self-reliance, self-confidence, and craftsmanship. Its message is clear: one person can make a difference. The household can be productive. The neighborhood can serve the major needs of its population. The city can meet many of the remaining requirements for the good life.

This movement is a worthy antidote to those who spend a considerable effort to prove to us that little can be done on the small scale. That is the scholarship of paralysis, for, by assuming that everything must be changed in order to change anything, by ascribing to the forces arrayed against them both omniscience and omnipotence, the critics of small-scale endeavors encourage passivity and cynicism.

However, when exaggerated and isolated, optimism can easily slip into romanticism and idealism. Karl Hess's *Community Technology* presents us with a classic case. He anticipates this major criticism in the first chapter: "Much of the criticism levelled against this book will call it 'unrealistic' dreaming." To anticipate criticism is not, of course, to answer or deflect it. Just as the scholarship of "realism" can paralyze us, the romanticism of idealism can disillusion us. It can lead to small gasps of effort followed by disappointment, bitterness and retrospective cynicism.

Romantic idealism takes three forms. First, it exaggerates and distorts history, oversimplifying and misleading readers. Second, it is extremely personalist, ignoring the large context that circumscribes and influences any local activities. Finally, and possibly most important, it ignores the central issue of power and institution building, giving us the message that getting from here to there is nothing more than convincing our neighbors to lend a hand.

Exaggeration

We need myths. They give us a vision and a sense of solidarity. Adams Morgan residents hoisted the neighborhood flag up the centrally located flagpole and created the myth of political independence. Ernest Callenbach's book *Ecotopia* gives us the myth of solidarity among all the peoples of the Pacific North-

west. Karl Marx created the myth of the working class.

In the early days of the appropriate technology movement, we publicized efforts that were still half-formed. Any movement that seeks publicity, or funding, exaggerates its successes.

In the early days of the appropriate technology movement, we publicized efforts that were still half-formed. But it is now time that those with the most experience in this movement seriously analyze its strengths and limitations.

But it is now time that those with the most experience in this movement seriously analyze its strengths and limitations. Karl Hess does us all a disservice by not doing this. Rather, he continues to rewrite history to conform to his dreams.

In Karl's book, *Community Technology* as an organization that developed tools and programs to make Adams Morgan self-reliant was a success; the neighborhood was at fault. The fact of the matter is that *Community Technology* was a small group of people who pursued their favorite technologies. It was less community technology than personalist technology. This is not meant to demean the effort. It was an exciting time of experimentation. But if Karl wants to use it as a model of neighborhood technology, it must be examined in a different light. . . .

Lack of Context

The strength of the appropriate technology movement—the focus on small communities—can also be its major failing. It presumes reconstruction can take place through internal revitalization, ignoring the larger world. "The reality is that when most people want something to change, it will change," writes Karl Hess, and he means this in a neighborhood context. For him, the basic ingredients of social change are a committed neighborhood, adequate access to tools and know-how, open meetings, and a small amount of capital. However, although participation and knowledge may be necessary conditions, they are not sufficient. . . .

One cannot discuss the prospects of a neighborhood without explaining the social forces that intersect and define its context. Adams Morgan in 1974 was a neighborhood in the middle of a colony. The colony was gaining a measure of self-determination and was fighting for more. So was the neighborhood.

By ignoring this larger context, Adams Morgan in Karl Hess's book appears to stand outside of history. When Karl writes of *Community Technology* as an organization, he makes it seem as if there were a dormant neighborhood which became activated by people like himself, only to slip back into passivity after a short energetic spurt. Karl ignores the rich history of activism in Adams Morgan, both before his arrival, and after his departure. In the 1960s, the neighborhood fought long and hard against an urban renewal program that would have destroyed major sections of it. It struggled for 14 years to get the city to purchase a four-acre park in the middle of the neighborhood.

Personal Politics

One major reason the community never related closely to the activities of *Community Technology* was that the group never addressed itself to what the community perceived to be its primary concern: housing. Solar collectors, trout farms, community gardens, even credit unions, or self-managed businesses, mean little until one controls the land. . . .

Power and Arrogance

Which brings us directly to the issue of power. Karl ignores, avoids or criticizes those who direct their attention to power. His Pollyannish attitudes toward social change has its counterpart—arrogance. In this book the arrogance is directed at blacks:

The people who seemed to talk about and do the least in support of our group's proposals were black. . . . Blacks think black, as they continually say. So black has come to mean poor and oppressed. Black demands have come to mean black reparations; to be given something rather than seeking the chance to do something.

Such a statement, directed at 75 percent of Washington, D.C., and 60 percent of his own community, screams for elaboration. Karl chides blacks in D.C. for striving for power instead of production. He fails to mention that many people in D.C., blacks as well as whites, chided *him* for exactly the opposite: ignoring power and concentrating on what they perceived as interesting backyard hobbies and inventions.

There are many blacks who view the neighborhood movement with suspicion. They see it, and the concomitant move to metropolitan authorities, as not coincidentally arising just as blacks were becoming the major political force in cen-

We need to reach out, to build coalitions with labor unions, city governments, professional organizations, state legislatures, machine tool shops. It's only when the movement can acknowledge the larger context of this revival of small-scale living that it can have a substantial, permanent impact on our way of life.

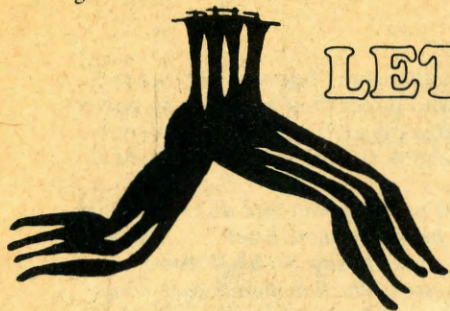
tral cities. At the same time, blacks were winning mayoral and city council elections, the twin demand for neighborhood power and metropolitan government undercut the power of the city.

In the final analysis, it is the conscious avoidance of power and institution building which dooms Karl's philosophy to failure. It is not a coincidence that in *Community Technology* there is no mention of small business development and no discussion of city political authority. Institutionalization, representative government and political power are not goals to be achieved. They are evils to be avoided. Yet, by not addressing the needs of his community, and refusing to deal with the larger forces impinging on the security of his neighbors, Karl is left with little more to do than to criticize.

The strength of the community technology movement is that it can harness our vast scientific and engineering expertise in moving toward small systems. Its strength lies in the way it encourages average citizens to begin transforming themselves and their communities into places of production. But if it stops there, it will degenerate into a cynical, isolated voice, criticizing those who don't drop everything to raise fish in the basement.

We need to reach out, to build coalitions with labor unions, city governments, professional organizations, state legislatures, machine tool shops. It is only when the movement can link scientific knowledge to political power, only when it can acknowledge the larger context of this revival of small-scale living, that it can have a substantial, permanent impact on our way of life. ■

LETTERS



Ujamaa

Hello! Friends at RAIN,

I've been getting a lot of material from RAIN because I'm building an "Alternatives" library for the cooperative community here in Los Angeles. When I read in *Stepping Stones* about Karl Hess's account of his experiences with blacks in Washington, D.C., I was intrigued because I am black, born and raised in that town. After seeing a continuation of that article in RAIN, Nov. '78, I'd like to pass on a few thoughts.

When Mr. Hess spoke about welfare clients being unproductive, he expressed the common myth that these are mostly able-bodied, working age people. In fact, most welfare clients are young children. They, in turn, usually live in one-parent families where the adult works at a low-paying job. (If fully compensated for their energy, many would not use welfare!) Childless adults on welfare must work for their stipend, unless declared disabled. As for black teenagers, I think most of them

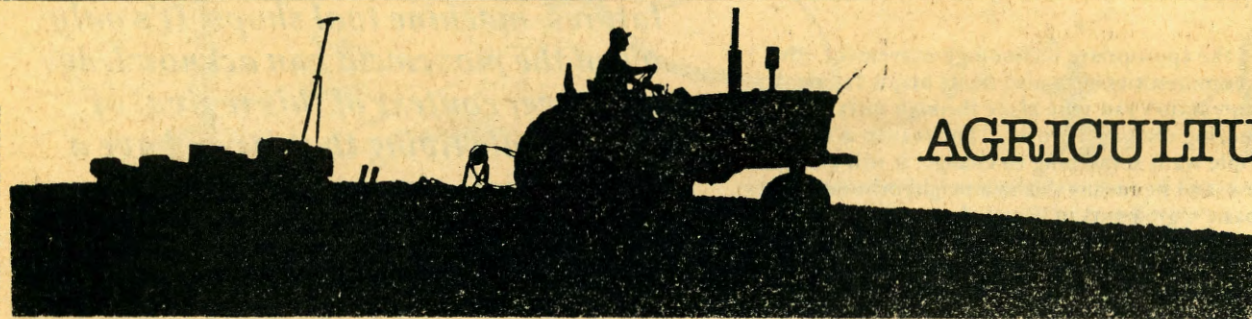
realize that a lot of government money was put into work programs to keep them off the streets instead of rioting. So, it's not unreasonable that they would go after ready-made jobs rather than creating their own.

Self-reliance is a difficult concept to put into action. Industrialized people of every group have come to depend too much on experts and others outside themselves. This society tends to encourage individualistic, competitive, capital-intensive types of endeavors. It's against great resistance that any local cooperative projects, whether run by poor blacks or middle-class whites, will get off the ground and prosper.

Community financed and run projects are nothing new to blacks. The (Black) Muslims have always stressed "doing for self" and even after harassment from the Ku Klux Klan and law officials, they still persist in their goals. Other black groups around the country have been and are engaged in a co-op movement based on the African concept called *Ujamaa*, which means building and maintaining their own businesses and sharing equally in the work and profits. Recently, I visited such a black center in Los Angeles. . . . Members of the center are starting work on their own co-ops, gardens and lifestyles de-emphasizing consumption. It will be interesting to see how successful they are in putting their ideas into form.

Sincerely,
Sandra D. Madden
Van Nuys, California

From: New Directions



AGRICULTURE

World Hunger: Ten Myths, Frances Moore Lappé and Joseph Collins, 1979, \$2.25

Food First Resource Guide, 1979, \$3.00

Agrarian Reform and Counter-Reform in Chile, Joseph Collins, 1979, \$1.00

from:

Institute for Food and Development Policy
2588 Mission Street
San Francisco, CA 94110
(add 10 percent for postage and handling)

World Hunger: Ten Myths. A quick summary of the points first published in *Food First*, *Beyond the Myth of Scarcity*. Very direct and terse presentation of the socio-economic roots of world hunger. Frame of reference is in the third world, but a look in our own backyard reveals the truly universal scope of multinational market control.

Food First Resource Guide. Bibliography of the IFDP research.

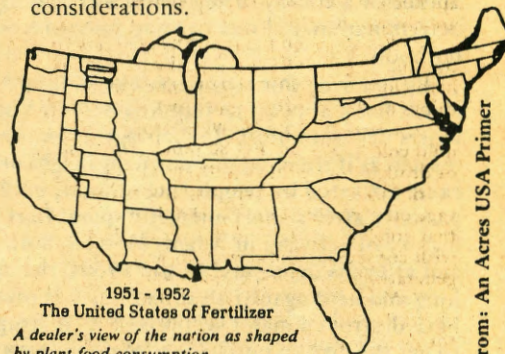
Agrarian Reform and Counter-Reform in Chile. An in-depth analysis of the progress made during the Allende years contrasted with the impoverishment of the poor after the Pinochet coup. Following closely the economic principles espoused by Milton Friedman and the Chicago school of economics, the military junta has effectively undermined the efforts of the peasants to feed themselves by encouraging production for export. Milton Friedman and the imperialists are in the lead for now, but there's more to come. —TM

An Acres USA Primer, Charles A. Walters Jr. and C.J. Fenzan, 1979, \$15.25 from:

Acres USA
Box 9547
Raytown, MO 64133

Soil fertility is the crux of the message contained in this book. Presented as a series of lectures/lessons, it covers every aspect of plant growth and soil building;

plant nutrition, pest and disease resistance, composting, trace elements, crop rotations and a multitude of pertinent considerations.



1951 - 1952
The United States of Fertilizer
A dealer's view of the nation as shaped by plant food consumption.

As a primer, or first reader, this book does an excellent job of tying theory to practice; revolutionary scientific concepts naturally jive with folk knowledge. And this combined wisdom soundly refutes much of what has transpired in between; scientifically questionable research by land grant universities bowing to political pressure from agribusiness interests.

From: An Acres USA Primer

Dear Friends at RAIN,

As I continue to read all the back issues ordered of RAIN, I've come across references to Karl Hess's opinions regarding urban blacks and the role of middle-class whites in working with these people. I'd like to add a few comments which might serve as a postscript to my other letter to you.

I think the only successful alliances between blacks and whites occur when they regard each other as equals. People who perceive themselves as rescuers (consciously or unconsciously) attract people who perceive themselves as victims. As Eric Berne points out in his theory of transactional analysis, mutual resentment of the other role players sets in when the victims experience setbacks in overcoming their problems.

To play missionary delivering the gospel of appropriate technology to the downtrodden is to be judgmental about others' lifestyles. There are low-income people who will not accept a.t. at this present time. For some of them, still seeking their piece of the American pie, it is a truism that "one has to have lived in Scarsdale in order to reject it." Even if people persist in what appears to be self-destructive behavior, I think we have to see this as learning experiences for them. We certainly have our own tests to deal with. Who's to say who's any worse or better off, ultimately?

It's better, I think, to make whatever knowledge we have more accessible to people, open up options for them to use that knowledge, and, above all, try to avoid being part of their problem.

Sincerely,
Sandra D. Madden

The letter referring to Karl Hess's November '78 article was from Jim Frazin, and appeared in our June '79 issue. In addition, there was a written response to that letter from Karl in the August/September '79 RAIN.



Soundly based contentions of the authors are:

1. Simplistic nitrogen, phosphorus and potassium (N, P and K) fertilization means malnutrition for plants, animals and men because either a shortage or marked imbalance of plant nutrients prevent balanced plant health and therefore animal and human health.

2. Plants in touch with exchangeable soil nutrients needed to develop proper fertility loads, structure and stabilized internal hormone and enzyme potentials, provide their own protection against insect, bacterial and fungal attack.

3. Insects and nature's predators are a disposal crew. They are summoned when they are needed, and they are repelled when they are not needed.

4. Weeds are an index of the character of the soil. It is therefore a mistake to rely on herbicides to eradicate them, since these things deal with effect, not cause.

5. Crop losses in dry weather, or during mild cold snaps, are not so much the result of drought and cold as nutrient deficiency.

6. Toxic rescue chemistry hopes to salvage crop production that is not fit to live so that animals and men might eat it, always with consequences for present and future generations of plants, animals and men.

7. Man-made molecules of toxic rescue chemistry do not exist in nature's blueprints for living organisms. Since they have no counterpart in nature, they will not likely break down biologically in a time frame suitable to the head of the biotic pyramid, namely man. Carcinogenic, mutagenic and teratogenic molecules of toxic rescue chemistry have no safe level and no tolerance level.

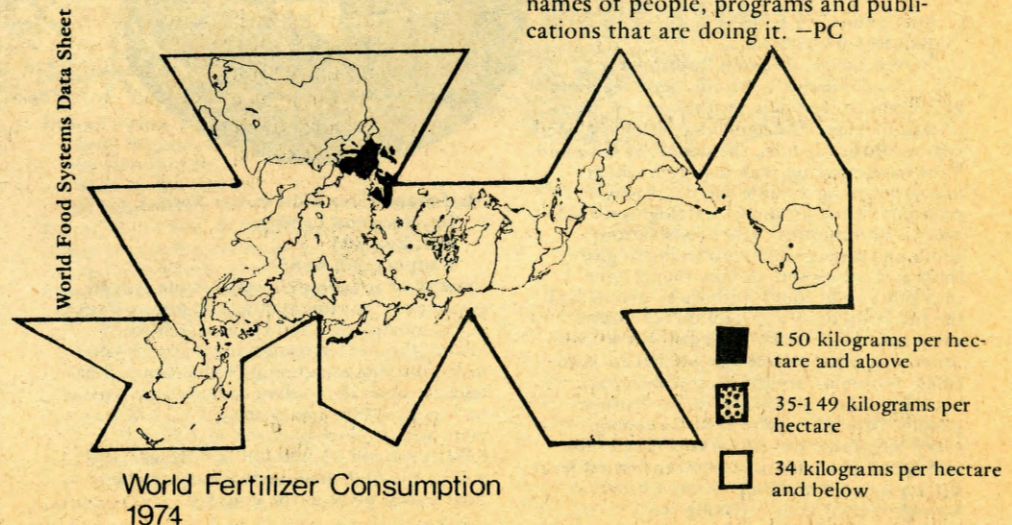
In short: a cornucopia of excellent practical knowledge and advice for green thumbs from urban gardeners to country farmers. —TM

World Food System Data Sheet, \$1.50 plus \$.50 postage from:
World Game
3500 Market St.
Philadelphia, PA 19104

The most up-to-date evaluation of food facts from production to consumption to population statistics, etc. Poster format has matrix layout of numbers and on the flip side graphic maps illustrate location and utilization of resources. Fact: Belgium-Luxembourg leads the world in fat consumption, with the U.S. a tight second, 174 gm/day and 168 gm/day. Compare this to 12.6 gm/day for Rwanda (Africa). Pocket calculator fun for the whole family. —TM

New Directions in Farm, Land and Food Policies, edited by Cynthia Guyer, 1979, 118 pp., \$9.95, from:
Conference on Alternative State and Local Policies
1901 Que St., N.W.
Washington, DC 20009

An excellent resource book filled with innovative projects and policies which promote an agriculture system that is decentralized, environmentally and socially responsible, and family farm oriented. Short introductory articles to the chapters outline the problems and the possibilities. Contents range from family farms and farmland issues to urban and consumer food policies. The tools are provided in the form of the names of people, programs and publications that are doing it. —PC



As those of us involved with appropriate technologies become more active in our own regions, working to remove boulders from the soft path we are creating, we tend to develop tunnel vision—only seeing what is going on around us, working on issues and problems which affect our immediate bio-region and hence ignoring the problems and successes of our counterparts. As such, there's a tendency to fall back on our previous conceptions of an area which are no longer accurate.

People in the Northeast, where I've lived for many years, tend to feel that the Northwest is a mecca for socially aware people working to create the alternatives. We've heard of so many things going on there, we tend to think the Northwest has no pollution, no clear cutting, no . . . ; these problems have already been solved. When we get here we find only the beginnings of a new society, and not the society itself.

Conversely, people in the Northwest tend to feel that the East is nothing but one large city, dirty and crowded, a

concrete jungle where very little, if any, a.t. is occurring. One must realize, however, that even in these "dirty, crowded cities" islands of beauty and appropriateness abound.

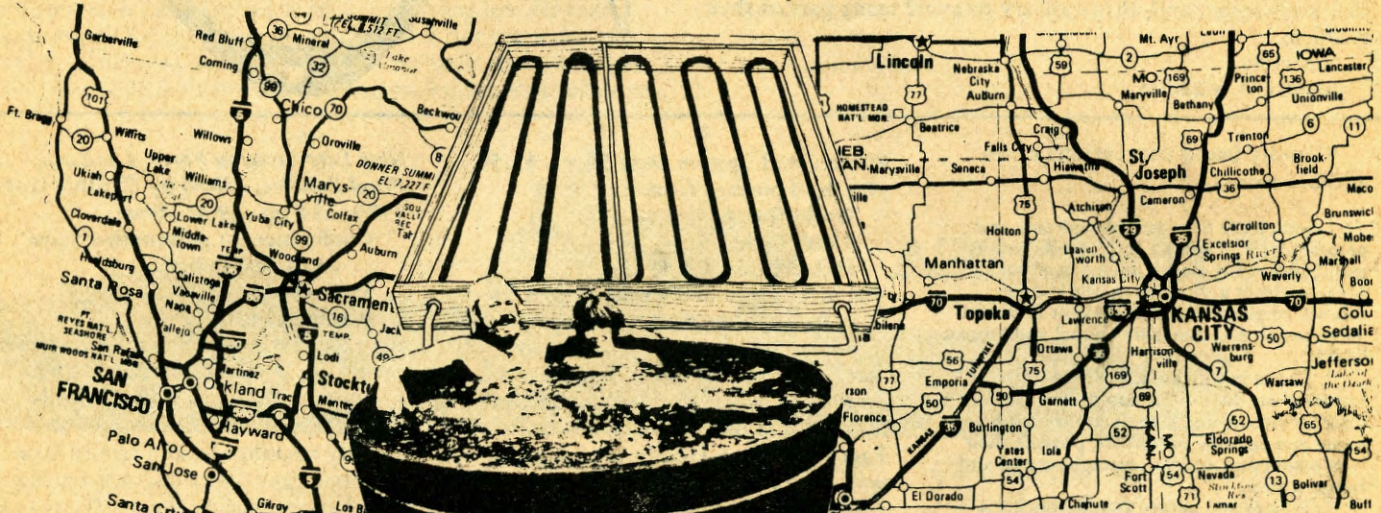
The phenomenon outlined above is not just limited to the East and the West, but to all areas of our country. It happens not so much because we are leary of our neighbors, but rather because we have no time to share our common problems and solutions, no time to be one. These misconceptions are in part due to a lack of inter-regional communication. If we are to succeed in our efforts, we must begin to communicate with each other in order for us to grow with each other's experience.

In an attempt to begin this dialogue, I am compiling information on many groups in the East which may help dispell some myths and reinforce the position that, indeed, there are many innovative projects taking shape in this bastion of traditional Yankee ingenuity and self-sufficiency.

This list is by no means complete. It

does not include groups like **New Alchemy Institute** and **Institute for Local Self-Reliance**—Eastern groups already well-known for their pioneering a.t. work. Nor does it include the many local solar energy societies, college environmental groups and the like. What it does include are some of the most successful projects not previously mentioned in these pages—unique groups which are recognized as the newest and most innovative in the region. Even with these criteria, this is but a sampling of all the exciting organizations working hard to make a.t. happen in the East. This is only to give the reader a taste of the broad range of diverse groups which are springing up like wildflowers.

Let's continue this dialogue which has begun between different regions of our country. Send us any and all information about the groups in your area, and look for it in future issues. Once we start communicating, we're on the path towards unity. (Thanks to Craig Johndohl, Mass. Self-Reliance Project/Mass. PIRG, and *New Roots*) — YL



Give and Take—"A Bartering Center"
135 Church St.
Burlington, VT 05401
802/864-0449

Steven Lange, Program Coordinator
"A.T. should include not only new technology, i.e. things, but new techniques, i.e. ways of doing things." Although bartering is a concept as old as the hills, the people at Give and Take have come up with a system which makes bartering a viable force in today's economy. They produce a catalog (updated every 3 or 4 months) which lists various goods and services and who wants to give them and who wants to take them. Then they put you in touch with these people and the rest is up to you. If you do take something and the person who is giving it to you cannot use your services/goods, he/she is entitled to obtain "credit" from the barter bank for other services/goods from other people. Through careful record keeping, everything evens out in the end. The center also sponsors an annual bartering festival in Burlington and is willing to assist others in setting up their own bartering center.

Half-Moon Cove Tidal Power Project
Dr. Normand Laberge
P.O. Box 203
Eastport, ME 04631

Frustrated at having to wait for the federal government to construct a tidal power plant in Passamaquoddy and Cobscook Bays in Maine (they've been studying it for 50 years now), the Passamaquoddy Tribal Council has taken it upon themselves to have such a plant on line by 1985. The proposed 5-12 MW plant will produce between 21,650,000 KWH/year and 33,910,000 KWH/year, and will be the first small-scale (or otherwise) tidal power plant in the country.

Syracuse Peace Council
924 Burnet Ave.
Syracuse, NY 13203
315/472-5478

In keeping with the times, these long-time (incorporated in 1936) political activists no longer limit themselves to the war machine and are now dealing with nuclear power, safe energy alternatives, third-world problems, feminism and racism, and other issues of conscience. They also run a bookstore and a collective printing press, as well as publishing the *Peace Newsletter*.

NYS Coalition for Local Self-Reliance
David Yarrow
P.O. Box 6222
Syracuse, NY 13217
315/474-0635

This coalition was recently formed to be a voice for the self-reliant movement in New York State, to make a.t. projects more visible to people by producing directories, etc., to network information on self-reliance in the state, to hold workshops and conferences to discuss the issues of the day, and to encourage individuals "to eat less and chew well, consume less, conserve more and waste nothing in a sincere and conscious effort to be more self-reliant, healthy, happy and free."

Council on the Environment of New York City

Bill Mendelson
51 Chambers St.
New York, NY 10007
212/566-0990

Created in 1970 by an executive order from the mayor of NYC, the council is a non-profit citizen organization which is privately funded. Working closely with the mayor's office and other city agencies, they give testimony on certain issues affecting NYC's environment, host a weekly radio show on environmental issues, have a reference and lending library, and work closely with other grass roots organizations in the city. They are currently engaged in four major programs dealing with: 1) Energy Conservation—educating high school and college students on energy issues and how to organize their local communities around these issues; 2) the Greenmarket Program (under the direction of Barry Benepe, 24 W. 40th St., NYC 10018), which boasts eleven farmer's markets throughout the city and has plans for more; 3) An Office Paper Recycling Service which helps offices set up a program to recycle their paper (the Chemical Bank is one such office); and 4) The Open Space Greening Project, which turns vacant lots into community gardens with the help of the Grow Truck—a mobile tool and book lending library staffed by a horticulturist who offers free advice to low income people and others. Quite a group!

The Tri-State Small Farms Program
New England Small Farmer Project
New England Small Farm Institute
Center for Rural Communities
c/o Sarah Fernandez, Coordinator
114 Draper Hall
University of Massachusetts
Amherst, MA 01003
413/545-0060

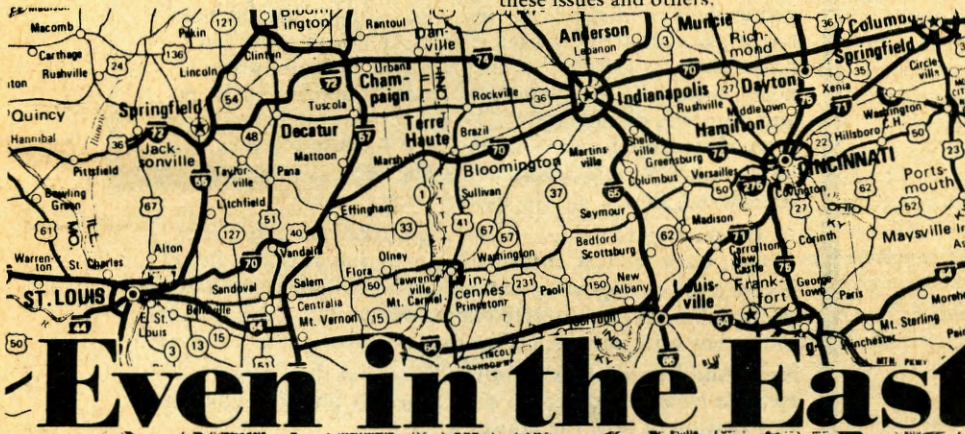
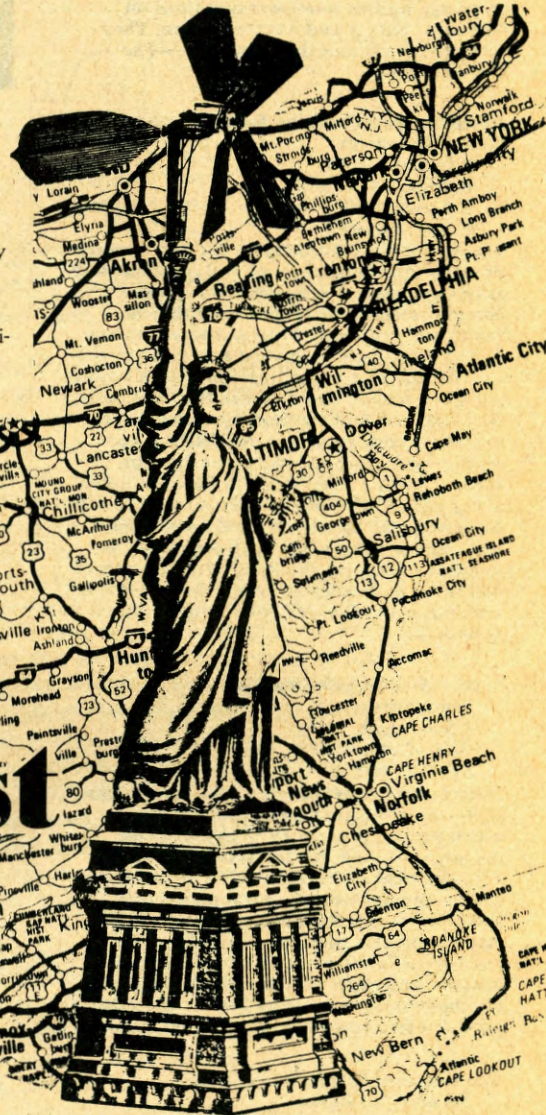
These four organizations are all working on the same goals—getting small farms going in New England and improving the quality of life in rural communities through the use of appropriate technology. Some of the groups make sure that government agencies are responsive to these goals, others give technical advice to farmers, and network information between farmers. Others provide resources to people to carry out these goals and lobby to enact small farm legislation.

South Carolina Environmental Coalition
Bill Frye, Research Director
P.O. Box 5761
Columbia, SC 29250
803/799-0321

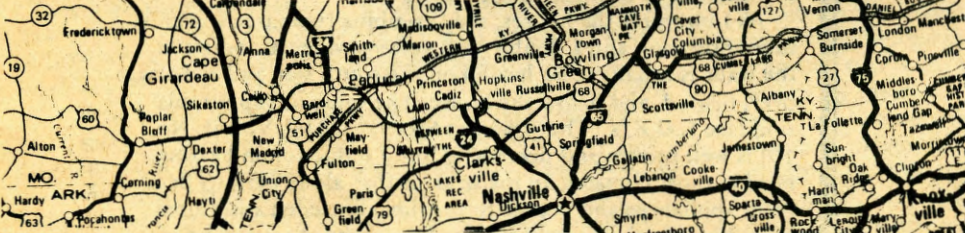
A non-profit organization founded in 1973, the South Carolina Environmental Coalition lobbies and educates people on a wide variety of issues such as hazardous waste management, miner safety, sane forestry practices, renewable energy sources, etc. The Coalition has also produced a book on various appropriate technology projects throughout the state and continues to be a strong advocate for these issues and others.

New England Alternative Transit
John Dowlin
67 Main St., 4th Floor, American Bldg.
Brattleboro, VT 05301
802/254-7352

"NEAT is a non-profit citizen group working to strengthen low-cost, energy-efficient transportation alternatives in the New England region." Located in the Brattleboro area, they have set up a ride center to coordinate commuter travel and to help people who wish to bicycle to work. They also network information to other groups in New England who have similar goals and interests. They also work with the Bicycle Network in preparing *Network News*, a publication of bicycle related stories from various sources.



Even in the East



Long Island Appropriate Technology Group
Robert Ralph
1200 Washington Dr.
Centerport, NY 11721
516/427-0035

Begun in 1975, the Long Island Appropriate Technology Group is currently engaged in a variety of projects including a Long Island Food and Energy project which encourages people to garden on the island and to improve their overall health through proper nutrition. They are also working with the Self Management Panel in South Bronx to get worker owned businesses started as well as serving as a contractor for New York City by improving existing heating systems in low income homes through weatherization, oil burner maintenance, etc. They publish a newsletter on "a random basis" and have plans to establish an a.t. library.

Boston Urban Gardeners
Judy Wagner, Co-Director
66 Hereford St.
Boston, MA 02115
617/267-4825

Founded in 1977, BUG is a coalition of organizations and individuals in the greater Boston area who believe in the concept of urban agriculture and are working to make it happen. They are salvaging vacant lots and turning them into community gardens (with the help of state and local agencies to truck in top soil, etc.), setting up a community-run compost business which will compost non-household wastes into rich topsoil for gardens. They encourage the construction of solar greenhouses for year round food production, educate the public (by workshops and newsletters) on urban agriculture, and are setting up a land trust to purchase community gardens and vacant lots.

Community Self-Reliance, Inc.
John E. Taylor
16 Armory St.
Northampton, MA 01060
413/586-0543

"The goal of CSR is the rebuilding of a local food system based on the New England tradition of individual and community self-reliance." In 1976 they took over operation of the Community Canning Center which provides people with everything they need to can produce—from jars to advice. They've also constructed solar food dryers which can be rented, and offer advice and plans on how to construct your own. They also hold numerous workshops and other educational events which are directed towards low-income, minority, elderly and school-aged people.

East Access cont.

Center for Ecological Technology

Alan Silverstein
P.O. Box 427
Pittsfield, MA 01201
413/445-4556

The Center for Ecological Technology is a non-profit organization whose purpose is to research, develop and demonstrate those technologies which have the least disruptive impact on our environment. They have held numerous workshops on home weatherization and renewable sources of energy, have trained people to do home energy audits and how to install solar energy systems, constructed passive solar greenhouses, and maintain an energy hotline to answer questions on renewable energy and weatherization. They also publish a bimonthly newsletter—*The C.E.T. Report*.

North Carolina Coalition for Renewable Energy Resources

P.O. Box 10564
Raleigh, NC 27605
Coleman Smith
919/755-0243

This emerging coalition grew out of a concern of many individuals, groups and organizations as to the impact that some of our present energy systems have on our environment, health and economy. Their purpose is to unify and coordinate individual and group efforts in order to assist in the transition to an economy and a society based on healthy, egalitarian, decentralized, and community controlled renewable energy resources. NCCRER is currently conducting a Model Solar Program inventory for the state of North Carolina under a grant from the Center for Renewable Energy Resources. On October 13 and 14 NCCRER will sponsor a statewide conference on "Renewable Energy on the Rise." The conference will focus on renewable energy resources and information exchange networking. —Craig Johndahl

Boston Area Bicycle Coalition

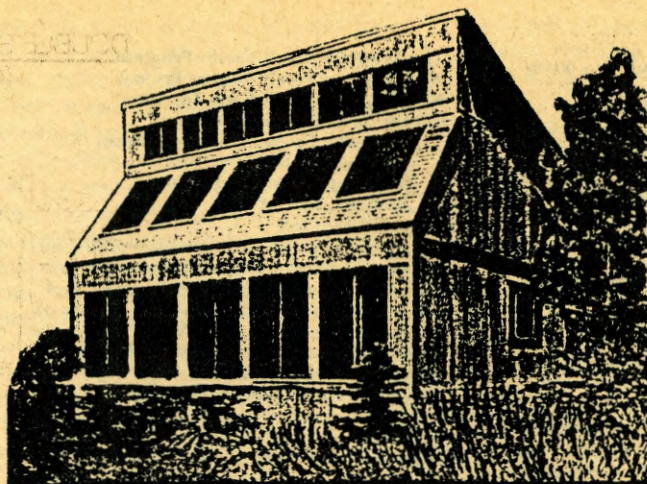
Anita Brewer
3 Joy Street
Boston, MA 02108
617/491-RIDE

"The Boston Area Bicycle Coalition is a non-profit, membership based advocacy group which formed in early 1977 to encourage the use of bicycles for transportation and to a lesser extent for recreation." They have held commuter workshops on bike repair and safe riding techniques, prepared a bike map for Boston, maintain a telephone hot line for useful information and riding companions, and other projects which make cycling in Boston easier and safer. They also publish a free newspaper three times a year.

Tao Center of Self-Reliance, Inc.

Stewart A. Chipka
27 Center St.
Rutland, VT 05701
802/773-2042

The Tao Center is primarily a solar building school which provides a small group of people with all the necessary skills to construct their own passive solar home. Classes run for a month at a time, and one month the class is limited to women only so that the environment is both supportive and instructive for women who wish to acquire these skills. The center is also in the process of opening a manufacturing facility which will produce air collector type solar heaters, kit solar greenhouses, windowbox greenhouses, solar food dryers, and solar pool heaters. This will be a training center as well as a manufacturing operation.



What Makes Ekose's a Run?

Tom Bender

A number of people have asked us about the Ekose's Homes designed by Lee Porter Butler and friends, and wonder why we haven't reviewed them. There was no conspiracy—only our ignorance of details. We were waiting and waiting to receive information on them, and had received so many conflicting reports from people that we wanted to know as much as possible before passing on our feelings.

The design pattern that Butler and friends have put together does seem excellent, and, interestingly, has the best retrofit potential yet for the typical American suburban house with crawl space. Their placing of the solar water heater *inside* the solarium significantly simplifies its design and improves its operation. The gravity-powered convection loop of tempered air around much of the house is a particularly elegant pattern. Summer cooling appears to be well considered. Best of all, the houses seem to work!

On the negative side, no one is quite certain *why* the designs work so well. Information materials available from Ekose's are outrageously expensive and contain a fair amount of misinformation (distorted comparisons with conventional and other solar designs, claims that no extra insulation is used, etc.). And Ekose's at least now admits that their \$24.95 *Ekose's Homes* booklet is a *sales brochure* and not a detailed explanation of how the houses work.

As I interpret the houses, they combine two main features: superinsulation and a double-wall system where air between the walls is usually solar heated on the south side and circulates over, behind, and below the house. The value of superinsulation (see L.O.F.'s "The Arkansas Story," *RAIN*, Vol. II, No. 10) is well proven—60 percent or more reduction in heating need in most climates. In many areas that alone permits heat from appliances and people to provide all needed additional heat. Ekose's claims only standard amounts of insulation is used, but with *two* "standard insulated" walls and roofs between you and the outside, superinsulated is a more honest term.

Butler's methodology does appear to make careful consideration of humidity, radiant temperature of surfaces, and other design conditions that are frequently ignored, and his attempt to work out standard plans for different climate conditions is commendable. People familiar with convective air flow do question the conventional explanations of heat storage and transfer supposedly occurring in the crawl space, and hint that the double-wall design (which only tempers 2 of 4 walls anyhow) may be unnecessary. All that has to do with where to go from here, however, but it seems for sure that 100 percent naturally climate-controlled housing is no longer a distant dream.

Resources

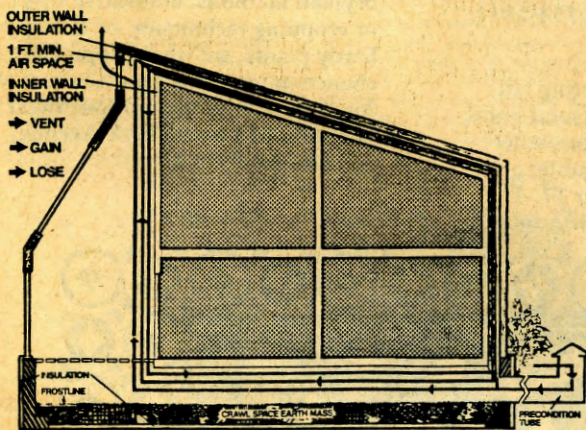
It probably takes someone pretty familiar with natural climate design to separate the wheat from the chaff in Ekose's publications. If you want general information on the designs, go to the CQ and BH&G articles. If you want to build one of their designs, find out their total charges for all parts of the services they provide. If you want to use the ideas—beg, borrow or xerox a copy of their publications or wait until someone distills it all into an affordable and sensible form.

"Don't Build a House till You've Looked at This," Michael Phillips, *Co-Evolution Quarterly*, Summer 1978, p. 100-102.

"A Step Ahead in Solar Living," Cheryl Scott, *Better Homes and Gardens*, March 1979, p. 50-55.

"The Ekose's House," Lee Porter Butler, *Co-Evolution Quarterly*, Winter 1978-79, p. 33-34.

Ekose's Homes, 88 pp., \$24.95, and *The Energy Producing House*, \$18.95. Both from Ekose's, 573 Mission St., San Francisco, CA 94105. □□



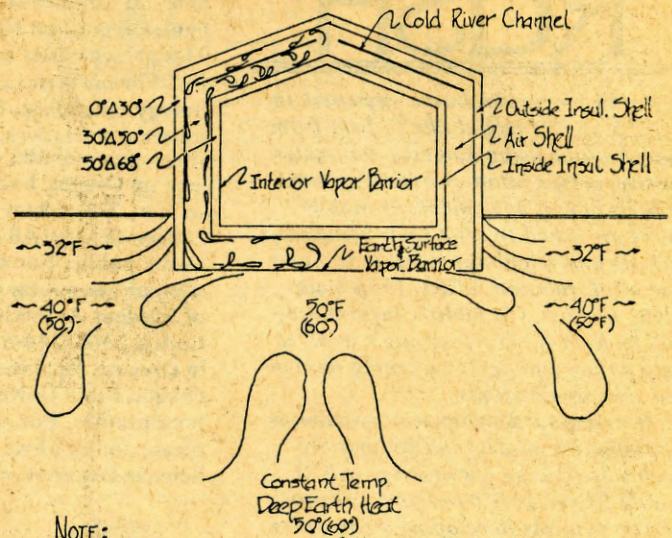
Double-Shelled Houses
Phil Henshaw

In my developing of an understanding of the micro-structure of passive thermal events built upon thousands of direct observations, I have yet to observe a warm air current dig down through a cool air layer to rest in contact with a cooler surface below. This means, conclusively to me, that no energy is ever transferred directly from air to ground, only the other direction. Yet the darned things work, in the situations so far considered, as if heat were transferred from air to ground. Because essential parts of the behavior description are strongly contradictory, and because there is a feeling of "looseness" to it all where not every event is quite linked to each other, it seems to me that the actual energy pathways have probably never been mapped.

So who cares if you're using the wrong formula and somehow get the right answer? Anyone who wants real design and related freedom!

My Double Shell Building sketch is of behaviors I would postulate to be found essential to the actual behavior of double shell houses. Notice the sleeve of earth temperature air which is pictured sliding up adjacent to the inner shell. That earth temperature air is what I suggest constitutes the important contact environment of the inner shell. The outer sleeve of colder than earth heat is shown slipping down to rest on and be warmed by the earth. Deep earth heat is shown welling up under the building by internal earth fluid circulation which necessarily exists (at some scale) because soil is permeable and the earth at a depth under the house is warmer than earth at the same depth around the house.

DOUBLE SHELL BUILDING - WINTER
(Conceptual)



NOTE:
- No careful observation of these particular behaviors has yet been made.
- The quantity of earth heat available is unknown though probably large & varies with soil permeability etc.
- The trick is that only 30° (60°) air touches the outside of the inner shell.

Notice that no glazing of any sort is shown taking part in these cycles. A house in central New York (the Howells' house, a super-insulated ceiling wall and foundation house over a slab on grade with a vapor barrier and limited windows) during a week of 0 degree and clouds held a temperature never below deep earth temperatures of 47 degrees, with no internal gains. Though it would cool directly to 47 degrees, it would refuse to go below. It thus appeared to have the behavior of the Ekose's air shell I'm suggesting. One interesting twist is that the Howells' slab on grade house design seems more appropriate for southern climates with warmer deep earth temperatures and the double shell more appropriate for northern climates with colder earth temperatures. This is just the opposite of where the two concepts were developed.

Also of interest in this frame of things is that over-the-top air passage in the double shell house isn't necessary and that the air conduction to and from the earth for conditioning the roof could be boxed separately from the wall air space. Experiments with these and other arrangements will be part of the substantive study needed to develop real design confidence with this approach. Solar gain might serve significantly in interrupting the use of earth heat by a sequence of steps resulting in cool air currents warmer than the earth and in being absorbed to linger in the large wood, or other, mass of the structure. If the bottom of the bottom floor were (a sample) ten degrees warmer than the earth all 24 hours of the day, then energy equal to a full hour of bright sun a day would be transferred to the earth by heat radiation. For heat from around the circle air currents in the day to contribute the same it would have to be 30 degrees warmer (50 + 30 = 80) and the underside not foil surfaced. Inviting large amounts of condensation anywhere in a construction is generally a hazard to be avoided or very specially allowed for. Also, design for air currents can simultaneously be design for the worst possible fire trap. Fire dampers can be simply installed if someone puts them in.

So, where to from here? Somebody ought to study the darn things. Other than carefully observing air currents, anyone with access to a double shell, or otherwise earth couple house could check the fluctuations in the deep earth temperature and how severe a climate condition causes it to fall below. Pay special attention to how long it holds what temperature. We'll all be listening to hear what you find. □□

RUSH

If you live in a solar home anywhere in the U.S., SERI would like to hear from you. Anyone using domestic hot water, passive, active, wind or hybrid systems in their house, apartment, or mobile home are asked to send their name, address and telephone number to Solar Users Information, SERI, 1536 Cole Blvd., Golden, CO 80401. Information will be used for the Institute's work to help design a policy concerning residential solar applications.

If you are a developer or distributor of computer models and simulations with solar energy applications, SERI would like to hear from you. Entries will go towards developing a computer models data base that will serve as a reference tool for the solar community. For information please contact Bob Jackson, SERI, Public Information Office, 1536 Cole Blvd., Golden, CO 80401, 303/231-1235.

Amory Lovins will be addressing "Soft Energy Paths: How to Enjoy the Inevitable" at Lewis and Clark College, Portland, Oregon, on Nov. 5 at 7:30 p.m. This presentation is a part of the college's Fall Forum Series entitled "The Energy Quandary: Policy Options, Resource Alternatives." This series includes a three day conference on Oregon Energy Independence on Nov. 3-5 at 9am-5pm, Templeton College Center. All events are free to the public. For additional information, please contact Mike Ford, Director of Student Activities, Lewis and Clark College, 503/244-6161, ext. 567. While in Oregon, Mr. Lovins will be visiting Oregon State University on Nov. 4 for a presentation. For additional information please contact Eric Swenson, Political Science Department, 503/754-2811.

The Habitat Center is offering fall "hands-on" workshops in solar home design and construction for owner-builders and the general public on October 27 and November 17. The workshops, "Building with Adobe,"

will be held from 9:30-4:30 with a fee of \$20.00. Preregistration is required for attendance. Call Habitat Center at 415/543-1294 or write the Center at 573 Mission St., San Francisco, CA 94105. Scholarships are available for low income people.

There are many individuals and organizations experimenting with desert-adapted agriculture, with reduced water and energy waste. We are attempting to survey such projects in a case study compendium to be printed by the National Center for Appropriate Technology next year. If you grow crops in the low desert of Arizona, New Mexico or southern California, using organic or dryland methods, innovative irrigation or cropping techniques, or drought-hardy plants, we would appreciate the chance to interview you. Contact Meals for Million Foundation/Southwest Program, 715 North Park Avenue, Tucson, AZ 85719.



JOBS

The Institute for Local Self-Reliance announces a research conference to develop a technical agenda for a national recycling policy. Fifteen experts will be selected to meet on Nov. 9 (location to be announced) for a planning session, and in D.C. on December 6 and 7, to develop the agenda. Travel costs and consulting fees will be paid. Contact Jeryl Specter, Division of Waste Utilization, Institute for Local Self-Reliance, 1717 18th St. N.W., Washington, DC 20009.

Organization working in the Northwest for world peace and social justice needs person with communication and program supervision skills. Experience in community organizing and writing required. Travel in region from Seattle base. Salary: \$14,000-\$16,000, plus benefits. Affirmative Action Employer. American Friends Service Committee, 814 N.E. 40th, Seattle, WA 98105, 206/632-0500.

Immediate opportunity for a professional manager to direct a program to develop and demonstrate the use of renewable energy—solar, wind, biomass, geothermal, and wind. Responsible for the conceptualization, planning, organization, budgeting, supervision and scheduling of major renewable energy projects. Position requires a B.S. in an engineering or related physical science field plus four years experience in program management and contract administration work. Salary \$18,393/yr. Submit resume to Personnel Officer, Dept. Natural Resources and Conservation, 32 So. Ewing, Helena, MT 59601.

Western SUN is putting experienced solar people to work. Our thirteen western states are gearing up for a solar future. And we have challenging positions open for you, here in Portland, Oregon: Outreach Services, Marketing

and Commercialization, Technology, Analysis and Evaluation, Plans, Programs and Budget, and Administration. Send us your resume by Nov. 1, 1979. For specific position descriptions, write: Western SUN, 921 S.W. Washington St., Suite 160, Portland, OR 97205, Attn. Ms. Darlene Kidner

CORRECTIONS

Garbage-to-Energy, The False Panacea, listed in our recycling article last month, is surely available, but for \$4.50, not \$3.00 as we listed.

We inadvertently left out the city and state from the review of the *Insulation Manual—Homes, Apartments* (Aug./Sept. '79 issue). The full address is: NAHB Research Foundation, 627 Southlawn Lane, P.O. Box 1627, Rockville, MD 20850.

RAINBOOK:
RESOURCES FOR APPROPRIATE TECHNOLOGY

Editors of *RAIN*

256 pp., 1977, \$7.95



This is the book that has turned so many heads around. Drawing together such diverse concerns as economics, energy, health, agriculture and communications into a larger picture, *Rainbook* opens up new doors for those of us seeking the ways and means to change our communities and our lives. Essentially the Best of *RAIN Magazine* through early 1977, *Rainbook* is as comprehensive a primer/resource book as you will ever find, with thousands of listings on groups, contacts, literature and further sources of information. If you have a question about appropriate technology, *Rainbook* probably has the answer—or it can tell you where to get it. Fully indexed and profusely illustrated. (Updated via monthly issues of *RAIN*.)



STEPPING STONES:

APPROPRIATE TECHNOLOGY AND BEYOND

Edited by Lane deMoll and Gigi Coe

208 pp., 1978, \$7.95

The philosophical strands of thought from which a new social vision is being woven... *Stepping Stones* brings together in one place many of the classic essays that have given rise to the appropriate technology movement. From E.F. Schumacher, Wendell Berry and Margaret Mead, to John Todd, David Morris and Amory Lovins, to *RAIN*'s own Tom Bender and Lee Johnson, *Stepping Stones* will move you beyond the era of limitations into the era of changing possibilities. Five new pieces help bridge the gap between new technologies and new values, bringing greater clarity to our vision of a humanly scaled society. This companion to *Rainbook* is the perfect reader to bring you full circle to where we stand today: holding in our hands the makings of a new world.



URBAN ECOTOPIA POSTER

Diane Schatz

22"x33", 1976, \$3.00

SUBURBAN ECOTOPIA POSTER

Diane Schatz

22"x30", 1976, \$3.00

The first exciting glimpses of an Ecotopian vision... Chances are you've already seen Diane Schatz's *Urban Ecotopia Poster*—on the cover of *Rainbook*, reprinted in countless numbers of books and publications, or on a friend's wall. Its city street scene gives literal expression to the idea of urban self-reliance—where cottage industries, cooperative institutions and appropriate technologies combine to make the city a habitable and happy place to be... If your concern is reinhabiting the suburbs, you should visit Diane's *Suburban Ecotopia*, where the same potential can be seen in gardens, solar greenhouses and windmills. Both of these line-drawn posters are rich in detail and perfect for coloring.

STEPPING STONES POSTER

Diane Schatz

21"x24", 1978, \$3.00

Spinning images that excite the imagination, Diane Schatz's latest artwork for *RAIN* is truly new alchemy. Her elaborate bio-regional landscape which graces the cover of the New *Stepping Stones* reader is now available as a large poster for those of you to whom a picture is worth a thousand words—or more! This urban/rural scenario vividly details local economies and energies at work and play. Renewable and renewing! If you are trying to envision just how all our new ideas and new tools come together, this little bit of wizardry will help you get there

SHARING SMALLER PIES

Tom Bender

38 pp., 1975, \$2.00

A small classic that discusses how changing resource/energy realities are giving rise to new directions and changing possibilities—in human values and individual actions, in our institutions and politics. This is the kind of formative thinking that has helped to set the stage for the advent of appropriate technology.



ENVIRONMENTAL DESIGN PRIMER

Tom Bender

207 pp., 1973, \$5.95

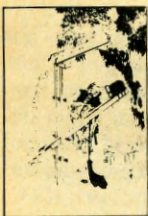
If, in designing and building our surroundings, we want to restore our fundamental unity with our environment and the cosmos, we must push beyond just "functional" considerations. We need to re-establish a deeper sense of purpose. These meditations on ecological consciousness are offered to help us set our hearts and minds straight, before we put our hands to work. A penetrating collection of short thought-pieces, quotations, symbols and dreams.

RAINPAPER No. 1, CONSUMER GUIDE TO WOODSTOVES

Bill Day

16 pp., Revised Jan. 1979, \$2.00

No matter how you split it, wood is re-emerging as an important factor in home heating. To help insure the wood energy transition is one committed to safety and efficiency, wood stove consumerist Bill Day has closely monitored the availability and reliability of these products. His newly-revised and expanded *Consumer Guide* is a compilation of his articles in *RAIN*, covering the selection, installation and repair of woodstoves, wood cookstoves and wood furnaces. Included are helpful notes on fireplace retrofits and chimney maintenance. Essential reading for those of you interested in this revitalized energy alternative.



LIVING LIGHTLY

ENERGY CONSERVATION IN HOUSING

Tom Bender

38 pp., 1973, \$2.00

Here is an early overview of designing and building energy efficiency and resource conservation into our shelters—from water and waste to heating, cooling and lighting. A good overview on why we should be living lightly—and just what that might mean.

EMERGING ENERGY POLICY PRINCIPLES

Tom Bender

9 pp., 1974, \$1.00

COSMIC ECONOMICS

Joel Schatz and Tom Bender

8 pp., 1974, \$1.00

Two significant papers to come out of Oregon's early energy research and planning efforts; here are sound principles for wending our way through the coming economic/energy transition. Simple outlines of effective economic mechanisms to guide that transition.



RAININDEX

Lane deMoll and Linda Sawaya

48 pp., 1979, \$4.00

A complete index to the first four volumes of *RAIN* (October 1974 through September 1978) and *Rainbook*, including a four-page, issue-by-issue listing of articles. Indispensable for information networkers, libraries and new friends of *RAIN*, the *Rainindex* is the perfect way to discover our back pages and the magic that lies therein. Yearly supplements will be available for each subsequent volume every October.

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For those who require an invoice, billing fee is \$5.00.

By the time you read this the celebration will be over. I am talking about Pedestrian Day, September 13, organized by Urban Ecology, Inc., a Berkeley-Oakland based group. An Urban Ecology spokesperson said that on that day in 1899, H.H. Bliss became the first casualty of the Car Wars. He was struck by an electric taxi in New York City.



CAR WARS

Since then the Car Wars have resulted in the death of more than 2,000,000 people. The purpose of Pedestrian Day is to focus attention on the alternatives to the automobile, such as walking, bicycling, buses, trains and ferries. The group's goal for the year 2010 is an 80 percent reduction in the number of cars in the U.S. Urban Ecology believes the best transportation is the least transportation. Mixed use zoning, which allows for a diversity of urban activities close together, bicycle through streets and less parking are advocated as ways to encourage car-free transportation. To contact the group write:

Richard Register
Urban Ecology
P.O. Box 2334
Berkeley, CA 94702



HOUSING

Self-Help Housing, Design and Construction Manual for Acadia House, Charles Haynes, 1979, 296 pp., \$8.70 from:

Centre for Continuing Education
University of British Columbia
Vancouver, BC, CANADA V6T 1W5

This book tells two stories simultaneously. One, about construction technology, details the design and building of a 1000 square foot energy conserving house in Vancouver, British Columbia. The Acadia House, with 2x6 framing, a trombe wall and a thermosyphon solar hot water system, cost \$15 a square foot for materials. The manual walks you through the design and construction process. Construction is laid out into 76 steps. Each step lists the tools, materials and how-to instructions, including personal tips to complete that phase. The second story is about novice builders, dreams and values, weekend building and taking control over producing our basic shelter needs. The manual contains extensive drawings, photographs and figures throughout.

-PC

Community Realty Company

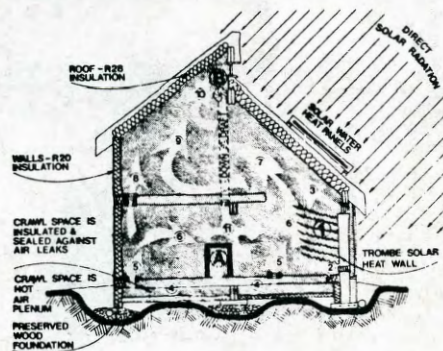
Do you want to fight housing speculation in your neighborhood? Start a community realty company. The East Side Housing Action Committee, with the assistance of state funding, did it in Milwaukee, Wisconsin. The program counsels renters on the mechanics of house buying and homeowners are encouraged to sell to owner occupants. The realty business which can eventually become self-reliance from commis-

sions is hoping to receive some permanent funding to cover counseling costs. Details in May/June *Self-Reliance* (\$8/yr., 1717 18th St., N.W., Washington, DC 20009). -PC

Housing in the Public Domain: The Only Solution, Peter Hawley, 1978, 130 pp., \$3.00 from:

Metropolitan Council on Housing
24 West 30th St.
New York, NY 10001

The obvious profits in housing real estate are monies derived from rents and appreciation of the building. The hidden profits are tax benefits from depreciation allowing speculators' other income of salaries, interest and dividends to be tax-free. The book, focusing on New York City, uses hypothetical examples and case studies to point out how tax shelters, instead of acting as incentives to improve housing, more often contribute to its deterioration and fuel rising rent costs. The author's solution is a Housing Board and committees consisting of tenants to set policies and manage and coordinate housing with direct allocation of funds to pay for new construction. -PC



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