EDUCATION

Teach Your Own, by John Holt, 1981, 369 pp., $13.95 from: Delacorte Press/Seymour Lawrence
1 Dag Hammarskjold Plaza New York, NY 10017

Inspirating and thoughtful: how people learn what they need to know, the exuberance of learning, exploring and participating in the world, being all we can be.

For over a decade Holt has been writing about children and schools. Gradually he has come to believe that people learn best when they are involved in the real world, exploring their own interests unfettered by time schedules and disciplinary rules. In his newsletter Growing Without Schooling (308 Boylston St., Boston, MA 02116; $15/6 issues) Holt publishes letters from people who have taken their children out of school and are teaching them at home. What stories! In this book Holt systematically tells us the why and how of unschooling. For parents willing to take on the responsibility, resource lists and information on the support network are included.

Holt, and the parents who have unschooled their children, know that schools make children dull. Children who like to read at age five are poor readers after a few years in school, but resume their enthusiasm once removed from school and allowed to pursue their interests. Schools have such an insidious influence because the most important question any thinking creature can ask itself is, "What is worth thinking about?" When we deny its right to decide that for itself, when we try to control what it must attend to and think about, we make it less observant, resourceful, and adaptive, in a word, less intelligent, in a blunter word, more stupid. And how else do we learn but by figuring things out on our own? —Tanya Kucak

20 Madison Avenue New York, NY 10016

Any lover of language, child or adult, will be instantly enchanted by this treasure trove of riddles, puns, linguistic paradoxes and palindromes. Even doubtful readers, still rueing their exposure to grade school grammatical drudgery, will quickly discover that what they have long believed to be odious can actually be fun. Readers are invited to write their own stories using only hieroglyphics or excluding certain letters of the alphabet. They are shown how to construct a variety of crossword puzzles, invent their own cipher systems or create their own obfuscating but impressive titles for common items (such as "pocket propellant personalized neutralizer" in place of "portable field shower"). The book provides scores of games suitable for young people and tips for teachers on how to turn English into a living language in the classroom. And, as John Holt, author of Growing Without Schooling, has observed, A Book of Puzzlements is especially suitable for home learning. —John Ferrell

Vol. VIII No. 6

RAIN
Journal of Appropriate Technology

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

RAIN STAFF: John Ferrell, Mark Roseland, Carlotta Collette, Laura Stuchinsky, Steve Rudman, Nancy Cosper, Steve Johnson, Lisa Conrad, Ann Borquist, Bruce Borquist. Linnea Gilson, Graphic Design.

CONTRIBUTORS: Gail Katz, Elijuh Mirochnik, Dawn Wicca, Kevin Bell, Tanya Kucak.

RAIN, Journal of Appropriate Technology, is published 10 times yearly by the Rain Umbrella, Inc., a non-profit corporation located at 2270 N.W. Irving, Portland, Oregon 97210, telephone 503/227-5110. Copyright © 1982 Rain Umbrella, Inc. No part may be reprinted without written permission.

Typesetting: Irish Setter Printing: Times Litho Cover Photograph: David Brown

ACCESS

From a Book of Puzzlements

There are certain words (or sentences) that read the same backward and forward. They are called palindromes. An old joke claims that Adam's first words to Eve were in the form of a palindrome. He was supposed to have said, "Madam, I'm Adam." . . . Here are a few classical palindromes:

Was it a rat I saw?
Live not on evil
A man, a plan, a canal—Panama!
No evil, live on!


The theme of this wide-ranging resource book is global interdependence. Access is provided to 1,000 books, articles and films which either address existing issues of global interdependence or explore alternatives for creating "a just, peaceful, more human and ecologically balanced world system." Topics include economic and social justice, energy, futures perspectives, hunger, lifestyle alternatives, peace, population, spirituality and human rights. Special emphasis is placed on the need to familiarize children with the rapid changes occurring in these areas and many of the resources listed are oriented toward use in elementary and secondary education. —John Ferrell
The waves shone emerald, with frothy caps; the sky, blue and sun-drenched. Now that I had made the decision and given the pod hope, I felt exhilarated. My despair was entirely gone. Sun glinted from the whitecaps. It was a fine morning on which to die. I felt a tremendous defiance of steel ships and cruel men rise up within me. The lust of battle was upon me—the joy of the terrible Leviathan who haunts the dreams of men. I could do little to stop those steel prows—that I knew—but perhaps I could dent one, and the decoy action would save cow and calf. For this I had been made. I felt rise within me the joy of being, and with it a cry from my whole nature—a wave-shattering bel­low to rattle the heads of men listening in the ships. Then I began my death song.

A lyrical look at the life and death of whales from the whales' point of view? It's natural to expect a sort of deep sea Bambi—just another anthropomorphized animal story for children. But Whalesong is much more than that. This beautifully written epic tale of a great species' struggle for survival deserves to be widely read by adults as well as children. Its special ability to elicit empathy and provoke outrage from readers could prove as powerful as all the voyages of Greenpeace in assuring that the whales will continue to sing their song. —John Ferrell

Finned Gandhians Resist Slaughter

In early March [1980], some 4,000 dolphins staged what appeared to be a protest swim-in, surrounding a small island off southwestern Japan one day after fishermen slashed and stabbed about 200 of their comrades to death.

The fishermen say the dolphins threaten their livelihood by feeding on schools of fish they must catch for a living. They have recently been herding the dolphins into a bay and killing them, selling the dolphin meat as fertilizer or as food for pigs.

The mass action by the dolphins temporarily prevented further killing and forced the fishing boats back to port. Craig Van Note, a Washington, D.C. environmentalist, suspects that the fishermen may have planted the story to gain sympathy for their plight. But Van Note reports that the dolphins were "screaming and crying" during the "bloodbath" and that he "would not doubt that the dolphins [who escaped] were smart enough to see what was going on and to communicate with their fellow cetaceans." —reprinted by permission from May 1980 issue of Sojourners, 1309 L Street, Washington, D.C. 20005.
Kirk Sale Weighs Human Scale

*Human Scale*, by Kirkpatrick Sale, 1980, 558 pp., $8.95 from: Coward, McCann & Geoghegan 200 Madison Avenue New York, NY 10016

Kirkpatrick Sale's *Human Scale* is a whale of a tale! In it, Sale (author of SDS and Power Shift) shows how our society's headlong rush to giantism for the sake of efficiency, economy and better ways to serve human needs has actually produced inefficiency, waste, unnecessary expense and damage to the body and spirit of the people. In sum, the myth of size has failed its promise.

The remedy for our megaturmoil, as one might guess from the title, is human scale decentralization of government, cities, education, agriculture, and the economy. Provocative and well-written, Human Scale supports its conclusions with evidence from history, architecture, government, industry, media, and countless other sources. The resulting 600 page volume, just released in paperback, has been aptly described by Lewis Mumford as "encyclopedic." It hardly seems "human scale" to the busy reviewer! So we were pleased (and somewhat relieved!) to have Kirk Sale visit us a few months ago to share ideas on bioregions and community self-reliance.

Kirk and I reversed roles in back-to-back interviews. We talked first about Knowing Home (which was later broadcast on radio station WBAL in New York), then about Human Scale in the conversation printed below. —Mark Roseland

**RAIN:** What led up to writing *Human Scale*?

**Sale:** It represents the gathering of things I've been thinking about for 15 years—the failures of socialism, the failures of capitalism, the disjunction between all the things I learned in school about America as a democracy and the real life of America which was no democracy. But I had no way to put a handle on these things. My second book was a history of the SDS. "Having control over the decisions that affect their lives" is a line from the Port Huron Statement. That became a way for me to see politics. If you could get politics to a scale where people could control decisions, they could decide what kind of governance and what kind of economics they wanted. I started writing *Human Scale* in 1975. I really wanted to talk about how communities, cities and regions can control their own lives. There doesn't need to be a federal government at all and
we don't need the power of the state. The human scale is the level at which people have a vote and can say what is to be done with the food, resources, products and energy of the region they live in. I wanted to write a book that talked about anarcho-communism without saying "anarcho-communism."

RAIN: Isn't anything that human beings do human scale? What makes a solar collector more human scale than a nuclear reactor?

Sale: Because a solar collector is controllable by a human.

RAIN: So you are saying there are measurable dimensions to human scale?

Sale: Yes. That is what much of the book is about. You can find out the optimum size for anything. The optimum size for a city is 50,000 to 100,000 people. When you get a city of seven million like New York, there is no democracy at all, and it is unmanageable.

RAIN: What would be your ideal vision of human scale, if the majority of people in this country or the world were to embrace the idea? What would the world look like?

Sale: America would be decentralized. The population would be dispersed into self-sufficient communities. I've just written a novel that described a human scale future, what America looks like in 2050 after the 20-year transition period that took place between 2000 and 2020 when it was decided we had gone wrong, that pollution was killing us, that we had no toposil because it was all eroded.

RAIN: That sounds like Ecotopia.

Sale: Yes, it is. Mine is somewhat more of a novel. In the book, some people want to live in cities. Some want to live in communities of 10,000, which I find the optimal community size. The hero lives in that kind of community. There are some communities which are capitalist, some which are virtually monarchical, some which have no money at all. But they are all basically self-sufficient. That is my vision of a future America. I don't know if it will come so soon. It better, or else we may not survive. In this future, everyone would understand, because they understand the bioregion, that they have to be self-sufficient and non-polluting. But aside from that they could live any vision they chose. The other basic principle would be free travel. If you didn't like the community you were in, you could find one that was more congenial. Instead of making everyone try to believe goodness, it would be better to let communities be evil if they choose.

RAIN: What is to keep one community from waging war on another?

Sale: That's what the whole second part of the book is about. There is a war threat by one community which wants a river access. A community downriver has a dam, built 50 years before. They need the dam. I chose a river because all through history people have fought over rivers. What prevents war in this instance is an alliance of communities in the bioregion, 13 communities allied for defense of each other and to control any disputes within. As the story explains, there had been a bitter war in Southern California when it was determined that the Los Angeles bioregion could support 200-300,000 people, but certainly not eight million. The people of Colorado kept their water.

RAIN: They forced them out?

Sale: Part of bioregional self-sufficiency means people have control over their own water. I see such a world struggling with lots of problems.

RAIN: Other problems have been mentioned. Are you really going to have culture in a town of 10,000? And what is to prevent the worst side of decentralism, everybody hoarding and going back to parochialism?

Sale: The first question is answerable by saying that throughout history small places have created wonderful culture. Look at the cities of the Italian Renaissance. They were all 50-60,000 in size. Today what you have in places like New York is cultural coloniza-

"We should allow for the existence of evil. Any system that tries to make everybody into a good person is bound to fail."

...back and using these computers we will be able to solve all our problems, seems very much like the notion of "Consciousness Three" that Charles Reich had—if we simply all put on blue jeans we will change America. Toffler's is a more sophisticated version of the same thing. It says you don't have to do anything structurally; just use the computers and they will create the decentralized future we want. The whole image of The Third Wave suggests that we just have to lie back and let the wave overtake us. We don't have to do any work to create a world we want. This is the reason the book sold so well. It has this comforting message. But it is not truer with The Greening of America.

RAIN: Back to your decentralist vision, do you suggest that even in a capitalist system people will develop a democracy?

Sale: In the ideal community, the citizens select what it is that will be made. They will have control over the products that are produced and the way they are produced. But it seems you could have exchange of goods through capitalism with profits going to individuals, a steady-state capitalism. At a small scale it's not going to do anyone any damage, even at a city level. When things get too big, everything changes exponentially. When something is just a little bigger than it should be, all its systems are affected. That is why scale is so important.

]]>
Design Resourcebook for Small Communities, edited by Anne Smith Denman and the staff of Small Town, 1981, 96 pp., $10.00 from:
Small Towns Institute
P.O. Box 517
Ellensburg, WA 98926

This Design Resourcebook is to Small Town magazine what Knowing Home is to RAIN. The staff of Small Towns Institute has had this baby in the works for about three years. The format includes articles and case studies, a compendium of areas of design interest (from downtown plans to historic preservation to public art), and a resources section, all of which combine to make a publication that should find valuable—particularly in conjunction with Knowing Home.

Of note is Marilyn Duffy-Armstrong's "Environmental Design Implications of Energy Technologies at the Community Scale," in which she discusses the visual implications of community-scale energy from wind, geothermal heat, biomass, water thermal, solar thermal heating and cooling, and district heating and cooling (cogeneration). For instance, did you ever consider how much glare might be caused by an abundance of solar panels? At any rate, there's no excuse for ugly windmills—we need to give the visual a richer appreciation of my own work and of the importance and potential of community action in America —Steve Rudman

Anytown Organizing Kit, by Conserve Neighborhoods, 1981, 50 pp., available free from:
Conserve Neighborhoods
National Trust for Historic Preservation
1785 Massachusetts Ave., N.W.
Washington, D.C. 20036

I've been waiting and hoping for a ray of community light to break out of Washington's current dark age. I found it emanating from the Neighborhood office of the National Trust for Historic Preservation. It's a well-packaged "Organizing Kit" —a practical, easy-to-read guide for anyone interested in improving his or her neighborhood or developing fresh ideas for community projects.

The kit is a potpourri of good stuff, from tips on organizing a neighborhood group and fundraising to working with city hall and planning special events. Also included is a directory of useful national organizations and a bibliography for neighborhood leaders. Conserve Neighborhoods is a bimonthly publication of the National Trust. Very down-to-earth, the newsletter gives local citizen groups access to ideas, projects and experiences pioneered by other groups around the country.

Believe it or not, both the kit and the newsletter are available free to neighborhood and preservation groups. So don't agonize—get hold of this kit and organize! —Steve Rudman

Solar New York
CONSTRUCTION IN PROGRESS

From: Neighborhood, The Journal for City Preservation

ACCESS
THE ECOLOGY OF FREEDOM

by Murray Bookchin

This article has been adapted from Chapters Ten-Twelve of The Ecology of Freedom, © 1982 by Murray Bookchin. Reprinted by permission of Cheshire Books.

Shortly after the monumental occupation of the Seabrook, New Hampshire nuclear plant site in 1977 I remember hearing Anna Gyorgy, a founder of the Clamshell Alliance, say that Murray Bookchin provided "the political vision that a lot of us have, at least implicitly, if not explicitly."

Murray Bookchin may be the most important—and least recognized—social thinker of our time. And The Ecology of Freedom, his magnum opus a decade in creation, will provide coherence, insight and inspiration to our efforts to achieve a truly ecological society for many years to come.

Bookchin is at once the conscience, the critic, and the visionary of our most ecological and human sensibilities. When he describes a free, ecological society, how our world could be, how we could be, one becomes suddenly aware of just how far the sum total of each of life's little compromises has taken us from fully realizing our human role as the conscious voice of nature. Yet at the same time, he makes apparent what kinds of attitudes and actions may genuinely lead to more harmonious relations between society and nature.

For thirty years Bookchin has written extensively on social ecology. Two years ago in these pages (RAIN VI:6) we published his "Open Letter to the Ecological Movement," written at RAIN's request. Appearing on the tenth anniversary of Earth Day and the "official" birth of the environmental movement, it was reprinted rapidly and widely around the world. Today, on the twelfth anniversary of the movement, we are pleased to present the following excerpts from The Ecology of Freedom, to be published this month.

The Ecology of Freedom, unlike many of Bookchin's earlier writings, is neither suitable nor possible as bedtime reading. His magisterial and theoretical, it challenges the intellect to critically examine the most difficult issues of modern society and the conditions that create them. Those with any kind of theoretical interest, no matter how mild, will quickly find the style quite readable and their efforts amply rewarded. With this landmark work, perhaps Murray Bookchin will finally get the recognition he so rightfully deserves—and we all so assuredly require. —Mark Roseland

An environmentalist technocracy is hierarchy draped in green garments; hence it is all the more insidious because it is camouflaged in the color of ecology.

It is difficult for us to understand that political structures can be no less technical than tools and machines. In part, this difficulty arises because our minds have been imprinted by a dualistic metaphysics of "structures" and "superstructures." To dissect social experience into the economic and political, technical and cultural, has become a matter of second nature that resists any melding of one into the other. But this tendency is also partly due to an opportunistic political prudence that is wary of confronting the stark realities of power in a period of social accommodation. Better and safer to deal with technics as tools, machines, labor, and design than as coercive political institutions that organize the very implements, work, and imagination involved in the modern technical ensemble. Better to deal with how these means achieve certain destructive or constructive forms on the natural landscape than to explore the deformations they produce within subjectivity itself.
affluently, capitalism has made it extremely difficult to demonstrate that freedom is more closely identified with personal autonomy than with affluence, with empowerment over life than with empowerment over things. The recent emphasis on “limits to growth” and “appropriate technology” is riddled by the same ambiguities that have imparted a conflicting sense of promise and fear to “high technology.” I must emphasize again that terms like “small,” “soft,” “intermediate,” “convivial,” and “appropriate” remain utterly vacuous adjectives unless they are radically integrated with emancipatory social structures and communitarian goals. Technology and freedom do not “coexist” with each other as two separate “realms” of life. Either technics is used to reinforce the larger social tendencies that render human consociation technocratic and authoritarian, or else a libertarian society must be created that can absorb technics into a constellation of emancipatory human and ecological relationships. A “small,” “soft,” “intermediate,” “convivial,” or “appropriate” technical design will no more make an authoritarian society into an ecological one than will a reduction in the “realm of necessity,” of the “working week,” enhance or enlarge the “realm of technical design will no more transform an authoritarian society into an ecological one than will a reduction in the “realm of necessity,” of the “working week,” enhance or enlarge the “realm of personal autonomy” than with affluence, with empowerment over life than with empowerment over things.

In equating “living well” with living affluently, capitalism has made it extremely difficult to demonstrate that freedom is more closely identified with personal autonomy than with affluence, with empowerment over life than with empowerment over things...
offer us a rational, humanistic, and ecological trajectory has not yet been fulfilled by "high" or by "low" technology. In sum, "high" technology must be used by serious social ecologists to demonstrate that, on rational grounds, it is less desirable than ecological technologies. "High" technology must be permitted to exhaust its specious

To create a society in which every individual is seen as capable of participating directly in the formulation of social policy is to instantly invalidate social hierarchy and domination.

claims as the token of social "progress" and human well-being—all the more to render the development of ecological alternatives a matter of choice rather than the product of a cynical "necessity"....

We share a common organic ancestry with all that lives on this planet. It infiltrates those levels of our bodies that somehow make contact with the existing primordial forms from which we may originally have derived. Beyond any structural considerations, we are faced with the need to give an ecological meaning to these buried sensibilities. In the case of our design strategies, we may well want to enhance natural diversity, integration, and function, if only to reach more deeply into a world that has been systematically educated out of our bodies and innate experiences. Today, even in alternate technology, our design imagination is often utilitarian, economic and blind to a vast area of experience that surrounds us. A solar house that symbolizes a designer's ability to diminish energy costs may be a monument to financial cunning, but it is as blind and deadened ecologically as cheap plumbing. It may be a sound investment, even an environmental desideratum because of its capacity to use "renewable resources," but it still deals with nature merely as natural resources and exhibits the sensitivity of a concerned engineer—not an ecologically sensitive individual. An attractive organic garden may well be a wise nutritional "investment" over the quality of food obtainable in a shopping mall. But insofar as the food cultivator is preoccupied only with the nutritional value of food on the dinner table, organic gardening becomes a mere technical strategem for "foodwise" consumption, not a testament to a once-hallowed intercourse with nature. All too often, we are flippantly prepared to use hydroponic trays as substitutes for actual gardens and gravel for soil. Since the object is to fill the domestic larder with vegetation, it often seems to make no difference whether our gardening techniques produce soil or not.

Such commonplace attitudes are very revealing. They indicate that we have forgotten how to be organisms—and that we have lost any sense of belonging to the natural community around us, however much it has been modified by society. In the modern design imagination, this loss is revealed in the fact that we tend to design "sculptures" instead of ensembles—an isolated solar house here, a windmill there, an organic garden elsewhere. The boundaries between the "organic" world we have contrived and the real one that may exist beyond them are strict and precise. If our works tend to define our identity, as Marx claimed, perhaps the first step in acquiring an ecological identity would be to design our "sculptures" as part of ensembles—as technical ecosystems that interpenetrate with the natural ones in which they are located, not merely as agglomerations of "small," "soft," "intermediate," or "conivial" gadgets. The principal message of an ecological technics is that it is integrated to create a highly interactive, animate and inanimate constellation in which every component forms a supportive part of the whole. The fish tanks, "sun tubes," and ponds that use fish wastes to nourish the plant nutriment on which they live are merely the simplest examples of a wide-ranging ecological system composed of a large variety of biota—from the simplest plants to sizable mammals—that have been sensitively integrated into a biotechnical ecosystem. To this system, humanity owes not only its labor, imagination, and tools but its wastes as well.

No less important than the ensemble is the technical imagination that assembles it. To think ecologically for design purposes is to think of technics as an ecosystem, not merely as cost effective devices based on "renewable resources." Indeed, to think ecologically is to include nature's "labor" in the technical process, not only humanity's. The use of organic systems to replace machines wherever possible—say, in producing fertilizer, filtering out sewage, heating greenhouses, providing shade, recycling wastes, and the like—is a desideratum in itself. But their economic wisdom aside, these systems also sensitize the mind and spirit to nature's own powers of generation. We become aware that nature, too, has its own complex "economy" and its own thrust toward ever-greater diversity and complexity. We regain a new sense of communication with the entire biotic world that inorganic machines have blocked from our vision. As production itself has often been compared with a drama, we should remember that nature's role is more than that of a mere chorus. Nature is one of its principal players and at times, perhaps, the greater part of the cast.

Hence, an ecologically oriented technical imagination must seek to discover the "Way" of things as ensembles, to sense the subjectivity of what we so illicly call "natural resources," to respect the attunement that should exist between the human community and the ecosystem in which it is rooted. This imagination must seek not merely a means for resolving the contradictions between town and country, a machine and its materials, or the functional utility of a device and its impact on its natural environment. It should try to achieve their artistic, richly colored, and highly articulated integrations. Labor, perhaps even more than technics, must recover its own creative voice. Its abstract form, its deployment in the framework
of linear time as a res temporalis, its cruel objectification as mere, homogeneous energy, must yield to the concreteness of skill, to the festiveness of communal activity, to a recognition of its own subjectivity. In this broad revitalization of the natural environment, of work, and of technics, it would be impossible for the technical imagination to confine itself to the traditional imagery of a lifeless, irreducible, and passive material substrate. We must close the disjunction between an orderly world that lends itself to rational interpretation and the subjectivity that is needed to give it meaning. The technical imagination must see matter not as a passive substance in random motion but as an active substance that is forever developing—a striving "substrate" (to use an unsatisfactory word) that repeatedly interacts with itself and its more complex forms to yield variegated, "sensitive," and meaningful patterns.

Only when our technical imagination begins to take this appropriate form will we even begin to attain the rudiments of a more "appropriate"—or better, a liberatory—technology. The best designs of solar collectors, windmills and watermills, gardens, greenhouses, bioshelters, "biological" machines, tree culture, and "solar villages" will be little more than new designs rather than new meanings, however well-intentioned their designers. They will be admirable artifacts rather than artistic works. Like framed portraits, they will be set off from the rest of the world—indeed, set off from the very bodies from which they have been beheaded. Nor will they challenge in any significant way the systems of hierarchy and domination that originally reared the mythology of a nature "dominated" by one of its own creations. Like flowers in a dreary wasteland, they will provide the colors and scents that obscure a clear and honest vision of the ugliness around us, the putrescent regression to an increasingly elemental and inorganic world that will no longer be habitable for complex forms of life and ecological ensembles.

One can cite an almost unending variety of biotic alternatives to the costly and brutalizing mechanical systems that drive modern industry. The problem of replacing the latter by the former is far from insurmountable. Once human imagination is focused upon these problems, human ingenuity is likely to be matched only by nature's fecundity. Certainly, the techniques for turning a multitude of these substitutions into realities are very much at hand. The largest single problem we face, however, is not strictly technical; indeed, the problem may well be that we regarded these new biotic techniques as mere technologies. What we have not recognized clearly are the social, cultural, and ethical conditions that render our biotic substitutes for industrial technologies ecologically and philosophically meaningful. For we must arrest more than just the ravaging and simplification of nature. We must also arrest the ravaging and simplification of the human spirit, of human personality, of human community, of humanity's idea of the "good," and humanity's own fecundity within the natural world. Indeed, we must counteract these trends with a sweeping program of social renewal.

Hence, a crucial caveat must be raised. A purely technical orientation toward organic gardening, solar and wind energy devices, aquaculture, holistic health, and the like would still retain the incubus of instrumental rationality that threatens our very capacity to develop an ecological sensibility. An environmentalistic technocracy is hierarchy draped in green garments; hence it is all the more insidious because it is camouflaged in the color of ecology. The most certain test we can devise to distinguish environmental from ecological techniques is not the size, shape, or elegance of our tools and machines, but the social ends that they are meant to serve, the ethics and sensibilities by which they are guided and integrated, and the institutional challenges and changes they involve. Whether their ends, ethics, sensibilities, and institutions are libertarian or merely logistical, emancipatory or merely pragmatic, communitarian or merely efficient—in sum, ecological or merely environmental—will directly determine the rationality that underpins the techniques and the intentions guiding their design. Alternative technologies may bring the sun, wind, and the world of vegetation and animals into our lives as participants in a common ecological project of reunion and symbiosis. But the "smallness" or "appropriateness" of these technologies does not necessarily remove the possibility that we will keep trying to reduce nature to an object of exploitation. We must resolve the ambiguities of freedom existentially—by social principles, institutions, and an ethical commonality that renders freedom and harmony a reality.

We must try to create a new culture, not merely another movement that attempts to remove the symptoms of our crises without affecting their sources. We must also try to extirpate the hierarchical orientation of our psyches, not merely remove the institutions that embody social domination. But the need for a new culture and new institutions must not be sacrificed to a hazy notion of personal redemption that makes us into lonely "saints" amidst masses of irredeemable "sinners." Changes in culture and personality go hand in hand with our effort to achieve a society that is ecological, but that also recognizes the existence of a universal humanity and the claims of individuality. Guided as we may be by the principle of the equality of unequals, we can ignore neither the personal arena nor the social, neither the domestic nor the public, in our project to achieve harmony in society and harmony with nature.

To create a society in which every individual is seen as capable of participating directly in the formulation of social policy is to instantly invalidate social hierarchy and domination. To accept this single concept means that we are committed to dissolving state power, authority, and sovereignty into an inviolate form of personal empowerment. That our commitment to a nonhierarchical society and personal empowerment is still a far cry from the full development of these ideals into a lived sensibility is obvious enough; hence our persistent need to confront the psychic problems of hierarchy as well as social problems of domination. There are already many tendencies that are likely to force this confrontation, even as we try to achieve institutional changes. I refer to radical forms of feminism that encompass the psychological dimensions of male domination, indeed, domination itself; to ecology conceived as a social outlook and personal sensibility; and to community as intimate, human-scaled forms of association and mutual aid. Although these tendencies may wane periodically and retreat for a time to the background of our concerns, they have penetrated deeply into the social substance and ideologies of our era.
nepali aama, Portrait of a Nepalese Hill Woman, by Broughton Coburn, 1982, 169 pp., $9.95 from:
Ross-Erikson Publishers
629 State Street, Suite 207
Santa Barbara, CA 93101

Nepali aama (Nepalese mother) grumbles in the way old people often do; about the kids who have no respect, who smoke and gamble and throw stones; about the population growing too fast, “When I first moved up to this village there were only eight houses. Now there are eighteen. Everywhere you turn you run into someone;” and about the economy, “Interest rates for borrowing money have gone up from ten percent a year to ten percent every five months. When you need money you don’t have any choice but to pay.” Like most old people, she’s full of advice; “We have a rule for health. First thing in the morning, even if you don’t have to crap, you should at least go out to the field, squat, take a pull on a cigarette, fart and come back.” And she can spout the sort of philosophy you have to live about a century to get away with, “They say if you work too hard you’ll die early and if you sleep too much you’ll die early. I do both too much and can’t understand why I’m not dead yet.”

She can tell you the medicinal uses of rhinoceros horns and the importance of pierced ears to prevent deafness in women. She still climbs trees (when she can find any), farms her land, and goes on pilgrimages to stock up on spiritual security.

Mr. Coburn wisely lets his candid photos and nepali aama’s words speak for themselves, adding only a few historical and cultural details to link these together. His book is clearly an offering of love and respect to the woman who has adopted him into her home and will in turn be welcomed into yours. This is a very special book. —Carlotta Collette

Villages, by Richard Critchfield, 1981, 388 pp., $17.95 hardcover from:
Anchor Press/Doubleday
501 Franklin Avenue
Garden City, NY 11530

“Our grandfathers were villagers,” Richard Critchfield reminds us, “and so our grandchildren may become.” Yet for many of us who invoke traditional village values like cooperation, self-reliance and sense of place in our efforts to make our own societies sustainable, the billions of our fellow human beings now living in villages are little more than population statistics or faces staring out from newspaper photos of the latest Third World famine.

Critchfield is uniquely qualified to help us overcome our cultural isolation. For the past dozen years he has lived in a dozen villages in Asia, Africa and Latin America and he introduces us to people he has known as friends and almost as family. Whether they speak Arabic or Portuguese, live in the tropics or the Himalayas, these villagers seem at first glance to have much more in common with each other than with us, but through Critchfield’s eyes, we quickly recognize and relate to their hopes and fears, their wisdom and folly and their concern for their parents and children. “When you go to a village,” the author observes, “you can’t go too far wrong if you assume that everybody is just like you.”

Critchfield is optimistic about the future of the Third World. He notes dramatic changes taking place in the attitudes of his village friends toward family planning and scientific farming. His assertion that we in the more developed countries are prone to underestimate the common sense, ingenuity and tenacity of villagers is a point well taken, but his uncritical enthusiasm for Green Revolution agriculture (with its heavy dependence on fertilizers and pesticides) and his rather light attention to ecological constraints and to institutional barriers that hold back change should cause us to approach his optimism with considerable caution. Still, his wonderful, firsthand accounts of life among the world’s rural poor majority lend considerable credence to his conclusion that the sum of countless decisions and actions now being taken in villages could well turn out to be “the greatest story of the late twentieth century.” —John Ferrell

HONEY VS. SUGAR
The following was inadvertently left out of Nancy Cosper’s “Good Cooks in Their Own Write” article, in our Feb./March issue. It is an argument of central importance to the “honey versus sugar” issue and the way that issue relates to the politics of self-reliance.

It is in the question “honey versus sugar” that the answer of local self-reliance appears the strongest. Sugar is a multi-national product produced from beets or cane grown largely in Third World countries, whose land could be put to better use growing food for its people. Unfortunately, honey has also become a big business, and much of the commercial honey in the U.S. is imported. However, it is possible to buy local honey from a small-scale producer. That choice is not possible with sugar.
ARCHITECTURE ALIVE!

by Elijuh Mirochnik

One of the first things Ronald Reagan did after taking office was terminate the Architecture in the Schools program that had been operating in public schools across the country. Here in Portland architect Elijuh Mirochnik had been running programs like those cut for four years. He still is. When the budget cuts first started to hit our community, Elijuh went out to the private foundations and managed to get his program funded before the crowd of other needs began to deluge these fairly meager resources. Now his classes serve as good models of how we can teach our children to be at home in and responsible for the communities we live in, rather than alienated from them and demoralized about their future.

Carlotta Collette

Thomas Villas, my next door neighbor, will be 89 this year. Thomas has seen lots of changes in his day. He will put his thumb up to his blocky Irish chin and pinch it once or twice like someone leafing through a book and then with a “Boy, oh boy” as prelude, he points his finger and begins a story. Thomas has seen this town grow up since moving here from his boyhood home in Wisconsin.

Summer evenings he spins his used-to-be tales of the shipyards that have since moved, the lake that was drained when the bridge ramps were built and the trolley tracks buried under the asphalt. At times Thomas will end a tale laughing, “That must have been before you were born.”

True, there is a lot of time that separates Thomas’s 89 years from my 23. He has seen the country change from rural to urban, seen the city change from a backwoods town to a front page metropolis, seen the local settlement house that housed the neighborhood’s original Jewish population updated to an Indochinese Cultural Center.

Some might say that Thomas and I are a prime example of a Generation Gap, yet one thing connects us in a rousing dialogue and that is school. Thomas tells of stodgy old teachers who kept the class after school on what he calls finger tips or made you write “I will not run” until your finger tips turned numb. He goes on about sitcoms in inkwells, severe punishment for test cheats, smoking in bathrooms and note passing during assemblies. Nothing has changed. We are back to a century when Horace Greeley told young men to go West and Horace Mann told young children that learning happened best in five rows of desks facing two flags and a blackboard.

I have taken Horace Greeley up on his offer and made Portland my home now, but Mr. Mann’s dictum that education should happen...
"Architects Alive!" shows students how the city can become the medium for learning about architecture, urban history and city growth. Children learn how to use the free resources that range from the local grocery store to a city council member. Students are challenged to see how the culture of the city is part of the continuity of the present and the past. They learn how to respond critically to the forces that are often ignored when architecture is studied. As the city becomes the classroom, the language of the city is learned. As the city speaks to children they learn how to speak back to buildings, to neighborhoods, to the downtown, to the whole community.

The language that the city speaks is no mystery. Architects and urban planners tend to make the process of city growth seem beyond the grasp of most adults by communicating in undecipherable "plannerese." Children as well as adults will respond to the language of the built environment when that language is demystified and when they become participants in decisions about the future. Let me give you an example of one of our projects. For one class last year we created an Urban Detective Team of students who would work with our local Historic District Design Council to plan a part of the neighborhood's restoration.

The project to the neighborhood's past and present, as well as its social and economic history, was gathered from a potpourri of existing resources. A vacant lot in the neighborhood that had captured the attention of the Council was the assigned design problem. A panel was assembled to respond to the design, that the Team would present at the conclusion of the project. The local neighborhood association announced the project in their monthly newsletter and a representative from the local paper covered the story. The children understood their role as urban designers. This was real!

The neighborhood was their classroom of Victorian Architecture, shape imprinted into sidewalks, color and texture of houses, shapes of rooflines and sizes of open spaces. And the clues went beyond the dates of pretty facades. My neighbor Thomas was delighted to be one of three neighbors chosen for a videotaped interview enabling students to explore the historical aspects of the neighborhood.

Thomas told the class about his corner grocery store within walking distance, how he missed their convenience. There was a unanimous "Wow" as Thomas told them he paid all of 8750 for his house back then.

After the clues were gathered and put into a "Detective Data Bank" the Team assembled their photographs and observations. Off they proceeded for their proposal for the future of the vacant lot. Their idea model of their proposal for the future of the vacant lot was their "detective cloaks" and on went their "designer jeans" as they went to respond to the neighborhood with a site plan and a mixed use plan; community accessible areas, such as laundromat, grocery and day care facilities, would fill the street level, and housing would be located in the two stories above.

The Design Council and panel that included an urban design professor, an architect, a neighborhood history advisor and an author, responded very positively to the design. The panel challenged the students to corroborate the rationale of their designs and the Team in each case pulled out the clues they'd collected to defend their work.

The ideas that the students were exposed to could have been presented to them within the confines of the classroom, but the students engaged in an in-depth experience. The panel of professionals could engage in an in-depth dialogue with the Team because the students had acquired experiential learning.

Cities are multi-purpose by nature. Each part, each district, each politician, neighborhood resident or entrepreneur has its singular purpose and is at the same time connected to the other parts through the many threads that create the urban fabric. The city is a gold mine of educational resources that schools seem too often to ignore. If there is a gap in our schooling it is between the world outside of the classroom and the stylized routine world that most children experience within the classroom walls.

People like old Thomas and places like "our block" are urban resources that can be drawn on to create a classroom that opens the doors to children's imagination.
GOOD THINGS

_Hawai‘i Hawai‘i_, by Rick Golt, 1981, 128 pp., $19.95, from:
The University Press of Hawaii
2840 Kolowalu Street
Honolulu, HI 96822

This beautiful black and white photo book reminds me more of _The Last Picture Show_ than of _South Pacific_. I think you’d have to look pretty carefully to capture, as Golt did, this more intimate small town Hawaiian paradise. This is a Hawaii of general stores, overgrown roads, and community kickball competition. This is a laid back and friendly down-home sort of place in contrast to the tourist tartishness we too often see marketed as our fiftieth state. It presents a quandary. I’d like to go there, but I’d like to be invisible to do it. I would not want to interrupt the conversation on the front porch or the back seat naps of a car full of kids. I’d rather backpack in and cart out my garbage, leaving no mark of my passing—much as Golt seems to have done. My congratulations to him! —Carlotta Collette

BUILDING

_Housing Innovations Handbook_, by Cecil E. Cook Jr., 1981, looseleaf notebook, $20.00 plus $2.00 postage and handling, from:
ATEX Press
P.O. Box 8264
Columbus, OH 43201

I’ve read about most of these innovations in magazines, but nowhere else are so many exciting, practical ideas gathered together. All owner-builders, small scale contractors, and low-cost housing activists deserve a copy. Among the 101 innovations covered are massive masonry furnaces, native vegetation lawns, truss-framed houses, soil cement paving/walkways, electric bed warmers, plastic plumbing, root cellars, surface bonding of concrete blocks, point-of-use water heaters, multi-fuel burning furnaces, all-weather wood foundations, and earth air tempering tunnels.

The information is in the form of technology briefs—about two to four pages on each innovation giving a technical description, advantages and disadvantages, distribution and extent of use, and technical assistance, principal references, sources, and plans. Like any good reference book, it tells you enough so you’ll know if you’re interested and then tells you where to go to learn more. Some briefs aren’t as thorough or as critical as I’d like, but given the plethora of references, that’s a minor drawback. Most briefs include information on cost savings, prices, and brand names. There’s no priority system (what to do first, what saves most money),
but you can figure it out yourself using the information given and common sense. The whole point is to save money and resources. Recognizing the conservatism of builders—"20 years is not a long time lag between the proving out of an innovation and its widespread acceptance by home builders"—Cook compiled the Handbook as a tool to help rapidly spread the use of innovations that significantly reduce both initial and life cycle costs of housing. He believes that "proper use of the Handbook can result in cutting building costs per square foot approximately in half in a given locality."

More Housing Innovations Briefs will be published over the next five years. Annual subscriptions for Innovations Briefs (12 per year) and the quarterly Housing Innovation News are $20 (same address as above). —Tanya Kucak

---

**HEALTH**

"Infant Mortality and the Health of Societies", by Kathleen Newland, *Worldwatch Paper #47*, December 1981, $2.00, from:
Worldwatch Institute
1776 Massachusetts Ave., N.W.
Washington, D.C. 20036

Infant mortality, the rate at which infants die before reaching their first birthday, is usually attributed to the effects of poverty. It is quite surprising then, to learn of poor countries with low mortality rates, and relatively rich ones with high rates. Newland, senior researcher at Worldwatch Institute, suggests that infant mortality rates are more than an indication of how well a society is meeting the needs of its people than the national wealth. An infant mortality rate illuminates what a Gross National Product (GNP) obscures—distribution of resources.

Introducing a bit of history and some statistics as a backdrop to her analysis, Newland notes that most countries have seen infant mortality rates drop over the past two decades. The exceptions to this rule are Sri Lanka, Brazil, the Soviet Union... and the United States! These increases have not been the result of natural disasters or war, but of economic and social stresses—ones we can expect to increase in light of recent U.S. budget cuts. Washington, D.C., whose per capita income figures obscure the existence of large number of poor people, experienced a shocking 10% increase in infant mortalities in a one year period, 1979-1980.

High death rates among both developed and developing nations should be an alarm to policy-makers that something has run amuck. The lack of high quality and preventative health care is but one factor in infant deaths. Other factors which Newland touches upon exist in the social environment (poor access to education for women); the physical environment (sanitation, toxic pollutants, alcoholism); and the economic environment (high teenage pregnancy rates, malnutrition).

While medical intervention has its place in reducing infant mortality, Newland emphasizes preventative measures as a more cost-effective and socially responsive strategy. Her suggestions include: restructuring government priorities in public spending, improving the status of women in society, increasing health education, and a more equitable distribution of food. While Newland’s recommendations seem a bit optimistic under the Reagan administration, they accurately target actual needs for change. —Laura Stuchinsky

---

The Great Health Robbery: Baby Milk and Medicines in Yemen, by Dianna Melrose, 1981, 50 pp., $3.00 from:
Third World Publications
252 Statham Road
Birmingham, Great Britain B11 1RD

Where Newland’s report treats infant mortality in its entirety, Melrose’s *The Great Health Robbery* focuses specifically on one country: Yemen. Directed primarily toward a British audience, the book describes factors within Yemen, and between Yemen and Britain that have created obstacles to health in Yemen. Examples of societal constraints include: poor sanitation, religious fatalism that arrests people’s ability to take control of their lives, the low status of women which affects education and nutrition levels, inadequate health care (one dentist for every half million people) and an economy that has changed from subsistence agriculture to a heavy reliance on imported foods. Evidence of external forces can be found in the promotion and proliferation of imported drugs (some banned from their producing country), baby formula, and cigarettes. All of these factors have contributed to high infant mortality and an average life expectancy of 39 years.

A brief chapter on the problems of artificial baby milk and western drugs demonstrates how when "medicines" are sold like any other commodity, people’s real needs take second place. Numerous examples are given, not the least of which is the use of advertisements designed (as in the U.S.) to boost sales by preying on peoples fears. This is coupled with inadequate provision of information; directions are often written in English, rather than Arabic, and couched in medical jargon.

On a more hopeful note, Melrose describes an Oxfam funded project run by the British Catholic Institute for International Relations (CIIR) that is trying to address some of the health problems in Yemen by teaching preventative medicine to village midwives and medicine-men. The project, she admits, has its shortcomings. As for...
A New View of a Woman's Body is a strikingly illustrated, comprehensive book on women's health. The numerous graphics in this book enable women to have a more accurate and complete picture of the female body and its functions. Original research presented on the sexual response cycle and the clitoris fills in the blanks and corrects misinformation generally found in standard anatomy textbooks. A color photograph section focuses on the range of healthy and normal genitals and cervixes. Another section, on menstrual extraction, provides women with a useful technology. The writers of this book have very adequately demystified many aspects of women's health.

In the Cancer Journals, Audre Lorde challenges women by saying, "Every woman has a militant responsibility to involve herself actively with her own health." These three books help to meet that challenge. — Dawn Wicca

A former RAIN staffer, Dawn has been involved with women's health issues for a number of years.

Exer-Guide (poster), 1981, 18"x24", color, $3.00 regular, $6.00 laminated (bulk prices available) from:
Center for Science in the Public Interest
Box 3099
Washington, DC 20010

Remember that New Year's resolution you made to start running (or swimming, or bicycling) regularly? The Exer-Guide may be just the stimulus you need to stay true to your cardiovascular system. Illustrated by Charles Koren, whose toothy cartoon beast-people frequently enliven the pages of The New Yorker, this poster includes a summary of the benefits of exercise (particularly aerobic exercise) to your heart, blood, muscles, mind and nerves. It notes the important interplay between exercise and sensible eating and points up several prevalent dietary fallacies (such as the one which holds that hot weather exercise automatically calls for salt tablets). The poster also includes a list of the average calories used in several dozen common activities ranging from dancing to dishwashing and indicates any special benefits (strength, flexibility, aerobic conditioning) which can result from each activity. The Exer-Guide amounts to a concisely-written health manual, a bracing pep talk and an attractive wall decoration all in one. — John Ferrell

---

THE ENTERPRISE ZONE FALLACY

by Edward Humberger

One of the only and certainly the most controversial community development strategies being bandied around the Reagan White House is the enterprise zone concept. Enterprise zones are supposed to stimulate small business development and create jobs for unemployed people in distressed urban areas through a combination of tax incentives and regulatory relief. The idea is actually not a new one. In the following excerpt from a recent article in the Journal of Community Action, Edward Humberger of the Resource Group for Community Development (Washington, D.C.) gives us a preview of what may come by describing the long-term effects of an actual enterprise zone model which emerged in U.S. policy more than thirty years ago.

The idea seemed so simple. The area's economy was severely distressed. The unemployed needed jobs, and new business was needed to create them. To get that business, the government decided to create a free enterprise trade zone. Taxes were drastically reduced and regulatory relief was provided. Labor was cheap and largely unskilled, ideal for labor intensive industry looking to relocate. Political leaders, particularly those on the left, were convinced at the time that by creating a positive investment climate, they could put their people back to work, expand production, and improve the quality of life.

After ten years, the results seemed remarkable. Nearly everyone in the area, even the poor, had an automobile. Employment increased as tens of thousands of jobs were created. The productivity rate quadrupled. Per capita income increased twenty-five percent. Health standards and life expectancy improved.

After twenty-five years, however, the disparity between the rich and poor, which economic growth was supposed to reduce, became even more apparent as the first wave of industries left the area for cheaper labor markets. Capital intensive industry then moved in, and more incentives were provided to keep people employed. Over three-quarters of a million people had emigrated, looking for work and a better life. While this helped keep the unemployment rate down—it was increasingly clear to the political leaders that their prospects for full-scale development were not as bright as originally planned.

After thirty years, it was evident that the free trade zone's economy was stagnant, needing yet another transfusion of industrial
investment at a still higher price for local development. By now, seventy percent of the population was below the poverty line, and sixty percent were on Food Stamps. Inflation was up forty percent, and unemployment was about thirty-five percent. Fully twenty-five percent of the families earned less than $1,000 a year. Opposition leaders now spoke of using local capital rather than outside investment to develop the economy and worried about a revolution if the subsidized food program was ever terminated (Lens, 1977; Mounts, 1981; Hornblower, 1981).

America's first "enterprise zone" was Puerto Rico. The experiment President Truman signed into law in 1950 was called Operation Bootstrap. According to Public Law 600, Puerto Rico became an "associated free state," thus creating a common market with the mainland. By this agreement, Puerto Rico was subject to all the same laws as American citizens and was eligible for federal program benefits, like Food Stamps. On the other hand, Bootstrap exempted corporations from mainland taxes, especially on profits. This experiment was supposed to produce a showplace for American capitalism. But, while economic growth was substantial, in terms of long-term development it was a failure.

Operation Bootstrap's first enterprises were large sugar plantations which displaced the small farm economy. Prior to their development, fully ninety-three percent of the land was arable and the agricultural economy was moderately diversified. By 1977, however, only forty percent was still arable and Puerto Rico had become a net importer of $800 million in foodstuffs annually. The second industrial transfusion brought the textile and shoe industries to the island—but they began leaving when labor in Taiwan and Central America became cheaper. Next came the petrochemical industry, which created few jobs, and the pharmaceutical industry, which did not need much unskilled labor. Like an addict, the economy's next transfusion of investment rests on the recent discovery of nickel and copper deposits which will be extracted by the large oil corporations.

Yes, there was economic growth, and the economy was transformed. But the economy is no longer self-reliant or diversified. Puerto Rico has a colonized economy, dependent on American investment and welfare for survival. In human development terms, not only have people left the island for jobs but, among those who remain, there are major drug addiction, alcoholism, and crime problems. Puerto Rico has not been revitalized—it has simply been made dependent. Operation Bootstrap did not produce long-term balanced development because the local economy became hostage to outside investors who did not reinvest in that economy. It is a classic case of economic growth without development.

This experiment was supposed to produce a showplace for American capitalism. But, while economic growth was substantial, in terms of long-term development it was a failure.

Firms, particularly larger multinational corporations, able to move large amounts of investment capital anywhere in the world on short notice, feel no special obligation to the local economy or population of a given community. They are free to move in and out as they please. The experience of Operation Bootstrap reminds us that the inability of a community to control or influence capital investment and job creation for the benefit of local residents leaves it vulnerable to a boom or bust, growth without development syndrome.

Are the enterprise zones destined to become "shameless free enterprise" colonies? In true form with the trickle-down logic, the Administration's initial proposals focus solely on investment and capital growth. The need for an open and equitable community development process seems to have been discounted since there's no citizen participation provision for affected neighborhood residents.

The Resource Group is currently working with state and local officials and citizen groups to design an alternative proposal. The key seems to be to require that every zone has a plan that provides a variety of assurances to the neighborhood—including resident protection from involuntary displacement, satisfying the need for neighborhood equity (e.g., investment potential), and the development of financial tools for the community such as a venture capital fund. For more information, contact the Resource Group for Community Development, 172 North Caroline Ave., S.E., Washington, D.C. 20003, (202) 544-1826—Steve Rudman

Reprinted with permission from the Journal of Community Action copyrighted by the Center for Responsive Governance, 1981
This book presents some interesting insights into "establishment" philosophy and its attendant policy toward the production of fuel grade alcohol from farm crops. As director of The Energy Institute, Hunt echoes the policies that have come from the federal government (pre-Reagan) on alcohol production.

The philosophy is to commit the government to support and fund an alcohol fuels program to produce anhydrous (water-free, or 200 proof) alcohol which can be mixed with gasoline and used as car fuel. The rationale is also to turn solid fuels like coal and wood into liquid fuels to supplement the oil needed to produce that gasoline.

The alcohol production systems described in the book are designed to produce anhydrous alcohol, and this process requires more energy than is derived from burning the alcohol it produces. By contrast, 190-proof alcohol consumes less energy in production and can be burned directly in most vehicles with only minor modifications. Because of this net energy loss in producing 200 proof alcohol, the production of fuel grade alcohol by the processes described in The Gasohol Handbook and sponsored by federal government policy is not economically sound without federal price supports.

—Gail Katz

---

**World Energy Data Sheet (poster), 1982, 2'x3', two-sided, blue & white, $3.50**

(bulk prices available)

**World Resources Inventory**

3501 Market Street

Philadelphia, PA 19104

This poster puts an amazing amount of otherwise hard-to-locate information within easy reach. It makes possible quick reference to 32 categories of energy data for each of 147 countries (everything from uranium production in Argentina to draft horse energy output in Japan) and is accompanied by a booklet which elaborates on the data and provides access to additional source materials. As an added attraction, you get a series of maps, laid out on the model of Buckminster Fuller's Dymaxion Airocean World Map, each highlighting global distribution of a particular energy source. The catch is the maps are on the reverse side of the poster, making it difficult to know which side should face out from the wall. Save yourself the dilemma by ordering two copies.

—John Ferrell

---

**Lighting Power Standard: A Guide to Saving Lighting Energy Dollars**, by Sheldon Steiner and Kenneth Schmider, 1979, 100 pp., inquire for price from:

New York Energy Office

Rockefeller Plaza

Albany, NY 12223

This manual is part of a New York state program to conserve the energy equivalent of a large coal plant through more efficient lighting for commercial buildings. It presents a comprehensive, simple procedure for sizing, implementing and calculating a simple payback for reduction of lighting energy requirements by about 25% for a typical building. There aren't many books around dealing with commercial energy that are both good and written for normal people. This is one of the exceptions.

—Kevin Bell

---

**ACCESS**

---

**ENERGY**

The Gasohol Handbook, by V. Daniel Hunt, 1981, 580 pp., $29.50, from:

Industrial Press Inc.

200 Madison Ave.

New York, NY 10157

---

**Wood & Coal: The Price of A.T.**

As the cost of oil and gas rises, people are increasingly turning to wood and coal to provide for their space heating needs. While reducing our dependence on the local nuclear power plant or not so local multi-national oil conglomerate is a fine idea, the environmental effects of burning solid fuels should be weighed against the personal economic benefits.

A report sent to RAIN from Janet Gillaspie of the Oregon Department of Environmental Quality (DEQ) states:

- Coal burning in hand-fired household stoves and fireplaces discharges sulfur dioxide, sulfates, particulates, and benzo(a)pyrene and other polycyclic organic material into the atmosphere. More residential coal burning would increase the concentration of these chemicals in the ambient air and result in their inhalation and deposition into the bronchi and the lungs, and for some materials, absorption and spread through the blood vessels.

- Time, dose, and host susceptibility factors are critical to the ability of agents to cause cancer and other illness. Young children are particularly vulnerable to low doses and because they are young, will be exposed over long periods of time. Even more than adults they should not be subjected unnecessarily to agents which may result in later development of disease.

- Alternatives to burning coal in residential units are available. Large scale boilers or furnaces can burn coal much more efficiently than hand-fired units, and with effective pollution control devices can reduce the release of other pollutants such as sulfur dioxide, sulfates, and particulates. Thus there is no reason to expose the general public unnecessarily to increased health risks which may result from increased residential coal burning.

Another DEQ report paints nearly as bad a picture for wood burning and its accompanying particulate pollution:

- At the low fire setting, which we believe is the most typical firing condition for stoves in the Pacific Northwest, from 5% to 7.5% of wood burned was converted to particulate matter and emitted to the atmosphere.

- About 40% of total measured particulate was consistently found to be composed of "condensible" matter, which is believed to consist of creosote, terpenes, and other organic hydrocarbon materials.

- The results show at least 95% of particles collected in the stack to be smaller than 2.5 micrometers in size. This result suggests that wood smoke, to the extent its emissions are quantitatively significant, will play a role in regional programs for suspended particulate. (This means it can be wounded and inhaled.)

Wood stoves that burn one charge a day at high temperatures (1500°F) and use water for thermal storage (like the jet stove, see RAIN VII.3 and VII.7) are not serious polluters. All of this forces us to remember that even "appropriate technologies" have their price. The best form of alternate energy is still conservation.

—Gail Katz
In a world suffering from inflation and fossil fuels depletion, hydropower offers stable prices and permanence. If properly managed, hydroelectric complexes will be producing power long after the oil wells run dry and the coal fields are exhausted. Economic development based on energy from running water offers something unique among major resources in use today: sustainability.

Hydropower could be one of the few remaining bargains in electricity production today. Even taking environmental impacts into account, only a fraction of the world’s hydro potential has been tapped. In developing countries, hydropower can offer independence from an export economy. In North America and Europe, retrofitting turbines to existing dams and increased low head applications could meet a substantial chunk of future energy needs.

But the technology is only as good as the society that uses it. Development of hydro resources without sensitivity to local needs and ecosystems has created enormous environmental and social problems throughout the world. The question of who controls the resources is an important one, and the creation of new sources of cheap power for energy and capital intensive industries, such as aluminum, do little to improve people’s lives. What is needed, Duedney argues, is a balanced approach, stressing local involvement and the intensive development of both small and large sites, a model based on the development of hydropower in China.

Duedney is both vague and somewhat naive about how the sensitive and stable development of hydro on a major scale will come about. But his worldwide perspective is an important one, and this wide ranging discussion offers a rare view of the promise and perils of a reemerging energy source. —Kevin Bell

Rivers of Energy: The Hydropower Potential, by Daniel Duedney, 1981, 76 pp., $2.00 from:
Worldwatch Institute
1776 Massachusetts Avenue
Washington, DC 20036

This extremely well written, readable book explains the mechanics of using wood-fired and coal-fired boilers and furnaces for heating houses. Gay describes the basics of how furnaces work, control and fuel options, building codes, performance, and the hazard associated with creosote buildup in chimneys. He illustrates furnace design and lists points to look for when purchasing a furnace. Finally, he outlines what constitutes a safe installation for solid fuel fired furnaces. He repeats the same format for boilers so that the reader can decide between hot water distribution and forced hot air distribution.

The book is well organized and gives the reader enough information to choose, install, and maintain wood or coal-fired heating systems. —Gail Katz

Central Heating With Wood and Coal, by Larry Gay, 1981, 114 pp., $8.95 from:
The Stephen Greene Press
Fessenden Road
Brattleboro, Vermont 05301

Energy Efficient Housing: A Prairie Approach, by the Energy Research Development Group, University of Saskatchewan, 1981, 35 pp., single copies free from:
Office of Energy Conservation
Saskatchewan Mineral Resources
1914 Hamilton Street
Regina, Saskatchewan,
CANADA R3C 0V8

If you’re looking into building a low energy home, this book is one of the best bargains around. You won’t find much here in the way of design calculations, but you will find construction details—lots of them, with clear drawings covering a variety of techniques and special situations, plus practical suggestions for dealing with some of the more common problems and frustrations that invariably pop up. Be aware that the insulation values and design rules of thumb used here are for one of the severest regional climates in North America. —Kevin Bell
Last fall I joined hundreds of progressives gathered in Washington, D.C. for a conference celebrating the tenth anniversary of Ralph Nader's Public Citizen organization. It wasn't much of a celebration. Nearly a year after the Reagan election there was still a sense of shock—lots of brave talk about building new coalitions in opposition to Reaganism but a general confusion about how to proceed. These were people looking for hope and looking for models. They found an abundance of both in a speech by Ruth Yanatta Goldway, the new progressive mayor of Santa Monica, California. —John Ferrell

Santa Monica is a city of eight square miles, it's the most densely populated city in all of southern California, and 80% of its residents are renters. In the last half of the 1970s renters experienced the most severe housing crisis of any time in their history. . . In 1979, after working very hard to pull together a coalition of groups in the city that would support rent control and a rent control initiative on our ballot, we won our first election in 40 years. . . It was a shock to the landlords and a shock to the developers and a shock to the Republican establishment who ran the city until then. We did it because we developed a coalition of people who lived in the city: activists; people who wanted alternative lifestyles; people who were supporting environmental issues; people who had been advocating tenants' rights. . . We got the California Democratic Council Club (a club on the liberal side of the party) in our area to join us: senior citizen organizations; the Campaign for Economic Democracy; union groups; minority groups. We have what ought to have been the Progressive Alliance working on a small scale in Santa Monica.

We won the initiative in 1979, but we didn't have a majority on the city council. We urged this coalition to run a slate with the initiative and with council members so that we wouldn't just win an issue, but would also have people in power who were committed to that issue. It's terribly important that we learn this lesson, those of us who have worked in consumer issues (as I have) or environmen-

"We have the first multi-residential garbage recycling program, a municipal solar utility, a municipal enterprise department. . . We started a farmers' market. . . We have a resolution opposing intervention in El Salvador, we have a status of women commission . . ."
During the two years that I was a council member in the minority, I learned an awful lot about what people were thinking. I worked very hard to defend rent control and I worked on a lot of small issues, like prohibiting discrimination against children in housing and item pricing legislation (which was of very big importance to the retail clerks' union). I worked on improving bike lanes and narrowing streets and on trying to get some social services. While I did it, I learned about some of the key issues that people were really concerned about, so by the time we ran a council election in April of '81 we really had a good sense of what the majority of people's concerns were in our city. . . . We ran an election that focused on rent control as the basic issue but then went beyond it to define what we thought were important issues for a local government and to give us a mandate to proceed. The basic thing was the people came first. The people who lived in the city meant more than the business interests or the bankers or the developers who were making decisions. Again, that goes back to the basic issue of land use control.

It's terribly important that people on the left begin to realize that they have to deal with safety issues. We cannot be the ACLU [American Civil Liberties Union] when we run for political office. People have legitimate fears, legitimate concerns. It's the responsibility of government to do what it can to protect them in a balanced way—not to let them believe that simply having a policeman on every corner is going to solve the crime problem . . . .

We are showing [in Santa Monica] that government can be just as tough, in fact a tougher negotiator than any business is. . . . A government that's wishy washy, that makes mistakes, that can't stand up for anything—that sort of government people do want off their backs. A government that stands up clearly for issues and delivers on them, they're happy for. Shell Oil Company had a franchise for a pipeline under our city that they were paying $1000 a year for over the last 40 years. Fortuitously, the franchise expired just after our election. We have now negotiated with them and they've paid us $40,000 for six months.

I'm convinced that as Reagan cuts back on the amount of monies available to local government that the only option local governments have, whether they're in control or not, is to use their land use authority to get the services they need.

We've tripled our social services budget, including a hefty portion that goes to community organizing groups so that people organize and are institutionalized as part of the democratic system in our city. We have the first multi-residential garbage recycling program, a municipal solar utility, a municipal enterprise department. . . . We started a farmers' market that the downtown businessmen are happy about, we have a resolution opposing intervention in El Salvador, we have a status of women commission. . . . We're still learning how to do these things and we have a lot of struggles in our coalition to keep everybody together and keep them moving forward. We think that we'll be making the models that people can use.

"The issue of rent control goes right to the heart of the question of land use and capital formation that cities use, that cities can control."

See you at the fair? The 1982 World's Fair, whose theme is International Energy Development will include sections on electricity generation, energy conservation, and solar applications, and give information on natural resources, agricultural research, and community-based economic development programs. This year's Fair will be held from May to October in Knoxville, TN. For further information write to 1982 World's Fair, P.O. Box 1982, Knoxville, TN 37901.
The Farallones Institute Rural Center will be holding 12-day workshops starting July 5 to train active community workers to become effective, informed, energy resource people for neighborhood projects. Sessions will be held in weatherization/conservation, solar water heating, solar space heating, and community food systems, at a cost of $350 each for tuition, room, and board. Those interested in self-help and alternative energy projects as a way to promote self-sufficiency and strengthen local economies should write or call Betsy Timm or Donna Glass at Farallones Institute Rural Center, 15290 Coleman Valley Rd., Occidental, CA 95465, 707/874-2441, for further information.

The Center for Ecological Technology (CET) is sponsoring several Solar and Renewable Energy Workshops in their Spring 1982 series which will cover such topics as energy efficient design for new construction, advanced solar greenhouses, solar domestic hot water, and thermal shutters and shades. These one-day workshops are held at Berkshire Community College, Pittsfield, Mass., and registration is $55 per person. This should be made in advance, otherwise there is a $10 late registration fee at the door. Workshops are limited to 30 registrants. For more information on dates, topics, and CET Scholarships, contact Alan Silverstein, CET, 74 North St. Pittsfield, MA 01201, 413/445-4556.

Meet other vegetarians, learn more about vegetarian living, and why vegetarians live longer, have healthier hearts, get less cancer, can help world hunger, and eat inexpensively. These and other topics will be addressed at the National Vegetarian Conference from May 28 to June 1 at the Vegetarian Hotel in Woodridge, Nebraska. Individual registration is $35, family $45; food and accommodation available from $28 and up per day per person. For more information write to Vegetarian Association of America, P.O. Box 547, South Orange, NJ 07079, or call Bob Pinkus at 201/731-4902.

Peggy Wrenn, former Director of Renewable Energy for the State of Colorado, is writing a curriculum on Appropriate Technology and is looking for similar materials to avoid reinventing the wheel. Curriculum topics include food, energy (including transportation), and shelter alternatives for self-sustaining environments; planning, design, and management of small integrated systems that supply basic human needs; and some politics for making it happen. Especially helpful would be curriculums or training projects of similar scope, as well as films, slides/tapes, and textbooks. Please send information on such resources to Peggy Wrenn, A.T. Program, Colorado Mountain College, 3001 College Rd., 114, Glenwood Springs, CO 81601, 303/945-7481.

Learn how to design and build your own home. Heartwood School will be offering three-week training projects of similar scope, as well as films, slides/tapes, and textbooks. Please send information on such resources to Peggy Wrenn, A.T. Program, Colorado Mountain College, 3001 College Rd., 114, Glenwood Springs, CO 81601, 303/945-7481.

The Dept. of Engineering and Applied Science of the University of Wisconsin-Extension will offer a two-day institute on Practical Application of Earth-Sheltered Architecture, May 6-7, 1982 at the University's Madison campus. This will be a summary of the state of the art for both commercial and residential, warm and cold climate applications. Topics include landscaping, thermal analysis, structural implications, illumination, and water-proofing alternatives. Inquiries should be directed to Don Schramm, Program Director, Department of Engineering and Applied Science, University of Wisconsin-Extension, 432 North Lake St., Madison, WI 53706, 608/262-2061.

The 1982 Renewable Energy Catalog of Jordan College describes 32 regional and national seminars on all types of renewable energies along with three international tours offered by the College. Specializing in renewable energy installations, Jordan's publication and seminars are co-sponsored by several national solar energy organizations. Contact Danette Baily, Jordan Energy Programs, 360 W. Pine St., Cedar Springs, MI 493319, 616/696-1180.

"Return to a Universal Community," "Arts and Disciples of the Wild," "The Sacred Hoop," and "The Matrix of Healing" are among topics of retreats held this spring at the Ojai Foundation in Ojai, California. They provide a unique, natural environment for the finest teachers from the finest disciplines and spiritual traditions to lead one- to four-day retreats at a cost of $40 to $150 each; work-scholarships are available. For a catalog and information, write The Ojai Foundation, P.O. Box 1620, Ojai, CA 93023, or call them at 805/646-8343.

Burnout! These are hard times for non-profit organizations, and it will require exceptional management for them to survive the current crisis. Program Management Training, offered by The Grantsmanship Center, is an intensive, five-day workshop that focuses on your specific needs as a manager held in cities across the country. Tuition is $395, but a limited number of half tuition scholarships are available to organizations that are more than one year old, serve primarily low-income clients, and meet certain budget tests. Write to Joan Sullivan, Program Registrar, The Grantsmanship Center, 1031 S. Grand Ave., Los Angeles, CA 90015 or call 800/421-9512 for more information.

The Cascadian Regional Library (CAREL), a non-profit educational corporation which specializes in training seminars for business, government, and non-profit institutions, is sponsoring a series of Professional Development Seminars to be held in various Western states in March, April and May. The one- and two-day seminars will cover development of managerial skills, communication that works, and professional development for women in 1982. For details and a seminar catalog, contact Cascadian Regional Library, P.O. Box 1492, Eugene, OR 97440, 503/687-9564.

Preserving health in the '80s, both of health care professionals and those they serve, is the theme of the 1982 annual meeting and educational conference of the American Holistic Medical Association. The conference will be held June 4-8 at Concordia College in River Forest, Illinois, a Chicago suburb. For further information, contact AHMA/AHMI, 6932 Little River Turnpike, Annandale, VA 22003, 703/642-8880.
Greetings from Ecotopia!

**KNOWING HOME: STUDIES FOR A POSSIBLE PORTLAND**

*Editors of RAIN*


Knowing Home expands upon the ideas covered in RAIN each month with an integrated approach to self-reliance in one bioregion: our home town. An inspiring model for other cities and towns as well as an excellent way to introduce friends and family to community self-help, this beautifully illustrated book includes articles on the history of self-reliance in Portland, a bioregional map, our sense of place, strategies for a sustainable city, life support systems, profiles of community self-help projects, plus visions for an ecologically and socially balanced future. “A vision has emerged in our minds of how Portland and other communities around the country can meet the special challenges of the coming decades and become more democratic, more beautiful and more self-reliant places in which to live.”

**SUBURBAN ECOTOPIA POSTER**

Diane Schatz
22” × 30”, $3.60 ppd.

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. The Stepping Stones Poster is an elaborate bio-regional landscape which vividly details local economies and energies at work and play. All three of these line-drawn posters are rich in detail and perfect for coloring. Great for home or work!

**URBAN ECOTOPIA POSTER**

Diane Schatz
22” × 33”, $3.60 ppd.

**ORDER FORM**

*RAIN Subscriptions*

2 years/20 issues ................................................................. $25.00
1 year/10 issues ................................................................... $15.00
1 year/institutional rate ........................................................... $25.00
1 year/living lightly rate ........................................................... $9.50 (income under $5,000)
Foreign surface mail ......................................................... add $3.50/year (including Canada and Mexico; inquire for air rates)

*RAIN Back Issues*

Individual back issues ........................................................ $1.20
Back issues by volume, per volume (III-VII): .................. $9.00
Complete back issue set, Volumes III-VII .......................... $36.00

Name________________________________________________
Address______________________________________________
City __________________ State ____ Zip __________

☐ Hide my name when you exchange lists!

Send a gift subscription to: (payment must be included)

Name______________________________________________
Address___________________________________________
City __________________ State ____ Zip __________

*RAIN Publications (indicate quantity; all prices include 20% for postage and handling)*

IAM KNOWING HOME .................................................. $6.00
Energy-Efficient Community Planning ......................... $11.50
Stepping Stones .............................................................. $9.50
Rainbook ......................................................................... $9.50
Consumer Guide to Woodstoves ...................................... $3.60
Stepping Stones Poster ................................................... $3.60
Urban Ecotopia Poster .................................................. $3.60
Suburban Ecotopia Poster .............................................. $3.60
Community Alert Poster (in color) ................................. $6.00
Helping Ourselves ......................................................... $6.00
Editing Your Newsletter ................................................ $7.75
Complete Publications List .............................................. free

40% discount on orders of 5 or more copies of Woodstove Guide and posters.

Subscription Gift Subscription Back Issues Publications Donation (tax deductible)

TOTAL ENCLOSED

All orders must be prepaid in U.S. Dollars
For those requiring an invoice, billing fee is $5.00

□ Hide my name when you exchange lists!

Send a gift subscription to: (payment must be included)

Name______________________________________________
Address___________________________________________
City __________________ State ____ Zip __________
I'm no scholar, but I read a lot. Sometimes I read simply because I love words, the sound and measure of them. The word-love leads me to poetry and I have many favorite poems and poets that I return to for the predictable satisfaction they deliver. It's rare that I turn to anthologies for repeated readings. There are a few, but usually they don't balance well and the rhythms are uneven. So, this is a rare book. Even the introduction is a good poem. Maybe it's the storytelling traditions that flavor these poems and nurture these poets. This book reads like, feels like, one spirit motivating many voices. It's quite a find! —Carlotta Collette

from: Toe'osh: A Laguna Coyote Story
(for Simon Ortiz, July 1973)

one year
the politicians got fancy
at Laguna.
They went door to door with hams and
 turkeys
and they gave them to anyone who promised
to vote for them.
on election day all the people
 stayed home and ate turkey
 and laughed.
—Leslie Silko

Simile
What did we say to each other
that now we are as the deer
who walk in single file
with heads high
with ears forward
with eyes watchful
with hooves always placed on firm ground
in whose limbs there is latent flight
—N. Scott Momaday

From: Carriers of the Dream Wheel