Toxic Wastes Syndrome
Northwest Power Play
Lovins’ Bunnies
ATTENTION!! ATTENTION!!
Due to some horrible screw-up with our computer mailing service, several subscribers have not been receiving their magazine. Others have been getting two or more copies. Please tell your friends that RAIN is alive and kicking. And let us know if you’re having problems receiving the magazine. Thanks.

Also, all you librarians and mailbox watchers might want to note that there will be a longer-than-usual delay between issues next time. This is not a mailing problem. Our combined February/March issue (Vol. VII, No. 5) will come out in late February. Nothing to worry about—just some time for us to work on other projects!
—Rainmakers

LETTERS

Dear RAIN,
I couldn’t help but respond to your coverage of Tom Hayden’s remarks in the November RAIN. Mr. Hayden’s suggestions are meaningful, though it is unfortunate he is a politician first and solar activist second. As such he is in a perfect position to explain why the solar transition is not occurring.
Tom Hayden, it can be remembered, is a top aide to Jerry Brown, the California governor who recently campaigned for president under a myriad of contradictory foreign policy platforms (depending at any particular time on what the media was leading voters to believe). Hayden vigorously campaigned against Ted Kennedy, the Senator with a solid human rights record and the only pro-solar major candidate, even after Brown had obviously lost (not exactly an effort to build a solar coalition). Further, Brown’s campaign accepted contributions from California agriculture, and now Brown is avidly supporting Inappropriate Agriculture’s quest to waste even more huge amounts of water and energy. What’s next? Photovoltaic cells on crop dusters?

Personally, I think Mr. Hayden should stay in California and put his preachings into practice, instead of travelling around spreading fancy rhetoric that does not produce results. As far as indulging in California’s successes, I wonder how far the Brown administration could have pushed A.T. if they weren’t so intent on taking over the country. Comparing California’s success to other states’ plans is like saying the United States has a better government than the Soviet Union because we support less fascist dictators. Let us not ignore our failures.
Fortunately, some of us have not become pro-A.T. during prime time and otherwise during the rest of the day. May your magazine maintain its purity.

With love (and with a pencil that’s on fire),
Carlos Portela
Eugene, OR

Dear Rainpeople,
Just to put in my 2 cents worth—I wouldn’t be averse to discrete, appropriate advertising if it means RAIN can go on without raising subscription prices out of sight for us “living lightly” folks. I’m sure you can screen what you print so that it’s not only A.T. but pertaining to Ecotopia (or is your readership now more national than regional?).

Best wishes from a long-time Rain-friend,
Marjorie Posner
Blodgett, OR

Dear RAIN,
We would like to receive some practical ideas from RAIN readers on our “project.” We are in the process of creating a self-reliant cooperative community we call “Ponderosa Village.” We have many ideas—some well-formulated—but more inputs are certainly welcome.
This is more than a dream—we already have over 1000 acres of beautiful land, mostly sloping toward the south, with pines, firs, oaks, and grassy meadows. The prop-

RAIN
Journal of Appropriate Technology

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

RAIN STAFF: Laura Stuchinsky, Mark Roseland, Carlotta Collette, John Ferrell, Kevin Bell. Linnea Gilson, Graphics and Layout.


Typesetting: Irish Setter Printing: Times Litho Cover Photograph: Ancil Nance
_PROPERTY is located in a stable agricultural area in south-central Washington state. What do we mean by "self-reliant"? Our plans include "villagers" who have the personal philosophy that they will—to the greatest extent feasible—meet their own needs for energy and food, learn to repair and/or make many of their material possessions, and be responsible for more of the judgements and decisions that control their daily lives.

By "cooperative" we mean the possibility of shared library, workshops for crafts, fabrication, repairs, clinic, school—whatever the "villagers" can organize. It can also mean cooperation in business ventures. Land will be individually owned, and living situations can take any legal form participants can arrange.

We would like to include a "learning center" for courses in various aspects of self-reliance, cooperation, and personal growth. Such a facility would provide employment for some of the "villagers" and also draw potential residents to the village.

We are planning this community in such a way that it can be started effectively by a small number of self-reliant participants, without having to wait for the simultaneous cooperation of a large number of people to create a grandiose project.

Write or call and share with us in the ambitious project of creating a self-relying cooperative village that can not only provide an opportunity for people to live more satisfying lives, but can be based on a way of life that is more sustainable in the long run. It could become a "model" for others to learn from.

Larry and Meg Letterman
P.O. Box 4022
Mt. View, CA 94040
415/967-6551

Dear Folks:

Many thanks for your review of Yanda and Fisher's _The Food and Heat Producing Solar Greenhouse_.

Unfortunately there were two factual errors. First, the book has 208 (not 108) pages. So it is not such a "chintzy" book for the price! And speaking of price, it's $9.25 mail order (includes postage and handling); $8.00 in stores.

Again, thanks for your informative journal and positive words about one of our books.

Sincerely,

Paul F. Abrams
John Muir Publications, Inc.

ACCESS

SOLAR

_The Second Passive Solar Catalog_ by David A. Bainbridge, 1980, 110 pp., $12.50 from:
The Passive Solar Institute
P.O. Box 722
Davis, CA 95616

_Solar Gain: Winners of the Passive Solar Design Competition_, 1980, 110 pp., $3.25 from:
Publications Unit
California Energy Commission
Suite 616
1111 Howe Avenue
Sacramento, CA 95825

Here are two books on passive solar that every solar access group should have on its literature table. _The Second Passive Solar Catalog_ is an updated version of the catalog put out by David Bainbridge and the Passive Solar Institute. It includes an overview of passive solar fundamentals, along with some good construction details. It also has an extensive list of suppliers and consultants, as well as a section about women in passive solar. _Solar Gain_ discusses several different types of passive systems, as well as techniques for sitting and designing your house for maximum utilization of energy. The section on winning designs should give any prospective owner/builder some good ideas to work from.

—Gail Katz

_Engineer's Guide to Solar Energy_, by Yvonne Howell and Justin Bereny, 1979, 323 pp., $32.50 postpaid, bulk discounts available from:
Solar Energy Information Services
18 2nd Avenue
P.O. Box 204
San Mateo, CA 94401

Very few of the recent flood of solar design and engineering books have been aimed at the semi-professional who has passed beyond the basic principles outlined in classics such as Mazria's _Passive Solar Energy Book_ or Anderson's _Solar Home Book_, but has not yet reached the level of sophistication required to untangle the double integrals of hard core engineering texts such as Duffie and Beckman's _Solar Energy Thermal Processes_.

Howell and Bereny do a good job of filling that gap, with a rigorous, clear survey of state of the art systems and design techniques. There is a massive amount of information here, with lots of examples and very little fat.

This book was published just before the _Passive Solar Design Manual_ was released, so it includes only a cursory explanation of Balcomb's groundbreaking Solar Load Ratio design technique. There is, however, an extensive and lucid presentation of the f-chart method for sizing active systems.

All in all, _Engineer's Guide to Solar Energy_ is very good as either an intermediate level text or as a well-organized reference. It is also overpriced. If it cost half as much, I could recommend it with a clear conscience. As it is, I can only say that it's good if you can afford it. SEIS does offer substantial bulk discounts, though. If you can get together a group order, this book is definitely worthwhile. —KB
CONSERVATION

Insulating Window Shade, by Ray Wolf, 1980, 86 pp., $14.95 from:
Rodale Plans
Rodale Press
33 East Minor Street
Emmaus, PA 18049

At first glance, it appears that Rodale has come up with something that has been needed for a long time—a clear, detailed set of instructions for a fairly sophisticated, easily maintained, home-built insulating shade. The basic design is excellent, consisting of a Mylar sheet sandwiched between two layers of quilted fabric attached to separate rollers to give an R value between 4 and 8 (depending on what fabric you use), and can be mounted either inside or outside the window casing.

The plans are geared towards someone who has had minimal exposure to energy conservation, carpentry, and sewing skills. When a friend of ours who is fairly competent in all three fields actually tried to build one, however, she found that while the instructions are meticulously precise on some steps, they are frustratingly obscure on others, such as some of the sewing and pulley construction details. The pulley design in particular appears to be sound in principle, but flimsy in practice and in need of some further design evolution.

The materials section is mediocre at best. The designers made no effort to track down sources of the various quilted fabrics, and failed to consider some of the cheaper and potentially just as effective alternatives to Mylar for the reflective vapor barrier.

What’s more, I suspect that two of the five quilted fabrics they tested will not work as well in real life as they did in the lab. One material uses cotton batting, a poor choice in high humidity situations. The other consists of a thin foam batting sandwiched between two layers of light cotton. Wolf mentions in passing that the foam may break down or fail to perform as well in real life as they did in the lab...

SCIENCE

Women Look at Biology Looking at Women, edited by Ruth Hubbard, Mary Sue Henfin, and Barbara Fried, 1979, 268 pp., $8.95 from:
Schenkman Publishing Co.
Mt. Auburn Place
Cambridge, MA 02138

As we rethink our history, our social roles, and our options it is important that we be ever wary of the wide areas of congruence between what are obviously ethno- and androcentric assumptions and what we have been taught are the scientifically proven facts of our biology.

Feminists have long been challengers of the myth of scientific objectivity in anthrop-ology, psychology and the social sciences. Women Looking at Biology Looking at Women continues this critique with an examination of the natural sciences. Written with acuity, intelligence and considerable research, each article in this collection demonstrates the variety of ways in which the object chosen, the language used, and the manner in which research is done reinforce the social patterns and preconceptions of the studiers—historically male.

The book is divided into two sections. The first, entitled “What is a Woman,” covers theories from Darwinism to the current debate over sexual differences in brain asymmetry (whether the dominant use of one side of the brain determines personality traits). The authors demonstrate how unstat- ised biases are substantiated by selective use of data and by weighted interpretations. ‘The circle is easy to construct. One starts with the Victorian stereotype of the active male and the passive female, then looks at animals, algae, bacteria and people and calls all passive behavior feminine, active or goal-oriented behavior masculine. And it works! The Victorian stereotype is biologically determined, even algae behave that way.’

The second section of the book, “Gaining Control,” covers some of the efforts by which women have struggled for control of their bodies and their biology. “The Quirks of a Woman’s Brain” is a fascinating account of the 19th century battles by women to gain equal educational opportunities and entrance into medical schools. Repeatedly, women’s physiology was held up as a limit to women’s potential. Numerous publications were written espousing the dangers in the strain of education on the delicate biology of women. A leading physician of that era, Dr. Horatio Storer, believed that women were more likely to become cripples, describing menstruation as “periodic infirmity” and “temporary insanity.” It was his belief that women were in more need of medical aid themselves than they were capable of dispensing it to others.

The concluding article of this section is a first-hand account of one woman’s attempt to break into this male-dominated field. While she is often lauded for her perseverance in overcoming the obstacles she faced, the point she makes goes beyond her success. “None of us should have to face this type of offense. The main point is that we must change this man’s world and this man’s science.”

While most of the information presented here has received attention in other publications, the breadth and quality of this collection is outstanding. An exhaustive 55-page bibliography on Women, Science and Health, valuable in and of itself, completes this book. Women Looking at Biology Looking at Women presents a challenge to us to develop the expertise to define our own options as individuals, as well as working to redefine the meaning of science and technology in a manner that is “consonant with our ideas of human dignity, and the dignity of nature free from exploitation.” —LS
Despite their ridiculous robes and insane rhetoric, the Ku Klux Klan is no joke. A militant group of Klansmen known as the Invisible Empire, Knights of the KKK and led by Bill Wilkinson of Denham Springs, Louisiana, is threatening blacks and Jews throughout the South. Worse still is a secret Klan military training camp hidden deep in the vine-covered hills of northern Alabama where Klansmen in camouflaged military fatigues train with AR-14 semi-automatic weapons (civilian versions of the Army’s M-16), run obstacle courses, climb walls of cut logs, crawl beneath canopies of barbed wire and swing on ropes across creeks.

The Klansmen call this military camp, shown to some local newsmen last winter, My Lai in honor of the “race war” shown to some local newsmen last winter, and locate Nazi war criminals will be employed by the Center’s investigators and attorneys. Special reports will be published and made available to the news media.

“Few in the nation outside the South really know the dangers we face from the resurgence of the Ku Klux Klan,” wrote Julian Bond recently in describing the KLANWATCH project. Help these folks establish the nation’s first and only Klan information center. The Klan is for real. —MR

KLANWATCH is a new project of the Southern Poverty Law Center, a nonprofit organization involved in numerous cases to defend the rights of poor people. KLANWATCH will document the activities of all known Klan groups in the nation. The same record system used by the Wiesenthal Center for the Study of the Holocaust to trace and locate Nazi war criminals will be employed by the Center’s investigators and attorneys. Special reports will be published and made available to the news media.


We Interrupt This Program ... A Citizens Guide to Using the Media for Social Change, by Robbie Gordon, 1978, $6.00.


For all of us who are struggling to make ends meet while building effective participatory organizations, here’s some grist for the mill. The Citizens Involvement Training Project has created a series of “how to” manuals for organizations to develop training programs designed to meet their particular interests and needs. While the focus is primarily on organizing citizen groups, the manuals cover a variety of information from the history of citizen involvement to a roleplay interview with a potential funding source. Drawn from experience with hundreds of groups throughout Massachusetts, the manuals are organized to take a group through the steps of planning and evaluation of programs, be they media events or grantwriting. There is a plethora of questionnaires, worksheets and discussion questions to prod, prompt and provoke ideas within a group.

Planning for a Change, a manual that we used at a recent Rain Umbrella retreat, has a helpful guide that suggests where to turn for an activity that matches the stage your group is at. The title of each manual is a fair indication of the material to be found there, with the exception of Playing the Game Our Way and How To Make Citizen Involvement Work. Here the two seem to overlap some, the former focusing more on public office accountability while the latter concentrates on the power of citizen groups. Depending upon your particular need, the six manuals in this series (the sixth, Beyond Experts: A Guide to Citizen Group Training, is reviewed in RAIN VI: 9:2) have something in them for everyone. They’re certainly less expensive than paying a consultant! —LS
The squeeze play is on in the Pacific Northwest. Electrical utilities are predicting widespread power shortages within five years in a region that consumes twice as much electricity per capita as the rest of the country.

Unlike most of the United States, the Northwest has always been heavily dependent on a renewable resource for its electricity. Until recently, nearly all of the region's electricity came from its abundant hydropower resources. Now, the utilities are pushing heavily for a massive regional investment in thermally generated electricity that would cause major economic and environmental dislocations. There is substantial evidence, however, that a strong effort to implement cost-effective conservation and small-scale renewable energy would be fully capable of meeting the region's future power needs. It is quite conceivable that the Pacific Northwest could become the first region in the country to make the commitment to a renewable energy future.

The debate has entered a new phase with the recent passage of the Pacific Northwest Electric Power Planning and Conservation Act (known as the Northwest Power Bill), which among other things sets up a mechanism for huge federal subsidies of new generation and conservation resources.

What follows is the first of a two-part series about a region in the midst of a historic decision. Part One examines the roots of the debate. Part Two will explore the reasons behind the utilities' commitment to thermal power, sketch the renewable energy alternative and analyze the implications of the Northwest Power Bill.

In 1932 only one rural home in ten had electricity, compared to over 70 percent of urban and suburban homes.

The Northwest power grid is somewhat different from the rest of the country. The dominant feature of the region is the Bonneville Power Administration (BPA), a federal agency that distributes half and transmits most of the electricity generated in the region. The rest of the grid consists of a half dozen Investor Owned Utilities (IOUs), a few medium sized municipal systems, and over 100 relatively tiny Public Utility Districts (PUDs) and power cooperatives. A total of about 75% of the power in the Pacific Northwest is produced by public agencies, compared to a national average of about 25%. The reasons for the predominance of public power in the region are inextricably linked with the formation of the highly centralized...
national power grid we have today. The roots go back to the creation of the early power monopolies, a fascinating and surprisingly little known skeleton in the closet of American history.

Electric Robber Barons

It took a while for the idea of centralized generation of electricity to catch on. The original idea was simply to make and sell small scale generating equipment for local use. Thomas Edison expanded on the idea somewhat by developing equipment for complete district generating systems. Edison held all the patents for his system, and set out to establish total monopoly control over the industry through a series of exclusive contracts with district utilities. His low voltage DC system, however, was quickly dated by the more efficient Westinghouse system of high voltage alternating current, invented by Edison’s former employee, Nikolai Tesla. After a bitter seven-year battle, Edison was forced to fold, leaving a string of small utilities across the country. A third company (controlled by J.P. Morgan), pirated some patents from Westinghouse, developed its own AC system, bought out Edison in 1889, and went on to form the General Electric Company. While GE and Westinghouse were busy selling equipment, Edison’s newly unemployed secretary, a young Scottish immigrant by the name of Sam Insull, moved to Chicago, got hired as the president of a small local light company that used Edison equipment, and proceeded to invent the power monopoly.

Electricity was still considered a novelty item at the time. Gas lighting was cheaper and more reliable until the early part of the 20th century. Industry was still powered by steam, and if a company decided to convert to electricity, it was cheaper for them to buy their own generator than it was to buy power from a utility. The first major use of electricity was for the electric light rail trolley lines that were rapidly becoming prevalent in America’s urban areas. The trolley lines, and the generating equipment to run them, were municipally owned, establishing an early precedent for publicly owned power. The investor utilities that existed were mainly leftovers from the intense rivalry between Edison and Westinghouse, and were tiny even by contemporary standards.

But by spending the first 15 years or so of his new career buying out every utility he could get his hands on to form what is now Commonwealth Edison, Insull was able to acquire a big enough demand for power to justify expanding his generating capacity. Through a combination of argument, bribery, and corruption, he was then able to acquire an exclusive contract to sell electricity to Chicago’s trolley system, instantly creating a utility empire.

Insull’s economic arguments were largely based on the fact that electricity could not be easily stored. With different customers using electricity at different times of the day, the peaks and valleys of electrical use would smooth out somewhat, which meant that utilities could use a few generators that ran most of the time instead of a lot of generators that ran only some of the time. The result was a more efficient system that needed less expensive equipment and saved money.

But for the large municipal and industrial customers that Insull needed in order to justify expansion of his utilities, the slight economic advantage gained by more efficient generating equipment was more than offset by the costs of transmission and maintenance of the system. Insull’s solution was to sell power to large customers for less than what it would cost them to install their own generating capacity, which meant selling it for less than what it cost the utility to produce the power. Insull recovered the capital costs of the system, as well as a tidy profit, by charging exorbitant rates to his residential and small commercial customers. In 1912, for example, residential customers were paying over 12 cents/kWh, compared to industrial rates as low as 0.5 cents/kWh. In effect, the residential customers were subsidizing the large industrial users, a practice that continues to this day. Industry rushed to buy power from Insull, and the future of centralized utility power was assured.

It is interesting to ponder what the alternative could have been. A more diverse electrical load could reduce the swings in electrical demand over the course of the day, but not over the course of the year, which would mean that a lot of generators still sit around most of the time. An efficient way to store electricity would have made large, centralized generators unnecessary. But development of some of the promising storage technologies of the time, as with many other potentially decentralized technologies, came to a grinding halt with the growth of a large, centralized power system.

As early as 1902, the president of the National Electric Light Association had stated: “Our earnings through the economy of operation have well-defined limits, but the possibilities of increasing our earnings by developing our markets have a much wider range.” Expansion of the system was the key to increasing profits, in large part due to the peculiar regulatory legacy established by American railroads during the 19th century that allowed utilities to charge rates that would guarantee a set percentage of profit on their capital investment. The more capital investment, the more profits. With smaller customers bearing the risks, the utilities were able to leverage money to continue building new generation capacity, needed or not.

Using the time honored tactics of political and financial manipulation so successfully employed by the great robber barons, Sam Insull and J.P. Morgan succeeded in gaining direct control over half of the electricity generated in the United States by the end of the 1920s, and industrial generation of electricity had been essentially eliminated. Utilities launched a massive propaganda campaign, convincing people to use more electricity while smearing proponents of public power as tools of the Socialist conspiracy. Consumption—and profits—soared.

cont.
Power Play cont.

The Collapse and the Vision

It didn't last. For one thing, utilities had little interest in providing power to the 35% or so of the population that still lived in rural areas. In the few areas outside of cities where power was available, it was incredibly expensive. As a result, by 1932 only one rural home in ten had electricity, compared to over 70% of the homes in urban and suburban areas. Utilities rapidly became a moving target for the agrarian reform movement that was sweeping the country during the '20s. Opposition to the power trust intensified as the nature and extent of utility concentration became clearer. In 1928, the U.S. Congress began an eight-year investigation of the financial practices and propaganda campaign of the power trust. President Hoover's attempts to impede the investigation raised a storm of controversy that was partially responsible for his defeat. The nationwide economic collapse that was the main reason for Hoover's defeat sent a shock wave through the financially overextended utility combines. Insull's empire collapsed, and Insull fled the country to avoid prosecution. Franklin Roosevelt, hardly a radical, was elected on a platform that included a strong commitment to the breakup of the utility trust and establishment of a decentralized, consumer-owned power grid.

The power trust pushed electricity as the ultimate slave. But for many public power advocates, the vision went far beyond: Decentralization, if and when it takes place, will break up the great conglomerations of people in sprawling, dirty, noisy slums and brutalizing sweatshops; lift the swarming hordes out of tenements and subways and streetcars, and put them back on the land. Electric power, a vast unseemly ocean of electric power that will run factory machines, light the countryside and bring relief from drudgery to the homes on the land, is for Roosevelt the seemingly certain instrument of this decentralization. It will transport people to places where they can work naturally, live decently, breathe deeply and see the open sky.

The Bonneville Power Administration (BPA) was part of that vision. As a result of the intense furor surrounding the formation of the Tennessee Valley Authority, BPA was somewhat weaker than its eastern counterpart. BPA was set up primarily as a power marketing and transmission agent for power generated by the huge Federal dams being built on the Columbia, and was specifically forbidden to operate or invest in generating facilities of its own. Even so, its mandate was a giant step towards socialism. BPA was actively involved in the push for public power in the Northwest, aiding in the takeover of private utilities and the formation of locally controlled public utility districts.

The resurgence of public power was particularly strong in Washington, a state with a long history of progressive movements. A powerful coalition of union and rural groups pushed through legislation making Washington one of the easiest places in the country to form a PUD. In Seattle, the municipal light company finally took over the private utility it had been undercutting for years. IOUs had a firmer grip on Oregon and Idaho, which made formation of PUDs in those states considerably more difficult. Even there, however, a considerable number of PUDs were started, and the trend was clear. Public power was firmly established in the Northwest, with BPA giving first priority to PUDs operating on a strictly non-profit basis.

The Rise of the Rogues' Gallery

The IOUs fought Roosevelt tooth and nail, blocking legislation at every turn and issuing frantic warnings on the evils of government interference. Their opportunity came when the United States began mobilizing for its eventual entry into World War II. In order to maximize industrial efficiency, it was necessary for utilities to coordinate and centralize their generating capacity to allow the power to be moved to where it was most needed. The nation's IOUs informed Roosevelt that they would not cooperate unless the federal government backed off on its efforts to break up the utilities. Roosevelt was forced to concede. The public power movement was throttled as the BPA changed its focus, becoming the backbone of the regional transmission grid for the war effort, working closely with IOUs for the first time, and establishing a trend towards centralization of the regional power system that has continued for 40 years.

World War II irrevocably changed the face of the Pacific Northwest. Its strategic position on the Pacific Rim, combined with an enormous surplus of cheap hydroelectricity, made the Northwest an excellent location for many of the nation's war industries, particularly the aluminum industry.

Aluminum production from bauxite is one of the most energy-intensive industrial processes known, requiring 12 times as much energy as primary iron production. Much of that energy has to be electricity.

By the 1950s, the BPA had abandoned its public power mandate and was beginning to build itself an empire.

Aluminum production from bauxite is one of the most energy-intensive industrial processes known, requiring 12 times as much energy as primary iron production. Because the final separation of aluminum is an electrochemical process, much of that energy has to be electricity. Alcoa, the nation's one aluminum company (aluminum remains one of the most concentrated industries in the world), and the U.S. government built 5 smelters in the Northwest during the war. When the war ended, the government sold their plants to Reynolds Tobacco and Kaiser Chemical corporations, instantly creating an industry that today produces one-third of the aluminum in the country and gobbles up a quarter of the region's electricity.

The industrialization and massive population growth of World War II continued into the '50s. With plenty of cheap hydro power for public and private utilities alike, the Northwest rapidly became one of the most electricity dependent areas in the world, with demand doubling every 10 years. By this time, the BPA had abandoned its public power mandate, seeing itself more as a central authority for the region's utilities and actively promoting the continued growth of energy intensive industry. BPA was beginning to build itself an empire.

A seemingly innocuous event occurred in the late '50s that would later have an enormous impact on the region. Because PUDs operated on a non-profit basis and got most of their power from dams owned by the U.S. government, most of them had no capital and very little collateral for building power facilities of their own. In 1957, 21 Washington public utilities formed the Washington Public...
Power Supply System (WPPSS, pronounced “whoops”), to provide a mechanism for PUDs to pool their resources for new generation. WPPSS was a bush league operation, run on a low budget by managers that were generally from tiny utility districts with little to no experience with major construction projects. Their first project was a 27 megawatt dam, built for about 14 million dollars. WPPSS then turned its attention to a joint project with some regional IOUs, retrofitting a steam turbine to one of the military plutonium breeder reactors on the Hanford Reservation in Washington, managing to raise the $65 million needed for their share of the project. The reactor was not particularly reliable, but when it worked it produced up to 860 megawatts of power, making it by far the largest nuclear plant in the world at the time. Flushed with success, enthralled with the prospect of a nuclear Northwest, WPPSS picked up their central offices in Seattle, moved to Hanford, and proceeded to become one of the most secretive organizations in the region, firmly entrenched in their commitment to nuclear power.

The crunch began in the ‘60s. Armed only with graph paper and rulers, the utilities were expecting electrical demand to continue its fantastic growth rate indefinitely. Hydro resources were expected to be fully developed by the mid-’70s, with shortages expected by the mid-’80s. BPA was already ending its firm power commitments to the IOUs, although it continued to offer PUDs power at a flat rate until 1974. In the late ’60s, BPA and the region’s utilities formulated their plans for the future of the Northwest electrical grid. For them, the answer was obvious: coal and nuclear power.

**Romance Without Finance**

In 1970, the region’s utilities unveiled the Hydro Thermal Power Program (HTPP), which called for the construction of one new major coal or nuclear plant a year, every year, for a total of 26 by the year 2000, nearly tripling the region’s firm power supply. HTPP was the ultimate centralization of the regional grid, with BPA moving to the foreground as the dominant planning agency for the region.

The plants were supposed to be financed by a consortium of public and private utilities. This created quite a problem for most of the region’s PUDs, since they didn’t have any money to invest. BPA came to the rescue, however, neatly sidestepping the provisions of the BPA charter prohibiting investment in generating facilities through a complicated bit of creative bookkeeping known as net billing. Under net billing, PUDs spent the money they would have normally used to buy power from the BPA on building nuclear and coal plants instead. BPA gave them power for free, with the only limitation being that PUDs couldn’t spend more than 87% of what the BPA power was worth on a new power plant.

Net billing had some pretty heavy implications. BPA was not only committing the U.S. government to an indirect subsidy of coal and nuclear power plants, but was agreeing to be the principal bearer of risk as well. No matter how much the plants eventually cost, and even if they never generate a single watt of power, BPA is committed to paying off the full cost of the plants. If the BPA has to raise its rates to cover its net billing obligations (for example, over half of BPA’s recent doubling of wholesale power rates was to cover the failure of a single bond issue for two net billed nuclear plants), every utility that buys power from BPA is committed to helping to pay for those plants, whether they invested in them or not.

Construction began on the first phase of HTPP in the early ’70s, including 3 coal and 5 nuclear plants. The plan began to fall apart almost immediately. Construction costs were higher than anyone had dreamed. IOUs found themselves financially overextended. Expected costs for plants that PUDs had invested in rapidly outstripped what PUDs were paying for BPA power, leaving BPA with no choice but to make the power more expensive. In 1973, an Inter-

Armed only with graph paper and rulers, the utilities were expecting electrical demand to continue its fantastic growth rate indefinitely.

internal Revenue Service decision essentially eliminated BPA from investing in thermal plants not already covered by net billing, dealing a staggering blow to the future of HTPP. The program continued for a while longer, with utilities announcing plans for another 5 nuclear and 6 coal plants, to be completed by 1990. But by the mid-’70s, HTPP had collapsed, with massive cost overruns and construction delays draining the financial resources of the region’s utilities. Meanwhile, as the implications of HTPP became clearer, Congress­man Jim Weaver (D-Oregon) and the Natural Resources Defense Council filed separate lawsuits challenging different aspects of BPA’s decision-making authority in HTPP and requiring a comprehensive Environmental Impact Statement that would open HTPP to public scrutiny for the first time.

With HTPP stalled and power shortages expected within 10 years, utilities panicked. In 1976, BPA announced that it would not be able to meet its projected firm power commitments after June 1983. Regional utilities began dropping dark hints about the future, combined with a high powered campaign against consumer interest and environmental groups opposing the continuation of HTPP. (Prob­ably the three most effective spokesmen in this campaign have been the three most recent BPA administrators.) Utilities then introduced the initial version of the recently-passed Northwest Regional Power Bill, launching a three year battle to allow BPA to directly subsidize HTPP for both public and private utilities.

**Coming in Part Two: The utility perspective, the renewable alternative, and the promise and peril of the Northwest Power Bill.**

*The Trojan Nuclear Power Plant*
RESOURCES

Future Survey Annual 1979, edited by Michael Marien, 1980, 256 pp., $25.00 (paperback) from: 
World Future Society 
4916 S. Elmo Avenue 
Washington, DC 20014

The World Future Society has compiled a guide to some of the recent literature of trends, forecasts and policy proposals, containing 1,603 abstracts of books and articles, mostly from the U.S., published between late 1978 and early 1980. “The writers come from traditional academic disciplines (largely economics, political science, and sociology, with a scattering of contributions from the natural and physical sciences, but virtually no representation from among scholars in the humanities), and from professions such as medicine, public health, engineering, journalism, education and law.”

The publications of the World Future Society, with their fawning reverence for self-ordained high-tech centrists “futurists” of the Herman Kahn ilk, do not generally rank high on my list. Especially at the price, this is a book you can do without. However, if you have any sway with your local librarian, it would be a useful research tool to have in the neighborhood. —MR

World Military and Social Expenditures 1980, edited by Ruth L. Sirard, 1980, 40 pp., $3.50 from: 
World Priorities 
P.O. Box 1003 
Leesburg, VA 22075

There’s more relevant information in the forty pages of this booklet than there is in many of the massive texts I’ve seen discussing the implications of world militarization. Much of what Sirard has to say deals with the huge increase in world weapons production and acquisition. Most of the information is presented in charts and graphs for maximum impact. Some of the facts are startling. For example, did you know that the costs of U.S. military equipment have risen 5 to 30 times faster than the general rate of inflation since World War II? Or that there have been over 150 interventions and wars in 83 countries since 1960?

Perhaps most immediately relevant, there is an excellent summary of the considerable evidence that the U.S. military is consistently overestimating the size and scope of Soviet military expenditures. Sivard also includes an extensive analysis of the dismal trend in economic and social indicators, along with a statistical appendix of economic and military indicators for most countries.

As we head into another cold war, it’s important to keep the facts in perspective. This is a good place to start. —KB

Energy Statistics: A Guide to Information Sources, by Sarojini Balachandran, 1980, 284 pp., $28.00 from: 
Gale Research Company 
Book Tower 
Detroit, MI 48226

If you have any use at all for statistical information on energy, this is a good book to know about. The listing of data sources for solar is slim and somewhat dated, but for any conventional energy source the information is thorough, current, and easy to find. The first half is a complete keyword subject index, giving the best available source of information for each subject. The rest of the book lists and briefly discusses nearly 650 different statistical publications, categorized by energy source. Balachandran includes a complete mailing list of publishers, as well as comprehensive author and subject cross indexes. This is not the kind of book you should run out and buy for yourself unless you are serious about energy research, but it is definitely a book your local library should have on its reference shelf. —KB

EDUCATION

Feed, Need, Greed: A High School Curriculum by the Food and Nutrition Group, Boston Science for the People, 1980, 86 pp., $5.00 plus $.50 postage from: 
Science for the People 
897 Main Street 
Cambridge, MA 02139

Here’s an excellent resource for the educator who wishes to bring a more comprehensive and critical perspective on food, population and resources into the classroom. Countering the pro-industry bias of most texts and consumer education materials, this curriculum guide is an exceptional tool for increasing the awareness of both students and teachers about the politics of our food system.

Feed, Need, Greed is divided into four sections—The Numbers Game (population and resources); The Lean and the Lumpy (hunger and food politics); Nutritional-Industrial Complex (advertising and agribusiness); and Building a New World (community action). Each section can be used independently or “mixed and matched.” Using a combination of methods—discussion questions, diagrams, fact sheets and cartoons—to convey information and ideas, the exercises provoke critical thinking and active participation. Students are encouraged to do research in their community, develop their vocabulary, and to view the world around them more critically. Additional background notes, discussion questions and resources are listed for the teacher’s aid while a glossary of terms is included in the back for the student.

Feed, Need, Greed is unique not only in the quality of information it presents, but in the style of education it advocates. The concluding chapter, “Building a Better World,” takes a notable step in bridging the gap between study and activism by discussing ways in which students can utilize what they have gained on a personal, community, or national level. While the Guide will not be applicable to all environments (you may have to sneak it past the principal) and educational levels, it is an unusually valuable resource at a very affordable price. Education like this could help change the world as we know it. —LS
GOOD THINGS

Back Then Tomorrow by Peter Blue Cloud (Aroniawenrate), with drawings by Bill Crosby, 1978, 80 pp., $3.00 from: Blackberry Press Box 186 Brunswick, ME 04011

When I was very little my family and I spent a lot of weekend afternoons in the front yard of the Roy’s Point Reservation General Store in Wisconsin. Pit LaPoint, who ran the store, was my father’s best friend, and my mother had raised six of my older brothers and sisters on the small farm next to Pit’s while my father was away on the boats. Those sunny afternoons on Pit’s porch were filled with “fun poking” storytelling, many of which described the creation of things and their naming, the shared values of Menomini people, and the ways to teach these to children. All those tales and the gentle humor of them come to me now as I read Peter Blue Cloud’s book. All the dried-up ethnographic studies in academia can’t translate the sense of the people half as well as Back Then Tomorrow.  
—CC


Former Catholics, I’ve been told, are always in search of new rituals to replace the ones performed, often daily, to insure spiritual security. True to that dictum, I’ve dabbedled in parochial practices, touring religions like continents until finally fashioning for myself a sort of pantheism without Pan, a secular sanctity. These two volumes of Earth Rites emerge from similar journeys, composed by women who pursue a spiritualism based in the earth, the movement of the planets, and the patterns made by shadows. Volume I combines herbal remedies for self-healing with herbs useful for magic. Most of the medicinal recipes are the tried and true ones appearing in classical herbalists both ancient and modern. The magic is minimal but I like what little there is. I am especially taken with amulets, gentle charms to balance the pragmatism we’re so imbued with.

Volume II describes the personal rituals of women who have created a spirituality that reflects both their politicization as feminists and their need to explore ancient woman-centered mythologies. These range from solemn prayers to female deities (the name’s changed but the pie’s still in the sky) to more joyous songs and celebrations. Still, much of the book is too mournful for my tastes. I prefer foot-stomping incantations to boil high energies into potent brews—cathartic stuff that leaves you breathless and grinning. The chorus of one such chant from the book is an example:

dance dance where ever you may be
I am the lady of the dance said she
I live in you as you live in me
and I’ll see you all in the dance said she

The combined books are the carriers of a tradition. They link us to our very distant past. I look forward to a Volume III—empowered, sensuous, lively and willful. A book that will glow. —CC

AMULETS

Excerpted from Earth Rites

i have been hand making herbal charms for myself and my friends for 3 years. i use a wide variety of herbs for different purposes, have used each of my charms at different times, and have found all to be powerful. i have experimented with combining color magik and herb magik to increase the effectiveness of the charms. the results have been very pleasing. when i make a charm to wear around the neck, i use a small red flannel bag stuffed with an herb or mixture of herbs tied up with a cord that color corresponds with the desired characteristics of the herb(s). these are some of the charms i’ve made and used:

blue cord—for peace of mind, tranquility, and keeping calm in stressful situations. use catnip, chamomile, betony, lavender, peppermint, violet.
bright turquoise or purple cord—for focusing or drawing sexual attraction and passion. use basil, damiana, jasmine flowers and saw palmetto berries.
green cord—for positive growth, change, movement, and expansion in your life and relationships. use clover, hyssop, pennyroyal and sage.
lavender or orange cord—for mental powers, clear mind, writing, communication, and seeing into the future. use dried celery leaves, lavender, orange peel, marjoram.
pink cord—for love, romance, sensuality and drawing admiration to yourself from others. use elder flowers, jasmine flowers, rose buds, and lavender.
red cord—for fighting and winning. use basil, gentian, myrrh gum, and nettle.
silver cord—for safe travelling, reflecting back energy directed toward you (protection from attacks) and going with natural cycles, use orris root, poppyseed, rosemary, and sage.

carrying a whole nutmeg absorbs bad vibrations and sends out good ones. this is useful in new situations.
TOXIC WASTES SYNDROME

by James McClements

If we do one thing in the next decade we should redefine the word "bury." It was great for tombs and treasures, but it doesn't work for chemicals. If they don't seep out into a river they seep down and find their way into those huge bodies of underground water called aquifers. Either way we usually end up drinking them.

About half the people in the United States drink water from underground. And whether from chemical spills, unprocessed effluent, or industrial dumps, aquifers across the country are being contaminated. Hundreds of people in Hardeman County, Tennessee, drank badly contaminated water for years. Aquifers in New Jersey, New York, Massachusetts, and Michigan are already known to be poisoned, and this is just the beginning.

The damage we are doing to that underground reserve of water is irreversible because it can never purify itself as surface water can. That's old water down there—often undisturbed for thousands of years—migrating with slow deliberateness at a geologic pace. This is the earth to which we've been just a fast and furious bhp.

But we're leaving our mark.

At speeds not faster than continental drift the regulatory agencies are trying to reverse this trend. It is a Herculean task. They must counter corporate power that is almost glacial in its force. Having fought their first decade toward tighter air and water pollution control, the Environmental Protection Agency (EPA) has only recently realized the hidden danger of chemical mismanagement. Only recently have "buried" stocks of chemicals begun to leach far enough out of containment to endanger local ecosystems. And only recently has long-term exposure to certain chemical substances begun to take its toll.

The EPA and the Occupational Safety and Health Administration (OSHA) share responsibility for protecting us against the careless use and disposal of hazardous chemicals, OSHA tending to the workplace and the EPA to the general environment. Both are underfunded organizations. Their roles are often executive, like cabinet branches subject to the whims of the Office of Management and Budget, and sometimes legislative, forcing them to politics in the interest of self-preservation. They are further caught between powerful corporate interests and the relatively weak environmental lobby.

The industrial lobby not only gets a sympathetic ear in Congress where the EPA's authority originates, but once the provisions of a law are passed on to the regulatory agencies for implementation, big business has another chance to shape the codes. Because legislative guidelines are not specific enough to be enforced, EPA and OSHA staffers must spell out specifications that are loophole-free and will stand the inevitable court test. An unfavorable ruling could set the regulators back years, so regulators consult industry and accommodate them when necessary since wealthy corporate interests have such vast resources for waging long court battles to kill or delay new regulations. For the agencies, care and prudence are required.

Care and prudence translates into either time or money. And since the regulatory agencies don't get much money, it takes time. It took OSHA three years to draw up its vinyl chloride standard, and the General Accounting Office predicts that at present rates OSHA will take one hundred years to set guidelines for all substances currently known. Last year Bob Eckardt, of a House Commerce subcommittee, condemned the EPA for its slowness in implementing the Resource Conservation and Recovery Act (RCRA), which dictates industry responsibility for tracking and disposing of wastes. It will begin to go into effect at the end of 1980, four years after it was passed.

Because research funds are also limited, the EPA has to rely on inflated industry figures for such major details as cost/benefit analyses and earliest possible compliance projections. An independent study estimated industry costs for compliance with RCRA at $750 million, or one-third of a percent of total sales, while industry figures went as high as $25 billion. When the regulators have no such studies available industry gets another chance to write its own ticket. And in the end, if there happens to be enough funding for the agencies to write an equitable yet challenging set of regulations, there is often not enough money to enforce them. Under RCRA the EPA, recognizing its enforcement limitations, exempted small producers of waste which account for a staggering 60% of the industry.

Over the next few years an anti-regulatory, pro-business climate will probably prevail. Environmental regulation and worker safety have become scapegoats for inflation and we may see the EPA even more stripped for funds and less autonomous. Senator Schweikert's so-called OSHA Improvements Act, intended to gut OSHA, had a great deal of support even in the last session of Congress. It virtually breaks OSHA's already tentative hold by eliminating spot checks, and exempting huge segments of the industry from OSHA jurisdiction.

At present rates OSHA will take 100 years to set guidelines for all substances currently known.

Love Canal has done more to focus attention on toxic waste in this country than any other incident. Hooker Chemical has gained a reputation that is equaled only by Japan's Chisso corporation, responsible for the mercury contamination at Minamata. But let's not forget Velsicol, whose chemical wastes the people of Hardeman County drank with their well water and who was indicted last April by a grand jury in Michigan for allegedly withholding information about their renowned PB8-contaminated animal feed. Then there's Dow, and Allied, and General Electric, on down to the little guys like TECO of Texas, poisoning its workers and neighbors, and...
Settlements against Allied were reduced from $13.2 million to $5.2 million (after they gave $8 million to an environmental group), but the costs of cleaning up the James, were anyone to undertake that task, would run into the hundreds of millions.

Ward Transformer Company of Raleigh, N.C., who spread PCB's by night across the Carolina countryside and was unlucky enough to get caught.

But the EPA and OSHA don't command prestige either. Love Canal residents, fed up with a dilatory EPA, refused to let two EPA officials leave a meeting and briefly held them until police arrived and tempers cooled. Not only is the regulatory process ponderously slow but the agencies have lost credence by going so far to fill loopholes that their guidelines are easily cast by industry as monuments to specificity and inflexibility; the OSHA cowboy wears kneepads and a hardhat. This irrefutable flaw allows industry to focus on the occasional regulatory absurdity and appeal to the free-enterprise, Marlboro spirit without ever having to address the very real question of whether industry is willing to protect workers and citizens of its own volition.

People outraged by industry yet disaffected with the bureaucratic solution become either morosely acquiescent, philosophical, or they organize. Community organizations and citizen action groups are growing in constituency and influence, and not only have they fought polluters and pushed for environmental legislation, but several national groups have brought suit against the EPA for failing to fulfill its mandate. As anger and frustration grow in this country, and as the federal government and industry seem more in collusion, we can expect greater numbers of people to challenge the system.

In a speech last January, Thomas F. Williams of the EPA suggested that such impatience is caused by a myopia shared by those "who enjoy the music of the environmental movement, but do not pay much attention to the lyrics . . ."

. . . if it were that simple, perhaps a few students could gather key hostages from industry and government and hold them until the last abandoned dumpsites were cleaned up and all the provisions of RCRA were implemented, and that would be that. It is, of course, not that simple.

But to those more musically inclined it might be just the thing. The lyrics are complicated but the problem is quite simple. These corporations, driven almost solely by profit, are destroying a world we all share. And trying to stop them through proper channels is maddening because they have such a firm grip on the entire process.

Government regulators try to do battle as if they were the home team, accommodating and boyishly competitive hosts to a game they think is theirs when actually it's an away game and the corporations not only built the grandstands and run the concessions, but wrote all the rules.

It would be unwise to give up on Congress and the regulators, but the strength of the environmental movement, especially in regard to toxics, will be public pressure. Hazardous substances are becoming a key environmental issue and support is strongest where people are actually threatened. No one wants to live by a chemical dump. Although industry complains that this makes it impossible to deal with the massive volumes of hazardous waste generated cont.
Toxic Wastes cont.
(35 million metric tons a year) and they appeal to the federal govern-ment to strengthen provisions that override state and local decisions. Local opposition (in regard to dump siting, at least) is growing strong enough that industry’s fight may soon be uphill. The voters of Washington State decided overwhelmingly in November to end their role as trash bin for the nation’s nuclear waste. Though this initiative may not stand the test of law, legislators may see popular sentiment strong enough to warrant a few changes in those laws. Popular sentiment in a democracy is, after all, intended to filter up. And popular sentiment will have a similar effect on industry. If members of a community won’t accept a leaky chemical dump, they might be talked into a conscientiously sited, constructed and monitored containment area. If they object to dirty rivers, they still might accept a few responsible, clean industries. Most large corporations now employ environmentalists to whom they give varying degrees of autonomy and influence. Concern about their corporate image is usually the motivating force, but the 3M Company’s 3P program (pollution prevention pays) has aimed at changes in the manufacturing process itself and has come up with simple conservation measures that have saved money while reducing wastes. Many corporations have also found that stemming pollution at its source is far cheaper than the cost of cleaning up. Allied Chemical could have spent only $250 thousand to keep Kepone out of the James River, a misjudgment that cost them several million. And Velsicol, one of misfortune 500’s worst, is taking great pains to change its habits. It has hired an ex-EPA official, John M. Rademacher, to head up Environmental Health and Regulatory Affairs and has given him considerable clout.

It’s still not enough. Corporations will only police themselves so far and court damage awards against them are usually no more than a slap on the hand. A company like Hooker or Velsicol probably suffers worse in the stock market. Settlements against Allied were reduced from $13.2 million to $5.2 million (after they gave $8 million to an environmental group), but the costs of cleaning up the James, were anyone to undertake that task, would run into the hundreds of millions. General Electric paid New York State $3 million for its contamination of the Hudson with PCB’s, but according to Business Week that cleanup would have cost $200 million. It is the courts, however, that are in a perfect position to deter industry with the threat of large injury settlements in favor of the victims. Deterrence is critical. Regulatory agencies are prescriptive—writing the rules and chasing industry from loophole to loophole—but the courts, with a few legislative guidelines on compensable injury and liability, could levy significant penalties and with a broad sweep discourage pollution industry-wide. Senate Bill 1480, the “Superfund,” set up just such a system to streamline compensation procedures. The bill proposed a $4.1 billion industry fund for environmental clean-up and drastically changed laws concerning corporate liability. But due to industry pressure the bill was up-planted by a version which reduced the fund and weakened the liability sections.

To even suggest then that industry be subject to criminal penalties for breaking pollution laws seems untenably extreme given the fact that corporations hardly ever bear the burden of their own mistakes. Chemical spills and abandoned dumps are shrugged off by industry as “externalities”—those costs which are to be taken on by the community. And in Michael Brown’s Laying Waste (reviewed in this issue) we catch a glimpse of how deeply this notion is entrenched when Chemical Manufacturers Association (CMA) president Robert A. Roland, in reference to the Superfund’s proposed industry financed cleanup, makes the ludicrous complaint that the bill unfairly singles out the chemical and related industries to bear a disproportionate burden of the cleanup costs. In doing so it fails to adequately reflect society’s responsibility for resolving a problem which everyone has helped to create and for whose solu-

tion every one should help to pay.

If these “externalities”—poisoned aquifers, rivers, air and people—were all figured into corporate overhead one would see why corporations assign these costs to the public. It is because these costs are so great that even the multinationals would be hard pressed to pay. They can’t afford to take care of the mess they leave. No one can. But only industry is in a position to curtail potential pollution while it’s still manageable. Then they have the nerve to call environmental regulation “inflationary.”

Clearly it is pollution that is inflationary. Mark Green in Environmental Action notes that although “sulphur oxide and particle emission standards . . . may cost $9.5 billion this year . . . the standards will also save an estimated $16.1 billion just in health outlays.” One should also consider that the shellfish industry down the James River from Allied was virtually destroyed by Kepone contamination.

It seems ironic, then, that the issue wielded most successfully by industry has been loss of jobs. A 1976 study by the Oil, Chemical, and Atomic Workers union (OCAW) concluded that environmental regulation had little or no effect on plant closings in those industries. Even the CMA, boasting industry anti-pollution efforts in a current public relations campaign, stated that there are 10,000 workers industry-wide “whose sole job is to operate, maintain, and monitor pollution control equipment.” Claims that regulation makes it too difficult for “marginal” operations to survive during recession, although occasionally true, are used extensively by industry to blackmail government into easing regulatory pressure and to influence workers to back industry needs. To workers and society, industry contends that economic growth and environmental concern are at odds, and that conservationists are out to protect the environment at the cost of jobs and our American way of life. And though this is sometimes true, there are plenty of people in industry who protect the almighty profit margin at the expense of the environment and worker safety.

A study by the Oil, Chemical and Atomic Workers union concluded that environmental regulation had little or no effect on plant closings in those industries.

There needs to be a middle ground, but threats of plant closings have pitted workers against environmentalists on such an emotional level that dialogue is prevented and middle ground is hard to come by. By keeping these two forces at odds, industry has forestalled the discovery by each group that they have a lot in common. If a factory is polluting, chances are the worker’s family bears the worst of it. If a company mishandles a hazardous substance it is the worker who is the first casualty, and workers are often kept in the dark about the substances they work with. Not only do companies fail to inform workers of hazards, but often they will deny workers access to information in the name of trade secrecy. Anthony Mazzocchi of OCAW is pushing industry to take measures to educate workers to the risk of handling toxic substances, so workers can make for themselves the life and death decisions that are often made for them. But though most workers and their unions recognize the value of regulators such as OSHA, and are actively opposed to such measures as the Schweiker bill, there is a point for many at which the health of the industry and short-term job security are of immediate concern than the often long-term, invisible hazards of exposure to toxic chemicals. Many workers feel environmentalists are insensitive to this.
Some coalitions, however, have managed to bridge the gap. Environmentalists For Full Employment held a conference in Pittsburgh recently to bring anti-nuclear union groups together with environmentalists to push for safe energy. Another coalition, the Urban Environment Conference, actively fought for Superfund legislation, and they are now battling the Schweiker bill so that OSHA guidelines do not become voluntary. Within coalitions like these, distrust can be dissipated and each faction can work toward solutions that do not sacrifice the other's best interests. Divisiveness and ignorance can be industry's most valuable asset, but these organizations break the pattern.

An independent study estimated industry costs for compliance with RCRA at $750 million, or one-third of a percent of total sales, while industry figures went as high as $25 billion.

Nationally, these groups can have a powerful effect on legislation. By lobbying to protect OSHA, unions and coalitions can broaden their constituencies to non-union workers, and by facilitating court suits and strengthening environmental legislation they can serve the nation and the ecosystem. And because RCRA exempts small producers of hazardous waste, union locals and community coalitions, by exerting pressure on these companies, may be able to have some control over that unregulated 60 percent. Court battles are expensive and often fruitless for the individual victim; lobbying would be out of the question. But a contaminated aquifer, even in a rural area, can affect thousands of people. Even without the strong liability provisions of the original Senate Superfund, however, it is still possible to organize the victims and accomplish with class action suits and the strength of numbers what might have been possible with justice alone.

First, it is essential to educate people to chemical hazards, then teach them how to deal effectively with issues that affect a community. If a plant is poisoning its neighbors, then these people need to organize. If the EPA, under RCRA, cannot take care of an abandoned dump (and it cannot) then those whose waters are threatened or fouled will have to join together and do what is necessary. These are the people who have the most to lose by giving up and the most to gain by fighting. That goes for the rest of us, the potential victims, too.

Industry won't do it for us. Corporations will curb their recklessness only when it's good for profits. As industry begins to take responsibility for polluting, it will do only as much as it is forced to by the courts, the regulators, and the public relations people. If corporations are not malevolent, they are so amoral that such distinctions blur; the corporate ethic fosters a tyranny of indifference. It is all we know and all we need to know.

Picture Hooker Chemical, penitent and obsequious at its dump site in Montague, Michigan, pumping water day and night out of so-called purge wells, cleaning it, then pumping it back in an artful, Sisyphean attempt to do what no human or god has ever done before: purify a ruined aquifer. Keep up the good work, Hooker. ☏ ☏
HAZARDOUS WASTES


You want to believe you're reading fiction: there is something of the flavor of Camus' The Plague here, but the setting is pure American suburbia and the events are even more bizarre. Listen as author Michael Brown describes what he found when he began his investigation of the Love Canal story:

I saw homes where dogs had lost their fur. I saw children with serious birth defects. I saw entire families in inexplicably poor health. When I walked on the Love Canal, I gasped for air as my lungs heaved in fits of wheezing. My eyes burned. There was a sour taste in my mouth. It seemed inconceivable that industry and government could have allowed this to happen, and yet there it was, an exposed cesspool fully exposed—with people afraid of their families’ lives—there is the phenomenon of the chemical company spokesman referring to past disposal practices at the canal as “damn good... even by today's standards” and calling residents’ demands for evacuation “ignorance” and “hysteria.”

As the story unfolds, the real poison at Love Canal becomes increasingly apparent: a toxic combination of greed, detachment and scientific arrogance.

The Canal story is the centerpiece of Laying Waste. After staying with it for 80 pages, the reader may be tempted to dismiss it as tragic but unique, a phenomenon which could not possibly be duplicated elsewhere. The author counters any such notion by next setting out on a surreal journey across America to sample similar horrors at some of the 32,000 other known sites where chemicals are stored or buried. It becomes very evident that it can happen here, and that we are only at the beginning of a long siege which may well claim some of us as casualties.

How can disposal practices be improved and how can we defuse the time bombs already in our midst? Brown has a good idea of what needs to happen. He is less clear about how to make it happen. After presenting case after case of past institutional failure to acknowledge or act upon hazardous waste problems, he only leaves us with a list of “shoulds” for future government and industry reforms. Perhaps more effective than all the “shoulds” is Brown's own journalistic tenacity and his ability to make us angry. — JF

Great Moments in Corporate Thought

Righteous Indignation Department

An article by Christopher McLeod for Pacific News Service tells how plans by Nedlog Technology Group to ship one million tons of chemical wastes per year to Sierra Leone fell victim to adverse publicity in this country and student demonstrations in Sierra Leone. There is a growing trend, as disposal costs in this country increase, for industries to dump wastes in the Third World. About State Department plans to stop this dumping under the Commodity Control List of the Export Administration Act, James Wolf of Nedlog thinks the U.S. is being “a little paternalistic in telling the Africans what they can and can’t do.” And, he says, “If I was Sierra Leone, I’d be mad as hell.”

Notes from Greater Calumny

When Dr. Pietro U. Capurro moved into Little Elk Valley near Elkton, Md., he noticed that strong chemical odors of the toxic variety were being released by a solvent recycling plant run by Paul Mraz. Capurro decided to do something about it. He monitored releases from Galaxy Chemical Company and also monitored the health of valley residents. Among other things, he found 40 cases of acute pancreatitis, thought to be associated with exposure to toxic substances. He found that benzene and carbon tetrachloride, two known carcinogens, were being released into the air. And others, toluene and methyl ethyl ketone among them, were also present in the air and a nearby river. He found, and the Maryland State Department of Health confirmed, that the overall death rate for the valley was, at bare minimum, 2.2 times the national average.

But it was Galaxy Chemical Company that sued Capurro—in a peculiar twist of logic—accusing him of pursuing a vendetta. Science quotes Galaxy lawyer George W. Constable: “I can’t think of any greater calumny than saying someone’s killing people.”

Well yes, as calumnies go...

The Word According to Dow

After the Michigan Department of Public Health issued an advisory against eating fish downstream from the Dow Chemical Plant on the Tittabawassee River because of high levels of the dioxin TCDD, Dow Chemical announced a “significant breakthrough” in environmental research. Never mind that Dow is the world’s largest manufacturer of 2,4,5-T, which contains TCDD, the company explained that the presence of dioxin in fish was not due to a leak or release from the factory but from “natural causes” as by-products of combustion. The New Yorker quotes a spokesperson for Dow: “We now think dioxins have been with us since the advent of fire.” J M
In the Making: A Directory of Co-operative Projects, No. 7, by I.T.M., 1980, 84 pp., 1 lb. British from:
In the Making
84 Church Street
Wolverton, Bucks, U.K.

A close relation to community yellow pages familiar to us in this country, the seventh edition of In the Making is the only directory in the U.K. covering co-operatively run, collective and alternative projects.

This tantalizing directory includes projects as diverse as a typesetting collective in Camden, a home-brewed beer co-op in Leeds and a self-help industrial co-op in Northern Ireland that is attempting to create jobs in an area where unemployment has reached 30 percent. An obituaries column listing deceased and reincarnating groups, information sharing exchange and publications list (much like RAIN's access) shares this small directory. Unlike most, this directory includes a series of short articles, covering both philosophical and technical issues in the areas of co-operative development and alternative technology. In the Making is an enjoyable and informative romp through the co-op communities of the United Kingdom. —LS

Rural Technology in the Commonwealth: A Directory of Organizations compiled by Bruce Mackay, 1980, 127 pp., 1.50 pounds British
Food Production and Rural Development Division
Commonwealth Secretariat
Marlborough House, Pall Mall,
United Kingdom SW1Y 5HX

A revised edition of the 1977 Directory of Appropriate Technology Organizations, this new edition focuses primarily on rural technologies developed by groups from Australia to Sri Lanka. The authors intentionally dropped the A.T. focus, reasoning that the term has received such widespread and indiscriminate use as to make it meaningless: “If there is any organization engaged in ‘inappropriate’ technology it’s not going to admit it!”

The People's Yellow Pages: the Grassroots Guide to Tucson, by S.A.I. People's Yellow Pages Project, 1980, $3.95 from:
Southwest Alternatives Institute
P.O. Box 3355
Tucson, AZ 85722

With over a thousand entries of everything from Sierra Club to Arizona Gay Community News, this People's Yellow Pages puts all the Tucson information you'll need at your fingertips. With the volume of entries and subcategories used, the index (by topic and alphabet) at the beginning and end of the book prove essential. A centerfold map of the city, replete with bus and bicycle routes, is also a nice touch. Great for those new or old to Tucson. —LS

Boston Peoples Yellow Pages, by Vocations for Social Change, 1980 and 81 edition, $4.95, from:
Vocations for Social Change
P.O. Box 211
Essex Station
Boston, MA 02112

It's amazing how clearly the personality and climate of a community is reflected in its publications. The Boston Peoples Yellow Pages is a vivid example. Delightful to browse through, the directory demonstrates an up-front political bias in its excerpts, rather than merely a catalogue of alternative lifestyle resources. Among others, the headings include Women, Health, Media and Work. The graphics are also outstanding. While it may yet be a bit of regional chauvinism that colors my objectivity, I still think the BPYP is one of the best around. The addition of a city map, however, would make it even better. —LS
There is a wealth of good information here on the earlier movements. The problem is in digging it out. The book is divided into several sections and appendices with some materials arranged alphabetically, others chronologically. Information in one section often duplicates information in another. A single encyclopedia-style alphabetical arrangement with extensive cross-referencing would have made for a much more useful reference tool. So would a much-reduced price. What makes a 271-page book without illustrations worth anything close to $29.95? — JF

**Amish Society**, third edition, by John A. Hostetler, 1980, $6.95 from:
John Hopkins University Press
Baltimore, MD 21218

A half-century ago, the Amish were looked upon as a stubborn people who seemed to take the biblical admonition that Christians should be "a peculiar people" a bit too literally. Typical of them was their rejection of tractors for their farms with the observation that tractors "don't make manure." This was irrefutable but puzzling logic in a nation obsessed with the promise of machine progress.

Today, the Amish are the objects of a thriving tourist industry and are generally viewed as a hardworking, thrifty people who have preserved some important values no longer evident in the larger society. Author John Hostetler, who was raised in an Amish community, shares much of this admiration. He breaks down the "Pennsylvania Dutch" stereotypes fostered by the tourist industry and the popular press to show us a society which is sometimes oppressively conformist but is nonetheless based on a strong sense of neighborliness and a healthy respect for the natural world. The Amish will not accept government aid, bear arms, or tolerate concentrations of power in their midst. A well-developed sense of appropriate scale is evident in their agriculture and industry. They are indeed a stubborn people, and much of what they have stubbornly adhered to for so long deserves our attention and our emulation. — JF

**Hutterite Society**, by John A. Hostetler, 1974, $5.95 from:
Johns Hopkins University Press
Baltimore, MD 21218

In many ways the Hutterites, who live primarily in the northern Great Plains areas of Canada and the United States, are similar to the Amish, and they spring from the same German Anabaptist roots. Unlike the Amish, they live and work communally and have had one of the longest and most successful experiences with communal life in North America. Because of his Amish background, author John Hostetler was readily accepted by the Hutterites and his study of them exhibits the same thoroughness and sensitivity which are evident in *Amish Society*. For anyone interested in the problems and rewards of communal living, *Hutterite Society* is a book well worth reading. — JF
In 1869 Dr. Thomas Welch, a teetotaling dentist, developed unfermented grape juice. His son Charles determined to popularize the non-alcoholic beverage “to make money on God’s behalf, using his profits to enhance temperance and support Methodist missions abroad, which he did.” Charles was quite the philanthropist in his day, so long as you were in the right church. He signed his checks for charity: “Charles E. Welch, Trustee.” Explained a relative, “He said he was Trustee for the Lord.”

From Charles’ death in 1926 until 1945 the company was under the control of a syndicate in Nashville. In 1945 self-educated Russian immigrant Jack Kaplan bought out the company and totally revitalized the operations. In the same year, with Kaplan’s influence, the National Grape Corporation was sold to the newly formed National Grape Cooperative Association, Inc. “Clearly the primary and sole goal of National Co-operative was profit; the purpose was not a mutual concern with the individual welfare of the growers. Organizing into a co-operative was simply a legal tool to increase material rewards.” In 1956 Kaplan sold Welch’s for $15 million to the National Grape Co-operative, transforming a national company into a subsidiary of a cooperative with 2,000 members.

This lucid, detailed study weaves the history of the tongue-purling drink from 1869 to 1969, showing the intricate relationships between natural resources, growers, viticulturists, individual personalities, market demands, and entrepreneurial talents. It’s a juicy story, and bubbling to its surface are the conflicts of Social Darwinism vs. co-operatives, of nativist habits vs. democratic practices. One is reminded of John Steinbeck’s lines in The Grapes of Wrath (1939): “in the eyes of the hungry there is a growing wrath. In the souls of the people the grapes of wrath are filling and growing heavy, growing heavy for the vintage.” —MR
Raising A Fleet Of Rabbits

By Amory Lovins

I'd like to give you a few little numbers about how to save oil, because that is indeed a very urgent thing to do, and if you want to save a lot of oil quickly in this country there are only two important ways to do it. It's a distressingly simple prescription:

Stop living in sieves, and stop driving petrol pigs.

Now we know that a basic weatherization program in this country just over the next 10 years would save us upwards of 2 1/2 million barrels a day, which, by the way, is two-fifths of our present rate of oil imports. That's a big number.

What about the other three-fifths of our imports? We could do that with one simple fast payback measure . . . namely, turn over the car stock faster. Any of you who have tried to trade in a gas-guzzler lately will know that its trade-in value has dropped pretty close to zero. So those gas-guzzlers have been trickling down to the poor people who can least afford to run them or replace them.

But we have a lot more options than gas-guzzlers. Our average car now gets 15 or 16 miles per gallon. The average U.S.-made car sold last year did about 19 mpg. The average import, however, did 32 mpg. A diesel Rabbit does about 42 mpg. The turbo-charged diesel Rabbit with a slightly down-sized engine so it gives the same performance as the present diesel Rabbit does about 64 mpg. Volkswagen has already tested a four-door, four-passenger car, bigger than the Rabbit, with a composite rating between 70 and 80 mpg. That's an advanced diesel. They've also taken a big, heavy car and stuck into it, using off-the-shelf components, a diesel electric hybrid-drive. That one did 83 mpg the first time they turned it on. We know that it's really pretty straightforward, without losing either comfort or performance, to get in the 70 to 100 mpg range, and if we really put together the best technologies we have, we can push it a lot further than that.

Now a fleet of, say, 60 mpg, that is about the same as the non-down-sized turbo-charged diesel Rabbit—20 extra horses in your Rabbit (that's difficult to visualize . . . very small horses . . .) would save us nearly 4 million barrels a day. More than we get from the Gulf; about two-thirds of our present rate of net oil imports; several pre-embargo Irans; 80 big synfuel plants; 2 1/2 North Slopes. It's a big number.

Well, how can we achieve that sort of fleet? I was figuring that rather than building synfuel plants, it would be much cheaper and quicker to save oil by using the same money to pay somewhere between half and all of the cost of giving you a free diesel Rabbit or Honda Civic, or an equivalent American car if Detroit would make one, provided, however, that you will scrap your automobile and get it off the road. It's no good to trade it in or sell it because then somebody else might drive it. You've got to get rid of it, recycle it. If you get rid of it and don't replace it, you ought to get a bounty based on its inefficiency and residual lifetime. Another way to do it would be that for each mile per gallon that your new car improves over the car you scrap, you should get a cash grant of about $206. That would give us an average 5-year payback against synfuels.

Now you might suppose that it's really kind of hard for Detroit to make this sort of switch, even though the latest word we get is that the 70 to 80 mpg VW may be on the market as early as '84. That may speed things up a bit. Around 1940 Detroit apparently switched over to making tanks and jeeps and other completely different products in 6 or 8 months, having first said it was impossible. Now that is undoubtedly expensive to do. Detroit is already planning to spend around 50 billion dollars in this decade for re-tooling on two rather timid new generations of cars, but suppose instead they retooled in one giant leap-frog, straight to state-of-the-art hybrids at 100 mpg. And suppose that the additional cost . . . to do that was as high as 100 billion dollars. I don't think that's a plausible number. That's almost enough to rebuild Detroit from the bottom up. But if it were that much, and if we spread that 100 billion dollars extra cost over a complete new fleet, 100 million new cars and 30 million new trucks, that's $770 per vehicle and the pay-back time is one year against the present gasoline price.

If only we had a government that was economically conservative, rather than either muddled or reactionary. . . .

--From Amory's address to the Passive Solar '81 conference in Amherst, Massachusetts, October 1980.
ALCOHOL FUELS

Here's the second in what we hope will be somewhat regular updates on the latest in alcohol fuels literature. (The first installment was in June's Rain.) Scott Sklar is NCAT's (The National Center For Appropriate Technology) Washington, D.C., director.

Solar Alcohol: The Fuel Revolution, by Michael Wells Mandeville, 1979, 127 pp., $8.95 from: Still News Publications P.O. Box 353 Fort Ludlow, WA 98365

This book includes diagrams along with graphs and a hodge-podge of information on alcohol production, biomass and policy. Although the book is not very specific technically, it is laid out in an easy-to-read, comprehensible fashion, with accurate information. The book is an excellent resource for the beginner.

Converting Gas and Diesel Engines to Use Alcohol Fuel, compiled by Gregory James, 1980, 5 pp., from: VITA 3706 R.I. Avenue Mt. Ranier, MD 20822

This publication is one of many fact sheets that the Volunteers in Technical Assistance, Inc. puts out. The fact sheet briefly covers gasoline and diesel conversion. Although there are slight mistakes, the fact sheet is useful for individuals with little skills in automobile technology (precisely for whom the publication was geared).


Of all the books I have reviewed, Carley's is the most complete and approaches Brown's Motor Alcohol Fuel (1979, Desert Publications) as the most easy to follow and use. Although the book could use more pictures, the author correctly leads the reader through a basic course on the reasons for ethanol production, fermentation, feedstocks, making mash and distillation, basic still designs, planning, manufacturers and suppliers, some models you can build, regulations and engine conversions. In addition, the author includes a glossary and a list of organizations you can write to for further information. The book is accurate and well written and as of this date is the best book on the market for the alcohol fuels do-it-yourselfer.

Alcohol Distiller's Manual for Gasohol and Spirits, compiled by Roberto De Rasor, 1980, 205 pp., $8.95, from: Dean Carolina Distillers P.O. Box 13189 San Antonio, TX 78213

The book outlines the alcohol technology developed in France's golden era during the late 1700's and early 1800's. Using the chemical work of Lussac and Payen and the technical work of Derosne and Egrot, proven simple technologies are outlined. Different feedstocks and technical designs are discussed in detail along with relevant tables and glossary. All in all this book is very useful and one of the best reviews of the early technology ever compiled.

Driving Without Gas, written by John Ware Lincoln, 1980, 150 pp., $5.95 from: Garden Way Publishing 530 Ferry Road Charlotte, VT 05445

This book is a sequel to Lincoln's earlier book (published in 1976) Methanol and Other Ways Around the Gas Pump. The book is a political and technical review of alcohol and transportation technology. Electric cars and sterling engines are reviewed along with steam and gas turbines. The book is accurate and provides a general overview of the technology. The arguments both pro and con, resources for further information and some historical data.

Making Your Own Motor Fuel, by Fred Sietsma, 1980, 186 pp., $7.95 from: Garden Way Publishing 530 Ferry Road Charlotte, VT 05445

A well-written and illustrated book. In the first section, the author outlines how to build a 5-gallon still. The pictures are good and the instructions are fully complete. In Chapter 3, the author then covers in detail how to build a 55-gallon wood-fired still. Again, the pictures are excellent and the instructions are accurate and easy to follow. Basic moonshine history is also covered. In Chapters 5 and 6, two working stills are reviewed. The information about the Zeitheimer operation is inaccurate while the review of Albert Turner's unit in Alabama is an excellent review. The automotive chapter is sketchy but accurate and the resource guide on suppliers, consultants, and financing resources is very complete.

Recipes and Excerpts from an Ex-Moonshiner's Memoirs, by Raymond Wells, 1980, 10 pp., $4.95 from: Ray P.O. Box 9265 Knoxville, TN 37920

Wells has put together a small brochure on how to make a potstilfer fired by a wood furnace using barrels and tubing. The plan is simple and the instructions are easy to follow. This still is a moonshiner's dream.

—Scott Sklar

GARDENING


Orchid Propagation

from Rodale's Indoor Gardening

This huge book provides thorough and clearly laid-out information on all aspects of organically growing plants in an indoor environment. Though some of the material can be found in other places, there is no other single book which covers quite as much. It is full of advice about exotic plants, as well as edible plants and herbs. There is information about "gardening" under lights, in jars and on trays. The greenhouse section is particularly good, with guidelines for raising plants in both solar and conventional greenhouses. It's a useful book to have around if you're interested in indoor gardening, but it is expensive.

—Kristine Altucher
“Advanced Solar Energy for the Homeowner” is the title of a short course to be offered by Jordan College in Cedar Springs, Michigan, March 23-14. The same campus will be the site of a course on “Building Your Own Solar System” on March 21. For details contact Linda Bouwkamp, Energy Programs, Jordan College, 360 West Pine Street, Cedar Springs, MI 49319.

The Land Trust Homesteading Farm near Bangor, Michigan, will be offering a program in homesteading and small-scale farming beginning May 1. Students will gain practical experience in livestock care, organic gardening, food processing and preservation, field crop production, use of tools, and farm construction and repair. A related program will be offered simultaneously at the nearby School of Homesteading. For information on either program contact Jon Towe, Land Institute, R.R. 2, Box 311, Bangor, MI 49013, 616/427-8791.

San Francisco will be the site of a two-day workshop, January 29-30, for lawyers, para-legals, and law students who work with community groups or plan to do so in the future. Topics will include: grassroots approaches to client problems; the role of the community organizer; the best uses of legal skills to support community organizing; and understanding the tension between legal analysis and direct action strategies. For information contact The Institute for Social Justice, 628 Baronne, New Orleans, LA 70113, 504/524-5034.

The Farallon Institute Rural Center will be offering one- to five-week workshops in the areas of bio-intensive horticulture, nutritional gardening, and edible landscaping in the coming months. For complete information on the programs send $1.00 to Farallon Institute Rural Center, 15290 Coleman Valley Road, Occidental, CA 95465.

February 19 will be the date of a Passive Solar and Earth Sheltered Housing Conference to be held in Birmingham, Alabama. Topics will include construction techniques, structural problems, waterproofing, financing, and passive solar heating and cooling. Contact Alabama Energy Extension Service, University of Alabama Natural Resources Center, Box 6282, University, AL 35486, 205/348-4523.

A national conference on Energy and the Community will be held in Detroit, Michigan, April 6-7. It will be aimed at energy personnel, municipal administrators and legislators, educators, community development personnel, and individuals who are actively involved in energy as a business or as a volunteer concern. Workshops will center around performing community energy assessments, identifying and developing alternative energy options, securing governmental support, and overcoming legal barriers. For details contact Dr. Brenda White, Conference Coordinator, Proaction Institute, P.O. Box 304, 4321 Okemos Road, Okemos, MI 48864, 517/349-6500.

The fifth annual meeting of the International Bicycling Network will be held in New York City, February 14-15. The network is an association of bicycle activists, groups, and resources dedicated to making the bicycle a major mode of transportation. Contact The Bicycle Network, c/o Freewheel Bike Co-op, 3336 E. 25th Street, Minneapolis, MN 55406, 612/722-3232.

The DOE’s Appropriate Technology Program for the Pacific Southwest (AZ, CA, HI, NV, and U.S. Pacific islands) will be awarding some $800,000 in grants (averaging $20,000 each) in the summer of 1981. Project descriptions must be in between January 15 and March 19, 1981. Applications and additional information can be obtained from AP-TECH Program, DOE-IX, 333 Market St., San Francisco, CA 94105.

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The DOE is looking for women-owned businesses (“firms which are owned, 51 percent or more, by women, and which are operationally controlled by women”) to participate in federal energy programs. DOE’s Office of Small and Disadvantaged Business Utilization recently awarded $30,000 to the National Association of Women Federal Contractors, the first award of its kind by any federal agency. Women entrepreneurs desiring information about the grant should contact Shirley Vaine, NAWFC, P.O. Box 178128, San Diego, CA 92117, 714/279-5536.

Willamette Valley organic farmers and soil scientists from Oregon State University will team up on January 31 in Corvallis, OR, for a day-long series of presentations on building soil fertility. The conference will run from 9 a.m. to 4:30 p.m. For additional information contact Bob Cooperrider of Willamette Valley Tilth at Rt. 1, Box 308, Sheridan, OR 97378, 503/843-3492.

The non-profit Center for Alternative Resources and the Environment has started an “Adopt An Anemometer” program that will provide wind speed measurement equipment (anemometers) free of charge to 20 non-profit Pennsylvania organizations, and also provide assistance in assessing wind energy potential across the state. Their aim is to provide site specific information on a widespread basis. The wind speed data should be extremely useful to homeowners and businesses wishing to use wind energy. Those interested should write or call the Center at P.O. Box 539, Harrisburg, PA 17108, 717/233-3996.

The Illinois South Project is looking for a full-time staff member for its Agricultural Team. The job will stress work on rural land use and ownership issues, and includes a salary plus vacation and medical benefits. A minimum two-year commitment is required. Send resume to Alan Sax, Illinois South Project, 701 North Park Ave., Herin, IL 62948, 618/942-6613.
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Excerpted from Back Then Tomorrow by Peter Blue Cloud

The Burden Basket

When asked, "Just what is night,
Coyote closed his eyes,
placed his burden basket over his head
and began making the sounds of hoot owl.
"So that is night,
his nephew ventured,
eying his uncle doubtfully.
"No, nephew," Coyote said,
removing the burden basket from his head,
"that is someone trying to show night
in a foolish way."
"Well, then," nephew began, but
Coyote quickly picked up a big stick
and hit his nephew over the head.
Nephew fell and sat on the ground stunned.
After recovering somewhat,
he reached for the burden basket
and drew it over himself.
Nephew's younger brother
had watched all this in silence.
Coyote had long since gone his way.
It was growing dark,
the sky was an emptiness,
a blackness filled all space to bursting.
Younger brother thought to lift the basket
to see if his brother was all right.
The stars of the Sky Path spilled out.
He raised the basket further
and the moon was within,
eclipsed by the basket's rim.
He raised the basket further
and the moon tumbled out
and went rolling into space.
He looked inside the basket and saw
that darkest night now lived
in the basket.
His brother wasn't within.
So this is why
they make burden baskets,
he thought, sitting down
and drawing the basket
over his head.