11-1986

Monthly Planet, 1986, November

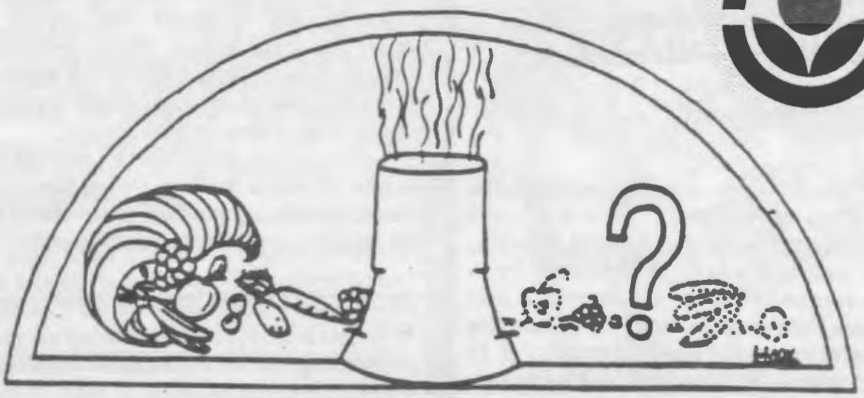
Amy Morrison
Western Washington University

Huxley College of the Environment, Western Washington University

Monthly Planet
volume VIII number 1 November 1986
A Publication of the Associated Students Environmental Center, Western Washington University

Food Irradiation: Activism at the Crossroads

by Don Norman



There has been a subtle change in the style and information given in the articles filling the mainstream press on food irradiation. Two years ago it was impossible to get anyone's attention. Now US News and World Report and Time have given full page articles, and there are good articles in MS (Nov, 1985) and the multitude of "Health" journals, such as East-West Journal, Harrowsmith, and New Frontier. As the bland articles have been written for less polarized audiences, they have massaged the issue into a more chic and humorous controversy:

"The mixing of gamma rays with edibles has set off a nuclear chain reaction, releasing high rhetoric, short tempers, and mass uncertainty." (Time, Sept. 22, 1986, p. 65.)

"Imagine sinking your teeth into a feast of irradiated pork chops, asparagus zapped with gamma rays, and for dessert, strawberries a la Cobalt 60." (US News and World Report, Aug. 11, 1986, p. 58.)

As a revitalization of the Atoms for Peace program of the Eisenhower era (why is the Reagan administration so enraptured with that era?) it recalls such classic phrases as "electricity too cheap to meter." MacFayden for Harrowsmith writes:

"High school students were treated to visits by touring AEC (Atomic Energy Commission) missionaries, who extolled the advantages of the atom. Not infrequently, they brought with them slim, foil wrapped packets, which they brandished before their astonished audiences like pieces of the Holy Grail. 'This envelope contains a hamburger,' they would soberly intone, 'that is five years old. You could eat it tomorrow and it would be as good as the day it was made.'"

Food irradiation has been around for decades, baggage of the atomic age discard pile, along with the atomic car, toaster, and airplane. Exciting ideas, but infeasible. (For a basic summary of what is food irradiation, see the accompanying box).

(continued pg. 7)

What is food irradiation?

Irradiation is a process in which either gamma rays from radioactive elements (cesium 137 or Cobalt 60) or x-rays from electron beams are passed through food after it is harvested. This is done at a variety of doses (called Rads) in order to prevent sprouting or kill insects at lower doses (such as the coddling moth larvae in Washington apples), and to kill bacteria and fungi at higher doses.

How is irradiation performed?

Using radioactive isotopes, which give off gamma rays deadly to humans, the process is performed behind specially constructed thick walls. The food is passed on conveyors through the rooms, at the appropriate speed, to ensure the necessary dose. Electron beam generators, which require the same type of facilities (none of which are in commercial usage), have the advantage of being turned on and off, and do not have any of the problems of storing or transporting radioactivitv. The gamma rays emitted by

(continued pg. 11)

What can you do about it?

Learn more about the issue and write letters to your local and national officials. There is presently a bill in Congress (HR 4762) sponsored by Doug Bosco that will require labeling of all irradiated foods, and will require more research be done before it is approved. Al Swift sits on the committee that will hear this bill.

The food irradiation issue is an excellent way to learn about food safety, nuclear power, multinationals and international food politics, legislative and bureaucratic procedures, and grass roots organizing. There are local support groups that can assist your efforts. With a little bit of work you can be the national expert on one aspect of the consumer opinion about the issue. For example, no one has been monitoring the National Marine Fisheries Service to find out what proposed rules they are contemplating, and what are the economics of irradiating fish and shellfish, which is occurrin commercially on a small scale in the the Netherlands.

Write articles such as this one for your

(continued pg. 11)

PLANET PEOPLE

Editor: Amy Morrison
Staff: Allison Carpenter, Anne Marie Deveraux, Paul Greene, Lydia Lindwall, Lori Rathbun.
Contributors:Denise Ackert, Michael Kane,Don Norman, Andy Perdue, Jim Wiggins, Jim Zirk.
Artists: Laura Bitzes, Allison Carpenter, Pat Lewis.
Layout: Staff
Adviser: Lynn Robbins

The Monthly Planet is published bi-quarterly by the Associated Students Environmental Center of Western Washington University. We, the Monthly Planet staff, know that environmental interest and concern is not confined just to the experts and the radicals. By broadening the focus of the Planet we hope to broaden our readership and appeal to a community-wide audience. Let us know what you like or would like to see in the Planet; reader participation is invited in all aspects of the publication. The views expressed herein are not necessarily those of the Associated Students, the Environmental Center, or any of the advertisers.

YOU CAN PARTICIPATE !!
You are most welcome to submit letters-to-the-editor, articles, poetry, art work. Your comments and critique are eagerly awaited.

Recycling Resources:

ASSOCIATED STUDENTS RECYCLING CENTER....open seven days a week, dawn to dusk..... 678-3088

BELLINGHAM COMMUNITY RECYCLE: 733-8307

THE ECOLOGIC.... Available in V.U. 113, and 227, grocery stores and from Bill Englander, Bellingham Public Works 676-9701

NORTHWEST RECYCLING: 733-0100

YOU CAN BUY FOOD IN BULK AT: Bellingham Community Food Co-op, Thriftway in Fairhaven, Mark and Pack, and Fred Meyers.

Waste Production: Who's Responsible?

by Denise Ackert

The meeting room of the Bellingham public library has been a busy place lately with environmental issues generating standing room only crowds. Surrounded by a cross-section of concerned citizens, a man declares, "We've got to stop this murder." He was referring to the potential burning of 11 million gallons of hazardous waste per year at the Columbia Cement plant in north Bellingham. The atmosphere was one of a small minority pitted against a poisonous "monster" completely foreign to the crowd. The irony lies in the close relationship that these people actually have with this "monster."

Many of the products we use in our homes generate hazardous wastes as production by-products or are hazardous themselves. Have you every used paint thinner?; changed the oil in your ?; used hobby products? All of these are or contain hazardous wastes of the type proposed for burning. Your job may even involve hazardous waste production. For example, as I discussed this issue with my father I mentioned Chemical Processors as the company proposing to burn the wastes at Columbia Cement.His reply was, "Oh, yes, that's where we send our solvents and other wastes from the waterski manufacturing." Thus, you see, we're all involved in this issue however hidden the connection may be.

No longer can we turn our backs and pretend the problems will go away. We created this waste problem ourselves and we have got to take responsibility for it. The "Not in My Backyard" attitude is hypocritical unless that household does not generate or contribute to the generation of hazardous waste. It is a rare find to come across such a home, nearly extinct for that matter.

We must take a close look at our own lifestyles and how we can contribute to hazardous waste reduction. Reduce, Reuse, and Recycle are the three R's we all are becoming so familiar with: **Reduce** the amount of hazardous products you buy; **Reuse** those that are created by sending them to appropriate processors; and **Recycle** the products so they may be reclaimed.

Granted, there is only so much we can do on an individual level since much of the hazardous waste generation comes from industry. Our route to industrial reduction is two-fold. First, through our buying patterns we can reduce the demand for hazardous products and increase the supply of environmentally sound items. Secondly, through pressuring our governing agencies to require environmentally sound practices, we can have a cleaner environment.

If we are truly committed to **solving** the hazardous waste problem, we will adopt laws aimed at reducing the flow of pollutants into the environment. In order to achieve this, we must contact our legislators and tell them to introduce legislation requiring industry to adopt environmentally sound practices. Writing letters and making phone calls may seem like worthless tasks, but they do work. One phone call is considered by the legislators to represent the concerns of ten people. One letter is equivalent to 100 people. A simple letter stating the need for the government to implement laws encouraging the use and development of environmentally sound practices is one way of putting this idea in the brains of our lawmakers.We pay for these agencies and elected officials to protect the environment. It is our job to ensure that they do so.

"Many of the products we use in our homes generate hazardous wastes..."

Burying hazarous wastes has polluted our waters and soils.
Burning them will only pollute our air.
If we don't create them in the first place, these areas won't need repair.
It is time to stop charging our problems
On a credit card to the future
They will end up as a wound
Our children have to suture.

Center Treats Injured Wildlife

by Lori Rathbun

Nearly everyone has at one time or another found a wild animal in need of attention. But, all too often attempts to revive the creature fail in spite of good intentions.

Without a doubt, human settlements displace native mammals and birds. Their bodies litter streets and highways. New housing tracts tear down former habitats. Even the demolition of older buildings can leave homeless birds such as barnowls and small mammals. In answer to the plight of displaced and wounded animals, the Wildlife Care Center offers shelter, medical attention, and proper diet.

Many mammals and birds are brought in by local industry workers and by longshoremen. Kaye Baxter, an instructional assistant for the Everett School District and co-founder of the Center, describes "big burly men" with "tough-guy images" tenderly bringing in little animals cupped in their hands, sometimes even tucked into their caps.

Curt Grow of Grow & Sons Demolition once brought in a young pigeon found under debris after his company brought down a wall during the demolition of Weyerhaueser Mill B in Everett. Grow explains he had no idea where its parents were but he suspects they were scared off by the demolition activitiy. Grow says interaction with little animals becomes an important part of his job.

"They become one of the gang, like a friend - whether it's rats, seagulls, crows, even flies," he said. "The same ones come day after day, usually at lunch, and add something to the daily grind."

When he found the pigeon he felt guilty for destroying its home. He took it into the Center and later found it was raised and released. "Maybe someday that pigeon will come and share my lunch at work sort of as a payback," Grow said philosophically.

Baxter says if you find an animal first put it in a box somewhere dark, quiet, and very warm. Don't try to feed it and don't force water on it. Make water available in a container small enough so that the animal can't get in it or tip it over. Then, call the Center.

The Center normally houses about 50 birds and animals. The number fluctuates and can go as high as 100. Annually, 500-1000 animals are brought into the Center.

Release and recovery rates are 40% to 60% depending on the species. Many animals that are not releasable are used in educational programs available to schools and organizations.

As an offshoot, the Center personnel have developed into "The Oil Spill Experts of the Northwest." In both the 1984 Whidbey Island and the 1985 Port Angeles oil spills, the Coast Guard and the Washington State Department of Ecology called in the Wildlife Care Center.

Whereas previously forecasted recovery rates for birds involved in oil spills were optimistically set at 2%, the Wildlife Care Center experiences rates averaging from 20% to 40%. Some species do better than others and rates can be as high as 60%.

Dr. Douglas Yearout, veterinarian, co-founded the Center with Baxter. Daily he provides about $150 worth of time and treatment to the animals at the Center. He also donates $200-300 a month in medical supplies.

Baxter says volunteers and donations are needed for maintenance, construction, feeding, supplies - everything. The Center is a non-profit clinic, and the staff are looking for a full-time, possibly, live-in volunteer. The Center is dependent on donations and volunteer work for the care of the animals.

They take all mammals, birds, and reptiles. Occasionally, if an animal is dangerous, endangered, or unmanageable, the Center personnel will attempt a field rescue.

The Center is situated on five acres donated by Baxter near Granite Falls. The land has two large ponds, but they are currently unusable because they are not protected by a fence. This is the source of Baxter's greatest frustration. Estimates for fencing the compund are $8000 professionally installed or $3000 for materials installed with volunteer labor.

Although Baxter and Yearout donate what time and money they can, it is obvious additional funds are needed. Food bills alone run $400-600 a month. The animals can have very expensive eating habits. A single red-tailed hawk requires 250 grams (about 1/2 lb.) of beef heart each day.

The Center, founded in 1981, was located in Baxter's Everett home until recently when it was moved to the five acres near Granite Falls. The Center cannot allow visitors because of State Game Department law. This gives the animals the privacy needed for complete recovery.

If interested in donating time, money, of supplies, or if you find an animal in need or attention, the Center's phone numbers are 435-4817 or 353-3814. The Center's mailing address is Wildlife Care Center, PO Box 2083, Everett, WA 98203.

Non-Point Pollution Points to Us

by Andy Perdue

Water quality awareness has increased in Western Washington because of Puget Sound's celebrated problems. This awareness, however, also has increased misinformation that can lead to pollution problems elsewhere.

Puget Sound-region citizens have learned how big industry has caused the waterway's filth, a fact well documented by the Puget Sound Water Quality Authority, a legislature-created entity.

Attributing the pollution problem to industry, the average citizen continues a lifestyle devastating to water quality.

Hood Canal is a case study of this problem.

Hood Canal, a waterway bordered by Kitsap, Mason, and Jefferson counties, suffers from "nonpoint source pollution." Nonpoint is so named because its sources are many. It is difficult to define, isolate, and control, as its sources include animal waste runoff from farms along either the canal or contributing streams, sewage illegally discharged from boats, household chemicals discarded down drains or toilets, or septic system failures.

Nonpoint is blamed for the ban on shellfish harvesting in the northern end of Jefferson County's Quilcene Bay, and also threatens shellfish beds in Lynch Cove near Belfair, in Mason County.

In an effort to curb the problems developing in Hood Canal, the Washington State Ecological Commission created the Hood Canal Coordinating Council, an intergovernment agency comprised of representatives from Kitsap, Mason and Jefferson counties, the ecological commission and the Port Gamble/Klallam and Skokomish Indian tribes.

This summer, the council released a report documenting its first six months of work, which outlined its plan to diminish the problem of nonpoint. The council's plan calls for strict regulations concerning boating and marinas, on-site sewage disposal practices, agricultural and forest practices, shoreline and upland development and marine resource protection. It also calls for a large-scale educational campaign, which council members see as the most important part of its long-range goal to keep Hood Canal from becoming like Puget Sound.

Hood Canal's primary use is recreational. While the forest industry does a lot of business along the canal, the only industrial development is the U.S. Naval Submarine Base Bangor, home port for eight Trident nuclear submarines. Despite the potential for large-scale pollution from the navy base, however, council members and environmentalists admit Bangor has documented well the water quality along its five miles of shoreline, showing no significant change since the base's nuclear inception in the early '70s.

> "...the final chapter in the effort is teaching people how to use, not misuse, Hood Canal."

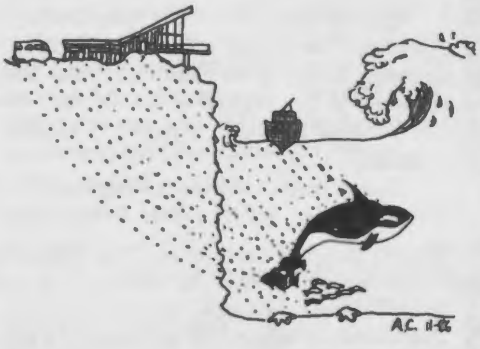
So the finger points back to nonpoint.

And, as nonpoint is continually researched, experts learn education may be the only successful deterrent.

Boaters who decide to pump their marine heads directly into the water are difficult to catch. Regulation can only provide pumpout facilities, which cost money and are more time-consuming than merely pumping out when nobody is looking. Experts have concluded that once boaters learn the damage these practices do to the water quality, they will work to become part of the solution.

Household hazardous waste is another area where enforcement nearly is impossible. Education, therefore, is the only feasible solution the council sees available. Hazardous wastes that reach surface or groundwater supplies could affect drinking water as well as marine life.

While regulations can be used to help keep the canal clean, the final chapter in the effort is teaching people how to use - not misuse - Hood Canal.



And if we use Hood Canal instead of Puget Sound as an example of our contribution to the water pollution problem, we, too, will become part of the solution.

For information concerning nonpoint source pollution, call the Puget Sound Water Quality Authority, 1-800-54-SOUND.

Expedition Living

by Allison Carpenter

Half of the students and I want to push on through the storm, while the others want to stay for the night on a knife-edged arête. If we stop now, we will have much further to climb tomorrow. But the prospect of fixing ropes down a steep snowfield dims as the wind increases its howling. Visions of hot cocoa and warm sleeping bags begin to cloud my judgement. "Best make camp soon," Krag mutters, "night falls quickly in the mountains." His suggestion elicits a wave of protest from those who want to continue climbing.

It was here, near the Three Sisters Wilderness in Oregon, that nine students, and Krag Unsoeld and I, the instructors, found ourselves on a snowy precipice. It was time for a group decision. To stay or to move on? Dusk found us still negotiating, until we were forced to stay by darkness. Murmers of dissent died as cocoa heated up.

Imagine embarking on a wilderness expedition with ten strangers, relying on each other for food, shelter, safety, and companionship. More than a mountaineering course, it was an experiment in group living.

"Life begins at 10,000 feet"
-Willi Unsoeld

It begins politely. "Here, I'll carry that tent for you! No, really, sixty pounds isn't too much. I'm used to it." By the fourth or fifth day, roles and attitudes develop. "I'm not going to fill the latrine. Tim's supposed to do it." By the fifteenth day, storms approach. "Who stole the tuna fish?" "It's in your pack." "Well, I didn't put it there... you're trying to frame me." Toward the end of the 22-day expedition, however, group members have grown, sharing tasks and handling problems. "Listen, we've got to eat up this curried tuna spaghetti that Tina fixed. If we all eat just three bites, it'll be painless."

Somehow, small differences are intensified on a three-week expedition. Taking an extra serving of noodles becomes a crime, getting the group lost is sheer negligence, and snoring is grounds for exile. Some mornings it was a wonder we were able to leave camp, after three hours of arguing over whose job it was to clean the spilled oatmeal.

There is a premise, however, in all mountaineering problems: they must be solved or the group may not survive. Someone has to carry the supplies, someone has to make a shelter, someone has to navigate. Each day found us capable of more. A growing sense of responsibility made each person change his behavior in order to meet group goals.

Mountaineering represents a microcosm of our lives. As we accept responsibility, we must consequently deal with other people. Whether in a summit meeting on arms control or on an alpine summit, cooperation is necessary. Compromise and tolerance can be difficult to achieve in struggles involving protection of the environment. They sometimes seemed impossible to attain on a mountaineering course, but our lives depended on them.

Consider environmental problems in this light. When we realize that we **must** solve environmental problems, we will change our behavior. Throwing away food will be unacceptable. Driving private cars everywhere will be intolerable, and causing pollution will violate our standards of ethics. It is both a sense of responsibility, and a knowledge of the rewards of group living which must motivate our actions. We are all on this expedition together.

Cement Co. Proposes to Recycle Hazardous Waste

by Lydia Lindwall

Is Columbia Cement a villian bent to destroy Bellingham's clean air? Lately the local newspaper has been packed with articles attesting to this.

Columbia Cement is in debt to coal suppliers and owes back taxes. How can they safely handle hazardous fuels if they can't handle normal business operations?

The reverse side of the coin belongs to Columbia Cement, who says, "If we can burn these no cost fuels then we can again compete with the newer kilns."

My intentions with this article are to jump past the emotional accusations that are being splattered across the news pages and present some of the overlooked facts.

With the November 8, 1986 deadline to end burial of hazardous waste Washington state is embroiled in a desperate search for alternate disposal means. In the interim wastes will continue to be generated. The question of concern is, what will happen to these wastes? Will new illegal burial sites arise? Will accidental spills increase? Will smaller industries, unable to meet the rising cost of handling, develop their own disposal techniques?

The Chempro/Columbia Cement Connection has provided the Washington Department of Ecology (WDOE) with a possible alternative.

Chemical Processors Inc. (Chempro), a Seattle based firm that handles hazardous wastes for Washington and some out of state concerns approached the Columbia Northwest Corp. about burning these wastes in their cement kilns, because some of the wastes contain valuable fuel energy. Others contain no BTU value and are strictly incinerated in the process.

The components of a typical blend include petroleum hydrocarbons like acetone toluene,and xylene; Esters, ketones, alcohols, oil in varying amounts and chlorinated solvents.

With the prospects of free fuel, Columbia Cement petitioned WDOE to allow the company to fuel its kilns with the Chempro blends of industrial waste solvents and oils.

City and County governments rallied against this proposition; the WDOE itself, however, plans to be the faction to determine whether Columbia Cement will be allowed to recycle and incinerate some of those hazardous wastes. The state has established its authority by preempting that of the local agencies (City, County, and the permits and regulations governed by the regional Northwest Air Pollution Authority) as allowed by 2SHB 975.

The U.S. Environmental Protection Agency (EPA) has researched hazardous waste incineration in cement kilns since 1977 in the U.S., in Canada, and Western Europe. These tests were conducted to determine the waste destruction and removal efficiency (DRE) of the processes,to test for any changes in the conventional pollutant emissions, such as, total hydrocarbons, SO_2, NOX, and CO, and to document particulate and acid emissions.

The results of these tests showed that DRE'S were greater than the regulatory requirements of 99.99% for incinerators. To meet this 99.99% efficiency incinerators must maintain a temperature of 1800 degrees for 1.5 seconds. "Columbia Cement's kilns can maintain 1800 degrees for 4 seconds and 3000 degrees for 1 to 1.5 seconds," stated Mike Berry, Environmental Manager for Columbia Northwest.

Conventional pollutants showed little or no change related to the hazardous waste fuel but were found to be a function of combustion air flows and fuel rate controls.(EPA document PB85-237865)

HCL emissions from the cement kilns met the limits set for incinerators, but caution and close monitoring are advised by the EPA.

Particulate emissions from kilns such as Columbia Cement, equipped with electrostatic precipitators, could increase with increasing chlorine levels ; but; as Dr. Ruth Weiner , WWU professor and chemist, stated, "This problem can be addressed by keeping the chlorine composition of the fuel mixture very low, and whether that works or not remains to be seen." She also pointed out that the burning of coal can cause the emission of several kinds of pollutants into our breathing space. These new fuels,then, could prove to be an advantage over coal burning.More testing in this area needs to be done.

The overall conclusion of the EPA study is that the burning of hazardous waste in cement kilns can be a safe and effective means of recycling and disposing of these wastes.

In a conversation with James Randles of the Northwest Air Pollution Authority, he stated,"We aren't concerned with what's coming out of their (Columbia Cement's) stack; we know that's safe." What they are concerned with is their working relationship,communication,and cooperation between themselves and the owners/operators of the chosen site. Weiner has further stated that in the past Columbia Cement has had a terrible pollution control record , while Chempro's record reflects much responsibility and respect in the field.

If Columbia Cement receives the WDOE'S approval Whatcom county could reap economical benefit due to the fact that major industries would be attracted to an area equipped with it's own incinerator facilities.

The WDOE has many considerations to weigh and formalities to please before allowing Columbia Cement permission to fire up with these alternate fuels.

In the end, since so many conflicting desires and beliefs have drawn a thick and emotional haze between the peoples of Bellingham and Columbia Cement and have forced our State and local governments to choose up sides, this problem will probably have to be cleared up by the courts.

It has become all too clear again that whether we bury them or burn them the hazardous wastes generated by our state will continue to haunt us for a long time, whether it be through the poisioning of our aquifers, the destruction of our living systems, or the division of our communities.

Our lifestyles, devised to maintain a heightened degree of comfort, have created problems of waste hazardous to our standard of living, and now, since no one has designed a rug large enough to sweep the waste under, our proposed solutions have given life to new problems.

Will we ever see the circle complete?

If incineration is the solution that we, as a community, a nation, a world, seek to one of the most relevent problems of our day then I hope that we will eventually agree on whose back yard it begins in .

If it fails us scientifically then I pray we haven't let the real alternatives slip by.

Incineration produces toxic emissions

by Jim Wiggins

A local company with kiln temperatures of 3000 F, wishes to use an alternate fuel to help extend their profits and to help aid in the manufacture of cement dust. The U.S. Environmental Agency (EPA) and the Department of Ecology (DOE) classify the alternate fuel as hazardous wastes, which worries local citizens and environmentalists.

The company, Columbia Northwest, is $700,000.00 in debt and wishes to contract with Chemical Processors of Seattle to incinerate 10 million gallons of hazardous waste per year.

Industry which manufactures volatile chemicals is in need of an incinerator to dispose of their wastes, as the federal government has stated that the waste products are too toxic to bury.

Hazardous wastes are by products from manufacturing processes, cleaning operations, the paint and plastics industry, and chemistry departments such as that at Haggard Hall. Hazardous wastes are those unneeded chemicals which are corrosive, toxic, reactive, or flammable.

The wastes to be incinerated will contain some suspected carcinogens.

Under ideal conditions these chemical solvents when described on "simple" terms are cyclic and halogenated hydrocarbons. When they undergo pyrolysis they break down into simpler structures such as CO_2 and H_2O. The halogens (chlorine and flourine) tend to form acids which damage the environment.

The practice of incineration of hazardous waste is a new industry. The knowledge of the true chemical reactions and by-products resulting from incineration are basically speculative. The EPA has extensive data taken during test burns, but the data was received when test operations were at best efficiencies.

It is at this point where current literature gets a little hazy. Ideal burn temperatures of different molecular structures vary. Conditions within a chimney may harbor an environment conducive to reformation of exotic molecules.

During the incineration of hazardous wastes, complete combustion is impossible, and this is where the major problem lies. A 99.99% efficiency factor is the degree which experts and those in charge claim will be achieved and is the optimum - when all systems are functioning near perfection. An incinerator operating at optimum efficiency burning 10,000,000 gallons per year will release 1,000 gallons of solvents and possible carcinogens into the air. If operators are reduced to 99% effeciency, then 100,000 gallons of toxic waste will be released each year. These chemicals of micrometer size will be dispersed from a very tall stack, and winds will direct these particulates toward five schools, four neighborhoods and an estuary, all located within 2,500 feet of the incinerator.

As with all forms of environmental pollution, obtaining statistical results regarding affects takes time, but are Bellingham and Columbia Northwest the proper places to do the testing? Have alternatives such as recycling been fully considered?

As citizens we must examine alternatives to burning and work toward responsible and safe treatment.

Irradiation (cont. from pg. 1)

For the last three years, a small group of anti-nuclear specialists, health food techno-twits, and burnt out activists have been following the "most exciting issue since the Vietnam War."

In these daze of bland protest and institutionalized environmentalism (can you imagine Friends of the Earth putting organizational issues over its concern for the environment), CUFFs (Citizens United For Food Safety), the Seattle based food irradiation group is attempting to wake up consumers worn down by the thrill of convenience and the agony of blandness. And believe us, it's not easy getting looked at like you're weird in these days of fanatics and conformity.

At first, CUFFs felt ready to joust with the experts, but we were quickly put in our place. "Do you have a PhD in Radiation Biology and Nuclear Engineering? Well, what do you know?" Then the expert would explain that food irradiation was "just like microwaving." Which we knew just wasn't true. "But" was all that we could say so we send our comments in, with such statements as "If it's so safe, why don't you label it to promote it?" That usually caused silence. We knew we were onto something.

As it was difficult to find information, and then hard to interpret it, we searched out a nationwide network of persons, began exchanging information, and the two loudest radicals started The National Coalition to Stop Food Irradiation. CUFFs had a lot of problems with CSFI's polarized and counter campaign of disinformation, but we joined anyway because we wanted to share information, and get off our "informational" rear-ends and start getting more active.

CUFFs has assisted activists in Vancouver, B.C. get organized to fight an irradiator that has been built in Richmond, B.C., and is actiive in sending materials to other countries around the world. The most important goal of CUFFs locally is to show that our Dump Site State is organized against food irradiation, and has been working to gather more information about the connection between Hanford and food irradiation. Very few mainstream articles mention that the majority of funding for food irradiation is provided by the Nuclear Byproducts Utilization Branch of the Department of Energy.

Cesium-137 accounts for half the heat and radioactivity in high level waste from both reactors and bomb production, and is the major stumbling block to storage. DOE is interested in the reprocessing of the waste, though at present it is illegal because of the potential production of plutonium could proliferate the building of nuclear weapons.

The rationale and economics of major waste processing are not well known, but may be why Hanford has been selected as the number one waste repository site for high level nuclear waste, and is possibly linked to Star Wars energy production. We like to say that "they're trying to turn their liability into our liability."

So the important thing to do is ask the right questions. Here are a few, to stimulate your thinking:

If one basis for approving irradiated foods is the negligible amount of URPs being consumed, why is no data on production amounts and distribution of irradiated foods being done?

Who will ensure that imported irradiated foods will have been properly irradiated?

Why did the IAEA not allow the Indian scientists who performed the controversial child feeding studies rebut the criticisms of their paper?

Why does the DOE hire Martin Welt, the owner of Radiation Technology, even though the Nuclear Regulatory Commission has shut down his facility in New Jersey for repeated violations?

Why has the FDA ignored the 1,223 studies reviewed by Dr. Joseph Barna of Budapest, Hungary, which indicated hundreds of detrimental effects?

Why has the food irradiation industry duped the public with such claims as "feeding the world's poor" (as if irradiated food will build roads into rural Ethiopia), "will replace pesticides" (though it may not replace any, but may be most effective when used with fumigants and fungicides), "tastes delicious" (when taste and texture may be compromised before the desired effects are achieved)?

Why did the FDA shift from considering each food separately, as it had done in the past, to giving a blanket approval?

These questions are not being asked in most mainstream press articles.As the human guinea-pigs for testing food irradiation, it is our responsibility to demand answers.

Don Norman is a founding member of CUFFs and a graduate student at Huxlev College of Environmental Studies.

Environmental Resources On Campus

Club Appropriates Appropriate Technology

by Michael Kane and Jim Zirk

"Well Jim , what is Appropriate Technology?"

Stalling, Jim leafed through an assortment of papers and articles he had pulled from his knapsack. Waiting for his response, I scanned the bar full of dart players, Monday night football watchers, and beer drinkers. Monday evening at Gus & Naps.

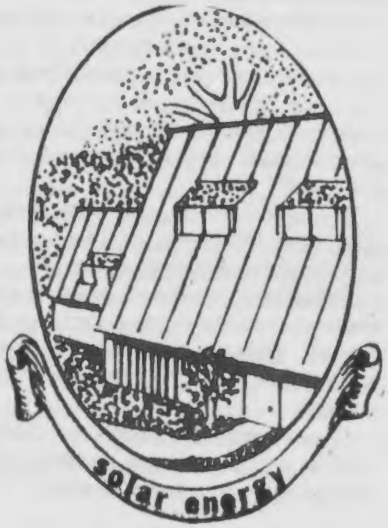
But we were not there to contemplate the crowd. Instead we were there to define Appropriate Technology for ourselves and others. A.T. is a creative approach to providing basic human needs by working with the environment. What is considered appropriate varies with the Bioregion and people's individual needs. By Bioregion we mean the place were you live; its climate , topography, flora, and fauna .

For example, a family is building a home in a Northwest river valley with a year-round stream on their property. Another family is building their home on a windswept ridge overlooking the river valley. If these families wanted to provide their own electricity to their homes , what would you suggest?

If you answered a micro-hydro dam for the folks in the valley and a wind generator for the folks on the ridge then you already know what appropriate means.

If Appropriate Technology sounds interesting to you, then check out the new improved A.T. Club. Our goals are to share information, set up a resource network in the Environmental Center and work on local projects. Oh yeah, having fun is also on our agenda. We meet on Tuesdays at 3:00 pm at the Outback Farm.

For more info,contact the Environmental Center and leave a message for Mike Kane or Jim Zirk. Peace.



A.S. Recycles University Waste

by Amy Morrison

Each Washington state resident discards an average of 4.6 pounds of material per day, for a total of 3.6 million tons per year statewide. As the state's landfills rapidly fill up, the Associated Students Recycle Center works to reduce the campus and community's burdensome contribution to them.

Providing a university recyclable-waste collection and a community drop-off, the A.S. Recycle Center collects newspaper, scrap paper, aluminum, glass, tin, cardboard and motor oil.

Started by the Huxley Environmental Reference Bureau (HERB) in 1971, the Center started as a small, live-in, community drop off center and expanded as the University expanded its recycling efforts. In 1976 the Associated Students provided the Center with much needed funding, making it an AS program.

Over the last few years the Center has purchased a forklift, a mechanical glass crusher, and a baler for paper in order to alleviate the labor intensive sorting strategies.

In the last five years the Center has doubled the volume of recovered recylcable material. Staff size has grown accordingly, but "at present the Recycle Center student management is overtaxed attempting to cope with the recent changes in recycling processes and markets," said George Sidles, coordinator of the Center. In 1984-1985 the Center handled 248 tons of recyclable material from the residence halls, 92 tons from the Academic Departments, and 42 tons from food service facilities.

Kelly Mitchell, a student-worker, explained, "We've created an awareness in the community although a lot of people are still not informed. We get a lot of styrofoam and plastics - we can't deal with those." Consumers are urged to buy in recyclable containers and to avoid buying products packaged in styrofoam or plastic. Sidles said that the recycle bins in Parks Hall are frequently used as garbage bins as there are no garbage containers in the building.

The Recycle Center currently employs 12 individuals, including three managerial posts: Coordinator, Facilities Manager, and Personnel Manager. "The Recycle Center is seen not only as a job but as a form of social activism as well," said Sidles, noting that staff members are strongly committed to recycling and to the Center.

The Recycle Center is open seven days a week from dawn until dusk. It is located at 519 21st. For more information call them at 676-3088.

WashPirg works for a better Washington

by Paul Greene

The more time students have spent on campus this fall the more they have probably noticed signs , bulletins and leaflets that refer to WashPIRG. Washington Public Interest Research Group is a student-directed, student- run organization, with chapters also at the University of Washington and The Evergreen State College.

WashPIRG focuses on issues that affect the health and well being of the general public and the environment, including utility reform, hunger programs, pollution and governmental actions. There should be few people who do not take an interest in how the group can serve them. Lori Farrow, the new Western Washington University PIRG chapter organizer stated "I am impressed with what students have been able to achieve through the organization. I feel somewhat cheated in having gone to a school that didn't have a PIRG chapter."

Formation of the WashPIRG chapter at Western did not come easily. Students attempted as early as 1972 to initiate a chapter, but were not accepted by the school trustees until 1984. The chapter

finally got underway in the fall of 1985, only to lose its funding that winter, facing heavy battles to stay alive on campus in the spring of 1986.

A few very dedicated students ran a petition drive last spring to rally support for the WashPIRG chapter and succeeded in winning a majority of student votes in favor of reinstating the group on campus.

Governor Booth Gardner told WWU trustees in a letter that, "WashPIRG on other campuses has made significant contributions to the quality of life for this state's citizens. I support citizen activism and believe it should be encouraged on our campuses." Western faculty advocated for WashPIRG on behalf of the "hands on" learning experience in citizenship skills that they have provided students at UW and Evergreen.

In its first year at Western, students raised $1200 to feed the hungry during a Donate-a-Meal drive on campus. The drive was part of the National Student Campaign Against Hunger, a national PIRG project. Western students also produced a survey of local banks to give students and community members an overview of banking options available in Bellingham.

This fall students came back to campus in the midst of a statewide campaign to give citizens of Washington state a voice on the proposed Hanford nuclear waste repository. "Students really keyed into the referendum quickly. Many Western students have done research in areas around the Columbia River and have taken courses where Hanford has been one of the topics. There was a lot of concern about the dumpsite to begin with and response to the referendum was very positive," said Farrow.

John Bagby, a student involved with organizing educational forums on campus for Referendum 40 feels that WashPIRG provides an opportunity for student involvement on levels where they may otherwise feel powerless. He feels that one of WashPIRG's main successes is giving students a sense of empowerment . "People are only as impotent as they think they are...if they have an organization to get involved with it greatly decreases that feeling." He feels that the existence of WashPIRG on campus greatly increased the amount of exposure that has been given to the Hanford issue this fall. He also feels students develop a sense of personal gain from having worked on the campaign. "The fact that people are involved makes them feel better about themselves."

Upcoming issues on the WashPIRG agenda will depend on student interest and are likely to include: finalizing and producing a piece of research on the hazards of nuclear waste transportation; surveying local food bank users and welfare agencies to produce a report that will describe the effectiveness of local hunger organizations.

Another opportunity that students have with WashPIRG is this winter's state legislative session. An intern can get up to 15 credits for direct participation in public advocacy, via tracking bills, writing pieces of legislation, and lobbying the legislature on consumer and environmental issues.

To get involved with WashPIRG and work toward a better Washington, contact the group in Viking Union rm. 220.

Completing the Circle: A Return to Experiential Education

by Anne Marie Deveraux

Lecture, lecture, lecture, occasional slide, maybe a diagram. Information assimilation! When was the last time you got to experience something in your schooling concretely rather than abstractly?

"We learned from the earliest dawn of our species by experience," says John Miles, Dean of Huxley College. The process by which we learn now is like a long funnel - someone had a direct experience a millenium ago, which has been researched and researched and researched again, eventually reaching us. Why? We know that we remember more easily what we experience than what we hear or read. So doesn't it make sense that part of education should come from experience? Yes! And since our earth is in a serious state of entropy right now, it is vital that people be educated about our environment through a powerful medium. Experiential Education (simply, learning by doing) is that medium.

We live in an insulated environment that allows us to stay out of touch with our natural surroundings. One way to re-establish our connections with nature is in a learning experience that places us in nature and requires us to observe, reflect, and experience how we are indeed an integral part of nature. We can learn that we are nature, not superior to it, not a conquerer of it, but wholly a part of it. Aldo Leopold, a famous conservationist, called what we might learn a "Land Ethic". We need to re-establish such an ethic and learn a reverence for the earth. But until we have first hand experience with nature and a measure of understanding of that experience, this necessary ethic and reverence seems beyond reach.

So, what to do? One need not be a budding biologist, environmentalist, or outdoor athlete to get in on Experiental Education. Good programs are at Western which help raise awareness about and intimacy with our environment.

One of the most intensive is the Spring Block in Huxley College of Environmental Studies. This is a block of four courses that students enroll in simultaneously which allows for group study and extensive field trips without conflicting class schedules.

In the Block you will experience the environment yourself while you learn how to facilitate an Experiential Education program for others. You will discover how many things can be taught in the context of nature - everything from stress management, group dynamics and effective communication techniques to personal awareness and growth. You will also discover that experiential learning is a process suitable for many learning situations.

For instance, say you are managing a new office staff of computer programmers in which varying degrees of ability and knowledge exist within the group. Some are struggling with the new system and others are learning quickly. There is a lot of tension and frustration within the staff. The Spring Block will demonstrate how you can use something like rock climbing as a metaphor for any learning process, such as programming. While climbing, people will experience their successes and limitations concretely - some will have the ability to climb a steep face, others will only get a few feet off the ground. Through reflection and discussion of this experience it becomes clear that we are all different and that we must learn to accept this. You can then bring this insight back to the office and it will help people feel a new awareness of themselves in relation to their work and co-workers. This is only one example; it goes on and on.

"We are nature, not superior to it, not a conqueror of it, but wholly a part of it."

There are many experiential learning programs available at Western, in Whatcom County and the U.S. generally. Western's Outdoor Program provides recreational and educational experiences in the outdoors. As with the Spring Block, this will give you a solid experience with nature whether you are looking for a day, week-end, or entire quarter. In town is the North Cascades Institute which teaches Natural History, Human History, Ecology for the family, art, photography - all in the context of nature. Organizations like the Mountaineers, the Native Plant Society, and The Audobon Society can help you acquire a wealth of experience of the natural world. National programs include Outward Bound,the National Outdoor Leadership School (NOLS), The Boy Scouts and Girl Scouts of America...the point is that the opportunities for making that essential direct contact with nature are many.

We have realized that there need to be changes in how and what we learn if we are going to survive on this earth. We must all be involved in it. We have to educate ourselves first, then we can assist others in completing the circle, making a full return to the most valuable means of learning: direct experience.

Food Irradiation (cont. from page 1)

What is.... (cont.)

Cobalt-60 and Cesium 137 are too weak to impart nuclear changes that would transmute elements to a radioactive form. This means that the food, or the conveyors, do not become radioactive (anymore than you do after an X-Ray). Cobalt 60 has been the traditional radioisotope used, but the Department of Energy has become interested in using Cesium 137 from high level radioactive waste.

What does it do to the food?

In preventing potatoes from sprouting, the radiation simply kills the potato, preventing new growth. In killing bacteria, therefore, the irradiation is also bombarding the food. This causes changes in the molecular structure of the food. The controversy about the safety of irradiated foods deals with what kinds of new and potentially dangerous chemicals are formed in the irradiated foods, unique radiolytic products (URPs). There is also concern about the possible mutations of organisms on the food, what happens to the residual toxins on foods (such as degraded pesticides), and the potential lack of simple public health warnings (dented, swollen cans, or mold present) in contaminated foods. Significant reductions in vitamin levels do indicate that measurable changes in the food are possible. But because of the chemical complexity of foods, the accuracy with which the URPs are known is scant, and as the number and the concentration of these new structures varies from fod to food, and with a number of other factors, such as water content, temperature at which the food is irradiated, age of the food, etc...toxicological testing is very difficult because a typical dose response curve is not possible. To increase the amounts of URPs to see magnified toxicological effects, the animals would have to be fed a diet of only the food in question and there are problems having an animal eat 100% of its diet being bananas, for example. Nonetheless, the process has been deemed safe.

What is the present status of food irradiation?

Though the Food and Drug Administration (FDA) has approved the irradiation of potatoe, onions, and grains over 20 years ago, it was not until the late 70's that there was a real potential market. The International Codex Alimentarius was being amended to include food irradiation, with the International Atomic Energy Agency (IAEA) being the lead agency, and in early 1981, the FDA released a request for information, culminating in a proposed rule in 1984. The FDA's allowable dose is one tenth of the IAEA proposed amount, 100,000 rads. After receiving thousands of comments, most of which incorrectly were afraid of the food becoming radioactive the FDA came out with a final rule in April 1986.

Will irradiated foods be labeled?

One cannot tell whether a food has been irradiated by looking at it. The FDA's ruling requires the labeling of fruits and vegetables, but there will be little enforcement, no requirements if the food is processed, and a sunset clause of two years is written into the final ruling. It is a good comparison to recognize that food that has been sprayed with pesticides is not labeled.

What can you do.... (cont.)

favorite local organization (please plagarize), to post at work, etc....It is easy to get on the radio or TV if they know you have some knowledge, and an opinion, about food irradiation. You too can be a celebrity.

Consumers United For Food Safety will be introducing state labeling legislation again this session in January. You can go down and lobby your representatives and learn about local government. Suggest that the WSL and WashPIRG co-sponsor the legislation. The Bellingham address for CUFFs is 250 N. State St. #106, B'ham, WA 98225 (671-7710).

Ask your grocer questions. Circulate petitions. Ask at your favorite restaurant if they would serve irradiated foods. Consumer power works.

When you see articles on food irradiation, write letters to the editor. If you have good information you can point out the many fallacies in most, even well-intentioned articles. You'll be surprised how many will be published.

If you want to act locally, find out how prepared our fire and police would be able to handle a gamma ray transportation accident.

Academics

Tracing my path for
a curly headed English
professor

From those childhood
hiking trips with family

To my present status
as a student of natural systems

A journey roughly 20 years
in the making is now
supposed to be synopsized
in One Thousand words of
cause and effect

Seems silly. Like the
day glow warehouse
staring through my apartment
window.

...like the student of natural
systems living in a downtown
apartment expecting to learn
from books.

by Michael Kane