

SCIENCE FOR THE PEOPLE

Vol 17 No 4

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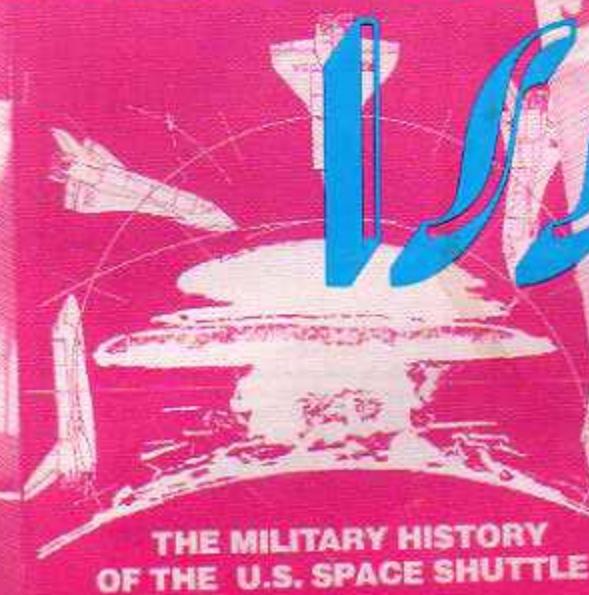
SCIENCE FOR THE PEOPLE
TECHNOLOGY and REPRESSION

SCIENCE FOR THE PEOPLE
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SCIENCE FOR THE PEOPLE

CIA Psychological
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in Nicaragua,
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100th ISSUE



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SCIENCE FOR THE PEOPLE

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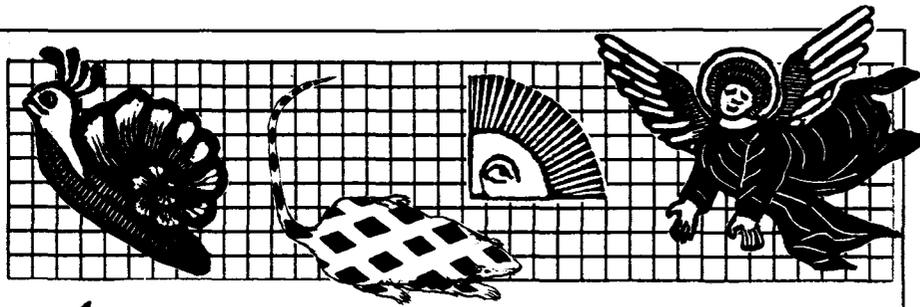
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SCIENCE FOR THE PEOPLE





As we go to press, the U.S. Congress has voted to open the door for increased aggression against the Sandinistas, a frighteningly analogous situation to the state of affairs 100 issues and 17 years ago, when a small group of scientists, engineers, concerned teachers, students and activists banded together to form SESPA, Scientists and Engineers for Social and Political Action, using their newly formed group to organize protest against the involvement of North American scientists and engineers in the Vietnam war.

In the course of producing the special update section of this issue, we closely examined the early issues of SESPA's magazine, *Science for the People*, and found them both inspiring and instructive. We couldn't help but admire the startling amount of groundbreaking work done by SESPA to raise consciousness about the political implications of science and technology. The early pages of *Science for the People* shout with the fervor of a growing movement. But the instructive lessons from the first issues are more painful: more often than not we continue to reinvent the wheel.

In this respect we are not alone. The left in this country all too often fail to heed the lessons of our own history. Although we are still fighting many of the same battles that we were 100 issues ago, with the aid of hindsight we can have even more success. The historical components of this issue are an effort in that direction.

Today, while we can count many small victories, we must also face the fact that our words have often gone unheeded. We confront a scientific-military-industrial establishment that is stronger today than in 1969. We face a military buildup of virtually unprecedented scale for peacetime. And we witness a bravado and callousness about the extent of environmental degradation of the planet that rivals any time in history.

And yet, despite this grim picture, we at SftP realize that it is far too easy to diminish or discount our impact. In spite of the problems we face, we also see a public that is better informed technically and politically than in 1969. We have seen our magazine and our message grow steadily over the past few years, and we are now reaching more people than ever before in our history, with more than 10,000 readers in over 40 countries around the world.

We are proud of our track record, and see our 100th issue as an important milestone for the magazine. We hope that we will be here to salute many victories with you at our 200th issue celebration!

SCIENCE FOR THE PEOPLE

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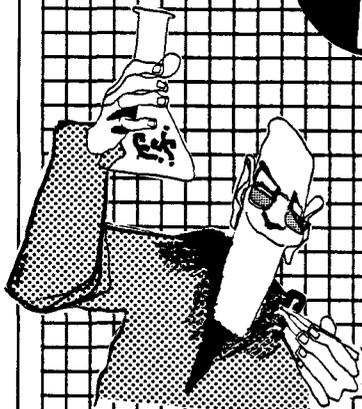
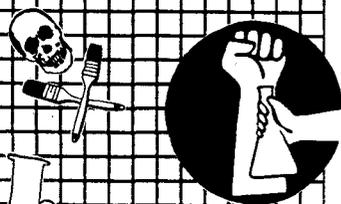
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IBM Workers Unite

Dear SftP:

I just read Ken Geiser's article in the latest. *Science for the People*. (SftP Vol. 17, No. 1&2) and was astounded and delighted to read about the existence of IBM Workers United. I have worked at IBM as a customer engineer (field technician, computer repairperson) for three and a half years, and have felt extremely isolated on the job. At home in New Haven, I have been involved in many political activities including organizing against the KKK's presence in Connecticut, against U.S. intervention in Central America and the Middle East, and in strike support work. On the job, though, I have been relatively quiet except for refusing to fix Yale's computers while the clerical and technical workers were on strike, and giving a talk about IBM's role in South Africa during an IBM class.

Partly because I have felt so isolated at IBM and have not liked fixing computers, especially for military production companies (and fixing computers for banks leaves me feeling empty), I applied to a history and sociology of science graduate program for September.

Although I will probably leave IBM, I would love to be part of IBM Workers United while I am still there. If I had been part of it earlier, I might never have applied to school. Thank you very much for publishing Ken Geiser's article, and for doing the work you are doing. I am going to show this article to several people I work with.

D. E.
New Haven, CT

Professionals-Nicaragua

Dear SftP:

I want you to know about Professionals-Nicaragua, which, after a preliminary feasibility study, is forging ahead. The objectives of Professionals-Nicaragua are to establish solid ties between professional associations and individuals of North America and Nicaragua in order to promote informative and technical exchanges that would lead to more thorough comprehension of socio/political and economic realities of Nicaragua,

future relations and contacts that would provide mutual assistance, and international justice and peace.

Professionals-Nicaragua will assist North American professional delegations in Nicaragua with educational and utilitarian exchanges, including panel discussions, analytical seminars and lectures, resource materials and audio-visual presentations and short and long-term work placements. It will also help make arrangements for Nicaraguan delegations of professionals to visit North America. Visits of professional delegations to and from North America would be facilitated through coordinated travel arrangements, guiding of tours when needed, and collection, creation and sharing of appropriate audio-visual aids.

Professionals-Nicaragua is housed in Managua by CONAPRO Heroes y Martires, the Nicaraguan Federation of Professional associations representing auditors, biologists, ecologists, accountants, agricultural engineers, lawyers, judges, economists, chemists, agronomists, social scientists, geologists, administrators, psychologists, social workers, nurses, physicians, pharmacologists, journalists, librarians, and many individual professionals.

Constructive communication between interested parties from various professional sectors in North America would be channelled through our Advisory Boards (in Managua and Washington, D.C.) or directly through CONAPRO Heroes y Martires. Ensuing ideas for mutually beneficial exchanges will be analyzed and revised together with CONAPRO staff and/or the appropriate Nicaraguan Professional Associations.

Rapid mobilization of this kind of exchange initiative should help neutralize efforts of the U.S. Administration to impose shipping restrictions and economic sanctions on Nicaragua, and outright breakage of diplomatic relations. At the same time, the initiative promotes understanding, development and friendships: all necessary for reconciliation, justice and peace.

As Administrator of Professionals-Nicaragua, my primary concern at the moment is obtaining urgently needed "seed money" that will serve to set up the Managua office and to

pursue our objectives. It is my hope that *Science for the People* and other organizations might see this project as one worth supporting. Tax exempt status has been granted by Clergy and Laity Concerned (the CALC Foundation, 198 Broadway, Room 302, New York City, 10038), through which donations and other grants will be channelled.

Jose McIntire
Professionals-Nicaragua

Anthropocentrism

Dear SftP:

As a recent subscriber I want to compliment you on your journal. In particular the recent publication of talks by Rose and Bereano on the role of science and technology in society were welcome. I hope SftP will be doing more in this area.

I wish to engage Rose on a particular point which he mentions only briefly and which I think is deserving of more attention, namely anthropocentrism. He states he cares more about saving people than whales and that any other position seems perverse. Perhaps he hasn't considered the issue very thoroughly, inasmuch as he's very brief, though sympathetic to the animal liberationists.

The linkages between sexism, racism, class oppression and anthropocentrism are extremely important. Any attitude or approach that reduces nature to resources (like reducing women, blacks, or workers to mere resources) or how it simply affects people is limiting. Liberation from class, gender and other forms of human oppression of other humans cannot be based upon the domination of nature or of other species.

One can attempt to solve conflicts through oppression and domination, seeking individual or narrow group interest; or truly move toward solving them by recognizing that liberation must be universal if it is to be realized at all. I do not think such an approach is perverse, at all.

—David Johns
Portland, OR

Congratulations!

To the next 100 issues! —**Dick Alchermann**

Greetings from the **Boston Women's Health Book Collective**, 465 Mt. Auburn St., Watertown, MA 02172

Congratulations to SftP on your 100th issue from **Clean Water Action Project**, 733 15th St. NW, Suite 1100, Washington, DC 20005

Greetings from the **Communicators**, a group of media professionals working to prevent nuclear war, in Boston, MA. 617/423-7886

Pollution avoidance, not pollution control.

Support the **Greenpeace Toxic Waste Reduction Campaign**, 139 Main St., Cambridge, MA 02142

Greetings from **Health/PAC Bulletin**, 17 Murray St., New York, NY 10007

Happy anniversary! Keep up the struggle for workplace health and safety! —**MassCOSH**
Right to Know Education Project

Congratulations from John O'Connor and the **National Campaign Against Toxic Hazards**. Keep working for the solution to toxic pollution.

Greetings from the Editorial Board of **Radical America**, 38 Union Sq. No. 14, Somerville, MA 02143

Solidarity greetings from **RED BOOK**, Boston's independent socialist bookstore! Come see us: 92 Green St., Jamaica Plain, 617/522-1464

Information is necessary for resisting illegitimate authority. Thanks, SftP, for 100 issues! —**Resist**

Congratulations! Happy 100th from **Scott Schneider and Mirlam Struck**

Greetings from **South End Press**, 302 Columbus Ave. in Boston

Congratulations! **The Wooden Shoe**, union printers at 241 5th St., Cambridge, MA 02142

Richard Levins and Richard C. Lewontin

THE DIALECTICAL BIOLOGIST



At the heart of the authors' dialectical approach to science and science education is *co-determination* of all things—of organism and environment, of part and whole, of structure and process, of science and political systems. Closely related is the concept of continual change and motion among the parts of any system in relation to each other and to the changing whole. Throughout, *The Dialectical Biologist* questions our accepted definitions, probes the ticklish question of bias, and shows the self-reflective nature of scientific activity within society.

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Next... Computerized Wastebaskets

Somebody has been reading our magazine. Only this time they may have taken us even more at our word than we would have hoped. As Ray Valdes' incisive spoof "The Definitive Guide to High Tech" outlined in the the January/February 1985 issue, one of the main keys to making your product "truly high-tech" is to add a computer to it. According to Valdes, a computer chip "can elevate even the most proletarian product to the realm of High-Techdom."

Having clearly studied Valdes' article in depth, now Adidas and Puma have introduced running shoes with computers in them to allow you to

measure how far you run, average speed, and even how many calories you used up trotting around the neighborhood. Puma's \$200 high-tech footwear requires you to actually take your shoe and hook it up to your personal computer to receive the information.

As Valdes' wrote: "You've seen computers added to copiers, typewriters, cars, and stereos. Look for them in unusual places like abacuses, wastebaskets, and sewing kits." We were a little surprised to see computers added to shoes, but we are withholding comment pending any news from wastebasket manufacturers.

Residents Fight Air Force Tower

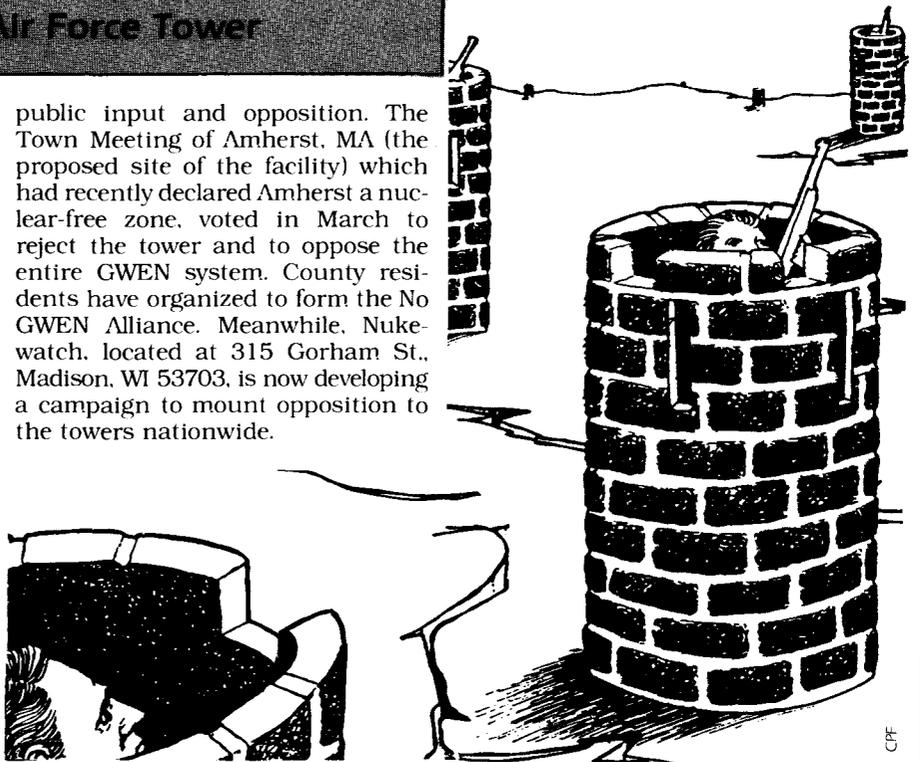
Residents of Hampshire County, Massachusetts have banded together to fight the construction of a 300-foot Air Force radio tower, designed to facilitate military communications during and after a nuclear war.

The tower is part of a proposed system of relay stations called the Ground Wave Emergency Network (GWEN) that will eventually honeycomb the country to provide an emergency communication system for bomber bases, missile silos, and airborne command posts. The Hampshire County facility would be one of 57 stations nationwide that make up the Air Force's \$560 million project.

While the entire first phase of construction—including nine towers in midwestern states—has already been completed, local opposition to GWEN has not surfaced before now at least partly because local residents and officials at previous GWEN sites have had little or no knowledge of the project prior to construction.

Thanks to local officials who called a public hearing on the matter, and the more than 300 residents who turned out for it, the Air Force tower slated for Western Massachusetts is one that will not be built without

public input and opposition. The Town Meeting of Amherst, MA (the proposed site of the facility) which had recently declared Amherst a nuclear-free zone, voted in March to reject the tower and to oppose the entire GWEN system. County residents have organized to form the No GWEN Alliance. Meanwhile, Nuke-watch, located at 315 Gorham St., Madison, WI 53703, is now developing a campaign to mount opposition to the towers nationwide.



Upcoming Issue of Science for the People

Science for the People is now soliciting articles for the Nov/Dec 1985 special issue on "Third World Development and Environmental Degradation." Articles, outlines, graphics and other material should be sent to: Science for the People, 897 Main St., Cambridge, MA 02139.

Send Us a Note

Send Science for the People newsnotes about science, or related areas of interest to our readers and we'll extend your subscription by six months for those items that we print! Please cite your sources and/or include clippings. Send them to: Newsnotes, Science for the People, 897 Main St., Cambridge, MA 02139

Worker's Health Center Opens in Canada

"Workers cannot rely on their adversaries for protection. The employers poisoning and maiming us don't have our interests in mind. Nor do government bodies afraid to enforce their own health and safety laws. Workers can rely only on their own strength and resources." With these words, the first and only worker-run occupational health clinic in Canada opened its doors less than a year ago, financed and sponsored by the United Steelworkers of America Local 1005 (Hamilton, Ontario).

Open to all workers regardless of union or employers, the Hamilton Worker's Occupational Health and Safety Centre has been deluged with requests not only for medical diagnosis and treatment, but also for legal assistance, preventive technologies, and research support. Widows whose husbands have died of occupationally-induced lung cancer have sought the center's assistance in securing worker's compensation pensions. The concerns of transit union workers prompted the clinic to undertake a year-long study of the causes of drivers' back pain. And, workers have come to the center to learn how to identify design flaws and ventilation problems which are threatening their health.

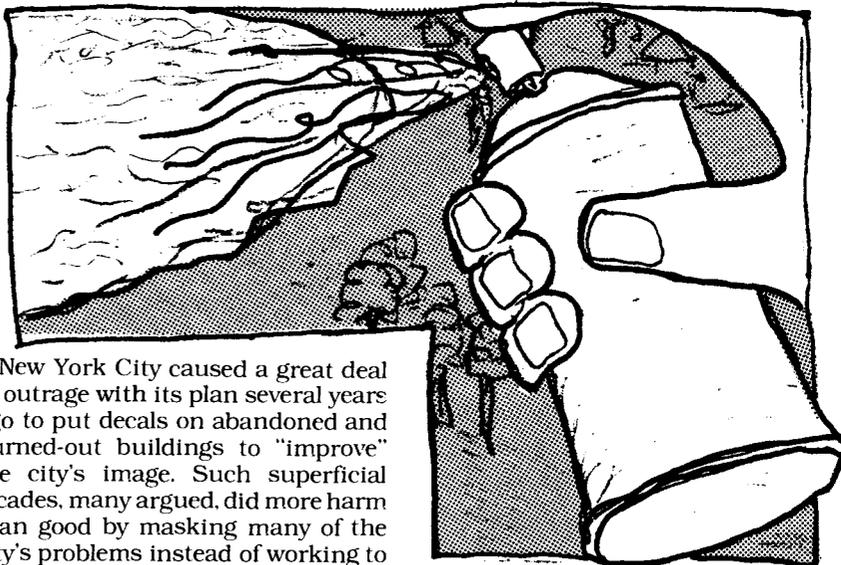
The Centre employs, on a part-time basis, two physicians skilled in occupational health, and two hygienists. But, in response to the enormous demands upon the center's resources, the active participation of workers themselves is seen as crucial. Injured workers on compensation and union health and safety officers are among those who help respond to inquiries. Relying heavily on the rank and file network, the center organizes research teams which meet with a patient's co-

workers to develop a detailed picture of work conditions. And, participating workers can make use of the computer link to the Canadian Center for Occupational Health and Safety, which has a trade name data base of industrial chemicals. In these and other ways, the Hamilton center encourages people to use and further develop the science and technology of occupational health.

Women's groups have joined with the center to investigate reproductive hazards and help strategize about how to protect workers from these hazards. In one of the most significant cases so far, the center has provided support to a woman whose child's multiple deformities were likely caused by the conditions she endured at a plastics factory. Providing medical assessments, tracking down witnesses, and investigating the production process, the center has helped the woman file a \$7 million lawsuit against the manufacturer.

In its short life, the center's reputation has grown beyond Canada's borders—attesting to the compelling need for such worker advocacy efforts. Hopefully, the Hamilton Worker's Occupational Health and Safety Centre will spark a movement.

Deodorizing Duluth

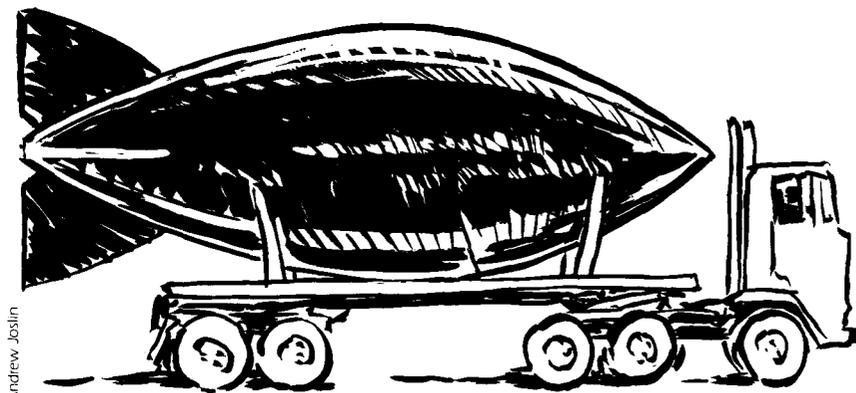


New York City caused a great deal of outrage with its plan several years ago to put decals on abandoned and burned-out buildings to "improve" the city's image. Such superficial facades, many argued, did more harm than good by masking many of the city's problems instead of working to improve them—not to mention the costs of the "beautification" project.

Not to be outdone by New York's chicanery, the city of Duluth has adopted a similar plan to "beautify" their neck of the woods. The city is testing "masking agents"—huge doses of "air freshener"—to cover the odors emanating from the Western side of sewage-filled Lake Superior. So far, according to *Dollars and Sense*

magazine, the city has tried more than a dozen scents, including cinnamon, bubble gum, and neutral pine. When they decide on the "best one" they hope to cover 80% of the odor before the summer's end. When will local and national government's stop wasting taxpayer's money covering up environmental problems and start dealing with them head on?!

Hazardous Materials Transport: Public Awareness Grows



A torpedo truck accident in Denver, Colorado last August has touched off renewed discussion and concern about transport of hazardous materials. Although, miraculously, in the Denver case no one was injured, traffic was completely shut down for three to five miles in all directions for eight hours—one of the largest traffic jams in recorded history. The truck, transporting six torpedoes from a Navy facility in Keyport, Washington to a submarine base in Groton Connecticut, overturned at five o'clock in the morning and slid 104 feet down an exit ramp.

While evacuation of the local population began at nine o'clock that morning, it took *nine hours* from the time of the accident for Navy explosives experts to finally arrive in Denver. Questions of why such cargo was routed through such a populous area in the first place were raised by outraged local politicians, but to little avail except perhaps to raise public consciousness about the prevalence of such transport.

According to one estimate, as many as 412,800 trucks and 160,000 railcars regularly transport hazardous materials in the U.S. To deal with this volume, the relevant federal agencies employ only nine full-time inspectors for trucks, and 16 for railcars to cover the entire nation.

Luckily, the Denver truck's torpedoes were armed with non-nuclear explosives, but nuclear weapons are also commonly transported via identical channels and routes. To attempt

to call attention to the heavy volume of nuclear warhead transport on the nation's highways, a campaign sponsored by the organization Nukewatch this April drew participants from around the country to track the unmarked convoys transporting nuclear warheads and their parts and ingredients for the U.S. Department of Energy.

As one organizer stated, "We want to call attention to the fact that the arms race comes through Oklahoma

City. It's not remote, not 1,000 miles away. It's on I-40 at the Walker and Harvey Exit."

Staking out vigils at nuclear warhead factories and storage depots for seven full days, by the end of the week the Nukewatchers had spotted 18 H-Bomb trucks in nine convoys. The group was able to track six of the convoys for 3,600 miles through Tennessee, Arkansas, Oklahoma, Texas, Colorado, and Wyoming, carrying signs on their escort cars which read "H-Bomb Truck Ahead."

In the words of the Nukewatch newsletter, "Never before in the 40 years of the nuclear arms race have so many Americans been exposed so fully to the unseen, unreported, and unregulated truck fleet that hauls 80% of the nation's nuclear warhead freight—enough in one truck alone to destroy a hundred Hiroshimas." Hopefully, the growing awareness of the prevalence of this real hazard will lead to more local and federal ordinances governing such transport.
—*Information from EPI Perspectives*

Medicine's New Discovery: Workers

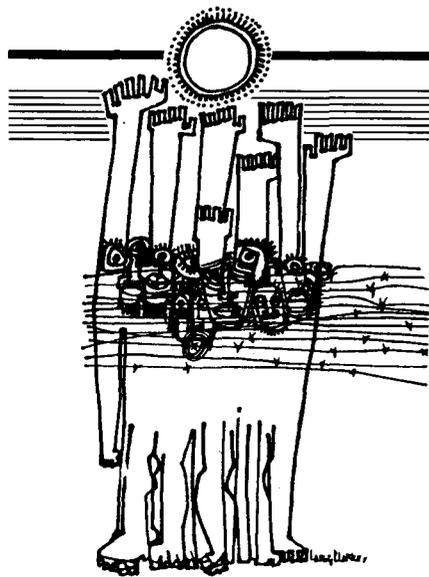
The National Institute for Occupational Safety and Health (NIOSH) estimates that each year at least 13,000 workers are killed in industrial accidents. Five million others are injured, and 100,000 die from exposure to toxic chemicals. How has the medical profession been training itself to deal with this toll?

A recent survey of 111 U.S. medical schools found that 66% teach occupational health as part of their curriculum, up from 50% in a similar survey seven years ago. At 54% of the schools surveyed, occupational health is required course work, compared to only 30% in 1978. Despite these small gains, the median required curriculum time for occupational health has remained a mere four hours.

The survey report, published in the

American Journal of Public Health, found that schools which teach occupational health also provide information on particular work-related diseases, government agencies and programs, health care delivery, and preventive medicine in the workplace. Several offer opportunities for workplace visits, research projects, and summer clinical experiences in occupational health.

Most physicians still rarely think to ask about a person's occupation and work history, and when they do, are even less likely to correlate that information with disease and illness. But as this survey suggests, it may not be long before the question, "What kind of work do you do?" moves up a few notches closer to the lead query, "How will you pay?"



Nicaragua Trains Environmental Engineers

"After the overthrow of Somoza," said Dr. Ottoniel Arguello, Nicaraguan Minister of Water and Environment, "literacy was our first priority. Many of the people who participated in those educational programs are now ready to participate in training programs to

meet our special needs, such as health, engineering and economics. But at this time, we don't have any training program for environmental and sanitary engineers." This spring, Dr. Arguello visited the U.S. to recruit faculty and consultants for a new Nicaraguan graduate program in sanitary and environmental engineering.

In 1979, after the Nicaraguan revolution, only 39% of Managua's residents had tap water. In rural areas, only 6% of Nicaraguans had running water. Nicaragua lacked the technology to get water to people, and the water quality—primarily surface and well water—was poor.

continued

High Tech's Health Toll



According to a study conducted by the California Department of Health Services, birth defects and miscarriages occurred at two to three times average rates in areas where water was contaminated by chemicals used in high-technology manufacturing.

The study examined the neighborhood of Las Paseos, where water has been contaminated by toxic leaks from a Fairchild Camera & Instrument Corporation semiconductor plant (see Ken Geiser's article, *SftP* Vol.17 1&2, for more details). At this site, concentrations of toxins in the water were found to be as high as 800 times the state's recommended levels. The study found a 2.4 times higher rate of miscarriages and a threefold higher rate in birth defects overall, compared with figures from a nearby community that is demographically

similar but has not had any known water contamination.

While, as is true with any epidemiological study, it is difficult to *prove* the connection between the contamination and the health problems encountered, the dramatic nature of the findings of this study prompted California Governor George Deukmajian to approve a \$625,000 last-minute allocation to the state health department's budget to fund the next step of the investigation.

Meanwhile, area residents are not taking the news passively. Over 400 local residents have sued Fairchild, claiming that chemicals in the water have caused birth defects, brain damage, cancer and other injuries. The suit will come to trial soon.

—Information from the *Wall St. Journal*

Eugenics "Love Boat"

Eugenics frequently pops its head up in subtle ways, but this case can't even claim subtlety. Singapore's prime minister, Lee Kuan Yew, after reading 1983 census statistics showing that women with graduate degrees were producing significantly fewer children than women with less formal education, established a government-sponsored matchmaking program claiming to stave off a decline in the "intelligence stock" in Singapore.

Stating that without government action "Levels of competence will decline, our economy will falter, the administration will suffer and society will decline," Prime Minister Yew established a program including "love-boat cruises" and free trips to the local Club Med aimed at marrying off and producing babies from graduate women.

As of recently, according to *New Scientist* magazine, the government is finally being forced to drop the program. But not because of pressure against the eugenics argument implicit in the program. The real crunch has apparently come from the fact that despite hundreds of thousands of dollars spent on relatively few single graduate students, only two marriages have resulted.

An international conference on primary health care designated the 1980s as the International Decade for the Supply of Drinking Water and Sanitation. Nicaragua's goals for this decade are to provide drinking water for 81% of its population and sanitation services for at least half of its urban population—those living in towns of 2,000 or more people.

The National Council of Higher Education and the University of Nicaragua, in cooperation with other technical institutions in Nicaragua and the Pan American Health Organization, have developed a Master's level program in environmental health and engineering that will train 20 to 25 students each year. The program is scheduled to begin in 1986, and its first students will be working engineers and technicians who need formal training.

Initially, 60% of the teachers will come from outside of Nicaragua. Faculty and planning consultants are needed for two to six week blocks in several areas, including hydrology, ecology, epidemiology, chemistry, microbiology, sanitary engineering, waste management, math and statistics. For a copy of the program description, contact the Science for Nicaragua Committee at SftP.

Contras Release Medical Dean



Good news: the hostages are free! Public pressure and the intervention of medical professionals in Central and North America, the Nicaraguan government, and U.S. legislators—including Senator Edward Kennedy—won the release of a volunteer health brigade captured by *contras* in Nicaragua.

Members of the rebel group MISURASATA ambushed Dr.

Gustavo Sequeira, Vice Dean of the University of Nicaragua Medical School, a dentist and two medical assistants participating in a rural health and vaccination campaign on the Atlantic island of Rama Kay on January 26. Three people were killed in the attack. The *contras* also kidnapped four indigenous residents of Rama Kay, including a six-year-old girl.

In mid-March, after MISURASATA signed a cease-fire treaty with the Nicaraguan government, the hostages were transferred to *contra* Eden Pastora—known as “the doberman of Reagan”—and his group ARDE. Pastora's *contras* used U.S. military and communications equipment, and convinced Sequeira they were funded by the CIA.

The hostages suffered physical and psychological torture, and were forced on a long march into the mountains of Costa Rica. One member of the medical team succumbed to brain-washing and remained with ARDE. After three months of media exposure and public pressure, Pastora released Dr. Sequeira and the remaining healthworkers on April 29.

The attack on the medical team was another attempt to undermine support for Sandinista healthcare efforts among native people on the Atlantic coast. Thirty health centers have been destroyed or closed because of *contra* assaults. Eighteen healthworkers, including two volunteer European doctors, have been killed, 13 wounded, and 18 kidnapped, tortured or raped prior to the attack on Rama Kay. Nicaraguan Ministry of Health immunization campaigns for rural children and malaria control efforts have been special casualties of *contra* attacks, as medical workers have been prevented from practicing in zones—like the coastal homeland of indigenous Nicaraguans—where *contras* can easily enter.

—Leslie Fraser
Information provided by
Dr. Paula Braveman

New from the Science for the People Sociobiology Study group: **BIOLOGY AS DESTINY: Scientific Fact or Social Bias?**

This important collection of articles ranges from the story of the American Eugenics movement at the turn of the century to the current controversy over gender and math ability. These readings are an excellent resource for the study of the relationship of science to social issues.

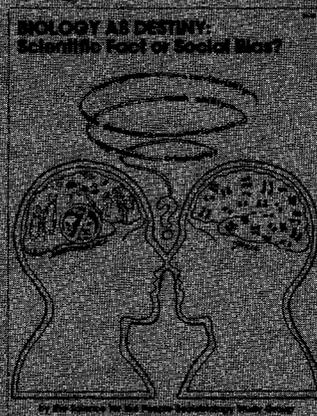
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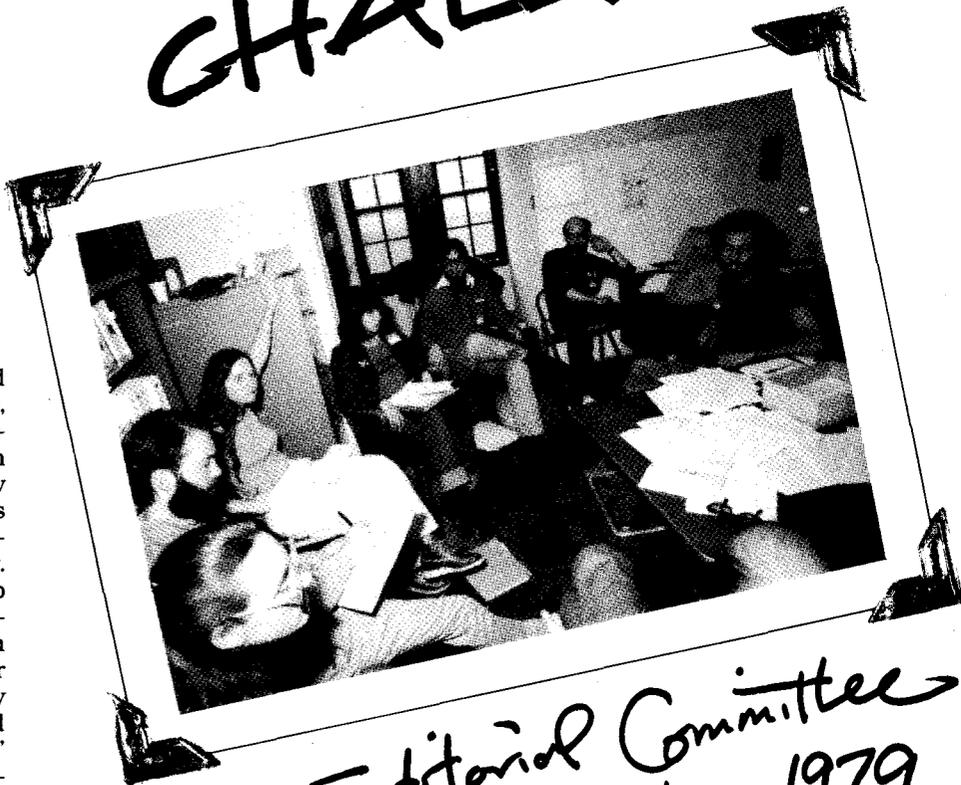
IMPACT & CHALLENGE

by Jess Gugino

In 1969, as the Vietnam War dragged on, with high casualties on both sides, more and more people began to critically examine the role of the U.S. in Vietnam. As opposition to the war grew in the U.S., so did inevitable questions about the growing role played by scientists in perpetuating the war machinery. In response to these questions, a group of scientists in California banded together to protest U.S. involvement in Vietnam and formed "Scientists for Social and Political Action," shortly thereafter changed to "Scientists and Engineers for Social and Political Action" (SESPA). Initially publishing a newsletter to communicate with the growing number of members across the country, by 1970, the Boston chapter of SESPA decided to change the SESPA newsletter to a national magazine geared toward critiquing the social and political implications of science and technology. In this manner, "Science for the People" was born.

Sixteen years and one hundred issues later, "Science for the People" is still here. The fact that the magazine has not only survived but prospered, its circulation doubling in the last few years alone, is a significant accomplishment in this era of political retrenchment. Unfortunately, the prevailing

Jess Gugino is an active member of the editorial committee, and works as a writer for the Boston Museum of Science.



*Editorial Committee
Boston 1979*

atmosphere of 1985 is in too many respects more reminiscent of the era that preceded the founding year of 1969 rather than the period that immediately followed it. The progressive science movement that SftP has consistently advocated has yet to become a reality, though the idea still persists and thrives within the pages of this magazine. Nonetheless, many changes have occurred since the organization was born.

When, in 1969, a group of M.I.T. students presented a critique entitled "The Sorry State of Science" at the annual meeting of the American Association for the Advancement of Science (AAAS), one of the students cited this quote by British physicist J.D. Bernal:

...the material science of the moderns had, in fact, no more solved the problems of universal wealth and happiness than had the moral science of the ancients solved the problem of universal virtue. War, financial chaos, voluntary destruction of goods which millions need, general undernourishment and the fear of still other wars more terrible than any before in history, are the pictures which must be drawn today of the fruits of science.¹

J.D. Bernal made that statement in 1937. It was still true in 1969 and continues to be so in 1985. The need for an informed public actively participating in the decision-making process for policies regarding scientific and technological research has grown more imperative with each passing year.



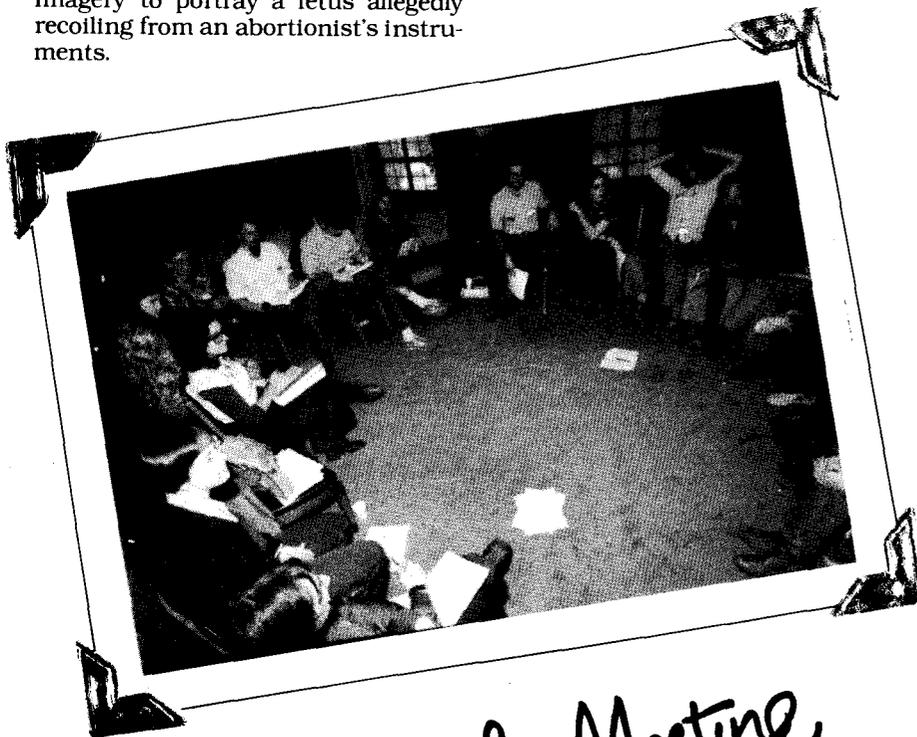
Yet, where do things now stand under Reagan and his times? While U.S. involvement in Vietnam is a matter of history, U.S. involvement in a "covert" war against Nicaragua is a tragic part of current reality.

The U.S. government disregards the moral injustice of apartheid and continues to justify its policy of "constructive engagement" with the racist government of South Africa despite growing public dissent.

To protest abortion, and concurrently reduce a woman's control over her own body, the pro-life movement turns to technology and uses ambiguous video imagery to portray a fetus allegedly recoiling from an abortionist's instruments.

the airwaves of television, presiding over an administration which seems devoted to reassuring the public not to worry, science is the solution, the ultimate "technological fix," and everything will be taken care of. It is as though a moat of mystifying technology has been dug between policy-makers and the public whom their policies so directly effect.

By and large, the fields of science and technology are still regarded by too many people as beyond the scope of the average nonexpert's understanding. Such public inertia forestalls a participatory people's science movement.



*General Meeting,
Spring 1976*

Acid rain eats at the environment worldwide; loopholes are being found so that research into biochemical weapons can proceed unhindered; and nuclear policy is increasingly determined by available technology rather than wisdom and common sense.

Ronald Reagan presides over a complex intermarriage between the military and the corporate world, and between the ultra-conservative policymakers and the scientists and technologists who, proclaiming their labor apolitical, give them the tools with which to implement those policies. Through it all, Ronald Reagan smiles benignly across

It's obvious that this situation has its merits for those engaged in science-for-profit industries or the maintenance of existing power structures based on elite sexism and racism. But it need not be. An industrial disaster, such as Bhopal, India, where at least 2000 people died, must be looked at in the larger context. How did a situation occur where a dangerous chemical, of questionable worth, was manufactured in the midst of a highly-populated area unknown to its local citizenry other than a few secretive public officials?

But there are also signs of encouragement. Arthur D. Little, Inc. is fighting

for the right to experiment with a deadly nerve gas in the highly-populated community of Cambridge, Massachusetts. Here, though, the story is different. An active citizen task force, North Cambridge Toxic Alert, brought the company's plan to the public's attention. The city-appointed science advisory committee, composed of both scientists and lay people, has intervened to halt, so far, the research because of the very real threat it poses. Or, consider another incident several years ago where SftP members in the Stonybrook chapter played active roles in the exposure and subsequent banning of the toxic pesticide Temik, produced by Union Carbide, which had contaminated the water table in Suffolk County, Long Island. Both incidents demonstrate that public involvement in issues regarding science is not only a necessity, but, if fought for, a securable right as well.

In this 100th issue of the magazine, it is fitting for Science for the People to examine its role: where it's been, where it is, where it's going and the challenge ahead.

The Organization

SftP continues much as it was conceived in 1969: a collective organization of loosely-linked, and loosely-defined, chapters around the country. Study groups have formed over the years around issues such as the environment, nutrition, science teaching, genetics, sociobiology, science in the People's Republic of China, computers, and Nicaragua. While the study groups themselves may or may not engage in direct political action, their members frequently use the knowledge and support they gain by working with other progressive movements.

There have always, though, been problems inherent in such a loose structure. A quote from an article on "Political Life in Science for the People" that appeared in the May 1973 issue of the magazine described them in the following way:

"Our organization... fails to convey a sense of political purpose. Instead it projects an amorphous image, an amalgam of a counter-culture group and moral outrage. An organization of that sort may well provide its members with moral satisfaction but it is not well suited to effective political work."

However, attempts to commit the organization to a single political view have always been resisted. In the period from 1974-76, the Unity Caucus—a group of members that included



Distribution, 1971

some founders of the organization—sought to incorporate a formal platform of principles, based on anti-imperialism and a leadership-by-the-working class analysis, into the structure of the organization. Failing to achieve their ends, they chose to leave the organization entirely. There is the point of view that decries such an “attempt to inject a single-minded ideological purism into a social movement whose goals are necessarily more diffuse.”²

SftP has gone through its internal ebbs and flows, and doubtless will continue the same process well into the future. Yet, in light of how many single-agenda groups have come and gone in the years since SftP was formed, it's worth considering that one of the enduring strengths of SftP might very well be its encompassing identity. With the magazine, SftP makes a major contribution as a forum to progressive groups, linking a broad spectrum of issues by covering the diverse implications of science and technology in a modern-day society.

One of the questions that remains is to what constituency SftP should address itself. Is it to be a magazine primarily for scientists with links in their local communities? Or should it strive to be the fulcrum of a progressive movement seeking to increase

public knowledge and participation in the applications of science and technology, radicalizing science and the scientific community itself? Is SftP an activist organization first and foremost or an organization that, through its diverse activities, supports the production of a professional science magazine? Or a little of both? In this ongoing debate, it is useful to take a brief look at some of the areas where the organization has had an identifiable impact.

Confronting the Scientific Establishment

In confronting the crucial role of the scientific establishment in supporting the existing socio-economic-political structure of present-day society, SftP, then SESPA, took on the American Association for the Advancement of Science (AAAS) right from the start at the 1969 AAAS annual meeting in Boston. SftP, maintaining that science and technology were, in fact, not divorced from political and social concerns, criticized the AAAS for perpetuating just that sort of separation of issues. The AAAS's advocacy of scientific solutions to such social issues as population control, pollution control, riot control, urban redevelopment, law enforcement, and social manipulation came under attack. SftP appeared at AAAS meetings asking for resolutions on Vietnam, on women's rights, on the repression of blacks. One SftP broadside that was distributed at these meetings stated the organization's position against AAAS quite clearly:

“...the AAAS structures its sessions so that the all-knowing luminaries of science can illuminate a passive audience with the latest technological solutions... For the AAAS, success means more and

continued privileges for scientists, it means that they continue to be the well rewarded and secure priestly servants of corporate America.”

Sometimes it's possible to measure an organization's impact by the negative coverage it evokes in the mainstream press. Certainly that was true for SftP in those early days when coverage was largely derogatory and misleading. Not a surprising response to an organization that actually dared to question the established modus operandi between scientists and their corporate partners. Coverage generally categorized dissenters as “radical students” or “bands of long-haired youths.” While that element was certainly present, SftP participants also included members firmly rooted within the scientific community, of all ages and stations, some of whom, as at the 1970 Chicago AAAS meeting, chaired sessions and participated as invited panelists. In response to an incident in which a SESPA speaker attempted to present physicist Edward Teller with the Dr. Strangelove Award for “services in the cause of war,” the *Wall Street Journal* editorialized about the need for society to protect itself from “critics, such as those who attacked Mr. Teller, who would seek to inhibit scientific inquiry because of fears about where the path might lead.”

Yet, it was the AAAS, SftP claimed by 1972, that was “attempting to exclude political dissent from scientific and community groups,” and certainly this was true for a number of years. At the AAAS meeting in Washington, D. C. that year, eight arrests were made after SftP attempted to distribute literature. In San Francisco in 1973, police were present to prevent protests on a session on race and IQ.



Toxics Workshop, 1978



"Unity is the Solution"

Institutes of Health (NIH): increased worker involvement in decision-making on safety policies for research laboratories; continuing examinations of the implications of rDNA research at public sessions of scientific conferences; and expansion of the NIH advisory committee on rDNA research to include non-scientists.⁴

On other issues, SftP members were active with those who argued that the risks of using *E. coli*, an organism commonly found in the intestines of human hosts, for gene-splicing and cloning experiments were too high.⁵ When the University of Michigan, Ann Arbor, made public plans to build a campus-based rDNA facility in the spring of 1976, local members of SftP joined with university faculty to protest the move. Although the facility was later approved, it was not until a substantial public debate had first occurred on the matter.⁶

In June of 1976, Harvard announced plans to build a P3 facility, a research laboratory rated for the second highest level of laboratory containment of experimental organisms. A controversy ensued. Members of SftP's rDNA study group participated at the Cambridge Experimentation Review Board (CERB) city council hearings, and their testimony, combined with other participants, led to an unprecedented six-month moratorium on P3 rDNA research in Cambridge. Research was later approved, but only after safety restrictions were established. While many of the guidelines were formulated at the national level, the value of the CERB review was its demonstration that so-called nonexperts are justified and fully able to make creditable public policy judgments on issues which, in the past, had been deemed too technical for them to understand, much less regulate.⁷

In Boston, San Francisco, and Ann Arbor, SftP formed study groups to tackle the theory of sociobiology, propounded by Harvard University's E.O. Wilson and others, which postulates a genetic or "natural" basis for the existence of such traits as competitiveness, male aggression and sex roles, ethnic and racial prejudice, and even the capitalist-market economy. Among its many activities, the Boston group has produced a slide show countering some of the misconceptions which sociobiology breeds.

continued on page 33

But, over the years, it was the AAAS that wound up changing after all. By 1976, at the AAAS meeting in Boston, SftP no longer had to deal in confrontational politics. As *The Washington Star* reported:

"...in what might seem an unlikely turn of events, the protesters appeared as part of the official program of the 128-year-old AAAS meeting, sponsoring a series of sessions on some of the issues of science and technology which concern them most: in cancer research politics, research for the people, occupational health, politics of energy and food production, genetics and social policy."³

Although some feared SftP risked being co-opted by its inclusion in the formal structure of the meetings, SftP was able to use the forum to increase its dissemination of a differing viewpoint. The consequence has been that the AAAS has opened itself up to a more critical perspective of the important public issues regarding science and technology.

Fighting Discriminatory Practices

In a variety of ways, SftP has been active in the vast areas encompassing IQ, sociobiology, biological determinism and genetics, all tools with which many have sought to justify discriminatory practices and implement social controls.

In 1973, following a rash of assertions that assumed racial bases for intelligence by Herrnstein, Jensen, and others, the Boston area chapter formed the Genetic Engineering Group (GEG) to study both the scientific research programs that were producing evidence that social or political behavior was genetically determined; and the social or psychological theories being formulated on the basis of genetic determinants such as IQ.

In 1974, the GEG helped to halt Harvard University's planned research into the alleged link between males born with an extra Y chromosome and criminal behavior. The research would have labeled newborn XYY males as high criminal risks, setting a dangerous precedent for selective treatment based on genetic inheritance and ignoring the very real possibility that the labeling process itself, and the ensuing differential treatment, could have fulfilled the so-called prophetic value of the genetic research.

GEG was also responsible for drafting an open letter to participants at a 1975 conference on safety issues given by molecular biologists at Asilomar, California. The letter addressed the potential biohazards and social consequences of the new recombinant DNA research in gene-splicing techniques. Some of the proposals called for in the letter were later adopted by the National

EXPORTING LUNG CANCER

**U.S. Tobacco
Companies
Discover
the Third
World**

by **Jane Maxwell**



Andrew Joslin

The World Health Organization expects the startling surge in lung cancer to reach epidemic proportions within the next decade, blaming the "ruthless marketing techniques" of transnational companies.

Although the war against cigarette smoking has been waged with some success in the U.S. and Western Europe, the deadly habit has found a more vulnerable arena in which to prolong its siege—the Third World. Estimates are that three times as many cigarettes are smoked in the world's poorest countries than in its richest. Fifty percent of all Third World men smoke compared with 34% of men in the U.S., and the incidence of lung cancer has risen so drastically that it rivals traditional killers like malnutrition and infectious diseases. (The figure for women smokers in the Third World is considerably lower: 20% compared with 29% in the U.S., but the figure is rising.)¹

The World Health Organization (WHO) expects the startling surge in lung

cancer to reach epidemic proportions within the next decade unless the sharply rising incidence of cigarette smoking is curbed. The agency blames this on the "ruthless marketing techniques" of transnational companies in selling cancer-causing cigarettes to marginally healthy people, exposing them to health hazards they have few defenses against. Lung cancer has become the most common type of cancer in the Philippines.² And India, whose cigarette consumption has doubled in the past 20 years, can now boast, dubiously, more lung cancer deaths than the U.S.³

"Smoking is probably the largest single preventable cause of ill health in the world," say Dr. Halfdan Mahler, WHO's director general. While cigarette smoking is slowing down by 1.1% yearly in industrialized countries, it is rising by 2.1% in the Third World. And the cigarettes smoked there can be as much as 66 times higher in tar and nicotine than those allowed in the U.S.⁴

Jane Maxwell is a writer for the Center for Investigative Reporting in San Francisco, CA.

The "Last Frontier"

Even though smoking has always been a popular Third World habit, studies show a clear link between advertising and the recent massive increases in cigarette consumption, especially among young people. A few Third World governments have put health warnings on cigarette packages and have started programs in schools to discourage children from smoking, but their efforts are hindered by the enormous resources of the transnational tobacco companies.⁵

Billboards and advertisements promoting cigarettes as a sign of modern sophistication can be found in even the remotest areas, and the cigarettes themselves can be bought at every village store. Often they are purchased instead of food.⁶ In Bangladesh, smokers support cigarette habits by depleting meager diets which can average as little as 8,000 calories each month. Lung cancer kills almost 12,000 of them each year.⁷ "The Third World is the tobacco industry's last frontier," said Kurt Baumgartner, secretary general at the 5th World Conference on

Smoking. "Smoking has moved from men to women to teenagers [in the developed world]. There is no place to go after that except to the developing countries."⁸

R.J. Reynolds, the largest cigarette maker in the U.S., has gone all the way to China, giving the company what it calls, "Access to the largest domestic cigarette market in the world...where more than 950 billion cigarettes are sold" each year.⁹ Fifty-six percent of the male population in China smokes, and the lung cancer rates there now exceed those in the West.¹⁰

R.J. Reynolds has also opened a tobacco processing plant in Malaysia, where 50% of all men smoke, as well as 20% of all secondary school children, and the figures there too are rising. The Malayan Tobacco Corporation, a subsidiary of British American Tobacco, Britain's second largest company, controls annual sales of \$350 million, roughly three quarters of Malaysia's cigarette market. But the cigarettes they produce in Malaysia contain 31 milligrams of tar and nicotine, while those sold in Britain contain only 17 milligrams.¹¹

were assured by the Cooperative Service of the U.S. Department of Agriculture that despite the fact that U.S. sales were declining, sales prospects in the Third World looked "excellent,"¹⁴ contradictory information indeed from a government whose health department spends at least \$500 million annually on anti-smoking campaigns.¹⁵ The U.S. also uses taxpayer's money to subsidize Third World tobacco growing ventures by financially supporting the World Bank and the U.N. Development Program, both of which lend money to Third World governments for "agricultural" projects.¹⁶

But the very process of growing tobacco also poses serious health hazards as large amounts of insecticide must be used on the plants in their early growing stages. Few Third World tobacco farmers can afford the protective clothing that should be worn to protect them from such toxic pesticides as Aldrin (Shell Oil Company) which is either banned or restricted in most industrialized countries but found on African tobacco farms.¹⁷

In South Korea, where lung cancer rates are skyrocketing, tobacco is the most important cash crop and has been subsidized by the government for years. To protect this money-making industry, the government prohibits the smoking of foreign cigarettes and anyone caught doing this is fined.¹⁸ Ironically, South Korea is one of the few countries outside the West that puts health warnings on cigarette packages.

Sixty-three percent of the world's tobacco crop is now grown in the Third World, and U.S. taxpayers have unwittingly contributed to this situation.



"New Markets for American Tobacco"

Not only has cigarette smoking risen sharply in the Third World, tobacco producing has also. Sixty-three percent of the world's crop is now grown there,¹² and U.S. taxpayers have unwittingly contributed to this. U.S. tax dollars have helped pay for the tobacco that has always been part of the U.S. Food for Peace program to developing countries, though less tobacco has been included in recent years. Its inclusion, nonetheless, has been stoutly defended by the tobacco industry's number one Washington ally, Senator Jesse Helms, who defends the practice as one that helps develop "new markets for American tobacco."¹²

In 1980, U.S. tobacco growers, who are heavily subsidized by U.S. taxpayer monies through government loans,

Ignoring Production

Allen Erickson, vice president for public information at the American Cancer Society, has been conducting smoking control programs in Latin America since 1980. According to him, while a great effort is underway toward smoking control in Latin America, not much is done to curb tobacco production. "We rather ignore that issue," Erickson says. "There is nothing much you can do about it anyway." To back up this rather pessimistic point of view, Erickson points to examples such as the fact that the President of Paraguay is planning to join his smoking control committee despite the fact that Paraguay's tobacco production is increasing.¹⁹

International agencies such as WHO and the World Health Assembly do not have the authority to curtail marketing practices of international companies such as Shell, R.J. Reynolds, and British American Tobacco, even if the agencies know that the product in question will

Lung cancer has become the most common type of cancer in the Philippines, and in India, where cigarette consumption has doubled in the past 20 years, there are now more lung cancer deaths yearly than in the U.S.



be unhealthy for consumers. "Individual countries have to do that," says Dr. Jorge Litvak, program coordinator for adult diseases at the Pan American Health Organization in Washington D.C. "It's beyond the scope of our agency. The key is a decision from ministries of health to undertake the education and screening programs. We don't do anything directly unless asked by a government. Then we collaborate with them and make recommendations."²²

Unfortunately, the type of view expressed by Erickson and Litvak, which sees the issue of production and profit by tobacco companies as an untouchable issue, prevails in many of the health-related organizations concerned about smoking and lung cancer. Nonetheless, some people have tried to attack the issue through different means.

Other Tactics

Some anti-smoking activists are working to make tobacco companies more accountable for overseas marketing practices. One example is the members of the Midwest Province of the Capuchin Franciscan order who have purchased stock in both Philip Morris and R.J. Reynolds. They use their leverage as stockholders to address ethical issues of company policies at shareholder meetings. So far they have been unsuccessful in changing the way the companies do business in the Third World, but they will return next year to try again. "We expect to lose," says Father Michael Crosby, "but not to quit."²¹

Despite such tactics as these, however, the promise of lucrative returns for a struggling Third World economy creates dependence as deadly as the cigarette habit itself. What Third World governments often fail to realize is that

any profits realized from cigarette and tobacco sales are sure to be shortlived. The meager budgets of most Third World governments are already inadequate to cope with existing health problems. International health experts say that the price these countries will end up paying for the harmful effects of smoking, such as loss of production, demands on health services, fires and accidents, will be much higher, just as it has been in industrialized countries. Moreover, treating tobacco-related diseases such as heart disease and chronic bronchitis, as well as lung cancer, will end up costing more than treating malnutrition and infectious diseases.²²

To adequately deal with the tobacco industry's exploitation of the Third World—their "last frontier"—will clearly require an approach that addresses the underlying economic issues involved. And while activists may debate the best strategy with which to tackle this problem, one thing is clear: any amelioration of the established and growing prevalence of smoking-related lung cancer in the Third World will require resolve and action on the part of the First World not to condone the export of this known killer abroad while fighting smoking at home.

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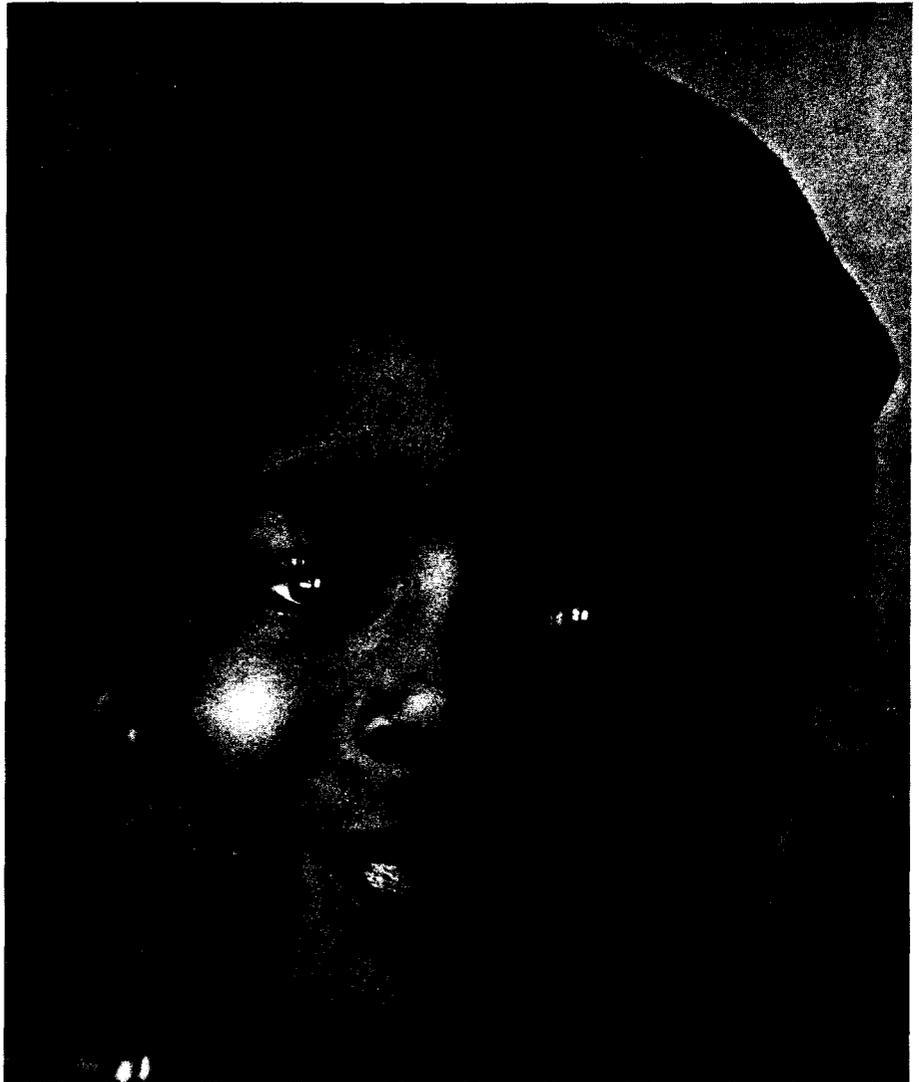
LEAD POISONING:

Silent Epidemic

by **Richard Rabin**

Lead poisoning of young children—how many times did we hear about it in the 1960s and 1970s, along with organized efforts to prevent it? Ten and fifteen years ago we would often turn on the TV or pick up a newspaper and learn of children who had died or suffered severe mental retardation from lead poisoning. While such dramatic and horrifying events rarely occur these days¹, the problem continues to exact a huge toll. Because large numbers of children still suffer long-term psychological and behavioral disorders from low levels of lead, lead poisoning (also known as plumbism) has been called the nation's second most serious childhood disease (after malnutrition) by the director of the federal government's Environmental Health Institute.² According to a U.S. Public Health Service study conducted between 1976 and 1980, the number of lead-poisoned children is estimated at over 600,000.

As is well known, many children become lead poisoned by eating paint chips and teething on lead-painted surfaces, such as window sills and door frames. What is not widely publicized is that many, if not most, of these youngsters are also being lead poisoned merely by playing and engaging in normal hand-to-mouth behavior. Several studies have shown that children whose homes have high levels of lead in the dust or in the soil outside often have elevated levels of lead on their hands and in their blood. Such a



relationship holds even for children who do not have pica,³ or the habit some young children have of eating nonfood items. The U.S. Department of Health and Human Services' Centers for Disease Control, in its recently revised guideline on lead poisoning prevention, has concluded that "children appear to obtain lead from dust and soil as a result of their normal exploratory behavior, coupled in some

instances with pica."⁴ These children are poisoned in this way because the soil in their yards and the dust in their homes are heavily laden with lead. Much of the lead in the soil comes from demolished buildings and paint that has flaked off the exterior of houses.⁵ If the lead is left undisturbed, it will remain in the top three to four inches of the soil for many generations to come.⁶ Household dust can be con-

Rick Rabin works in the Boston Office of Environmental Affairs.



taminated by the leaded soil blown or tracked in from the yard. As a result, children whose homes are "delead" (the process of removing or covering lead paint) frequently continue to have high internal levels of lead.

The deleading process itself often fails to provide a complete solution to the problem of lead poisoning. Once an inspection is made of a dwelling to identify the exact location and condition of lead-painted surfaces, the deleading is then conducted according to local or state laws and regulations. In some localities only loose paint is removed or covered; in other communities virtually all lead paint that is within reach of a young child (usually up to four feet from the floor), and on deteriorating surfaces above that level, is scraped off or covered with a permanent kind of material. But in virtually no case is all lead paint removed or made permanently inaccessible to young children. Surfaces that may be in good condition at the time of the deleading may not be six months or ten years later. And since much of the housing of lead-poisoned children is already in poor condition, it is not unreasonable to expect that a "delead" house will sooner or later pose a danger to the same or some future occupant.

Although research in the last 5-10 years has shown that soil with a high lead content is hazardous to the health of young toddlers, local and state lead programs have not generally addressed the problem. The chief scientist for the Environmental Protection Agency's (EPA's) research laboratory in the Boston area advocates the removal of the top three or four inches of highly leaded (about 500 ppm) soil.⁷

According to Vernon Houk, Director of the Environmental Health Center of the Centers for Disease Control, the number of houses with lead paint is in the vicinity of 30-40 million.⁸ Before 1950, houses were commonly painted with lead-based paint. And since over half the houses in many larger cities were built before that date, the soil in those cities has had time to accumulate a considerable amount of toxic lead. Scientists generally consider 500-1000 ppm (parts per million) to be the upper "safe" limit of lead in soil where children play,⁹ yet levels of several thousand ppm are quite common in older cities. In Minneapolis, soil samples with up to 6,150 ppm lead were collected around lead-painted houses.¹⁰ The average in Boston is already up to 700 ppm¹¹, while levels of over 2000 ppm are quite common.¹²

A study in Hartford, Connecticut found an average of 1200 ppm and as high as 1750 ppm in residential areas.¹³ But neither the homes and yards with high lead content nor the lead-poisoned children themselves, are evenly distributed within these cities. Not surprisingly, the highly leaded, accessible (unsodded) soils are concentrated in the areas that have more of the older, dilapidated house (with lots of peeling paint) and vacant lots.¹⁴ Of course, these are the areas where the poorest, mostly minority, people live. In Boston, for example, in 10 of the poorest census tracts, approximately 18% of the children between six months and five years of age are estimated to be poisoned at any given time, while the percentage for the city as a whole is under 7%.¹⁵

them together in the block grant program to the states at a much-reduced funding level—about a 25% cut. CETA was also drastically cut and then eliminated. In Boston, the Childhood Lead Poisoning Prevention Program (BCLPPP) went from a staff of over 100 in 1978 to 26 in 1983.

As a result, fewer children are tested in door-to-door screening; families of lead poisoned children must wait longer for an inspection; and more children spend long periods of time in the hospital after their treatment is completed simply waiting for their homes to be delead.¹⁶ It is true that one now rarely hears of children dying from lead poisoning; and the number who suffer gross mental retardation has declined as well. Such programs as the BCLPPP, by educating health care



In ten of the poorest areas of Boston—where most minorities live—approximately 18% of children between six months and five years old are estimated to be lead poisoned.

Dwindling Funds

What, then, is being done to solve this major public health problem? In the early 1970s, when we would often hear about children dying or suffering irreparable brain damage from lead poisoning, the federal government began to fund substantial local lead poisoning "prevention" programs. ("Prevention" is put in quotes because usually houses were only inspected and delead *after* a child had been poisoned. Prevention occurred only in the sense that future young occupants would have a somewhat safer environment.) Some local and state programs had their own deleading work crews as well as inspectors. Most did screening for lead poisoning while making referrals to health care providers when needed; some also provided direct medical care.

From the mid-1970s until 1982 HEW (later, Department of Health and Human Services) spent about \$10 million per year. Boston, for instance, received about \$495,000 in fiscal year 1981; in addition it had deleading crews funded by CETA during the late 1970s. However, starting in 1982, actions taken by the Reagan administration eliminated most individual health and welfare grant programs, and grouped

providers and the general public, by screening and identifying lead poisoned children before their levels become dangerously high, and by inspecting homes and having them delead, have certainly contributed greatly to the trend in reducing extreme symptoms of lead poisoning.

Lead, however, especially in young children, continues to do significant brain damage at levels well below those at which symptoms are immediately apparent. Research in the last several years has shown that lead, even at levels once thought to be safe, can nevertheless result in lower scores on standardized intelligence tests, hyperactivity, a reduction in a child's ability to study and learn, and other behavioral problems.¹⁷

One classic study of the effects of lead on asymptomatic children compared elementary school children with high dentine lead levels with those having low lead levels in Somerville and Chelsea Massachusetts. Using a variety of tests of psychological and behavioral characteristics, the authors found that the higher the level of dentine lead, the more negative was the rating on such traits as "distractible, not persistent, dependent, disorganized, hyperactive, low overall functioning" and others.¹⁸



The Public Health Service found that black children are six times more likely to be lead poisoned than white children. Children in families with annual incomes under \$6,000 are nine times more likely to be poisoned than families with incomes over \$15,000.

Even in economic terms, the costs to the affected child and family and to society are high, though not easily calculated. Indirect and long-term personal and social costs, as well as short-term medical expenses, must be figured. Remedial education, lost future earning potential, parents' lost work times, family disruption, and child pain and suffering are all real costs in the necessary treatment of lead poisoning. And the costs vary considerably, depending on the severity of the poisoning. After reviewing the available research on the subject, one study¹⁹ found that the medical cost for poisoned children in the "moderate," "high" and "urgent" categories (in 1979 dollars) averaged \$856, \$1351, and \$3806 respectively. Overall, the average cost per child was estimated by the EPA to be \$950 (in 1983 dollars).²⁰ While neither study attempted to quantify all of the indirect costs, both acknowledged that to do so would greatly increase their estimates.

Unnoticed Epidemic

Partly because the psychological and behavioral effects of lead poisoning are not immediate—they do not become

apparent until a child has had an elevated lead level for several months to a few years—they rarely make headlines these days. Consequently, this virtual epidemic has gone almost unnoticed. One reason for this lack of public interest in the lead problem may have to do with the race, income, and political clout of the groups most affected. Toxic waste dumps are obviously a serious national health problem, and certainly a federal program larger than the current Superfund is needed to deal with them. Yet even while health and other government officials often dispute claims that particular dump sites or toxic substances present a serious health hazard, billions of dollars are nevertheless allocated to clean them up. A major difference, however, in the groups affected by these environmental hazards is that while toxic waste dumps and airborne lead threaten the health of white, middle class communities (as well as others), leaded paint and soil predominantly affect minority and poor neighborhoods. The Public Health Service study found that black children are six times more likely to be lead-poisoned than white children, and children in families with annual incomes of less than \$6000 are nine

times more likely to be poisoned than those families with incomes over \$15,000.²¹

Lead, though, has been known for thousands of years to cause mental and physical illness. Many authors have commented on the lead-induced mental disorders of the Romans,²² who used lead in eating utensils and in vessels for preparing and storing wine. Ben Franklin noted in some detail the physical symptoms of people who worked in various trades involving exposure to lead.²³ In the 1920s, U.S. medical journals reported many instances of children poisoned by lead-based paint²⁴, and in 1931 Baltimore established the first public health program specifically designed to deal with that problem. Recent research, as was already noted, has shown that even fairly low lead levels in children can do irreparable harm to their development.²⁵ Recognition of this fact is reflected in EPA restrictions on leaded gasoline. And yet, despite the certainty and enormity of the problem, only a few million dollars are available each year nationally to address it. Since block grants were instituted in 1982, exact figures are virtually impossible to obtain because the states are not required to report how much they spend on each program.

And let there be no mistake—beyond the economic costs involved, the social and personal complications involved in the treatment of lead poisoning are very real. For example, the medical treatment often consists of a procedure called chelation. The chelating agent, usually calcium disodium EDTA (CaNa₂ EDTA), is injected into the patient's bloodstream where it combines with the lead in soft tissues such as the brain and kidneys, and then leaves the body in the urine. Unfortunately, like many powerful drugs, CaNa₂ EDTA has important side effects. Just as it binds with lead, this medicine combines with other essential elements, such as iron, and depletes the body's stores.

Another side effect involves almost a "Catch-22" situation. CaNa₂ EDTA, while it rids the body of much lead, also increases the absorption into the bloodstream of any additional lead that might be ingested. In other words, the very procedure used to treat lead poisoning can also contribute to further poisoning if a child continues to live in the same environment in which he or she was poisoned. The solution, of course, is to find lead-free housing, a solution not easily available for low-income people in older cities with low vacancy rates and housing stocks



largely built before 1950 when the use of lead-based paints was quite common. In many cases, a lead-poisoned child's home is delead; however, such work will often not be completed before the treatment commences. If temporary, lead-free housing cannot be found in the interim, a frequently-used alternative is to hospitalize the child being treated, a solution that is extremely expensive and certainly unpleasant, especially for a two- or three-year-old child.

lead in the soil and in homes is, after all, a public, environmental issue. The use of lead-based paints dates back several decades; the presence of lead in houses and soil is ubiquitous; and the incidence of lead poisoning in young children in urban areas is of epidemic proportions. To eliminate this environmental hazard requires drastic measures. To do any less is to accept the impairment of the mental and physical health of millions of children for generations to come.



Scientists generally consider 500-1000 ppm to be the upper "safe" limit of lead in soil where children play, yet levels of several thousand ppm are quite common in older cities.

Courses of Action

Several possible courses of action are open to those who are determined to eliminate lead poisoning among children. Property owners who can afford to could be required to eliminate the lead hazards on their properties at their own expense. Low and moderate income landlords could be assisted, through grants, low interest or no-interest loans, or tax credits, in complying with their obligation to delead. Since the results of using lead paint have been known since the early part of this century, another possible course of action would be to sue or tax the paint companies themselves.

With additional budget cuts for health and welfare programs proposed by the Reagan administration for fiscal year 1986, the picture is not bright for the prevention of child lead poisoning. However, there is cause for some hope. In Minnesota, a citizen's coalition has proposed state legislation to fund the removal of highly leaded soil accessible to young children. Some groups are demanding that the EPA play a major role in deleading. In Massachusetts, grassroots support is building to pressure the EPA to clean up lead in residential areas under the emergency provision of Superfund legislation. On the national level, the National Campaign Against Toxic Hazards has pledged to propose the explicit inclusion of lead in its lobbying for the re-authorization of Superfund.

If environmental lead is to be treated as the major health hazard that it is, it must gain the kind of national attention and funding that environmentalists advocate for Superfund. Toxic

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1969:

Scientists can help demystify science for the public. We can destroy the myth of the all-knowing scientific expert or the infallible technocrat and we can explain the severe limitations of science in solving social problems. Instead of having large meetings of the AAAS where the experts explain with full TV coverage how society can adjust to the impact of scientific advance, we should instead hold meetings where the experts can learn how science and technology can adjust to meet the needs of the people. Scientists and the community must interact in a meaningful way. We must all search for a social and economic system which utilizes our knowledge of nature to benefit all of humankind. We must make science serve the people.

—Boston SESPA

1970:

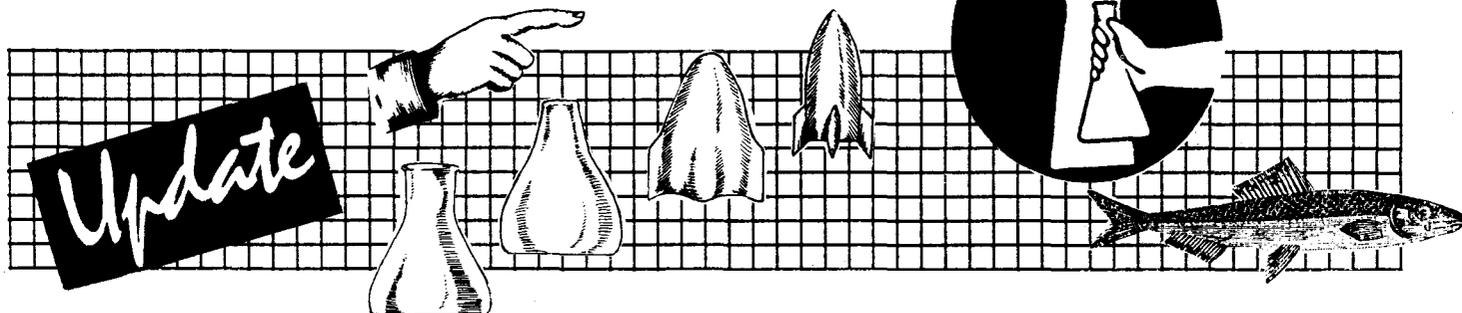
In late spring the Atomic Energy Commission announced its E.O. Lawrence Awards to outstanding young scientists. One of the recipients was Michael M. May, director of the Livermore Laboratory, cited for his great contributions to advanced nuclear weaponry. We decided that Dr. May deserved greater recognition. So we announced that SESPA would award Dr. May the First Annual M.F. Strangelove Award "for outstanding contributions to the modern theory and technique of genocide and mass destruction." In response to our initiative the AEC abruptly cancelled a day-long program it had planned, including speeches by distinguished politicians and scientists and educators, along with presentation of the awards.

—Charlie Schwartz

1971:

At its 1971 annual meeting in Washington, I resigned from the National Academy of Sciences, to which I had been elected three years before. While the precipitating issue was the Academy's secret war research, the contradictions involved in membership in such an organization ran much deeper and transcend any particular immediate political situation. The particular issue of secret research is so deeply embedded in the nature of the Academy that its resolution would require a resolution of the fundamental contradiction implicit in the organization.

—Richard C. Lewontin



Long Island Pesticides

Imagine yourself in charge of a county health department where the most toxic agricultural pesticide licensed for use in the United States has just been discovered in drinking water wells. Imagine further that your county is 100% dependent on the underground water system for domestic water. That's the situation the New York Suffolk County Department of Health Services faced when they discovered Temik(R) in eastern Long Island's aquifer in 1979.

Fighting Pesticides on Long Island
January/February 1983

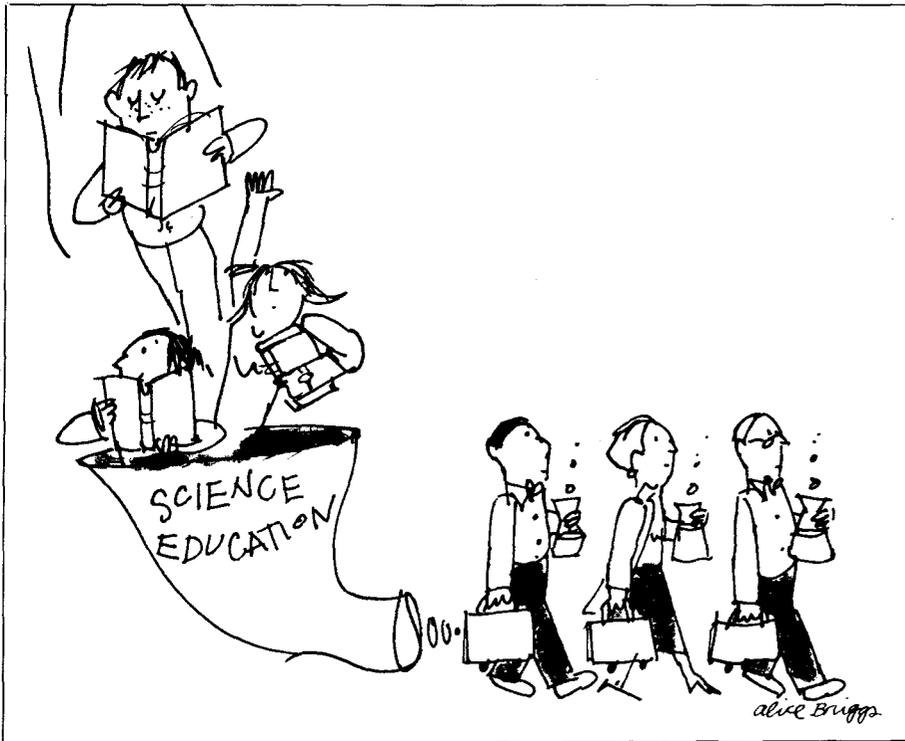
Two and a half years ago, Ted Goldfarb and I wrote of the struggle facing residents of Long Island confronted with Temik-contaminated groundwater. The problem has spread both in terms of chemical pesticides in groundwater on Long Island and the extent of Temik contamination nationwide.

Temik (the registered trade name of Union Carbide's pesticide, containing the active ingredient aldicarb) was detected in Long Island groundwater in 1979. By 1982, it was known that thousands of private wells and a few town wells had been contaminated, affecting tens of thousands of residents. Local government officials expressed health concerns only when concentrations of this highly toxic chemical exceeded a 7 parts per billion (ppb) guideline. The manufacturer, Union Carbide, agreed to provide and maintain water filters for residents with wells having concentrations in excess of the guideline only after public outcry.

Since then, thousands of Long Island wells have remained contaminated. To replace Temik, the Environmental Protection Agency (EPA) and the local Cooperative Extension Service recommended that potato farmers use Vydate (registered trade name) oxamyl pesticide, a similar carbamate pesticide manufactured by DuPont. While

many protested that this pesticide was so similar to Temik that it too would contaminate groundwater, government officials gave it the go ahead. In 1984, Vydate was found in the groundwater. It, too, was banned. Little seems to have been learned on Long Island from the Temik experience.

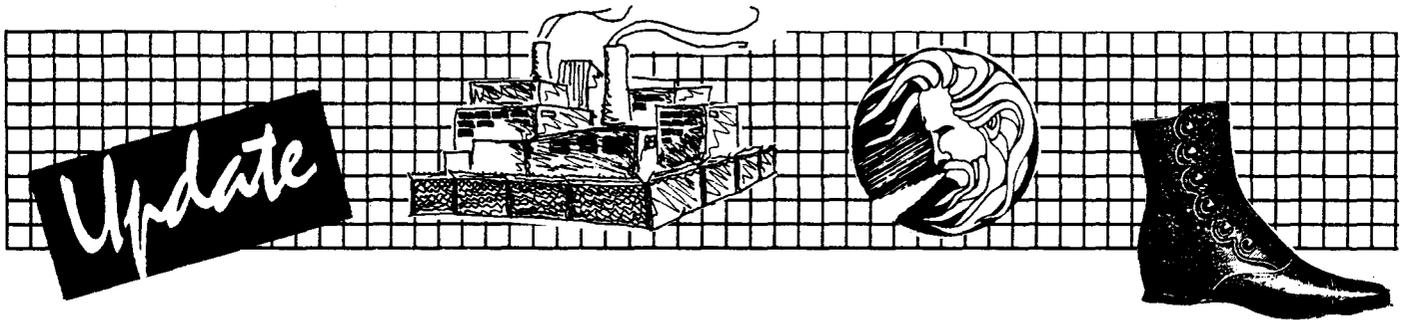
At the time of our last writing, we reported that, in addition to Long Island, Temik had been found in Wisconsin, Florida and Maine. Citizen response in each of these states met with mixed results. Florida banned Temik use for one year. But then, in the face of the EDB problem, the Florida Department of Agriculture reinstated Temik use. Wisconsin placed additional restrictions on Temik use and developed a comprehensive groundwater program under the guidance of Tom Dawson, the Wisconsin Public Intervenor. Maine strengthened controls on Temik use and some groups are still pushing for a total ban.



1972:

One characteristic of most science curricula is their limitation to purely technical or descriptive material. Contrast this to most of science which is characterized by its important social ramifications. We are living in an age when the atomic bomb is already taken for granted, and science now raises the possibilities of genetic engineering, behavior control technology, and complete automation of work. Yet these problems and the whole question of the use of science in our society are rarely broached as part of standard science education. For people to have a real understanding of science and how it affects their lives, they must view it in its social context.

—SESPA Science Teaching Group



Since then, without any organized or comprehensive sampling program, the EPA has found Temik in 10 other states: Arizona, Massachusetts, Missouri, New Jersey, North Carolina, Oregon, Rhode Island, Texas, Virginia and Washington. These data probably underestimate the true extent of Temik contamination nationwide.

Residents in many of these states, too, have tried to take action in response to the contamination. In Rhode Island, Temik use was banned and a variety of bills placing tighter restrictions on pesticide registration and use have been introduced to the legislature. In other states and at the federal level, pesticide use restrictions, through labeling, have been made more stringent. In some areas Temik may only be used every other year. Some regions have banned its use within 500-1000 feet of contaminated wells, and limited its application to after the target crop emerges from the ground, not with the seeding.

While headway has been made on these local fronts, the fundamental issues regarding the registration and use of Temik still have to be addressed. Why was Temik registered for use in sandy soil areas given its potential for groundwater contamination? Why is it still being used in some of those areas today, despite the widespread contamination? What are the health effects of low-level exposure over many years? Why are chemically similar compounds substituted when we have a documented case of contamination? Why aren't chemical companies held legally responsible for contaminating our resources and threatening our health and safety?

—Dan Wartenberg

Science at the Museum

The Boston Museum of Science typifies institutional misrepresentation of science and a disservice to the community it purports to serve. There are no

relevant exhibits to turn kids on about the problems—especially urban problems—that technology could serve. For example, the museum squats over the stinking Charles River but it has no actual exhibits on pollution. A good one might be to run a spigot into the river and let kids tap and analyze the water.

My favorite exhibit at the museum says it all: a box with some coins and mirrors in it. The sign says it was donated by a bank. It's called "Space Money."

Business as Usual
August 1970

In 1970 SftP took an inner city family of four on an imaginary visit to Boston's science museum. The first thing we encountered was the admission price—steep for the city's poor—even though suburban commuters were able to park for free in the museum lot. Next we found that the exhibits failed to address the important problems of our time. We found "a disproportionate amount of NASA spaceshit" with no

Creating People's Science

Richard Levins

Science for the People is one of the few organizations created by the upsurge of the 1960s that survived the ebb of the 1970s and links the struggles of the Vietnam period to the new wave of activity against new military adventurism and reactionary backlash. I think we managed to do this for several reasons:

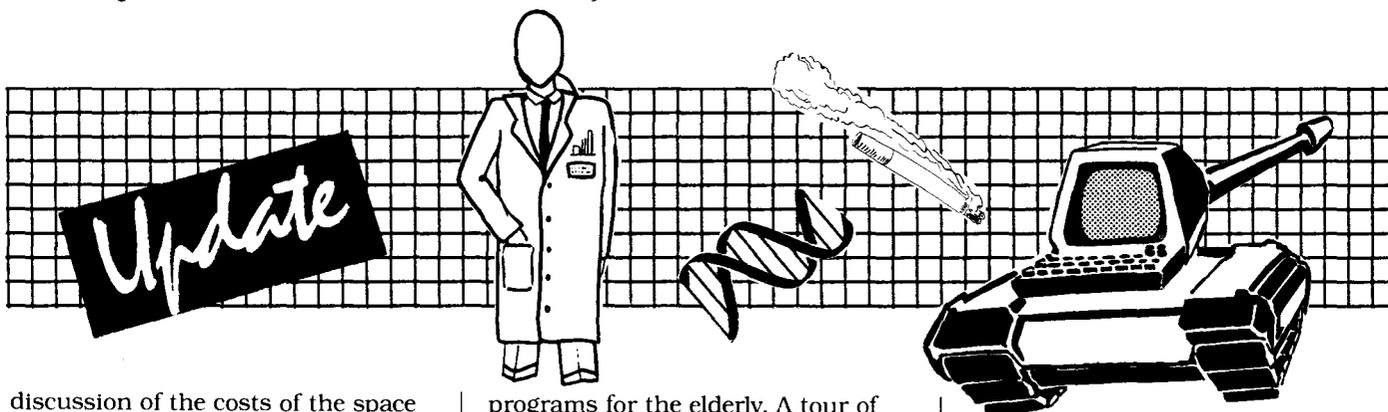
Our political struggles are directly linked to our work lives, on a terrain we know well and where our skills are relevant. One lesson of the sixties, and especially of the feminist movement, is that only struggles rooted in our own experience can provide the energy and commitment for the long haul.

This makes us effective even when there are few of us. On our own terrain we have the advantage of a better understanding of the major issues than do our adversaries. Although SftP is not a Marxist organization, many of us are Marxists, or at least have allowed parts of the Marxist insight to become part of our common sense. Therefore we do not accept existing systems as necessary, but look at their history.

We see science not as wisdom dictated by nature but as a social product of a particular kind of society encountering nature in its own way. We look at problems in a broader context than is usual in our fragmented society, posing issues of interconnection, process and conflict on social and natural levels at the same time. For example, we approach the pesticide not only as a molecule that kills some insects, but at the same time as a commodity and as the embodiment of the

approach of a particular intellectual community of researchers, and we trace the effects of pesticides through their devious ecological and social consequences. Of course, being right is no guarantee of victory in politics, but it helps, and in fact we have won important victories against biological determinism.

SftP continues the anti-elitist collective tradition of the sixties, while other groups have been seduced into goal-oriented modes of organization that sacrifice process on behalf of a short-sighted notion of efficiency. Despite often frustrating difficulties, our loose structure of more or less autonomous working collectives has proven capable of accommodating our diversity of concerns and fluctuating priorities and intensities of commitment. The explicit anti-sexism and anti-elitism does not, of course, abolish sexism or elitism but creates a space in which women have been able to share in



discussion of the costs of the space program, or the connections between NASA and the military/industrial complex. We found exhibits with stuffed animals—which we could have seen alive for free at the zoo, a strobe light sponsored by a local defense contractor, and a Bell System exhibit with no technical content, merely encouraging us to use the telephone. Disgusted with the industry-sponsored hype and lack of critical discussion, we concluded, "Where it could be a constructive and democratic instrument of science for the people, the museum is a discriminatory mind-fucker—particularly dangerous because children are overdosed with bullshit science."

Unfortunately the Museum has not improved much in 15 years. To its credit, it now has some special programs such as the "Eye Opener" program, in which inner city second graders are given special tours in small groups with guides. Efforts have been made to give the handicapped access and there are

programs for the elderly. A tour of the Museum would also find that visiting suburbanites now pay their own way in the parking garage. "ComputerPlace," with donations from IBM and Apple, gives computer instruction at lower prices than elsewhere.

On the down side, however, admission prices have soared—\$5 for adults and \$3.50 for children—placing admissions higher than 18 other science museums in a list of twenty. The Bell System exhibit and the stuffed animals are still on display and the new exhibits are not much of an improvement. There is a Honeywell Exhibit with computer games that must seem like an ancient history display for kids brought up on video games. Nor does it discuss the social concerns raised by computers or tell you how they work. Then there is a dinosaur that roars—if you give it a donation. The Discovery Room, featuring boxes of things for children to play with and explore, was donated by Arthur D. Little—the renowned R&D firm

which is presently embroiled in a battle with the city of Cambridge over its right to test nerve gas.

On a more didactic level, the museum is conspicuously lacking in exhibits that encourage interaction or participation. Instead, most simply feature displays with written explanations or push-button actuated recordings. "What comes across to me," remarked MIT physicist Philip Morrison, "is the impression that the people who run the museum think they're a lot smarter than the visitors are." Museum director Roger Nichols is aware of these problems and proposes to solve them. "In two or three years," says Nichols, "you won't recognize this institution—what we do will be markedly different, and the way we do it will be markedly different." In 15 years SftP hasn't seen much improvement, but perhaps by the 200th issue we'll have more positive news to report.

—Dan Grossman

1978:

We feel that the trend that the sociobiology debate is taking is a clear victory for Science for the People. Large numbers of people have been alerted to the fallacies and dangers of these theories and many outside SftP are joining the critics. It may well be that human sociobiology is in some disrepute in the academic community. However, and this is extremely important, the academic refutations of these ideas do not prevent them from continually being presented in the popular media and school texts.

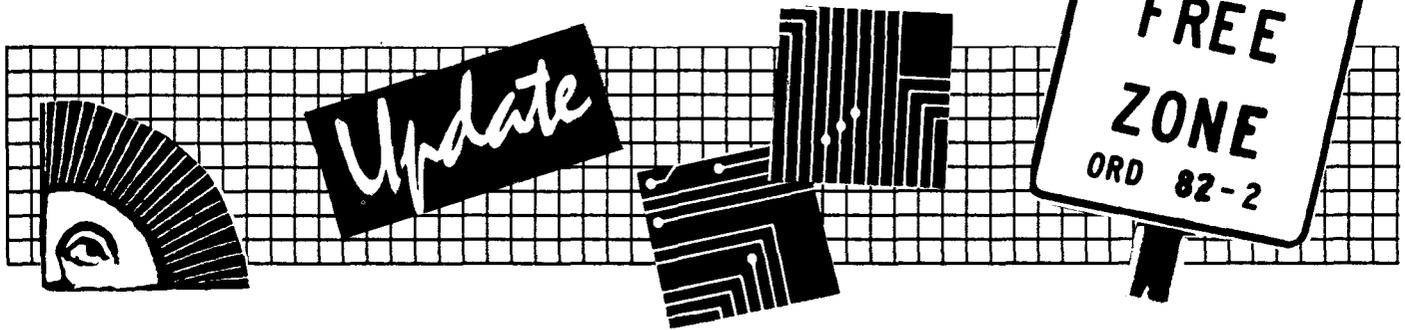
—Jon Beckwith and Bob Lange



the work and leadership to a greater extent than in many other groups. However, a comparable anti-racism is still lacking and we remain an overwhelmingly white organization.

We should build on these strengths for the future, and function both as a contingent of the left in general and as a group with its own special areas of concern. This requires more general political discussion, examination of issues around employment in science, attention to the newer forms of repression, more theory about the nature of science, a search for broader international contacts and conscious discussion about methods of work.

Richard Levins was a founder of Science for Vietnam, belongs to the New World Agriculture Group, teaches at the Harvard School of Public Health, and has been a member of SftP for over 15 years.



Toxic Shock

In the late 1970s, long before toxic shock became an issue, Woman Health International was troubled that so little was known about the ingredients of a product placed inside the body and used universally: tampons. What our research revealed—and what is never referred to in industry advertising—were warnings about possible adverse reactions. In 1938, doctors conducting the first absorbency test warned of possible damage due to irritation by a foreign body in the vagina.

Tampons: Looking Beyond Toxic Shock
September/October 1981

In their article on toxic shock syndrome (TSS) and tampon use, Judith Beck and Charlotte Oram criticized the Food and Drug Administration (FDA) for its failure to require mandatory warning labels on tampon products, and argued for both the disclosure of fiber and chemical content and the need for

uniform safety standards. In an update published two years later, the same authors found that although the FDA had made warning labels mandatory on tampon products, it still deferred to manufacturers' "proprietary rights" insofar as content disclosure went. Today, the FDA still has no plans for setting consumer standards, and manufacturers continue to withhold product information and TSS research data from consumers.

TSS, fatal in a small number of cases, is believed to be caused by a toxin (enterotoxin F) produced by the bacterium *Staphylococcus aureum*. The production of the toxin is thought to be greatly facilitated by the use of tampons, especially the superabsorbent brands, which trap warmth, moisture and air in the vagina. Certain contraceptive devices that also trap air and cause irritation to the vaginal lining may also run the risk of producing TSS. (VLT Corporation, which produces Today contraceptive sponges, now puts the same TSS warning labels

on its packaging that are found on tampon products.) Twenty to forty cases per month of TSS are currently reported to the federal Centers for Disease Control (CDC), and while TSS strikes non-tampon users, male and female alike, menstruating women continue to make up at least 90% of TSS victims. Approximately six to fifteen women out of every 100,000 come down with TSS yearly.

Research recently completed by the Harvard Medical School has found a correlation between low levels of magnesium and the production of the toxin associated with TSS. Certain highly-absorbent artificial fibers used in tampons, such as polyacrylate, absorb magnesium and create the higher risk condition. As a result of this research, Tambrands, which partially funded the research, and International Playtex began removing their tampon brands containing polyacrylate fibers from store shelves in April, although the research that led to this action was not revealed publicly until early June.

1978:

During the complacent seventies, the anti-nuclear movement has become a major focus of radical activity. But more importantly it represents a growing mistrust of high technology and resentment against the arrogance of science. People are demanding a say in how technology is to be developed, which risks we should be willing to take, and at what costs.

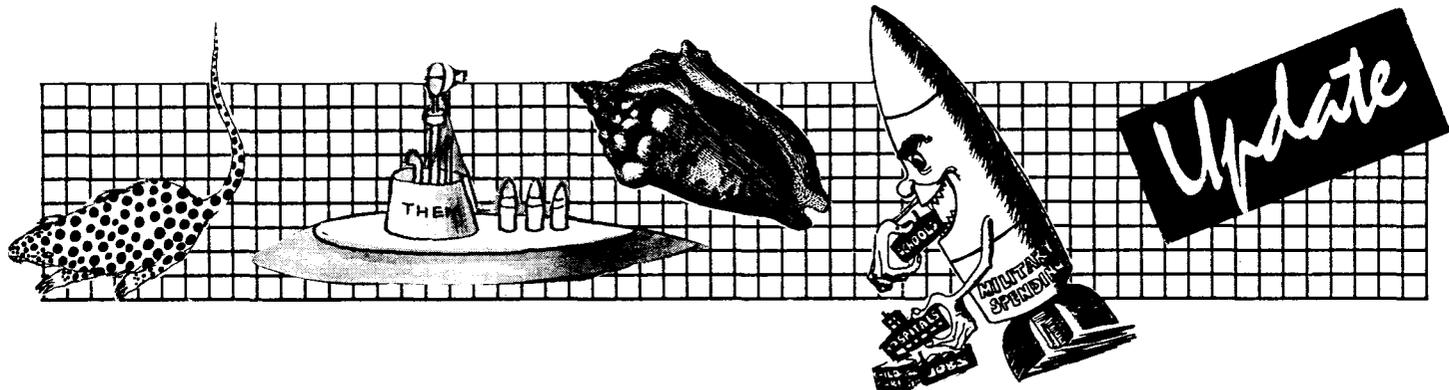
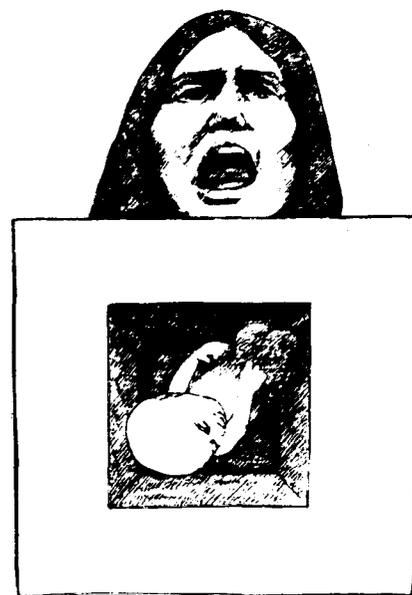
In reality, the nuclear industry is merely a symptom of the more fundamental problem, capitalism. As long as there are profits to be had, the industry will survive. And as long as it is "acceptable" and "healthy" to make profits without regard to the hazards and costs to the people, the problem will continue.

—Scott Schneider

Science Is Still for the Privileged

Ruth Hubbard

Unfortunately, science continues to be done by a small, circumscribed group of people—predominantly white, upper-class men. The few women who have been coming into the profession are from the same racial and class backgrounds as the men. We also share the same education and professional socialization as male scientists. Scientists, male and female, therefore tend to accept similar professional values and goals which downplay the many ways in which science reflects the interests of those who hold power in society, rather than of the



After research on tampons conducted by the CDC heavily implicated the use of Procter and Gamble's (P&G) Rely tampons with the development of TSS, P&G immediately withdrew its product from the market. With numerous lawsuits still filed against it, P&G nevertheless remains reluctant to disclose product information.

In early 1984, lawyers won an out-of-court settlement from P&G for a TSS victim after a federal court ruling permitted them to disclose the research findings of University of Wisconsin microbiologist Merlin S. Bergdoll, showing that Rely consistently produced more toxin than other tampons. However, only a few months later, access to Bergdoll's data was overruled by another federal judge at P&G and Bergdoll's request, on the basis that the research was preliminary and inconclusive. A cover-up was suspected, because researchers at P&G, one of several financial backers to Bergdoll's research, had already been able to duplicate his findings.

An ironic sidenote: Procter & Gamble, hit hardest by the initial panic over TSS that forced it to withdraw Rely from the shelves, has wound up the largest beneficiary of the growing \$800 million market in sanitary napkins. Sixteen percent of women switched from tampons to pads following the TSS outbreak in 1980, and thanks to "aggressive and shrewd" marketing, P&G was able to corner 15% of the pad market within a year of introducing its Always line of products.

—Jess Gugino

The Jason Project

"I pledge that I will not participate in war research on weapons production. I further pledge to counsel my students and urge my colleagues to do the same."

pledge circulated by Science for the People at the American Physical Society meeting, 1970

Much of the early organizing undertaken by Science for the People (then SESPA) focused on mobilizing the scientific community against the war in Vietnam. One of the primary targets of this activity was the Jason Project of the Institute of Defense Analyses. The Jason Project, brought to light largely through Daniel Ellsberg's exposure of the Pentagon Papers, was an elite, secret group of scientists who contributed to the formulation of a wide variety of military technologies for use and experimentation on the Vietnamese people.

As Charles Schwartz, one of the founders of SESPA, wrote in his article about Jason in SftP, Sept. 1972, "Jason scientists in the past have helped create concepts for use in the 'automated battlefield.' This...includes a galaxy of automated anti-personnel weapons, which have indeed succeeded in bringing warfare to a new depth of inhumanity."

Science for the People organized against the Jason Project, staging a

vast numbers of people who must live with the ways in which science and technology restructure the work, leisure and domestic activities of everyone, irrespective of class, sex, race, ethnicity or, indeed, where in the world we live.

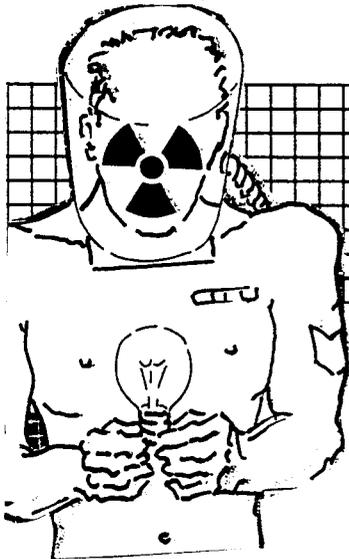
For this reason the work that Science for the People and the magazine do is crucial: as gadfly, as serious critic and as an institution in which people can put forward and debate visions for more inclusive and democratic ways of generating the important questions that scientists should be addressing, and of implementing the answers in socially responsible and useful ways. At present, there are few, if any, ways of doing that in an organized fashion. Yet small groups here and there try to come up with more humane structures and more responsive and responsible ways of delineating problems and assessing results. Therefore, Science for the People also serves a useful

networking function, so that people who are trying to generate and implement alternative ways of doing things can find out about each other.

As a working group, the organization is also trying to come up with models of collective decision-making and work-sharing, and that is a contribution that you should feel free to discuss in the magazine so that others of us who are trying to do this can learn from your failures and successes.

Happy 100th issue!

Ruth Hubbard teaches biology at Harvard, writes about women's health issues, and has been with SftP for many years.



variety of protest events at universities and debated known Jason members. At Columbia, for example, SESPA members picketed on campus every Wednesday afternoon for months, occupied the physics building for four days, and held a 24 hour vigil at a known Jason member's home.

While the Jason-related activities did not succeed in dissolving Jason, or even exposing a complete list of its members, they did raise an enormous amount of publicity on the closed-door, antidemocratic application of scientific and technological expertise for the military. Since the height of the Jason controversy, of course, the tide of public opinion finally brought about an end to the war in Vietnam, and has sustained an active, evolving

peace movement here and abroad.

This June, history has come full circle. SESPA founder Charles Schwartz, now physics professor at U.C. Berkeley, is calling upon fellow physicists to stop teaching if the U.S. does not adopt a more rational nuclear weapons policy by next year. Citing the National Science Foundation survey which found that 46 percent of laboratory physicists and 49 percent of mathematicians are working in fields contributing to the military, Schwartz stated: "We physicists should engage collectively in a deliberate and gradual withdrawal of services which contribute to weapons development if the arms race has not ended by next year."

Speaking before 400 colleagues and students, Schwartz continued: "This is a question of human versus technological advance. The first step is to turn off the machine, and let the human side catch up." The struggle against science for the military continues.

—Seth Shulman

1981:

It would be easy, but desperately wrong, merely to dismiss the creationist revival as a form of unreasoned stupidity. One may have contempt—indeed I do—for the TV preachers who fill their coffers by upholding Genesis against the world. As a professional evolutionist, I am inevitably drawn into this battle. Other leftists might dismiss it as unimportant if not a bit ludicrous. But I remind everyone that creationism is just one part of the coherent political program of the evangelical right in America. The other parts—from anti-ERA, to anti-abortion, to militant (if not military) anti-communism—are more easily appreciated as threats. All parts are of a piece; all are surrogates, one for the other. We are all in this together.

—Stephen Jay Gould



Dioxin and Dow

In December 1980, the Canadian minister of the environment confirmed that TCDD, the most toxic form of dioxin, had been found in herring gull eggs in Saginaw Bay, Lake Huron, and Lake Ontario. TCDD levels as high as 695 parts per trillion—3500% over Canada's "safe" limit—have been found in fish from Saginaw Bay and Lake Huron. The quantities of TCDD in these fish have caused the Michigan Department of Public Health to advise people not to eat them. Newspapers in Canada and the U.S., as well as the Canadian embassy, have mentioned the Dow Chemical plant in Midland, Michigan, as a source of the TCDD.

*Dioxin and Dow Chemical
July/August 1983*

Lake Huron, Saginaw Bay, the Saginaw and Tittawabasse Rivers, and Midland, Michigan still have a dioxin problem.

1982:

Superficial differences in hair form, skin color, and facial features that are used to distinguish "races" from each other are not typical of human genes in general. Human "racial" differentiation is, indeed, only skin deep. Any use of racial categories must take its justification from some source other than biology. The remarkable feature of human evolution and history has been the very small degree of divergence between geographical populations as compared with the genetic variation among individuals.

—Richard C. Lewontin

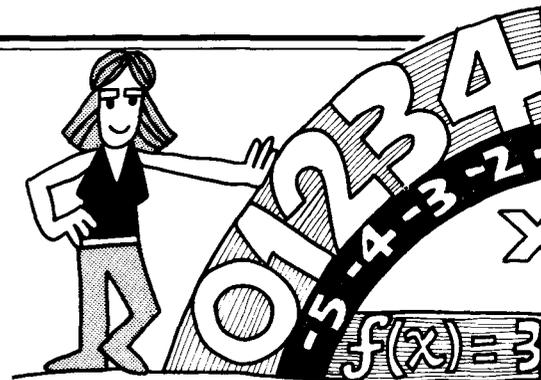
Rainbow Science

Mel King and Samantha George

Earth is the cradle of the mind, but one cannot live in the cradle forever.

—Konstantin Tsiolkovsky

These are the days of childhood's end—a season when we can leave the ignorant comfort of the cradle and venture out into the dazzling and magnificent realm of multiversal knowledge. Thank God. Human reason in its infancy has done far too much damage to the earth and all creation. Genocide, racism, sexism, capitalist and imperialist oppression—



these are not the fruit of an enlightened or evolved human society, but the poisons of fearful and hostile blindness to what we truly are and can be. Leaving all that behind means an evolutionary leap up and onward to a higher order where we love and affirm each other as perfect systems within a perfect system.

High technology should provide an escalator to that higher order. We mean



Update



The Dow Chemical plant in Midland, one of the largest chemical complexes in the world, uses over 63 million gallons of water per day. As with any other discharger into U.S. waterways, Dow has to apply for a National Pollutant Discharge Elimination System (NPDES) permit to legally dump its wastes into the Tittawabasse River. Spearheaded by the midwestern environmental group Citizens for a Better Environment, local residents organized to ensure that Dow would be prevented, via restrictions in its NPDES permit, from dumping toxic chemicals into the environment. The Michigan Department of Natural Resources issued a permit that included many of the citizens' demands. But Dow contested the permit—an action with direct implications for both the Clean Water Act and federal cancer policy—and hired a public relations firm to clean up its image.

A 1981 Environmental Protection Agency (EPA) report on dioxin contamination stated, "Dow was the major source, if not the only source

of TCDD (dioxin) contamination found in the Tittawabasse and Saginaw Rivers and Saginaw Bay." That statement was deleted from a nationwide report on the health and environmental effects of dioxin in a scandal revealing that Dow and high level EPA administrators colluded to suppress public health findings.

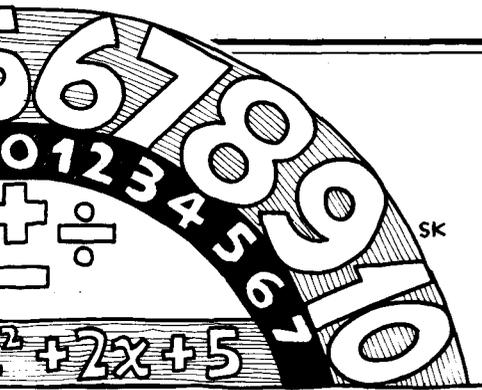
In March 1983, the Environmental Congress of Mid-Michigan and the Foresight Society filed a citizens' petition with the EPA for a full field investigation of the Dow site and the surrounding community. Their impetus was the revelation in November 1982 of a 771% increase in the incidence of soft tissue cancer in the local community. In June 1983, the EPA agreed to a modified study of Dow.

That summer, Dow made some changes. "Because Dow has instituted a massive clean-up at its plant in the last few months...your proposed in-plant sampling is not likely to reveal very much," Larry Fink, director of the Foresight Committee, wrote the EPA. Midland

citizens saw dump trucks entering and leaving the site and workers applying asphalt and dirt to cover contaminated spots. Dow also sandblasted its incinerator and purged its herbicide 2,4-D lines. Simultaneously, many residents observed an increase in asthma cases and eye infections in the community surrounding the Dow plant. In the words of one resident, "The whole place was like a big dust bowl."

As the publicity died down over both the Midland and the EPA Superfund scandal situations, the EPA backtracked from its previous commitment to study Dow and the surrounding community, although they agreed to take some samples in the area. At the same time, Dow itself started becoming more cooperative than it had been—at least with the EPA.

Midland's water supply comes from Lake Huron. Groundwater wells supply the water needs of the surrounding communities. In November 1983, the EPA began



high tech that creates the enhancement of human life, and not the instruments of its death and destruction. Our high tech can liberate us from the cradle in many ways. High tech will heal us, teach us to cooperate, bring peace into our hearts. So little seems beyond the grasp of our collective creative human imagination if we yearn to develop our potential with integrity and love.

Science, with its claim to structural knowledge of the universe, can be in the vanguard of our movement forward when it is **for** the people, and of the people, as an empowering force. Our scientific learning and experimentation has to be collective in nature, bringing us together as subjects of this search, rather than as objects of each other's exploitation. In this way, science and technology can provide a new paradigm for human relationships.

No doubt exists that we must struggle to leave the cradle. We will want to carry our brothers and sisters, but in the narrows each will have to walk or fly alone. The way is within each one of us—let us open to the path and venture forth.

Mel King served as a state representative, ran for Mayor of Boston, and founded the Rainbow Coalition.

1983:

Protesting the militarization of space while still clinging to fantasies of space colonies, mass space flight, and space industry is an inevitably self-defeating contradiction. The recent talk of space commercialization, industrialization and the routinization of spaceflight, no matter how well intentioned, will end up serving the military space program in the same capacity as the original NASA: a Trojan Horse concealing increasing militarization of space.

—Jack Manno



sampling private wells, leachate from the Dow site, fish, ambient air, Dow's brine system (150 miles of pipes used in Dow's chemical manufacturing process), the sandblasted incinerator, and the soil—but not below three inches—both on and off the Dow site. This process extended into the spring of 1984.

With samples in hand, it was only a matter of getting the results and taking action based upon them. Both efforts have not gone well. When the EPA released the results in a report dated April 2, 1985, missing were the levels in the water samples. The priority water pollutant tests were done and were fine, but the EPA claimed that lab contamination prevented obtaining results on dioxin levels, a claim that has been made previously to other communities as well.

This is the second time lab samples have been contaminated since the study began. And in an earlier mishap, the EPA misplaced samples taken at the Dow plant in

1978 for three years, and then inadvertently included them in samples analyzed from an herbicide spraying site in Oregon. The EPA has said that it will resample two community wells and three residential sites.

Meanwhile, Dow's own study of its site, submitted to the EPA, revealed at least two dioxin "hot spots" with levels 50 times higher than federal limits. Dow negotiated with the EPA "to clean up or cover up," in the words of one resident; the result is a consent agreement to cover the hot spots. In addition, two landfills have been discovered which contain dioxin: one 25-acre site on Dow's property (with the dioxin possibly contaminating sewer lines) and one—the Poseyville landfill—off site, which contains the remains of Dow's trichlorophenol building, with a plume that has moved at least 1000 feet from the site.

Diane Hebert, director of the Environmental Congress of Mid-Michigan, who provided much of the

information for this update, has access to suppressed risk assessments which show multigenerational reproductive effects from dioxin exposure levels of parts per trillion, results that would indicate the necessity for immediate action at Midland.

—Joseph Regna

Workers Face Office Automation

The American workforce is undergoing enormous changes as clerical work replaces manufacturing employment as the basis of the economy. Now clerical work is being transformed by automation of the office through the use of computers. An estimated seven to ten million people work on VDTs, the key units of office automation. Recent studies link VDTs to eyestrain,

Towards Democratic Health Care

Vincente Navarro

What science and medicine can do to meet human needs depends on the socio-political and economic context in which the scientific knowledge, practice and institutions of medicine are created and reproduced. In today's U.S., this context is not favorable to the development of science and medicine responsive to the needs of our fellow citizens. Examples of this situation are many. The most extreme form is the possibility of nuclear war, a war that 50% of our young believe is going to occur in the coming ten years. This situation is not an outcome of the inner logic of the scientific-military-industrial complex (as E.P. Thompson would like us to believe),

but an outcome of the inner logic of a system of production, distribution and exchange based on profit rather than need, a system that is maintained by brutal repression. It is this very same logic that is responsible for the major health and medical problems that we are facing both in the world and in the U.S. today.

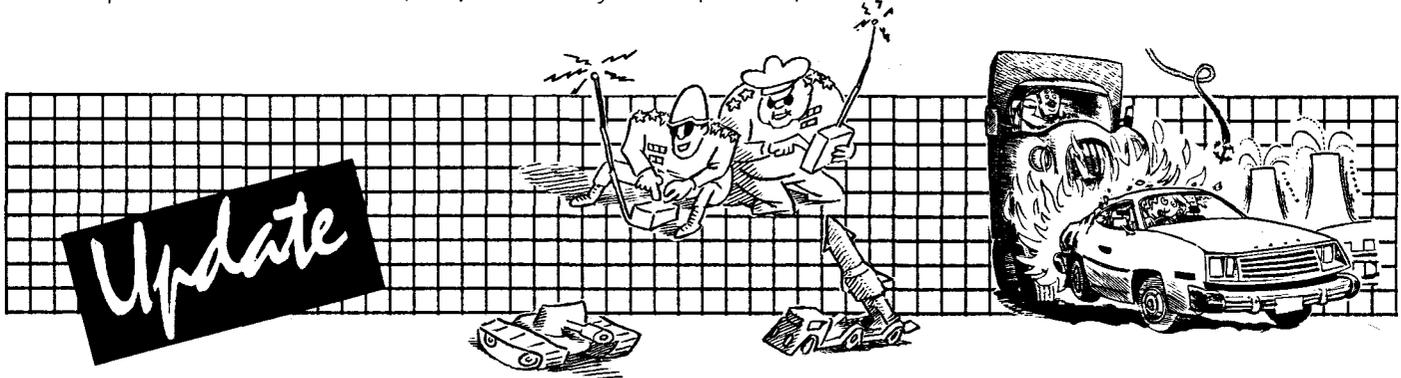
In 1984, five million children died of hunger and malnutrition in the world, a number of deaths equivalent to the deaths produced by forty nuclear bombs. These silenced bombs explode every year without producing a sound. They are so much part of our realities that they do not even appear in the news.

In the U.S., the same logic is responsible for a situation in which, in spite of spending nearly 11% of our GNP in health services, 100 million of our fellow U.S. citizens are without any form of catastrophic health insurance, 38 million without any form of public or private

insurance, and one million families refused care because of their inability to pay. The list could go on and on. And the situation is not getting better. It is getting worse. Under the current Republican administration, there has been:

- a) an increase in the number of people who do not receive medical care,
- b) a significant weakening of governmental intervention to protect workers (more workers are killed at the workplace in the U.S. every year than U.S. soldiers were killed in Vietnam during the whole period of that infamous war), consumers and the environment, and
- c) a deterioration of the health conditions of the U.S. population. Progress in reducing the rate of infant mortality, for example, has slowed.

Given this situation, what can Science for the People do? Continue doing what it has done so well—exposing the uses and misuses of science as well as the



migraine headaches, nausea, lower and upper back pain and occupational stress. Unless clericals organize to influence automation in the 1980s—while the technology is still being developed—the health, well-being and employment of women office workers will be sacrificed for the sake of management's constant quest for "corporate progress."

Race Against Time: Automation of Office Work
May/June 1981

Since our report in 1981, evidence linking hazardous biological effects with the low energy, nonionizing radiation emitted from VDTs has emerged. In 1983, we reported on the possible correlation between miscarriages and birth defects with the use of VDTs. In 1984 this possibility was supported by a report that gave evidence of pulsed magnetic fields, like those emitted from VDTs, altering the development of chick embryos.

In May of this year *New Scientist* reported on a Japanese survey of

13,000 workers that concluded, "Among pregnant women who worked with the terminals for six hours a day or longer, two-thirds had problems with pregnancy or labour. For three to four hours, the figure was 46 percent, and for less than one hour, 25 percent." However, the survey also confirmed eyestrain, backache, tension and stress to be the most apparent and worst hazards of the technology.

9to5

9to5, the national organization of working women, has continued to work closely with the Service Employees International Union (SEIU), AFL-CIO to research and protect the health and safety of clerical workers. This June, 9to5, SEIU and Dr. Selikoff of Mt. Sinai School of Medicine announced plans to carry out the first major U.S. prospective study on the pregnancy hazards of VDTs. The two organizations plan to mobilize their members—office and clerical

workers—to recruit and keep in touch with the 10-12,000 volunteers in the nationwide study.

According to Dr. Selikoff, "this will be the first study to follow the day-to-day experience of America's working women over a multi-year period and to collect a broad range of information about their reproductive health. When we have concluded the Study on VDTs and Pregnancy Hazards, we will have an enormous data base of tremendous value to researchers looking at a variety of pregnancy-related questions.... Naturally, we will also look at other potential office hazards, such as ergonomics, chemical toxins and stress."

9to5 and the AFL-CIO have also been lobbying through SEIU's District 925 (as in 9-to-5) to pass legislation mandating health and safety guidelines for VDT users. So far, such bills have been passed in 21 states.

Overall, the organization is pleased with its progress since 1981, stating that many of the issues they

reproduction of ideology through the scientific knowledge, practice and institutions of medicine. This dimension of the magazine is a much needed one. And it has been done well.

But there are other areas that need to be focused and expanded. One is to help our colleagues from other countries to know what is going on in our scientific and legislative institutions that may be relevant to them. For example, when DuPont opens a factory in Southern Spain, or Colombia, the progressive scientists and unionists in these countries should be able to get from the magazine a list of questions to ask and possible information to get. The sharing of information internationally and the development of an international network of progressive scientists is of paramount urgency.

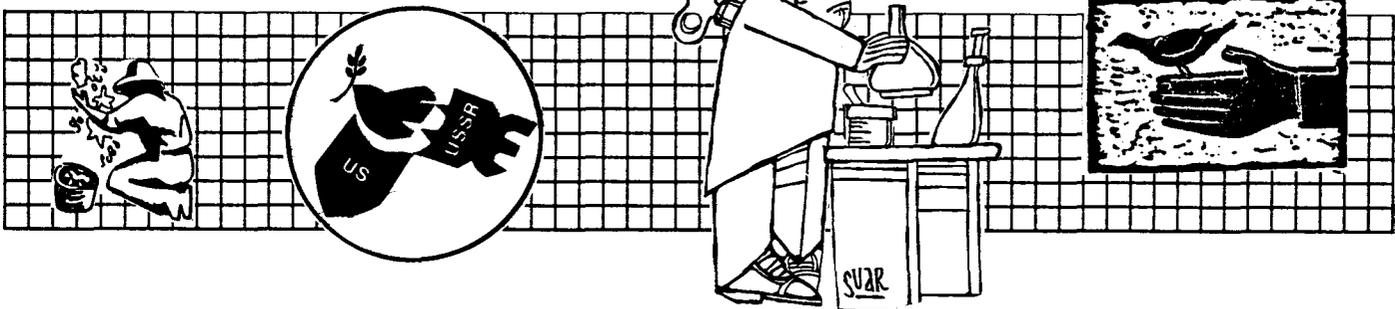
There is an enormous need to document and expose the lack of democracy in our scientific institutions as

part of a broader struggle for democracy in our academic, scientific and medical institutions, where the workers, employees, communities, students and faculty need to actively participate in the production of knowledge and the decisions about its use. In this respect there is much we can learn from the experience in other capitalist countries where socialist movements have been able to open new spaces of liberty within the house of science. The battle for democracy needs to take place in our scientific and academic institutions as well. And Science for the People should take a critical role in that struggle—to offer pointers for the difficult road to a democratic society and democratic medicine.

Vincente Navarro, MD, DMSA, DrPH, is Professor of Health Policy, School of Hygiene and Public Health at Johns Hopkins University.

The substance of a truly democratic strategy for science and science policy would be the reintegration of those needs and aspirations that are steadily being excluded from both by current trends. Within the U.S. this means not merely shifting public research priorities away from destructive ends (such as defense) toward socially constructive goals (such as health and nutrition), long the staple demands of those seeking a "socially responsible" science. Equally important, it means changing the conditions of access to the fruits of publicly funded research so that those social groups that lack the economic or political power currently required to exploit such research are placed in a position to do so.

—David Dickson



initiated in the early eighties (particularly the ergonomics of VDTs) are now recognized in today's automated office. 9to5 plans to shift their focus from health and safety issues to the bread and butter ramifications of office automation, such as pay equity for women's work.

Office Technology Education Project

While 9to5 advocates legislation and negotiation to protect clerical workers, other organizations think that educating office workers is more important. In 1984, the Office Technology Education Project (OTEP) was formed to provide office workers and VDT users with training in the prevention of hazards at work. They offer a four-part educational series to VDT users at their workplace or union, and a single-session workshop for secretarial students in community colleges and job training programs. In addition to teaching workers to

identify and prevent office hazards, OTEP covers the broader impact of automation and assists participants in forming coalitions.

OTEP publishes a bi-monthly newsletter, "Automated Times," offers four factsheets on office health and automation and a resource library on VDT-related topics. They hope to work together with similar organizations to educate office workers and assure that new technology benefits us all.

District 65

District 65/UAW at Boston University has had the foresight to make office automation a top priority (SftP, Nov./Dec. 1981), and through a combination of legislation and education they have produced some of the best protection for VDT users in the country. They have been very successful at negotiating contract language mandating health and safety guidelines, as well as specific VDT safeguards.

They achieved employer-paid eye exams for workers using terminals for 45% of their workday, job transfer for those suffering eye problems, ergonomic standards for VDT use and protection for pregnant women through reassignment or nine-month leaves. They are currently negotiating for clericals who seek word processing training to upgrade their jobs.

—Chris Bergland

Superfund in Woburn

Woburn, Massachusetts is a suburb north of Boston with questionable drinking water. Woburn is also known in surrounding communities for the "Woburn odor," a pungent, putrid smell emanating from an industrial park in its northeast corner. That industrial park, Industriplex-128, along with two municipal drinking wells, appear

on the Environmental Protection Agency's Superfund list. Whether Industriplex-128 or wells G and H are responsible for the high incidence of childhood leukemia and some adult cancers, concentrated especially in the neighborhood of East Woburn, is not yet known. Nor has an official connection been made yet between the chemicals leaching out of the Industriplex site and the chemicals found in wells G and H.

A Toxic Legacy
July/August 1983

In the past several years, the two Superfund sites in Woburn, Massachusetts have received considerable media attention as reports and official studies have been released. While it has been "proven" to the satisfaction of all parties that the two sites (Industriplex-128 and wells G and H) are separate issues, since our coverage in 1983, Anne Anderson's suspicion that something in the air or water was causing the illness of her son, Jimmy—who died of leukemia in 1972—and other neighbors' children was finally borne out.

Something in the Water

Since our last report in SftP, the link between the wells (a source of drinking water for Woburn from 1964 to 1979) and the high incidence of childhood leukemia has been more firmly established. The Harvard School of Public Health, in the winter of 1984, released its analysis of contaminated well water and health effects in Woburn, finding a statistically positive correlation between proximity and use of the water in wells G and H and the incidence rate of childhood leukemia. Harvard faculty provided the statistical correlations, but the actual telephone surveying was done by over 300 volunteers from the community group For A Cleaner Environment (FACE). Access to the well water was also associated with the occurrence of miscarriages, stillbirths, early infancy deaths, and birth defects.

While Woburn residents had hoped that the closing of wells G and H in 1979 would spell the end of new leukemia victims, an update report

issued by the Massachusetts Department of Public Health in the summer of 1984 found seven new leukemia cases. Concern over the continuation of an extremely high incidence of leukemia is complicated by uncertainty over the latency period for leukemia.

Currently, more changes in the Woburn drinking water supply are in the works, as parts of Woburn are being hooked into the Metropolitan District Commission's water system that serves much of metropolitan Boston with water from Quabbin Reservoir in Western Massachusetts. The rest of Woburn is still drinking groundwater, although the Woburn wells now in service are derived from a separate aquifer than were wells G and H.

Meanwhile, a lawsuit has been filed on behalf of several East Woburn families against W.R. Grace Company for improper disposal of trichloroethylene (TCE) by Grace's Cryovac division, allegedly leading to contamination of wells G and H. Grace lawyers have also brought the J.J. Riley Company (once owned by Beatrice and now the only remaining tannery in Woburn out of nearly 100 tanneries once in operation) and Uni First (Interstate Uniform) into the lawsuit for their share in possible groundwater contamination. The litigation has been in the courts for more than two years. Participants hope that determination of liability for the source of contamination will be facilitated by completion of a forthcoming EPA study of the aquifer.

Contamination at Industriplex

As for the Industriplex-128 site, the Stauffer Chemical Company's final report to the EPA was released this May, many months overdue. Now the EPA must decide, supposedly by autumn, what remedial action to take.

Stauffer ruled out more expensive options of a two-foot deep clay cap over the entire 70 contaminated acres (a \$23 million cost), or of moving all the wastes to a state-of-the-art landfill on the site (\$96 million). Stauffer has recommended covering only those 40 acres contaminated with more than 100 ppm heavy metals.

The EPA will probably choose an option based not only on how best to minimize exposure to the public, but also on proposed future development

of the site. There are pressures from several sectors to resume development, since Industriplex is highly valued land at a prime location, and a source of potential tax revenue.

The EPA must also decide the financial share of clean-up costs assigned to Stauffer and to Monsanto, an earlier owner of the site. Parenthetically, the conglomerate Cheesborough-Ponds is buying out Stauffer's, though their lack of profitability is not related to the expense of the Industriplex study.

Continuing the Struggle

The FACE organization is still going strong and now has a storefront office in the center of Woburn, after years of operating out of the parish office of Rev. Bruce Young. In Woburn, FACE is providing educational programs in the schools, planning events, including a hazardous waste collection day, and supporting concerned citizens in other local environmental problems. Calls come into the FACE office from around the country, as other communities with toxic waste and health problems turn to an organization that forged the trail in citizen-based research.

Woburn's Superfund sites are only two of the hundreds around the country. The process of thorough study and of trying to "prove cause and effect" has been slow and wearing on all participants, and the toxic wastes still remain. While Anne Anderson (who continues to help staff the FACE office) admits that the day-to-day progress is discouragingly slow, she sees a big improvement beyond the situation ten or so years ago now that citizens can call a government office and be taken seriously.

That Woburn citizens are so far along in understanding their town's environmental problems is due to the dedicated efforts of a few individuals and to the strength of the organizing that joined them together. No one can be naive enough to assume that passage of Superfund is enough in itself, even if the EPA had more support from a non-Reagan administration. The fight for a healthy environment is certainly not over and the community groups that lead the fight must never get tired.

—Sue Tafler



SftP Impact and Challenge
continued from page 14

The Magazine

It has always been in the special interest of some to keep the realm of science hidden behind a fog of technological jargon and thus, by intimidation, removed from public debate. In examining this debate, the editors of the book, *Science and Liberation*, point to how our society is characterized as technical, scientific, and pragmatic, and yet in the popular conception science is still viewed as remote and inaccessible, used to "fulfill the needs of a society that is warlike, competitive, hierarchical and unequal."⁸ Through the magazine, SftP has contributed to the process of demystifying the role of science in our society, and encouraging the public to demand a greater role in overseeing policies on science that directly or indirectly affect them.

"Part of the job of demystification will have to take place internally, within the scientific community. Scientific workers themselves must expose and counter the elitist, technocratic biases that permeate the scientific and academic establishments. One vehicle for doing this has been the publication *Science for the People*. Attempts to demystify science must take place at many levels. The doctrine that problems of technology can be met with technological rather than political solutions is increasingly being incorporated into the ruling ideology. The counter argument should be made that only political reorganization will be effective in the long run."⁹

One of the challenges that faces any organization which is overwhelmingly composed of volunteers is maintaining the high level of interest and commitment necessary to keep the organiza-

tion active and growing. Over recent years, there has been concern over the deterioration of the national structure and diminishing activity in many of the chapters located outside of Boston. Boston remains the center, largely because of its continuing responsibility for producing the magazine, the most consistent of SftP activities. While attempts have been made over the years to coordinate participation with other chapters on the production of the magazine, the logistics involved have made this particular collectivity extremely difficult. It has been difficult to stabilize the magazine financially, and in its level of volunteer support. If a progressive science movement is to be encouraged, one of the main challenges it faces is to communicate its existence and its ideas to a growing audience. Thus, there has been some support for making the magazine the focus, though certainly not the only aspect, of SftP's political activities. With the current degree of uncertainty and lack of cohesiveness on the left, SftP's drift toward this direction as a viable political choice may be critical in keeping open public debate on the grave issues related to science and technology.

What has yet to be satisfactorily resolved is how, and with what structure, a successful progressive science movement is to be engendered. In other words, what is it we can be doing today to bring about a radical science movement of the future? At times in the past, SftP's lack of involvement with any one movement has given it a sense of isolation both politically and internally. To some, this remains a fundamental problem.

Given the current political atmosphere, the organization's ability to thrive deserves particular note. To grow, however, necessitates new coalitions. As David Gordon recently wrote in *The Nation* (Feb. 9):

"In the present conservative climate, no single progressive movement or consti-

tuency is strong enough to accomplish its objectives alone... We must fashion broader and stronger coalitions that embrace many constituencies and many issues and in which each group is pledged to support mutual objectives."

In such a world as this, SftP celebrates this 100th issue. Some have taken note of two concurrent trends visible in the U.S. today: that of the powerful drift toward concentrating increasing amounts of power and wealth in the partnership between corporate enterprises and the government and, in direct opposition to this, a growing movement among individuals and groups in seeking greater participation in decisions that affect their communities and world.¹⁰ It is toward that latter movement that SftP must direct its energies and support in hopes that there will be a much different story to tell at the time, years hence, when this magazine celebrates its 200th issue of publication.

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by Sue Tafler

I had better admit at the very beginning of this review that I am the owner of a "first edition" *Our Bodies, Our Selves*, printed by the New England Free Press for 30 cents on newsprint in 1971. That book began with the "anatomy and physiology" of women's bodies, ranged through topics such as "some myths about women" and "abortion," and ended with a chapter on "women, medicine, and capitalism." Written as a laywoman's course, it played a significant role in my growing awareness of my own self, and enabled me to share in the experiences of the progressive women who collectively wrote the book and who were struggling with the liberation of women at the same time I was. I also remember my mixed feelings when the Boston Women's Health Book Collective signed their contract with Simon and Schuster in 1972 for publishing a larger and revised edition with a glossy cover. Could the ardent feminism and anti-establishment tone survive mass distribution by an establishment publishing house?

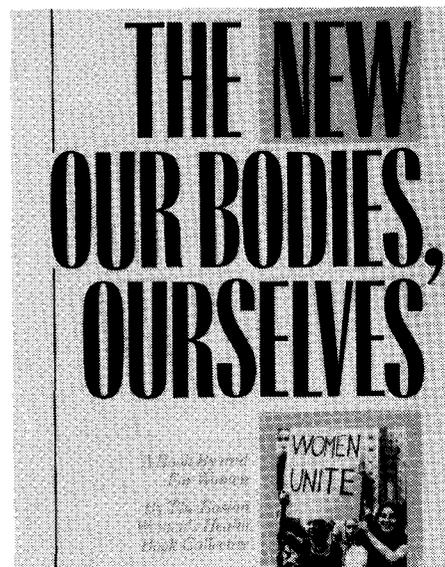
It is with both relief and joy that I can report more than a dozen years later that the feminist spirit of the original version still lives and has been reincarnated, updated and expanded into the present edition. The new book has grown to be positively encyclopedic, and while it is decidedly readable, no one could hope to sit down and just read it all the way through. With a weight of 3-4 pounds, I had to reject the idea of sticking it in my suitcase to read on a recent vacation. The price is reasonable, considering the weight, and one can hope that potential purchasers

Sue Tafler is a longtime member of SftP. She is a teacher and a freelance writer on environmental and nutrition issues.

are not put off from buying the book by its imposing size. The authors argue that the inclusion of new topics and lengthier discussion of old topics was required by the responses received to the older editions and was done only after much collective soul-searching.

That *Our Bodies, Ourselves* was conceived of and written by a collective is one of its major strengths. For one thing, feminism is, in essence, a sharing process. For another, the revelations of the authors' personal insights were most certainly facilitated by lengthy group discussions. While the core collective is admittedly made up mostly of white, middle class, educated women, there have been important contributions and visible participation from victims of rape or abuse, disabled women, older women, etc. The book does try to include *all* women. The collectivity of authorship extends over time, too, since after the list of authors for each chapter there appears an additional "This chapter in previous editions was written by... and was called..."

In comparing this new giant edition to the much smaller pioneering one, it is obvious that the authors now consider there to be a lot more to women's health and well-being than just reproductive organs, sexuality and childbirth. There are new chapters on alcohol, drugs and smoking, on environmental and occupational health, on alternatives to medical care, on international issues. Topics such as body image, food, exercise and sports, and psychotherapy, are discussed in ways that are peculiarly feminist. And yet the original topics of venereal disease, birth control, and post partum are still dealt with here in a way that no one ever had before this group (and anyone who has done so since has followed this book's approach.)



A critical component of the Boston Women's Health Book Collective's approach is the philosophy that facts and feelings are both important. Not only is having factual information empowering to women, but sharing a sense of relief that one is not alone may be equally valuable. The book relies extensively on paragraph-long, first-person quotes to give a sense of immediacy and support to the general analysis. (An identical format was used in another successful book by the Boston Women's Health Book Collective in 1978, *Ourselves and Our Children*.) These first-person "confessionals" are, in fact, the most enjoyable reading in the book. In addition, the authors have deliberately decided to use the pronoun "we" instead of "they" even when referring to a group of women with particular problems (again an effort to be inclusionary.)

Our Bodies Ourselves equates feminism with freedom, women being free to choose. It therefore offers lots of options and lists of alternatives. If a reader does not feel comfortable with a feminist choice, it's okay. The authors don't believe a woman should feel compelled to be different than she is now. There should be no "musts" to change, though making changes is certainly encouraged. They stress accepting the validity of the choices of other women which some women themselves would not choose. For example, the book cautions lesbian activists against thinking that theirs is the only, or purest form of feminism. On

the other hand, they make it clear at the same time that heterosexual women must avoid homophobia. While the book does try to avoid doctrinaire "correctness", the authors have certainly not avoided arriving collectively at a clear point of view.

Who is the audience for *The New Our Bodies, Ourselves* beyond the already committed feminists who want information, need support, and are looking for a way to share the collective experience of other feminists? By its wide distribution in chain markets and even drugstores, the book is available to women who are just curious and may be open to feminist change. Women who today are experiencing life crises must have the same growing awareness of barriers to women as I did a generation ago, and new readers are likely beginning to question the assumptions of traditional roles for women as I did when I first read the 1971 edition. Young women (teenagers) must still find their own roles in society and in relationships, even though

the new generation has had provided for it greater opportunities through the struggles of now-middle aged feminists. Teenagers growing up today are often still heavily influenced by traditional sex roles and by the expectations of parents and schools to be good little girls (and by teenage boys to be passive and compliant). They often are not provided with adequate information about their own bodies. I hope that they will buy the book!

In some ways, the need for this book is even stronger than it was at the time the first edition was printed. The medical system is vaster and even more profit-oriented. Preventive health care is still neglected as are nonmedical alternatives. A super-conservative national mindset is trying to deprive women of abortion services, work opportunities, and any equal rights gains won in the last decade. *The New Our Bodies, Ourselves*, should be a significant force in getting women together to keep up their continuing struggle.



The address of the Boston Women's Health Book collective is 465 Mt. Auburn Street, Watertown, MA 02172.. One of the projects at this address is their Women's Health Information Center.

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What Will it Take to Prevent Nuclear War?

Pat Farren, ed.
Schenckman Publishing Co.

by Joseph Regna

What will it take to prevent nuclear war? Love, faith in God, war tax resistance, letting children rule, unilateral disarmament, economic conversion, socialism, a general strike, nuclear-free zones, transnational people-to-people networks—these are only some of the answers Pat Farren received when he asked this question to readers of *Peacework*, the newsletter of the Boston American Friends Service Committee. The responses filled the newsletter's pages, so Farren took his question to the peace movement and beyond—in newspaper classifieds, press releases and word-of-mouth—and found enough answers to fill a book.

The hundreds of responses compiled and edited by Farren are from people—poets, students, computer operators, farmers, mothers, engineers, activists, teachers—concerned, frightened, and yet hopeful. There are conventional voices which seem to have come out of the mainstream of American politics: "Man is a violent creature by his nature, and only the fear of retaliation to aggression keeps him in check." "The Soviet Union's goal is world conquest, clear and simple....America must maintain a strong defense." "The United States is not the aggressor. We do not practice hostile destructive behavior on other peoples of the world."

The conventionally religious also include their responses to the central question: "We can do NOTHING to prevent nuclear war. It is out of our hands." "God will intervene. He will save us from our suicidal madness."

The macabre also have their say:

"To smash the simple atom,
All mankind was intent.
Now any day, the atom may
Return the compliment."

Joseph Regna is an active member of the environmental and editorial committees of SftP. He is a physician who works in the public health area.

But the vast majority of this "literary equivalent of a mass meeting" have gone beyond the paralysis of rhetoric and conservative ideology to see hope. Throughout the collection, something else comes clear as well: that unless the system out of which war is a logical outgrowth is dealt with, unless we act on that system, then we are just giving symptomatic treatment to the problem of human and planetary survival. A few voices out of this multitude:

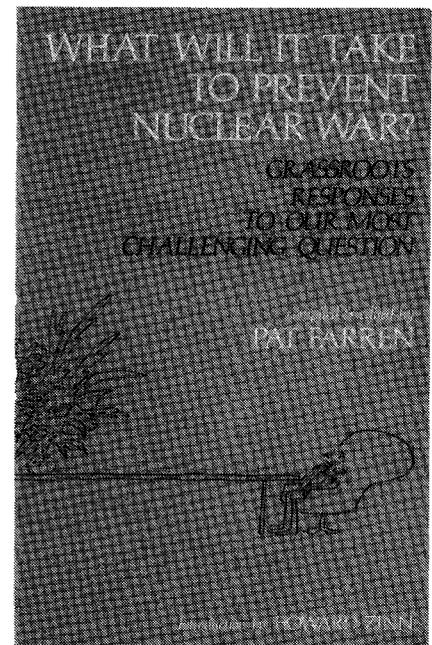
"The Cold War has served as a massive propaganda system whose function is to disguise the aggression and subversion carried out by the superpowers to maintain control over their system."

—Noam Chomsky

"Tell me, friend, where can I take my children to show them a statue of a peacemaker?"—Don Best

"Homeless and hungry people, people needing medical care and attention, are victimized by the arms race without a single missile being fired. We conveniently forget that the nineteen U.S. nuclear alerts have resulted from American ambitions in the Third World, not from fear of a 'Soviet Threat.' Concerned about our own deaths, and those of our children and grandchildren, how can we turn blind eyes to the daily death tolls in Philadelphia and Phoenix, in Jerusalem and Johannesburg?"—Joseph Gerson

"One thing is reasonably sure: what belongs to all, shouldn't be in the clutches of juntas, pentagons, corporate sharks, academic simps, church mice. Another thing occurs. Being born with a belly button proves very little any more. You create your humanity as you go. Also, the heart that isn't fed turns to stone."—Dan Berrigan



"Governments will never, alone, end the arms race....We must unleash the force of public argument and public anger. And we must hurry."—Marta Daniels

"Anarchism—society without government that is decentralized, rooted in freedom, voluntary cooperation and mutual aid—is now a practical necessity. Opposition to nuclear war can only make sense and succeed if it is part of a larger social vision."—Marty Blatt

"The difficult challenge is to instill a sense of urgency while things still appear to be calm, and nuclear holocaust only a 'maybe'. Somehow we must find ways to convince people that peacemaking is as essential as putting bread on the table."—Alison D. Oldham

The book puts into practice something that people are struggling to achieve throughout the world: life and richness through diversity. In the broadest sense, this is, as Howard Zinn suggests in the introduction, democracy.

Democracy is something I believe people will need—and here I'm giving my own response to Farren's question—to prevent nuclear war. Besides the threat of planetary annihilation, there are many other problems, ranging from environmental and ecological destruction to the racism that permeates Western culture and the intense drive

for profit that controls what is euphemistically called the private sector. We also need democracy to solve these problems.

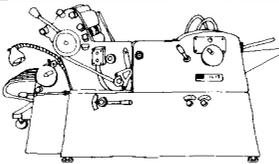
Even more than the very real suggestions for preventing nuclear war, it is the power of the pluralistic format that is ultimately the beauty of this book. For even beyond the question at hand, we are left with a feeling of hope that through such a breadth of response, there simply must be ways that we can join together to reach a solution.

To truly comprehend this aspect of the book requires an appreciation of the roots of democracy. I would argue that we do not have democracy here in the U.S.—not to mention the Soviet Union. Americans are, historically, a step away from monarchy and autocracy and many steps from democracy. What, then, is democracy? It does not mean going into a voting booth every two, four, or seven years. I don't even think it means representative government. To me, it means people taking control of their lives. It is the message from the multitude of voices in *What Will It Take to Prevent Nuclear War?*: to educate, to organize, and to agitate.

One final chorus:

"We the people...have the final say about whether the world shall live or die."—Herbert Meredith Orrell

"Join hands until there are millions of hands. Cry out together from millions of throats. By any and by all means, act.... This is the moment. There may never be another. And if we stand firm in our millions, the death machine will begin to die."—Olga Cabral.



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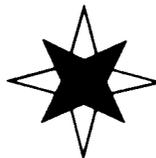
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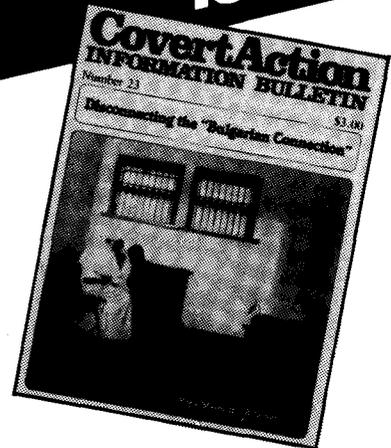
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Test-Tube Women

Rita Arditti, Renate Klein, and Shelley Minden, ed.s
Pandora Press, 1984

by Roger Felix

The fact is that all women are guinea pigs in this exercise. We have not been included in the decisions about this technology, not asked if we want it.

—Robyn Rowland
in *Test-Tube Women*

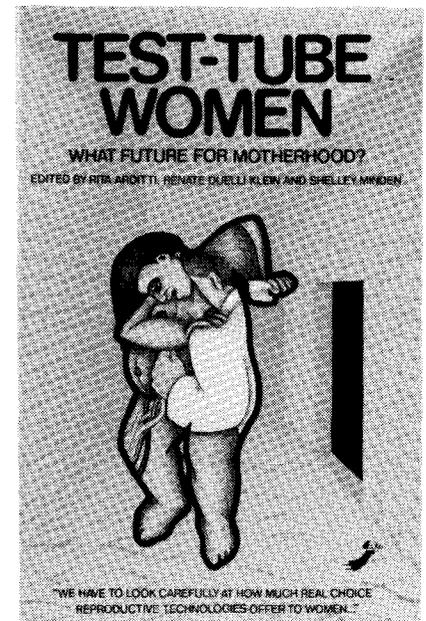
What this collection of essays is attempting to do is, in fact, to get women involved in making their own decisions regarding reproductive technology. In *Test-Tube Women*, editors Arditti, Klein, and Minden present 34 articles written by women from all over the world. It would be misleading to say that all of these brief articles deal with the specific "reproductive technologies" that have attracted so much public attention during the last few years. To be sure, in vitro fertilization, embryo transfer, sex selection, electronic fetal monitoring, amniocentesis, and the potential for genetic engineering of humans are all dealt with from many different angles in these essays. However, "older" technologies are discussed as well—abortion and contraception, for example. Overall, this collection is not simply devoted to analysis of the ways in which women are affected by reproductive technologies. Instead, it becomes no less than an attempt to understand women's relationship to—and struggle against—a male-dominated medical establishment which, like most of the male world, sees women primarily as reproductive beings.

Examples of the probable direction of male-developed reproductive technology are found in the essays on collection of ova (eggs) from women for the purpose of in vitro fertilization, the

surrogate mother industry, and the potential of gene therapy (in which genes might be introduced into embryos in order to overcome genetic "deficiencies"). These technologies are described as heralding a potential fragmentation of the process of human reproduction into components that can be manipulated individually by male physicians. Such fragmentation would effectively reduce to almost nothing the strong role that women play in the course of conceiving and bearing children. This "divide and conquer" theme is repeated in a number of essays in *Test-Tube Women*.

The pressure of the wider patriarchal society on women's relationship to reproductive technology is as pervasive as the specific pressure of a male-dominated medical establishment. Thus, Rebecca Albury's piece, which deals primarily with in vitro fertilization (IVF), points out that the liberal myth of equality within society breaks down in the face of institutionalized sexism. Albury compares the public's enthusiastic welcome for the IVF technology (known popularly as the method for conceiving "test-tube" babies) with society's many-pronged attack on women's right to abortion. Her interpretation of these responses to IVF and abortion is that IVF reinforces the idea of women as baby makers and rewards those who long for a child in order to assume the "correct" role, while abortion is a way for women to avoid becoming mothers and is therefore inimical to patriarchy's "master plan" for women.

Other themes common to feminist analysis of reproductive health are repeated in this collection. Abuse of sterilization (by drugs or surgery) and "family planning" in the Third World and on Third-World women in industrialized countries are discussed; so is women's docu-



mentation of health problems caused by contraceptive products — and the refusal of doctors to listen to this documentation. Additionally, however, *Test-Tube Women* addresses a number of specific issues that are relatively new because of their connection with recently developed technologies.

An example of such an issue is the position of people with genetic (and other) disabilities with respect to reproduction and, by association, with respect to sexuality. The two articles specifically addressing this topic are written by Anne Finger and Marsha Saxton. Both authors pose a question not often heard over the din of the pro-choice vs. anti-abortion debate: aren't the lives of disabled people devalued by technology which is oriented toward revealing potential disability in a developing fetus so that it can be aborted? (The procedure being discussed here is amniocentesis—sampling of the fluid surrounding the fetus in order to do genetic analysis of the fetus.) These authors also wonder why disabled women's contraceptive and reproductive needs are largely ignored, and point out the perception of the disabled as asexual beings in this society. The insights of these two writers are much needed, and their inclusion in this book is typical of the editors' attempt to be as inclusive as possible of women with varying perspectives (third-world, lesbian, heterosexual, teenagers, etc.).

Roger Felix is a longstanding member of *SftP's* editorial committee.

Perhaps the most visible thread running through these essays is the connection between power and technology. The debate over this connection proceeds as follows: is reproductive technology inherently neutral, to be put to use either against women (by the patriarchy) or for women (if they seize control of it)? Or is the technology, as a product of the system that begets it, designed to perpetuate that system—that is, to perpetuate the rule of men over women? At least one author in *Test-Tube Women* sees reproductive technology as fundamentally neutral. She despairs of seeing meaningful social change in which women's oppression will be alleviated, and therefore exhorts women to become involved in controlling reproductive technology so that they may eventually be "free" of the childrearing role. Freedom from this role, she theorizes, will be the key to the rearrangement of all roles for the better.

Most of the writers in this collection do not concur with this view, however.

They see the developing technologies as having evolved from a male view of women as reproducers, and they foresee these technologies as leading toward control of women. Essay after essay warns us that in the present power relationship of men over women, it is irrelevant to discuss the "liberation" of women by this or that new medical development. Moreover, they feel that most of these developments will work eventually to the detriment of women and others who are outside the sphere of political power. One author, Ruth Hubbard, points out that most women will accept "these intrusions" (by the new technologies) and will do so with open arms. She sees such acceptance as inevitable unless women can "construct and implement alternatives to the social isolation" in which women rear children.

It is impossible in a review to do justice to—or to analyze in any coherent manner—the kaleidoscope of ideas that *Test-Tube Women* represents. The collection serves to remind us that there is no single "feminist position"

on reproductive issues, any more than there is a single "left position" on these or other social issues.

The editors have done a formidable job of bringing together almost every conceivable feminist viewpoint of reproductive technology, dealing with this area of health care in general and with specific technical issues as well. To some extent they did the job too well: many of these articles repeat each other's premises, so that in reading the entire volume one may tire of seeing the same point made several times. Such a problem, however, is to be expected in a solicited collection of this size that is focused on a single general topic. Moreover, almost every essay has at least one thing to say that wasn't said elsewhere.

The primary value of this book is as an international forum on the present state of women's reproductive health. *Test-Tube Women* should be a provocative nucleus for future debate over women's position with respect to established and emerging reproductive technologies.

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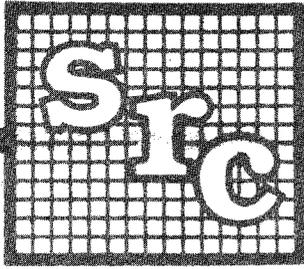
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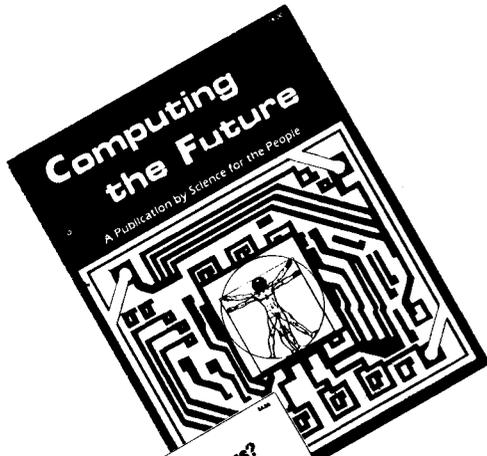
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