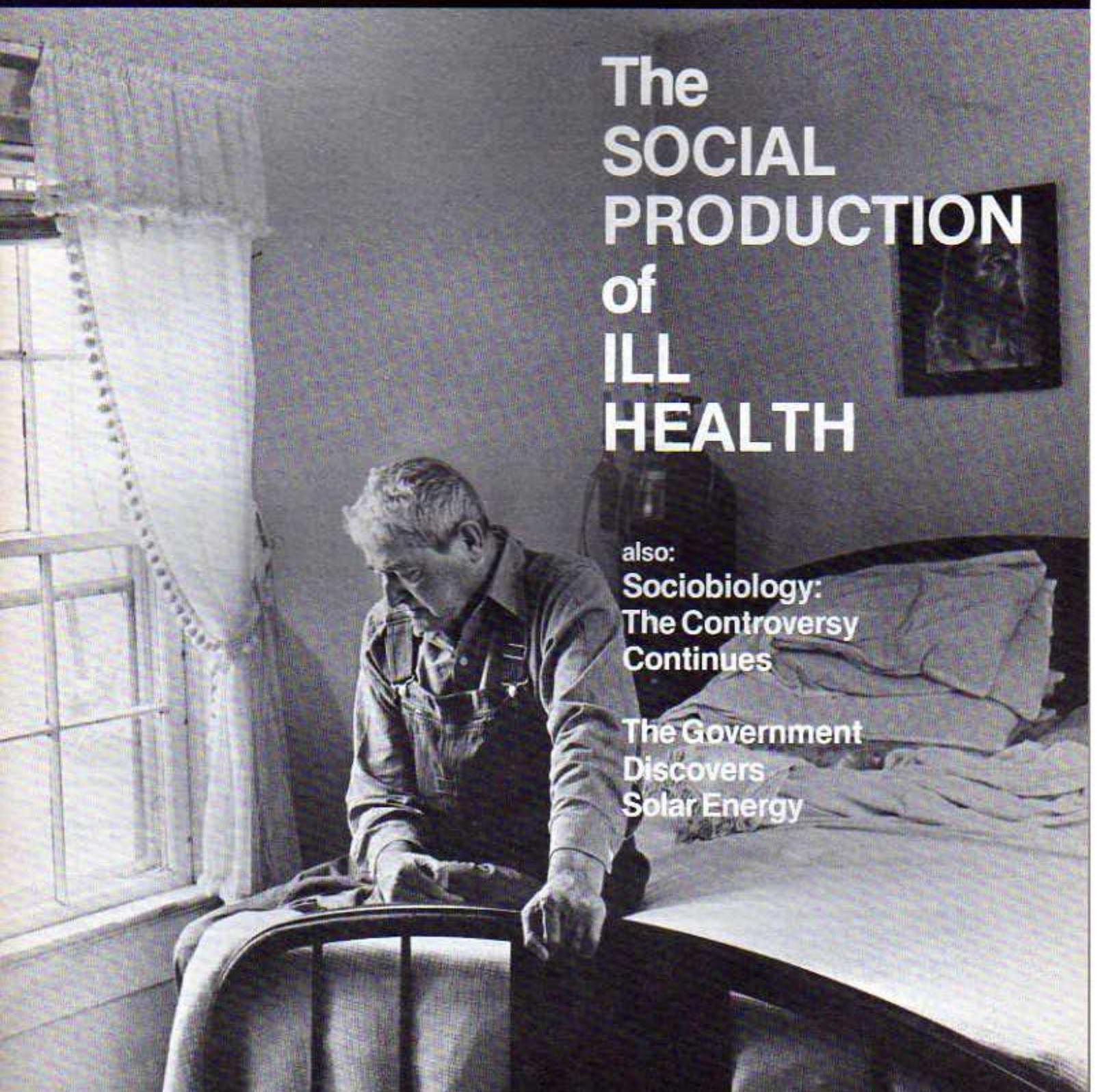


March/April 1979

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# SCIENCE FOR THE PEOPLE

A black and white photograph of an elderly man sitting on a bed in a room. He is wearing a dark jacket and is looking down at something in his hands. The room has a window with curtains on the left and a bed with a white sheet on the right. The text is overlaid on the right side of the image.

## The SOCIAL PRODUCTION of ILL HEALTH

also:  
**Sociobiology:  
The Controversy  
Continues**

**The Government  
Discovers  
Solar Energy**

## CHAPTERS AND CONTACTS

Science for the People is an organization of people involved or interested in science and technology-related issues, whose activities are directed at: 1) exposing the class control of science and technology, 2) organizing campaigns which criticize, challenge and propose alternatives to the present uses of science and technology, and 3) developing a political strategy by which people in the technical strata can ally with other progressive forces in society. SftP opposes the ideologies of sexism, racism, elitism and their practice, and holds an anti-imperialist world-view. Membership in SftP is defined as subscribing to the magazine and/or actively participating in local SftP activities.

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- 2 Chapters and Contacts
- 4 About This Issue
- 5 Letters
- 7 Here Comes the Sun: The Government  
Discovers Solar Energy *by Frank Bove*
- 14 Society May Be Dangerous to  
Your Health *by Fran Conrad*
- 20 Sociobiology: The Controversy Continues  
*by Freda Salzman*
- 30 Current Opinion: The Federal Government  
and People's Needs *by George Salzman*

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# about this issue

The article by Freda Salzman in this issue traces biological determinism from 19th century Social Darwinism and the Eugenics movement of the 1920's to present day sociobiological theories. Recent sociobiological writings, both in academic and popular spheres, are examined and the uses of sociobiology in maintaining social stratification and oppression are documented. Human sociobiology is exposed for what it is: political ideology and not science. Although this article explores the consequences of this fact, its emphasis on methodological criticism could be counterproductive. Even when sociobiology is effectively discredited as an academic discipline, other ideologies will arise to justify an economic system based on class differences.

Even though sociobiology has been successfully challenged in academic circles the critique needs to continue in the popular sphere where determinist concepts are becoming increasingly influential. **Blaming the victim** for their inferior status in society is a useful tool in convincing people that their social status is due to their biology and is therefore preordained and unchangeable.

\*\*\*\*\*

The ideology of "blaming the victim" extends beyond academic debate and finds practical use in maintaining people's everyday oppression. Fran Conrad's article examines how this ideology operates to affect people's health at home and on the job. The recent plethora of popular health books generally places responsibility for health on the individual by implying that better health can simply be achieved by better personal habits such as quitting smoking, changing your diet, etc., and that poor health is therefore the fault of the sick person. Conrad emphasizes other influences on people's health such as the unnecessary imposition of occupational hazards, environmental pollutants, food additives and unhealthful advertising propaganda.

The article gives an overview of the literature, rather than a separate, indepth analysis of each topic. She shows how the factors affecting our health are the products of an economic system based on profit rather than peoples' well-being. More healthful conditions can be achieved as people struggle for safer work places, a more stress-free and cleaner environment, non-toxic foods, etc. However, a society in which good health becomes a possibility for all people will only be realized when the system of private and corporate profits is abolished.

The article by Frank Bove is a brief summary of the status of solar technology, and it critiques current and proposed government strategy. The article demonstrates how capitalism misdirects and inhibits solar development despite its enormous potential. Short-term reforms are suggested to initiate a more rapid and more rational transition to solar energy under our present capitalist system. As Bove argues, these reforms are necessary, since the longer we wait, the more difficult and expensive it becomes to introduce alternative technologies like solar. This is because the products of these reforms, e.g. solar buildings, will be part of our *material* means of production for a long time to come. This contrasts with reforms in other areas such as education and health care, where it is the impermanent, *social* organization of science and technology which is at issue.

**We cannot expect the present economic system to create or even distribute solar energy for the people, unless it generates large corporate profits. A question still remains: Do we work within the system for such reforms to achieve popular control of energy production?**

Although Bove's article does present new information about the debate over solar energy, it does not provide a really thorough analysis of the political strategies being pursued with respect to solar technologies by the giant corporations which comprise the energy industry. Such an analysis would form a logical sequel to the present article. □

**NEWS NOTES  
DON'T GROW ON TREES**

That's right, friends. We didn't get any, so we didn't print any. SftP needs *you* to submit short (100-500 words) news items on the social and political role of science and technology — especially reporting people's activities around these issues. Clip an article, condense an article or write a first-hand report.

Send to:  
SftP Distribution Committee  
897 Main Street  
Cambridge, MA 02139

soon!



## SHARP CRITICISM OF HEALTH CARE ISSUE

Dear *Science for the People*:

In general, I do not find it to be a satisfying thing to read your magazine these days. There is so much writing in it which is puffed up with its own importance, passing off people's half-formed and clumsy notions as some sort of meaningful contribution to "progressive" analysis of the role of science, that I do not let myself get worked up enough any more to write you much. I don't have much faith that I would be listened to — your minds are too made up to be changed by anything I would say.

Yet the recent Nov.-Dec. 1978 issue exhibits the wrong tendencies in such a striking and obvious way that I cannot remain silent any longer. Both the articles "Medical Care and Socialism in Tanzania and Mozambique" (Walter and Gail Willett) and "A Marxist View of Medical Care" (Howard Waitzkin) are seriously flawed. In the first article, you classify a state that was founded by British imperialism when direct colonialism became too embarrassing, and is kept in power by countless economic and political ties to Europe and the United States, as "socialist". There is only one name for this kind of gross ignorance and inattention to the facts — Social-Chauvinism, the prettification of neo-colonial domination by *one's own*

# letters

*ruling class* with the use of "socialist" phraseology. And you compound the errors and confusion by mentioning (in the same article) Mozambique (which has at least gone through a revolution, though there is much evidence that it is dominated by Soviet social-imperialism and South African imperialism at present), Cuba (which is certainly a client state of the Soviets now), and China (where the reactionary course set by the Hua Kuo-feng & Teng Hsiao-ping clique is evident to *anyone*).

You do *not* mention the one country where genuine socialism exists and is defended — Albania. You should be aware that there is a great debate going on in the world as to what socialism is and where it exists, and there are many different views in this debate. If you pretend to give a reasonably accurate picture of the situation in regards to this question, you should have mentioned these differences and not glossed over them. But it is typical of your tendencies toward revision, and distortion of Marxism that you do not even go this far. Instead, you take the position of the mystifiers and distorters of socialism, and in the cases of Tanzania and China, directly engage in social-chauvinism (I say China here because it should be clear that the present Chinese leadership has taken a pro-US imperialist course in its foreign policy).

The second article marks an open venture into the revision and distortion of Marxist theory. In both articles, the mere management of health care by the government is treated as "socialism" — no matter what class this government represents. This is the same line about socialism that the ruling class and the open fascists have. *Social ownership of the means of production cannot exist*

*when a small, rich, and powerful minority have effective control of the state.* This fact you seek to hide with a disregard for the necessity of a *working-class revolution* to bring the socialist state to power. In the second article, the vision of socialized medicine coming about through the gradual growth of government regulation and congressional activity (Marxists working with *capitalist congressmen*, yet) is present. This is sham socialism, class collaboration, and illusion-mongering. This is *in practice* the way in which *state monopoly capitalism* comes into being, and the state provokes the open fascists to attack the people by this kind of mystification of what socialism is.

You may argue that I blame the whole magazine for the faults of Waitzkin and the Willetts. But your column "About this Issue" doesn't present a word about this sort of criticism. It has been the practice of *Science for the People* to either present criticisms from the editorial committee in this column, or seek to solicit different views or get the author to agree to changes if his [or her] views are really objectionable. None of this was done, so you are either so sleepy-headed that you don't deserve to edit a magazine, or you actually *agree* to this kind of distortion. My dismay at the degree of retrogression from *SftP's* former awareness of revolutionary politics is beyond words.

I really think you should take my name off the [magazine] contact list after this, as I find its presence there embarrassing.

Yours truly,  
David B. Westman  
Seattle, Washington

## COMPLIMENT FROM ROME

Dear SftP,

You are doing a wonderful contribution for a progressive view of science and technology. Your material is very comprehensive, and not only well worth reading, but extremely useful as a guide to understand many problems of modern life. What we like most is how open you are. We may not approve of some of your articles, but plurality is not only a political expression. Good luck!

—*Chile America Magazine*  
Rome, Italy

## BSSRS REPLIES ON U.K.

Dear SftP,

The highly personal view of the British political scene produced by your correspondents Hilary and Steven Rose (*SftP*, July/August 1978) is mainly accurate and informative, if rather limited in scope. The Roses however make some extremely misleading comments on the British Society for Social Responsibility in Science (BSSRS), the parallel organisation to Science for the People. They explain the failure of BSSRS to take an active role in the fight against the increase in racism in Britain today as "because of the internal divisions which have tended to fragment it over the past year or so. These have involved political disagreements about the nature of the class analysis of science, theoretical divisions over the nature of science itself, and personal differences between individuals based on these differences in theory and practice."

This is a rather misleading analysis: these "political disagreements" and "personal differences" refer to a single incident, namely when a group of Steven Rose's coworkers in the Brain Research Group wrote an article for our magazine *Science for People*, challenging his actions as head of the laboratory (see *SftP* April/May 1977, No. 35). Since that time the Roses have largely withdrawn from participation in BSSRS. Although they have done much of the work on a National Union of Teachers' pamphlet *Race, intelligence and education*, they have not attempted to work within BSSRS on the issue.

Whilst it is true that BSSRS has not responded as an organisation to the racists, many of our members are actively involved, particularly in teachers' organisations (such as Teachers Against

the Nazis, All London Teachers Against Racism and Fascism, Teachers Action). Paradoxically, BSSRS's lack of activity on scientific racism is related to its successes of the last two or three years. We have, for instance, built up a series of Work Hazards groups working in close cooperation with Shop Stewards committees, which produce regular bulletins for trades unionists and a series of pamphlets on specific hazards (eg. noise, oil mists, vibration). In this area of our work contact between Left scientists and the Labour movement has been developed in a way possibly unequaled since the 1930's.

The Roses conclude that "the fragmentation of the radical science movement as a whole and of BSSRS in particular must be overcome if all possible forces against scientific racism and racism and fascism in general are to be mobilized." On this analysis there is one obvious line of action for them: to work within BSSRS on the issue. There would be political differences with others in BSSRS working in the area, but other BSSRS working groups successfully encompass a considerable range of political positions.

Yours in struggle,  
Charlie Owen  
on behalf of  
BSSRS Steering Committee

## POLITICS ON THE INSIDE

Dear SftP,

I received the SftP package today. My many thanks to the Cambridge collective. Looks like Science for the People is going to be good source material for our research and studies. Already I'm swamped by the brothers' requests to get into them.

Briefly, let me explain our situation. We're part of a segregated group of prisoners locked up in Marion's Behavior Modification Control Unit. The reasons for our being in here are many, but generally because of our radical opposition to the policies and practices of the prison system. The effort by the prison bureaucrats is to break this opposition through the implementation of various mind- and behavior-control techniques. Thus, it is a situation where repression is compounded by more sophisticated repression.

Our struggle has persisted over a period of about six years. We have won some significant victories, as well as suffered some grievous losses. What is more important, however, is the fact that we have forced them to alter their techniques over and over again. And with the alteration has come various changes in their "theory of behavior" and their "philosophy of corrections" — or so it seems. The ultimate objective, of course, is to tighten social control over the poor and working class people — and not merely the exercise of control over a radical sub-group of prisoners. The bourgeois "theory of behavior" is becoming an important avenue through which the ruling class seeks to expand and consolidate its hegemony over the subordinate classes. The theory and practice of social control have varied with different stages in capitalist development, and today assumes the form of Behavior Science and Behavior Modification, as capitalism enters its dying stage.

So, our struggle invariably is more than an effort to fight off brutal repression on a day-to-day survival level. It is an effort to break one of the repressive arms of the State and destroy the ruling class' hegemony over the oppressed classes. In a very small way, we have punctured holes in their subjectivist and empiricist theories of behavior (the two theories are not as diametrically opposed to each other as they seem), and caused disruptive changes in their strategy and tactics aimed at social control. But we, as subjugated classes, have a long way to go before we can challenge the bourgeoisie's system of discipline and control — which appears to be modelled after the capitalist's system of management.

Internally, we are weak, probably because of the absence of an alternative infrastructure with a strong party center and because of our blind adaptation of bourgeois values (particularly individualism, commodity fetishism, cut-throatism, etc.). These problems are more magnified in prison, where an alternative infrastructure (in any sense) is outlawed; and if it exists clandestinely, it is constantly subverted by rapid population turnovers. But the most formidable problem is the dominant influence of the bourgeois ideology upon the lumpen "mentality". Bourgeois social values are

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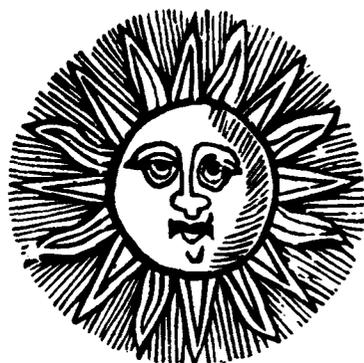
LETTERS,  
*continued on p.28*

HERE COMES THE SUN

# The Government Discovers Solar Energy

by Frank Bove

On "Sun Day", May 3 1978, nationwide rallies celebrated the vast potential of solar energy. Millions of Americans were exposed to a media barrage on solar power, and for the first time many were able to see equipment ranging from solar cookers to windmills capable of producing electricity. While solar enthusiasts proclaimed the "Solar Age", energy monopolies and utilities attempted to downplay the significance of Sun Day. Mobile Oil, on the day after Sun Day, launched an expensive publicity campaign with ads in every major newspaper, spending more than the entire Sun Day budget, in order to get the message across that solar energy's potential lay in the distant future. But Sun Day,



epf

and the public education efforts that preceded and followed it, have succeeded in convincing many of the feasibility of solar energy to supply our present energy needs. With the nuclear industry facing skyrocketing construction costs, few new orders, and an inability to find a safe permanent way to dispose of radioactive wastes, recent studies have pointed to a potentially bright future for solar energy. The technical and political question remains: What needs to be done to make the transition to a solar-powered economy?

## The Solar Potential

The President's Council on Environmental Quality (CEQ) released a study in April 1978 which indicated that with an all-out effort, solar technology could supply a quarter of all US energy requirements by the year 2000 and "significantly more than half" by 2020. Of course, this conclusion depends on the level of these requirements. By comparison, nuclear power, after 30 years of massive government subsidies (\$17 billion), produces less than 3% of our energy needs at present. More recently, President Carter's Domestic Policy Review Group (DPR), consisting of policy analysts from 30 federal agencies, has estimated that solar energy can provide about 10% to 25% of a total US demand of 95 to 132 quadrillion BTU (Quads) in the year 2000.

A particular potential of solar energy is its usefulness in "on-site" energy production. Unlike nuclear power, which requires a large central facility, smaller scale solar devices can be used to generate heat and electricity on-site, at the point where it is to be used. On-site solar devices thus allow for: 1) gradual expansion of the energy facilities with shorter lead-time to meet changing energy needs; 2) reduction of transmission losses; and 3) reduction of energy loss in the form of waste heat at the power plant.

The Congressional Office of Technology Assessment (OTA) reported in June 1978 that "on-site solar devices could be made competitive in markets representing over 40% of US energy demand by the mid-1980's". These markets include residential and commercial heating, hot water, air conditioning, and electricity, as well as heat for industrial processes at temperatures up to 550 degrees fahrenheit. The technologies OTA considered included photovoltaic cells (which produce electricity directly from sunlight), solar collectors, and other

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*Frank Bove is the energy coordinator for Mass. PIRG, a student-run statewide organization. He formerly was on the staff of SftP and Boston Clamshell. He is a founding member of the Boston chapter of Environmentalists for Full Employment and is a member of NAM (New American Movement).*

devices powered directly by the sun. The estimate does not include other renewable sources usually considered as "solar", for example, wind, hydroelectric, and biomass (plant-matter fuels, such as wood and methane gas, which now supply 1.7% of the nation's energy).

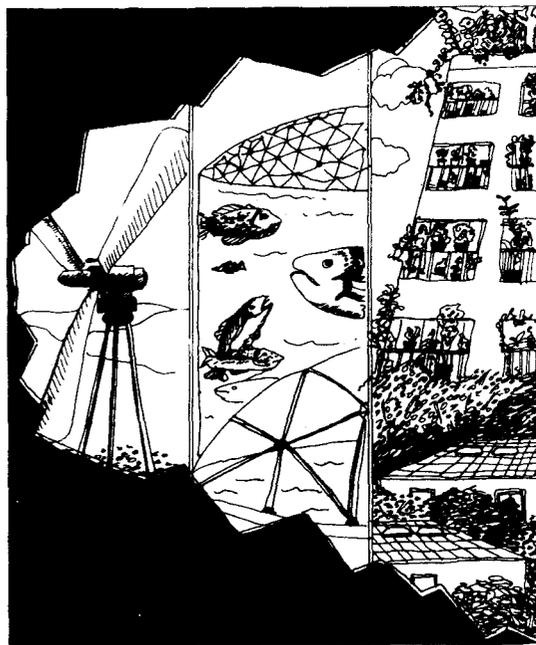
OTA states that on-site solar applications are technologically feasible today. But, they will probably penetrate only a small fraction of the potential markets by the mid-80's, because of inadequate government economic support. According to OTA, the present 10% of the energy R&D budget spent for solar research and commercialization is hardly enough. "Existing federal programs controlling fuel prices and subsidizing non-solar energy sources have created a situation where, without compensating subsidies, solar energy is uniquely disadvantaged. Federal support of solar energy has concentrated disproportionate attention on central electric generating systems instead of exploiting the special opportunities provided by on-site equipment."

### The Solar Budget

Even though the potential of solar energy is immense, it has been developed very slowly with none of the fervor and huge financial outlays which spawned nuclear development. For example, as recently as 1974 the solar budget was \$14.8 million while the nuclear budget was \$1.63 billion, 110 times that of solar. In fiscal year 1978, \$1.36 billion was spent on nukes while solar received \$385 million and conservation received \$254 million. For fiscal year '79, the solar budget was to be reduced, but Carter, bending to pressure, proposed on Sun Day to expand the budget to \$500.5 million, still only about 1/3 the amount nuclear will receive.

Not only is the solar budget woefully low, but the money is spent according to priorities that are clearly different from that of maximizing the potential contribution of the various solar technologies. The bulk of the budgets for solar electricity have been spent for applications which imitate the large central power stations of today (e.g., coal and nuclear) rather than for smaller, on-site applications. This "power tower" is the largest single item in the solar budget, receiving 25% of the total funds. This highly centralized technology is not nearly as efficient, cost-effective, or as close to the commercialization stage as solar electric technologies such as wind and photovoltaic cells. Yet wind power receives only 10% of the budget and photovoltaics only 19%. However, the "power tower" will aid the energy corporations in maintaining centralized control over the energy system.

Finally, only 9% of the budget will be spent on demonstrations of solar heating and cooling in commercial and residential buildings. This is hardly enough for the widespread demonstration projects which are



Neighborhoods/cpf

needed to influence the building construction industry which is traditionally extremely slow in adopting new technologies, especially when they entail a high initial cost.

### Government Strategy

Part 1 of the National Energy Plan, after over a year and a half of Congressional tinkering and "compromise" brought on by the energy monopolies' and utilities' pressure, was finally passed as the National Energy Act (NEA) on October 10, 1978. In early December, the US Dept. of Energy held a series of public meetings on Part 2 of the National Energy Plan (NEP2). The government's strategy\*, embodied in the NEA and the preliminary plans for the NEP2, can be outlined as follows: 1) The *deregulation and decontrol* of natural gas, crude oil and gasoline in order to: a) increase the supply of these fuels by allowing energy conglomerates their "fair return" on investment so that they will search more diligently for new sources of energy, and b) encourage conservation by removing "artificial" constraints and allowing the price of energy to rise to cover the cost of replacing the energy consumed ("replacement cost pricing"). 2) Some form of financial assistance is recommended in order to cushion the blow of rising energy prices to low-income families. 3) Economic incentives and regulatory reforms are recommended to hasten the development of conservation and

\*This strategy is basically echoed by the New England Energy Congress, a group of 120 representatives from consumer, low-income, labor, and environmental groups, and utilities, banks, industry, and government, who met for 6 months to develop a regional energy strategy.

alternative energy sources; *BUT*, 4) Strong reliance continues to be placed on nuclear power and coal to reduce US dependency on foreign oil and to act as transitional energy sources until solar, breeder or fusion technology is ready to become the major source of energy.

### Price Tinkering

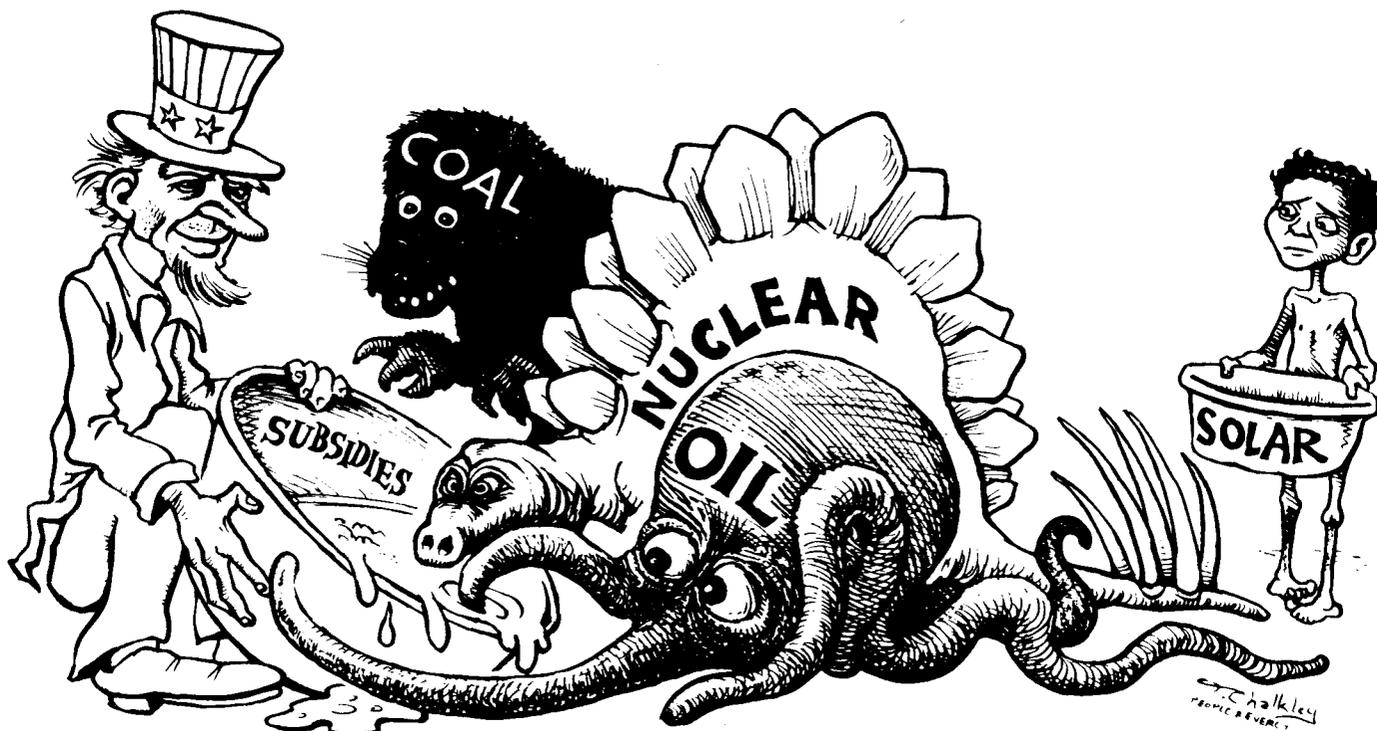
The price of conventional fuels has a strong impact on the development of solar. CEQ and OTA have claimed that the most crucial obstacle to solar development has been the artificially "low" prices of conventional fuels. According to CEQ, "In the past, consumers of oil, coal, and gas have been subsidized through systems of price controls and through unpaid environmental and national security costs." Price controls have kept fuel prices below replacement costs, and massive federal subsidies have speeded the development of conventional energy sources. In the past 60 years, federal support from various kinds of incentives reached \$133.4 billion (1976 \$): \$6.8 billion for coal, \$17.1 billion for nuclear, \$17.2 billion for large-scale hydroelectric facilities, \$15.1 billion for natural gas, and \$77.2 billion for oil.

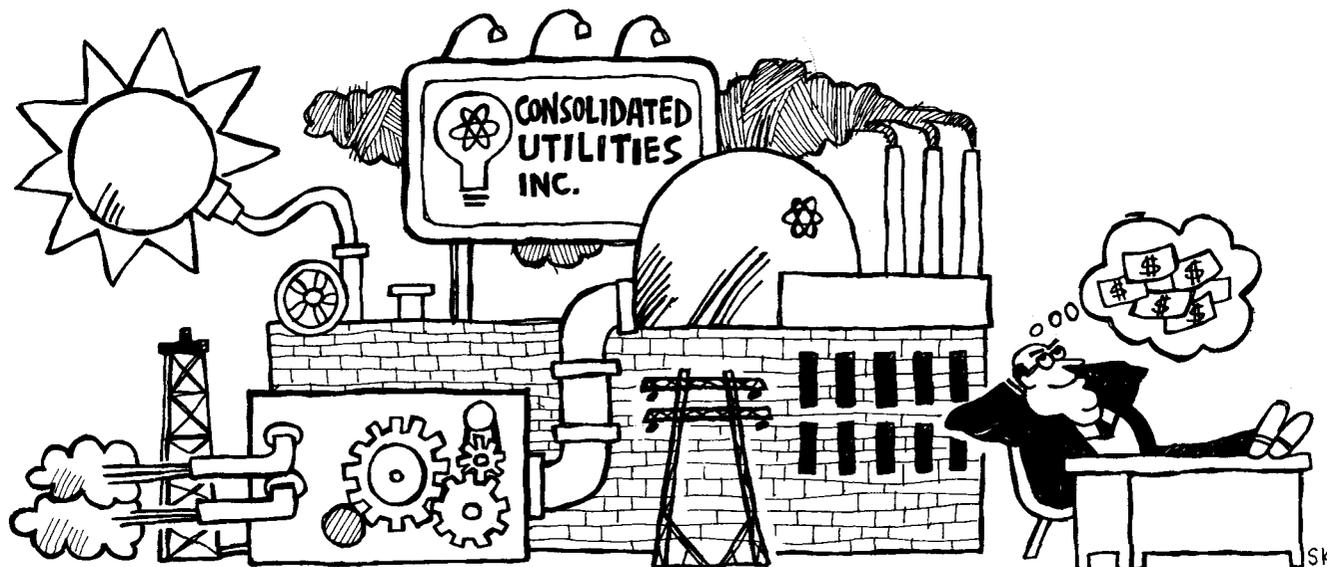
As mentioned above, in order to make solar energy and conservation more attractive economically, OTA, CEQ, and the Government's strategy calls for replacement cost pricing — charging consumers for all energy the cost (including the energy corporations' "fair rate of return" on their investments) of producing new fossil fuels and electricity by removing price controls. In this

way, solar energy would not compete at a disadvantage with other conventional sources in the marketplace. The rise in the price of fossil fuels and electricity would more quickly make certain solar technologies more economically competitive. Another consequence of raising fuel prices is that it makes nuclear power and other energy-inefficient, dangerous, and costly sources (e.g. solar satellites) economically competitive with energy-efficient and safer solar and conservation technologies.

One major problem with this approach is that it relies on the profit mechanisms of the market to bring about the solar future. The criterion for selecting solar technologies is the amount of profit returned on investment rather than on the suitability of the technology for meeting our energy needs. It also leaves most investment decisions in the hands of the energy conglomerates which not only dominate the "free marketplace" but also dominate the development of all energy sources including solar. For example, the oil companies not only control oil and natural gas production and supply, they also are responsible for 25% of US coal production and own more than 30% of the US coal reserves. Mobil, Exxon and Gulf are heavily involved in nuclear technology and the oil companies own more than half of the US uranium reserves. Mobil and Exxon have both become prominent in solar photovoltaic cell development. General Atomic, a joint venture of Gulf and Shell, and Boeing Aircraft, are among the prime developers of the highly centralized solar "power tower" technology. Exxon, Standard Oil of Indiana, and Grumman Aircraft are involved in the development of solar heating

People & Energy





Steve Karian/Red Apple Art

### THE CAPITALIST POWER DREAM

and cooling technologies. General Electric, Lockheed, and other aerospace giants are involved in developing wind energy technology. Leaving the decision to the “free marketplace” insures that the kinds of technologies developed and the pace of development will be decided by these corporations.

#### The Impact of Price Increases

Deregulation of natural gas, and the proposals in the NEP2 for the deregulation of gasoline and crude oil, as one element of a return to “market forces”, will force low and middle income families who already spend about 25% of their income to “conserve” energy. But, low and middle income families already consume the least amount of energy. Unfortunately, their limited access to capital makes it difficult for them to purchase insulation materials or newer, more energy-efficient appliances even with large tax credits. Of course, conservation, in the sense of efficiency improvements, is vital to human survival. But forced “conservation” is really an *attack* on the already decreasing living standard of lower income families, if they cannot afford to “purchase” efficiency improvements sufficient to maintain a constant level of energy services. Deregulation will also increase the costs of all goods and services, fueling inflation, which makes it extremely difficult for low and middle income families to afford other basic necessities.

#### A Rational Energy Plan

Instead of attempting to promote solar and conservation through deregulation and decontrol of energy prices, a transition program should *strongly regulate* and *stabilize* the price of energy at a *low* price

so that low and middle income families can afford it. This all-out campaign could be coupled with increased energy efficiency standards and should come at the expense of the profits of the energy industry. It should insure that every family can afford a certain necessary level of energy consumption pegged to a decent living standard. However, *key* to a transition program would be the constant political struggle towards the eventual control by the people over energy policy so that only safe and suitable technologies are developed. Only when this happens can we expect energy decisions based on people’s needs rather than decisions based on the corporate balance sheet. A rational energy plan means that the energy industry, the banks, the utilities, and the government agencies which serve them, no longer decide our energy future.

Among other financial assistance mechanisms, a transitional program under capitalism should utilize the following: lifeline rates, flat rates, large grants and subsidies, low interest loans (e.g., 3%), no shutoffs during the winter season because of inability to pay, and elimination of the fuel adjustment clause which allows utilities to automatically pass fuel cost increases onto consumers. The fuel adjustment clause has been a major source of rising utility prices and encourages the utility to inefficiently buy and use fuel since the consumer absorbs the cost. Construction work in progress (“CWIP”) should also be prohibited because it encourages utility mismanagement (building unneeded, costly and inefficient large centralized plants, while the consumer picks up the tab.

In addition, energy industry profits and practices should be *strongly regulated*. Conventional energy sources which are highly capital-intensive and environmentally dangerous (e.g., nuclear power and liquified

natural gas) should be quickly phased out of energy production, since they also compete with solar for investment funds. Coal, even though plentiful, should be utilized *only* under the condition that it is burned and mined safely. Technology does exist to reduce some of the dangers of coal, but more effort is needed to make coal safer.

A rational energy plan would also include tax credits, low interest loans, refunds, grants, and large federal purchases to encourage solar technology commercialization. To achieve substantial market penetration for solar and energy efficiency measures, OTA advocates their purchase on the basis of total "life-cycle" costs, that is, capital plus operating costs over the device lifetime. Solar operating costs are, of course, extremely low. The problem is that most people cannot afford the initial investment which is often substantial compared with other kinds of energy technologies.

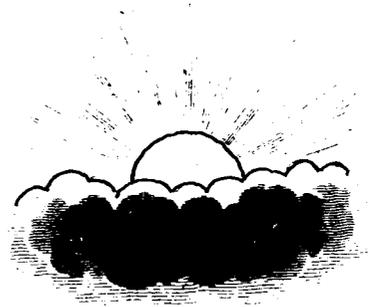
Fortunately, the National Energy Act does provide tax credits of up to \$2200 for homeowners who install solar-heating equipment, windmills or geothermal energy devices, and up to \$400 for homeowners who weatherize their homes or install more efficient furnaces. But, these tax credits do not explicitly cover investments in passive solar systems, nor do they address the needs of tenants or low and middle income homeowners who have little capital.

The National Energy Act also authorizes the purchase by the federal government of photovoltaic cells and solar heating and cooling equipment for federal buildings. However OTA has called for further incentives to spur solar development which should be supported. The incentives include: 1) additional incentives for solar heating beyond the tax credits proposed, 2) requiring all new buildings to be structurally compatible with, and properly oriented for, the later installation of solar equipment, 3) requiring consideration of solar technology in federal and state building programs, and 4) developing a more detailed program for equipment certification and installation. The Congressional Solar Coalition (comprised of about 70 representatives and senators) has called for the establishment of a "Solar Energy Bank" with a \$5 billion revolving fund which would provide long-term, low-interest loans for the purchase and installation of solar energy systems in commercial and residential buildings. Proposals by environmentalists include requiring utilities to provide low-interest loans to consumers for the purchase and installation of solar systems. However, the NEA has prohibited utilities from providing loans for solar and most conservation measures.

### **Obstacles to Solar Development**

A major obstacle to the development of solar electric systems (photovoltaic cells, wind systems, and low-head hydro) as well as cogeneration\* systems is not

only their high initial cost but also electric utility practices which affect their economic attractiveness. In the past, utilities have: 1) refused to hook up the solar or cogeneration system to the utility's power grid (transmission lines), 2) refused to buy excess power generated by these systems, and, 3) penalized the owners of these systems with higher electric rates because they use less utility-generated electricity. The National Energy Act has provisions which: 1) explicitly prohibits discrimination in the selling price of electricity to owners of solar and cogeneration systems, and 2) requires that utilities purchase any excess generation at "equitable" rates, (although "equitable" remains to be defined precisely).



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Another major obstacle to the development of solar electric systems is that they tend to be technologically and economically incompatible with nuclear power. However, many utilities have already heavily invested in nuclear power plants to provide "base-load" power. Utilities point to the intermittent quality of solar systems (e.g., when the sun goes down or the wind stops blowing) as the reason for relying on nuclear power for base-load power instead. They claim that solar may be used only for peak or intermediate load, which means that these systems would be operated only during periods of high demand. This would make the solar systems much less economical. These systems are the most economical when they are allowed to operate as much as possible (providing "base-load" power), because they are capital-intensive, (requiring a large initial investment), but have a relatively low operating cost. A rational energy plan would utilize solar for "base-load", intermediate and peak power by carefully balancing and mixing the different solar technologies so that they run as long as possible and fill in for each other when one is inoperative. A utility which relies on small solar units will need between 20% and 35% less reserve capacity than a utility which relies on large nuclear units.

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\*Cogeneration is the simultaneous generation of useful heat and electricity.

The government's reliance on nuclear power as a major energy source in the transition period will therefore tend to stifle the development of solar energy. The alternative in the short run is to utilize natural gas and oil in the most efficient manner. There is enough natural gas and oil, according to a U.N. report, to last another hundred years. In the transition to a solar economy, supporting fossil fuel systems should be relatively low in capital intensity, safe and easily replaceable by solar at a later date. Natural gas is probably the best transition fuel, since a large number of homes are already heated by gas and it requires less capital investment to develop. Gas could be used as a backup system for solar heating and could be replaced easily by methane made from biomass. Of course, oil for solar back-up is even easier to store.

### The Job Impacts of Solar and Conservation

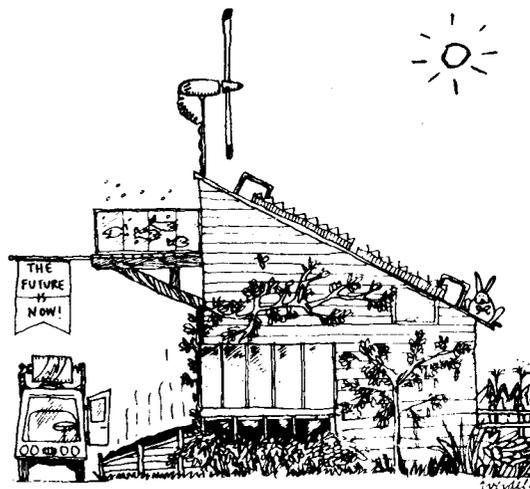
The most important technical step in the transition to a solar economy is to install energy-efficiency ("conservation") measures in homes, commercial buildings and in industry. Weatherization of residential buildings in urban areas should be given first priority, and programs utilizing grants, subsidies, and low-interest loans should attempt to meet the needs of tenants as well as middle income homeowners. Not only do energy-efficiency measures reduce waste and reduce our dependence on imported oil, but they also provide direct employment. These measures result in fuel cost savings which can be invested in a region to stimulate the economy and increase employment further ("indirect employment").

According to the Massachusetts Energy Office, "a 20% reduction in energy consumption by the residential sector alone could inject \$1 billion into the region's economy by 1985. In addition, conservation in the residential sector could mean the creation of 35,000 new jobs". Other studies done in California and Long Island, comparing the regional impact of solar/conservation versus nuclear power have found that dollar for dollar, the solar/conservation option provides more energy and more jobs than nuclear, especially for the locality. On Long Island, an investment in solar/conservation would generate nearly 3 times as many jobs and save or produce twice as much energy as an equivalent investment in a twin 1150 MW nuclear plant (the same capacity as the proposed Seabrook nuclear plant). In California, the solar power "equivalent" of the proposed Sundesert nuclear plant would generate 6.6 times as many jobs. Conservation alone was found to save the same amount of energy that a new nuclear plant would produce, at one-tenth the cost.

This indicates that in deciding how a region is to develop its energy resources, consideration of the job impacts of competing technologies must be taken into account. (Neither the Department of Energy nor the

Department of Labor has done a labor-impact study of energy development.) Solar energy and conservation can provide *union wage scale* jobs spread more evenly throughout each region so that construction workers do not have to relocate in some remote area, such as where a nuclear power plant is being constructed, in order to find work. There would be many jobs in urban areas where unemployment is highest. Jobs in almost every category of skilled and "unskilled" labor would be created by the intensive implementation of conservation and solar. In the words of Edward Carlough, President of the Sheetmetal Workers International: "Even figured conservatively, energy-saving modification work and an expanded use of solar energy could put all unemployed sheet-metal workers back to work."

Thus, a rational energy plan should establish a "worker bill of rights" to help ease some of the current union opposition to a nuclear moratorium or to a slower construction schedule for large-scale energy projects. This would include a one year occupational re-training program, family relocation payments, income maintenance, health insurance, mortgage insurance, and low interest loans for those workers displaced by the shift in technologies. A rational plan would also insure that all safety precautions are taken to protect workers involved in energy production. Even solar energy technologies can be dangerous. Under capitalism, we can not expect the energy industry to develop even solar technology safely.



### The Future Begins Today

We have seen that even the government and its advisory committees have begun to realize that the promise of solar energy is vast. When and whether its potential is realized, however, will depend in large measure on whether our energy future is decided by the energy industry or by people who realize that solar energy is the only long term solution to our "energy crisis." One thing is clear — the longer the commitment to solar is delayed, the harder it will be to make the transition. □

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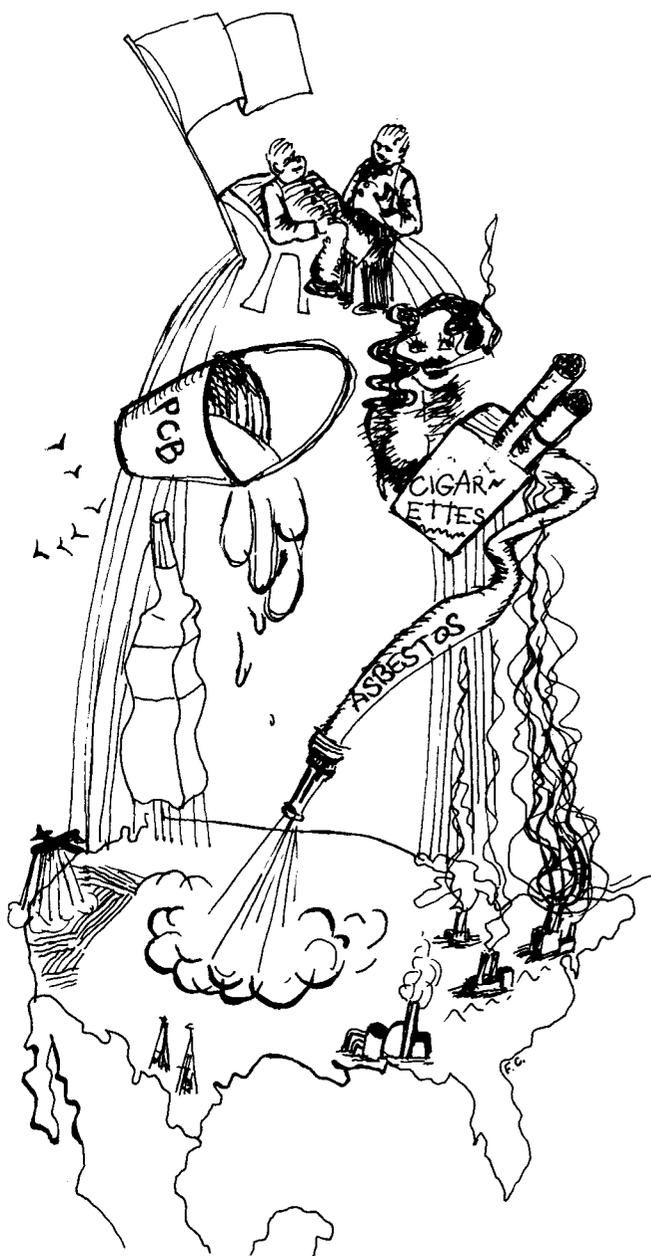
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# SOCIETY MAY BE DANGEROUS TO YOUR HEALTH

by Fran Conrad



*Fran Conrad is a longstanding member of Science for the People. She has taught biology and science & society courses in high school, and has been involved in community health education. She is now pursuing a career in occupational health.*

Chest pain, coughing and dizziness brought Joe to the doctor, who performed a check-up and advised him to quit smoking. The doctor never asked about the fumes Joe found so irritating at his factory job. Nonetheless, smoking didn't help, Joe knew, so he went back to the job, resolving to cut out cigarettes except while working. He'd seen others lose fingers on the unprotected machinery he worked with, when they got bored or agitated. Smoking helped him stay calm and steady at this job, and it might help him keep his fingers. He decided not to smoke on breaks or at home. Why expose the kids to smoke and set a bad example as well? On his next break he picked up a magazine. An ad showing a sexy male relaxing in the country with a cigarette caught his eye. Automatically he reached for his pack, then stopped himself.

After work he squeezed onto a rush hour subway, wondering if jogging the five miles home wouldn't be better. But he was beat as usual and besides he wondered how beneficial it was to jog in rush hour traffic. At home his wife told him that the bill collector kept calling, and asked where she was going to get the money for the kids' dental bills. He took a drink, trying to relax so he could think about this other set of problems. He just couldn't resist a cigarette.

He realized he was drinking and smoking more these days, two habits which were upsetting his health and upsetting his wife. She had become increasingly worried about his health and pleaded with him to reform. He did not want to hear her pleas and conversation between them grew more strained. Sometimes he felt caught in a vise.

Joe is a composite of people experiencing the assaults on health which are most typical of current American life. He may be at risk for a number of ills, including heart disease, hypertension, cancer, cirrhosis of the liver, ulcers and others. The doctor telling him to quit smoking, while ignoring not only job hazards, but the reasons for his habit, is in keeping with the current fashion among health professionals, who point to "lifestyle

change" as the solution to many ills. Recognizing the impact of smoking, eating and exercise on heart disease, cancer and diabetes (the top three killers), they urge people to make more healthful choices. Typical of the trend is Blue Cross' educational program, "Health Thyself". The introduction states:

The major killers of the 1970's — heart attack, cancer, stroke and accidents . . . may . . . be prevented — not by medical miracles, but by the individuals who decide on their own to avoid poor diet, physical inactivity, alcohol and smoking.(1)

The same attitude is reflected in the 1978-79 plan of the Boston area Health Systems Agency:

Our plan assumes that the principal determinants of personal health are individual behavior and lifestyles and that people must accept responsibility for their own well being . . .

The plan also states that "A healthful physical and socioeconomic environment should complement healthful behavior." But in its implementation strategy, there is plenty on education toward behavior change, and nothing at all dealing with improving the "physical and socioeconomic environment."

The idea is carried into the realm of morality by the president of the Rockefeller Foundation, John Knowles, who states, "I believe the idea of a 'right' to health should be replaced by the idea of an individual moral obligation to preserve one's own health."(2).

Certainly we could all improve our health by making the suggested behavior improvements. But the perspective that urges us to do so is a socially uncritical one, and fails to address the larger social forces which shape our health choices and otherwise affect our health. Such forces, this paper will argue, are more important than lifestyle choices. For example, a recent HEW report states that lifestyle choices explain only 25% of the risk of heart disease. "Although research on this problem has not led to conclusive answers" it goes on, "it appears that the work role, work conditions, and other social factors may contribute heavily to this 'unexplained' 75% of risk factors."(3)

At best, the lifestyle perspective may help some individuals to improve their health. Lifestyle changes may help individuals to gain a sense of control which makes them more open to taking part in broader social changes, but are more likely to engender a feeling of purely individual achievement and of superiority over less successful people, given the dominant ideology of competition and pursuit of self-interest in our society. At worst the lifestyle perspective makes people feel trapped by the heavy burden of their own sloth, of being up against big odds in an endless isolated struggle to be

"better". The overall effect is to deflect people's attention from the social causes of our ills, and as a long range strategy it will not have any impact on national health. It will instead serve as justification for the growing trend of cutbacks in health care and for industry's struggle to minimize regulation of occupational and environmental hazards.

The purpose of this article is not to devalue the importance of education for individual health improvement, but to put it into perspective. Clearly there is need for change at both an individual and a societal level. But it is the thesis of this article, that not only is social change far more important than individual change toward improving people's health, but that individual health change is not possible on a large scale without broader systemic change. After identifying which individual choices do influence health and what social factors shape these choices, most of the article will look in some detail into other ways that society has impact on our health.

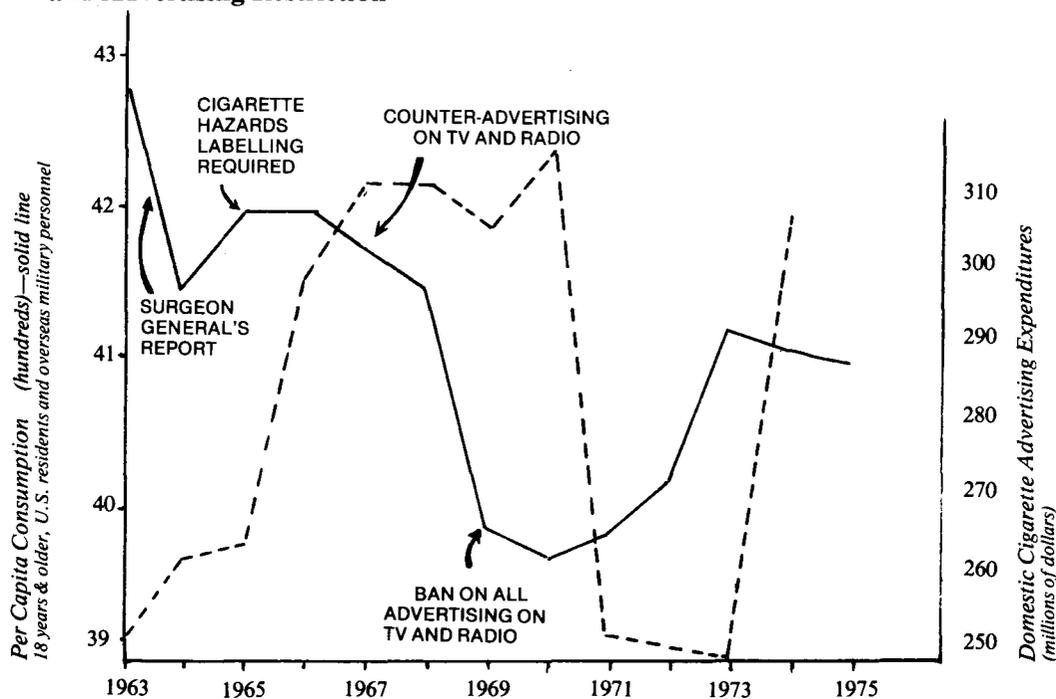
### How Individual Are Our Choices?

Diet has been linked to the big three killer diseases and several others: excess fats have been linked to heart disease and cancer, excess sugar to tooth decay, excess anything (i.e. too many calories) to obesity, which in turn is associated with high blood pressure, heart disease, and diabetes. Lack of exercise can compound the effects of overeating and may help to cause heart disease and the obesity-related group of illnesses. Possibly the most devastating form of self-abuse is cigarette smoking, which is unquestionably associated with lung cancer and other respiratory diseases, heart disease, high blood pressure and problems affecting almost every part of the body. Alcohol is of course the main cause of cirrhosis of the liver, and may also lead to other problems including birth defects and malnutrition. Stress also is sometimes listed under the rubric of lifestyle problems, for if we cannot always do much about its causes, we can learn some techniques for minimizing its destructive physical effects.

While it would be extreme to say that individual behavior is entirely determined by social factors external to the individual, the current focus on individual choice errs in the opposite direction. Certainly we make choices, but equally certainly, the habits, desires, values and experiences that guide our behavior do not develop in a vacuum. In the case of consumption of harmful substances, it is fair to say there are very powerful efforts going on to influence our actions in ways which do not improve health.

Cigarette ads and promotion for example, totalled nearly \$500 million in 1975.(4) Examination of the history of cigarette advertising reveals not only the power of the media over our choices, but also the subjugation

**Figure 1.**  
**Cigarette Advertising, Cigarette Consumption**  
**and Advertising Restriction**



SOURCE: Federal Trade Commission, Report to Congress Pursuant to Public Health Cigarette Smoking Act for 1975, published May 3, 1978.

of health considerations to profitability. Cigarette consumption rose steadily from about the time of WWI until 1963. Then there was a decrease in smoking for a few years followed by an upturn (Fig. 1). In 1964 the Surgeon General's report on smoking hazards appeared and the following year Congress required the warning label on cigarette packs. As the graph shows, there was a slight downturn in cigarette consumption following the report, then consumption began to increase again. This rise coincided with increased advertising by cigarette companies.

Then, a curious thing happened. A private citizen brought to the FCC's attention the fairness in advertising doctrine, which required equal time for counter-messages when a controversial issue appeared on radio or TV. The idea was that cigarette advertising should be considered controversial, and anti-smoking messages should be mandated. The FCC did not grant equal time, but in 1967 it did issue a ruling that broadcasters who advertised cigarettes had to inform their listeners of the health hazards of smoking.

During the period following that decision a number of creative educational messages were aired opposing cigarette smoking from the American Cancer Society and other groups. Interestingly enough, when the pro

and con messages appeared simultaneously, cigarette consumption began to drop more sharply than it had in 1964. The cigarette companies saw that the counter-messages seemed to be effective, and not surprisingly, they were part of the pressure which led Congress in 1969 to ban all radio and TV advertising of cigarettes. Once messages and counter-messages disappeared, consumption once more began to rise.(5)

In the last several years, consumption has declined overall. But for whatever reasons, it is still increasing among teens, particularly females (see Figure 2). Meanwhile, the cigarette industry is seeking to exploit the potential market of this group by increasing its advertising in non-TV/radio areas. In the five years following the media ban (1970-1975) outdoor ads (like billboards) received a 10-fold increase in expenditures, the largest % increase of any advertising category.(5) Observation of the hip women and sexy young male smokers on billboards suggests an attempt to appeal to the young, especially women.

In addition to the advertising blitz, the cigarette industry is active in lobbying against legislation which threatens to ban smoking in public places. If all smokers cut down by one cigarette per day, the R.J. Reynolds Co. alone would lose \$92 million per year in sales.(6)

What is the significance of this example? It shows us one way in which our health choices are molded by forces outside our individual control; also it shows that there is a good deal of health erosion built into a free enterprise system — not because companies scheme to malign consumers, but because in a free enterprise system, increasing profits is imperative and everything else must come second, health considerations included. Often in fact profits must be pursued at the *expense* of health, as illustrated by advertising harmful substances and as we shall see, by avoiding expensive cleanup of hazardous working conditions or of pollution.

Advertising products and production hazards are part of a more central issue, the nature of work in capitalist society, and its impact on health. Since the fundamental task of capitalist production is to increase profits, manufacturers seek to get as much work from employees for as little wages and overhead as possible. Avoiding expensive health and safety measures is one obvious cost-saving device. The results are unsafe working conditions and a polluted environment. Another characteristic of capitalist working conditions is increasingly fragmented and alienating work, which can be extremely stressful, and lead to a variety of stress-related health problems.

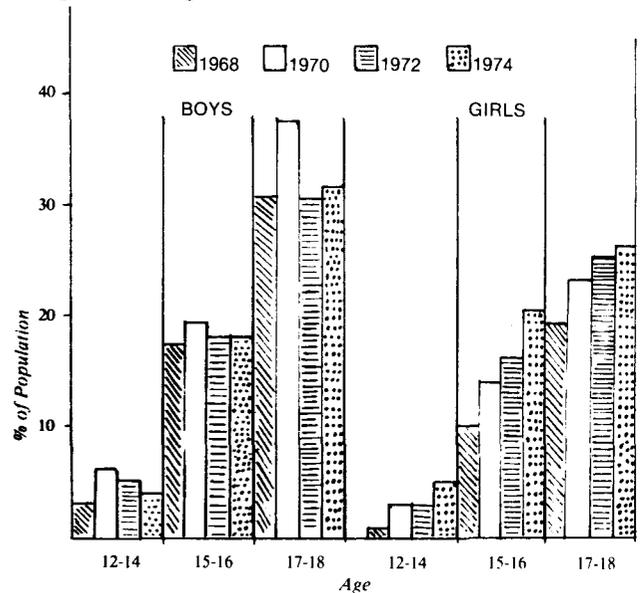
A closer look at some sources of stress at the workplace (and elsewhere) and at the physical hazards of work will be the subjects of the next several sections.

## Stress

Workplace stress may take many forms. It arises from several conditions, most of which may be traced to the degradation of the worker to little more than a producer of profit for someone else. Workers have little or no control over the goals of work. Nonunionized workers have little or no control over working conditions (and only about 25% of workers are organized). In addition, technological advances have historically divided jobs into more and more specialized tasks, increasingly alienating the worker from the satisfaction of overseeing a complete process. Speedup and harassment make many jobs unsafe, exhausting and irritating. And of course inadequate pay ushers in the stresses of financial insecurity, and in many cases the physical and psychological stresses of being poor.

How is a discussion of stress relevant to an understanding of social factors affecting health? The description of Joe suggested that stress led to "coping" by using drugs such as alcohol and cigarettes. But stress has more direct health effects as well, which are becoming recognized by medicine. (See box on next page). In particular, stress seems to affect heart disease and blood pressure.

Figure 2.  
Changes in Teen-Age Smokers



SOURCE: Center for Disease Control, from *Health in the U.S. Yearbook, 1976-77* DHEW (HRA).

Many situations other than work correlate with stress. When people are asked to list the events they perceive as most stressful, most include family break-up, death of a relative, job insecurity and job change, and migration.(7) All of these events correlate to increased mortality:

- family breakup*: the death rate of divorced men is two to four times higher than of married men(8);
- death of a relative*: Syme in a recent review of the literature on social-psychological causes of disease(9) cites a study showing widows were found to have a coronary heart disease rate 67% higher than a control group;
- job insecurity*: blood pressure (which is related to cardiovascular mortality because it leads to strokes), was shown in another study cited in the same review, to be associated with degree of unemployment. In one study, in the case of a plant shut-down, men who lost their jobs had higher average blood pressure than those who kept them.

All of these events appear at first glance to be very personal (as opposed to societal) occurrences, except perhaps job insecurity. But further thought suggests that they are socially influenced in very profound ways.

Family breakup for example seems the closest to an event of a very personal individual nature, at least when it refers to divorce and its effects on adults. But there are many ways in which the social context in which a marriage exists plays a role. For instance it is possible that in our society there are so few avenues to obtain emotional (not to mention financial) support or a sense of belonging, that we perhaps are overly dependent on our primary relationships. The term "primary" in fact conveys

## “STRESS” — WHAT IT IS AND WHAT IT DOES

Stress is a rather vague term which has been defined variously. Often it is “described as any difficult or trying situation that results in emotional pressure”(35) A more biological definition has arisen largely from the work of Hans Selye, who speaks of the body’s reaction to stressful circumstances. The circumstances may be purely physical, such as pain, or psychological, such as job changes. The body’s reaction is a quite definite set of responses which are thought to be a carryover from our animal ancestors’ responses to stress. These reactions prepare the body to take some action either towards dealing with the situation headon or trying to avoid it. They have popularly been called “fight or flight” responses. Whatever behavior results, the body prepares for the necessary sudden surge of energy with a basically chemical tooling-up process. The nervous system triggers the release of several hormones, and these, together with further nerve signals, bring about such events as increased blood pressure and heart rate, and release of sugars and fats into the bloodstream to be used for energy. These changes are very rapid, occurring in seconds or minutes, and are restored to pre-stress conditions only gradually, over days or weeks. Repeated stressful situations could cause a response like blood pressure to remain at peak levels with no chance to come down. Some scientists believe that problems arise for people not only because stress may be repeated or constant, but also because our social constraints do not allow us to carry out the action of fight or flight.(36) Thus tension may build without release. For example, if our debtors harrass us, we are unlikely to run away physically, much less punch them in the face. Scientists note from bio-

chemical studies that the body systems which are involved in the physical stress response (nervous and endocrine systems) have important influences on some body functions including blood pressure, fat metabolism, salt regulation, blood clotting and heart muscle metabolism. Thus there are many plausible pathways by which stress could affect health. Retrospective studies with people have shown correlations of stress with many disease states, including hypertension, atherosclerosis, colitis and possibly cancer. Stress also decreases the effectiveness of the immune system and thus leaves one vulnerable to infection. In addition, stressful lives may lead indirectly to health problems by causing people to “cope” with drugs, including cigarettes and alcohol, with their attendant harmful effects.

Research relating stress to health status remains speculative though, because stress is very hard to study. The problem is that there is no clear way to measure it. One must choose one of its resulting symptoms, such as blood pressure, or hand steadiness as an index, and none of these is related exclusively to stress, nor are any of them consistent measures of stress, even within the same individual studied over the course of time. Alternatively one can study stress using a subjective survey assessment of what situations people consider stressful and try to correlate those to health indices. Not only is stress hard to measure, but it is often one of many factors bearing on health status and hard to disentangle from other factors. Nonetheless, it is becoming increasingly recognized as an important societal factor influencing health.

—Fran Conrad

the role such a relationship is expected to play. It is possible that in a society in which group participation and concern were central, the various involvements of an individual might provide much of the fulfillment which we seek from a single intimate relationship. High and often unrealistic expectations may constitute a big stress on marriages. Another strain, not usually discussed, is simply poverty — having a family is a luxury for those who have the job opportunities such that they can support a family. This line of thought is highly speculative, but it is sure that the high rate of divorce in this country suggests there are powerful social forces stressing marriage. It would take considerable thought and study to attempt to untangle the intertwining effects of personal and societal characteristics on the instability of families, but it is surely true that marriage and divorce reflect much more than the sum of individual choices.

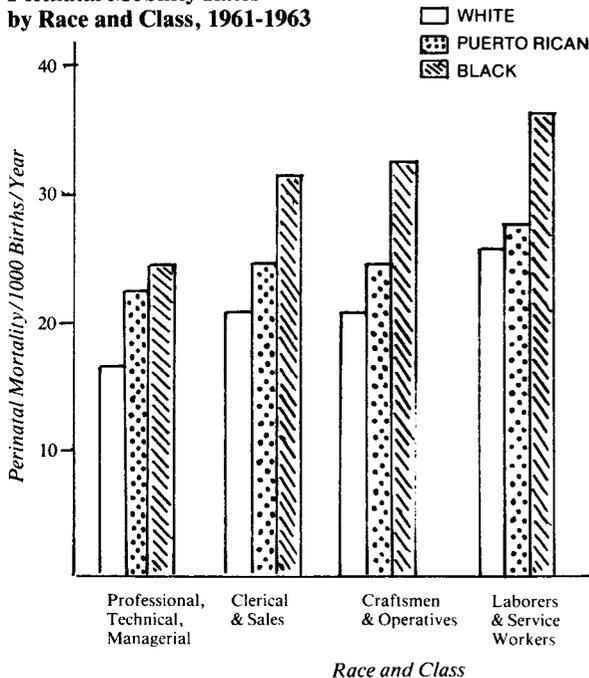
Racism is another aspect of our society which undeniably generates much stress, but which is rarely cited in the stress/disease literature. Not only does a non-white person suffer the psychological trauma of be-

ing treated as inferior and live with the threat of physical violence, but frequently also with the stresses attendant to poverty, including the most hazardous and least secure jobs.

An interesting controversy surrounds the question as to whether the striking difference in blood pressure between blacks and whites is genetic or environmental (and presumably related to the stress of racism. For a thorough and unusual review article, see reference (10).) If the difference is environmental, this may explain the sociological variation of hypertension among blacks, as well as the black-white difference. The 1962 National Health Survey showed that the age-adjusted prevalence of hypertension for both black and white males correlates with both education and occupational status. A 1963 paper showed that there was a steady increase in hypertension-related deaths proceeding down the economic ladders from professionals to laborers (Figure 3).

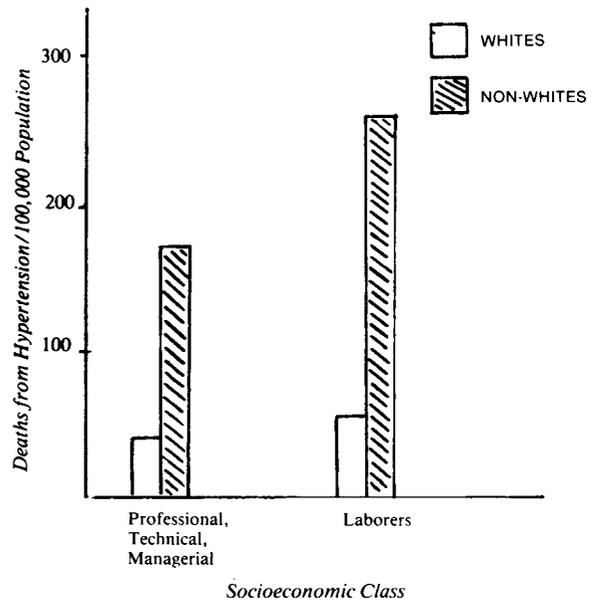
We have seen evidence that social factors such as unemployment, bereavement and racism are related to cardiovascular mortality (including hypertension,

Figure 3A.  
Perinatal Mortality Rates  
by Race and Class, 1961-1963



SOURCE: Baumgartner, L., *A.J.P.H.* 55:4, p. 495 (1965)

Figure 3B.  
Race & Socioeconomic Class and Hypertension  
Mortality (1950, Age Group 49-54 Males)



SOURCE: Adapted from Howard, J. and Holman, B., "The Effects of Race and Occupation on Hypertension Mortality," *Millbank Mem. Fund Quart.*, 48:3, 1970.

stroke and heart disease). It is reasonable to speculate that in addition to these extreme situations, some general characteristics of American society are highly stressful for most people. Competition, which pervades our culture, for example, is usually described as "healthy" in America, though it is hard to see how that could be so in any physical or psychological sense. The stresses attending it can be health-destructive if they are perpetual. For disadvantaged groups, who are most likely to lose in economic competition, the primary stresses of competitiveness are compounded by the secondary stresses of frustration, anger and chronic economic insecurity.

Other stresses which are general but probably more pronounced among disadvantaged groups are those mentioned earlier as part of the alienation of work. Anyone who has worked at a job which was some combination of tedious, boring, socially useless, overly regimented, under the supervision of an oppressive person, or for the profit of someone else, can attest to the stresses of work. Needless to say, the poorer, less skilled and less educated one is, the likelier one will experience these conditions. What is being suggested here is that stress contributes heavily to ill health in the U.S. for the general population, and particularly high for minority and poor people.

### Industry and the Worker

Occupational hazards are no small threat and in general are greater for workers of low economic status. Of 100,000 work-related deaths which the Labor Dept. estimated would occur in 1976, it was expected that 14,000 would be caused by injuries, and the rest would result from sickness due to dusts, solvents, fiber gases and other chemicals.(11) Even the 55,000 American deaths in the entire Vietnam War are many fewer than the deaths caused by industrial accidents alone in the same years — 114,000. During the same period, about 1 million more died from job-related disease.(12)

Of all the dangers to which workers are subjected the most insidious is cancer. Judging from the popular press, one might think that the connection of carcinogenic chemicals to the high rate of cancer was only recently known. A bit of probing proves otherwise. The first documented work-related cancers (among British chimney sweeps) were reported in 1775.

A man by the name of Wilhelm Heuper was employed by DuPont from 1934 to 1938. From his observations he suspected that a naphthylamine dye being used in the plant would lead to bladder cancer. Testing the chemical with dogs he confirmed his suspicions and went to management, warning that they could expect a

SOCIETY & HEALTH, *continued on p.32*

# SOCIOBIOLOGY: THE C

After over almost a year's reflection and review and after analyzing the reaction to the new wave of books this fall on sociobiology, particularly E.O. Wilson's *On Human Nature*, the Sociobiology Study group of the Boston Chapter of Science for the People has decided on a new course of action. We find there is a growing attack on sociobiology from within the academic community. On the other hand, there is, as described in this article, a growing penetration of sociobiological thought into other disciplines, as well as an increasing amount of research focussed on finding evidence of the biological basis of human behavior and differences between groups. Given this situation, we decided both to widen the scope of our own critiques and also to continue the attack in a more popular vein. Our efforts in this direction will include a series of articles or columns in *Science for the People*, of which this is the first, on various aspects of a new generation of biological determinist theorizing.

## Academic Victories and the Coming Popular Struggle

But first, we must pause to recognize and take heart from our considerable achievements. The report "AAAS: Sociobiology on the Run," which appeared in *Science for the People* (March/April 1978)(1), is, as the title suggests, a triumphant account of events at the two-day symposium on sociobiology held at the 1978 annual meeting of the AAAS (American Association for the Advancement of Science). We could discern growing criticism of E.O. Wilson's *Sociobiology* by members of



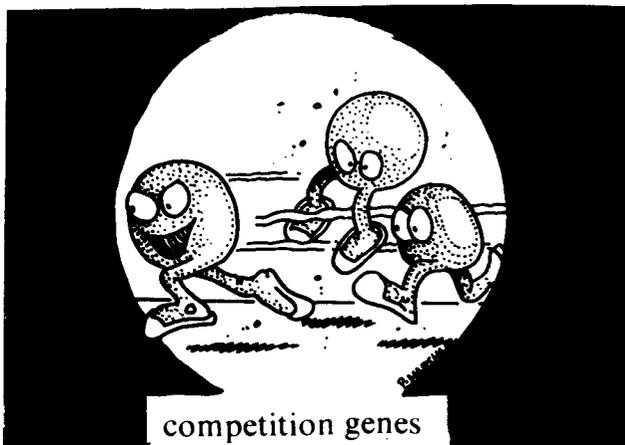
Dollars & Sense

the academic community, including sociobiologists themselves. For example, the official abstract for the symposium, written by one of the organizers, George Barlow, who considers himself a sociobiologist, states:

They [social scientists], and most biologists, find that Wilson took all too much license, in the last chapter of his book, in trying to explain human behavior. He resurrected the nature-nurture issue in a way which ignores the conceptual advances of the last 20 years . . .

Given the universally favorable publicity and acclaim that *Sociobiology* received after publication, we considered this new trend in the debate to be a clear victory for Science for the People, which presented the first and most constant criticisms of the theory. Our criticisms emphasized that sociobiology is a new biological determinist theory of the status quo.

While this success was quite an achievement, the article ends on a somber and cautious note. We pointed out that "academic refutations of these ideas do not prevent them from continually being presented in the popular media and school texts," and that biological determinist theories "can have powerful social impact and must be combatted both in the academic and public arenas." This dual aspect of the report reflected well our appraisal of the situation at the first meeting of the Boston Sociobiology Study Group after the AAAS meetings. Though we all agreed that the erosion of academic support for sociobiology was of the utmost



# CONTROVERSY CONTINUES

by Freda Salzman, for the Boston SftP Sociobiology Study Group

importance, sober review made us realize that a long, hard struggle still lay ahead. As indicated in the article, we knew that sociobiology and related arguments continued to penetrate text books of many disciplines and that sociobiological themes were being presented favorably in the popular media even though authors conceded that this new field was "controversial."

## A Brief Historical Review

Further, we knew that in periods of social unrest and questioning, there is typically a resurgence of the nature-nurture question. Tremendous publicity is given to supposedly scientific theories that purport to show that poverty, hunger, unemployment, disease are due to our genes and not products of our social institutions. Biological determinist theories have been used as if they were fact as the basis for social policy, such as policies based on claimed innate racial and female inferiority and "female nature."

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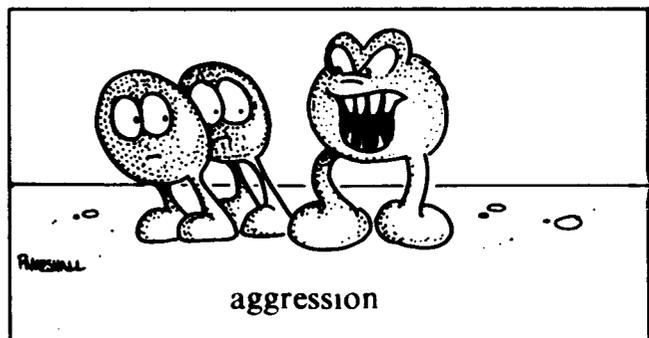
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According to these biological determinist theories of the status quo, aggression and competitiveness are basic aspects of "male nature" and are the driving force of what is called progress. Furthermore, it is claimed that these traits lead to male dominance, and, along with a catalogue of supposedly innate male-female differences, to sex roles. Aggression and competitiveness, along with claimed biologically-based differences between groups, are then used to explain the vast stratification of our society with respect to wealth, power, and privilege, based mainly on class, race, and sex. Clearly, the group that benefits most from such theories is a small, but powerful, wealthy and privileged class, the corporate elite. This group has extensive

influence over the media, education and funding institutions and can thereby strongly influence public opinion and the direction of research.

The list of biological determinist theories of the status quo is long, spanning more than a century, starting with Social Darwinism, which led to the IQ and eugenics movement. This was followed by the use of Freudian ideas of human nature and the psychoanalytic theory of the psychology of women, which was supplemented in the post-World War II period by psychoanalyst John Bowlby's theory of "maternal deprivation" and "attachment." Bowlby's theories were based on psychoanalytic theory and early findings in ethology (the study of animal behavior) and claimed that a child needs to have a continuous relationship with a "single" mother for the development of good mental health. Then, with the tarnishing of the Kennedy golden dream of a new, and more just, social order, the 1960's saw a new wave of biological determinist theories, from the "naked apert" theories of Desmond Morris, Konrad Lorenz, and many others: to the revival of the IQ controversy; to claims that prenatal hormones organize male-female brains leading to sexually differentiated mental abilities and behavior; and finally, to socio-biology.

Social Darwinist and Freudian ideas stimulated diverse areas of behavioral studies and influenced the interpretation of findings, which were then used to confirm the original ideas. Thus, for example, Social Darwinism not only led to IQ testing, but also gave support to the claims that the IQ test measured intelligence and that the racial and ethnic differences in IQ scores were due to hereditary factors. Since the ranking of different racial and ethnic groups came out to be as expected, with white Anglo-Saxon Protestants achieving



the highest score and Blacks the lowest, this was used to uphold the racist views of Social Darwinism. From the 1920's on, this interplay of theory, studies performed, and interpretation of findings occurred in such areas as studies of the effects of hormones on sex differences in behavior, studies aimed at finding sex differences in mental abilities and personality, and studies of animal social behavior, particularly primate behavior. These supposed scientific theories have been thoroughly discredited, shown to rest on unsubstantiated claims or on highly questionable evidence or methodology.(2-9) But many of these theories have had enormous social influence — and extremely pernicious effects — particularly where there has not been strong opposition to them from within the scientific establishment.

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*Scientific sexism reinforced women's subordinate role as wife and mother. It also justified the relegation of women in the wage labor force to marginal, sex-stereotyped, low-paying jobs.*

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Social Darwinism, upheld by the intellectual and scientific elite, fueled the machinery that produced, increasingly, virulent racism in the United States from the late nineteenth century through the 1920's.(10) The intense racism was used to support the imperialist expansion of the United States abroad, the further, brutal subjugation of non-white groups within the country, particularly Native Americans and Blacks, and the increased stratification of the wage-labor force.(11) Scientific racism was explicitly influential in the passage of sterilization laws in many states and the racist Immigration Restriction Act of 1924.

Scientific sexism, particularly the selective use of Freudian ideas, helped to reinforce woman's subordinate role as wife and mother. It also provided the ideology by which the increasing number of women entering the wage labor force were relegated to marginal, sex-stereotyped, low-paying jobs. Bowlby's "maternal deprivation" and "attachment" theories, upheld by all the professionals involved in child care, was enormously influential.(7) For example, it was immediately used, as if it were scientific fact, to support policies to reduce drastically government supported day care facilities in the United States and England in the post-World War II period. These facilities had been greatly expanded during the war to enable mothers of small children to work. Then, in the glutted post-war labor market, policy makers saw that reducing the facilities would help force women out of the regular wage-labor force.

### **Sociobiology and New Biological Determinist Theorizing**

Despite the inroads that have been made in the support for sociobiology, members of the Sociobiology Study Group realized that sociobiology was still the most important biological determinist theory being used as an argument for the genetic basis for many features of our society. Male aggression and competitiveness, male dominance and sex roles; cheating, spite, and altruism; the capitalist market economy; and, ethnic and racial prejudice and conflict are all claimed to have a genetic basis. Biological explanations for these aspects of our society help to justify them and divert our attention from the overwhelmingly important social causes. For example, after there was racial conflict at Carson Beach in South Boston in summer, 1977, Wilson was interviewed on the Paul Benzaquin program, a popular radio talk show. Following Wilson's description of sociobiology, Benzaquin justified the Carson Beach incident:

I'm hearing you right now in the context of an ugly confrontation at Carson Beach in Boston, which seems to be dependent upon some sort of a



Nancy Edwards

drive by people to say that they are racially superior... We persist in this cellular urge to be superior...

Wilson did not object to this application of sociobiology, and later Benzaquin stated: "...if that | racism | comes out of our genes, I can forgive it..." Thus, the real social problems are ignored, such as high unemployment rates, poor schools and housing, and the way in which federally imposed busing in South Boston has helped to foment racial tensions. Wilson's *Sociobiology* does not attempt to define racial differences or to evaluate which racial characteristics are superior; but, the theory clearly can be used in this manner.(9) Because of its use in maintaining many inequalities in our society, the Sociobiology Study Group was quite certain that sociobiology was not going to be readily discarded by the ideologues of the existing order.

At the meeting of the Sociobiology Study Group just after the 1978 AAAS meetings, we focussed on some areas of particular concern. We knew that there would be a flood of new books on sociobiology in the fall, including a new book by E.O. Wilson, *On Human Nature*. We wondered how to respond to the growing acceptance, use, and legitimacy of sociobiological arguments for the genetic basis for socially significant human traits, though they were not identified explicitly as "sociobiology." One of our members pointed to sociologist Alice Rossi's "A Biosocial Perspective on Parenting," the lead article in a special issue of *Daedalus* on "The Family."(12) In this article, Rossi presents a somewhat updated and modified version of Bowlby's theory of "maternal deprivation" and "attachment" (without any of its psychoanalytic trappings). Her

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**Rossi argues that fathers cannot be equally good parents "unless males receive compensatory training far in excess of anything now envisioned."**

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theory is based on a "bio-evolutionary perspective," and claims the development of innate sex differences in behavior and ability are due to natural selection. It supports a current model of male-female differentiated human brains, which causes the sexes to respond differently to stimuli and hormones. (Her "bio-evolutionary perspective" is totally speculative and essentially untestable and the model of a sexually differentiated brain is unsubstantiated in humans.(8) ) Rossi argues that the biological mother is predisposed to be the best caretaker of a child and that fathers cannot be equally good par-

ents "unless males receive compensatory training for parenthood far in excess of anything now envisioned."(13)



*Ourselves and Our Children*

On the same theme, there was also psychoanalyst Selma Fraiberg's *Every Child's Birthright: In Defense of Mothering*, which had been well-received in the press and which presented "maternal deprivation" theory essentially unaltered from that of Bowlby. Both Rossi and Fraiberg do not see the possibility of our society providing adequate, decent day care facilities. Given the rapidity with which Bowlby's theory was applied to support policies concerning child care and day care, it is evident what use will probably be made of these new works, whose claims are as scientifically unsupported as Bowlby's.

Other members of our group were aware of other biological determinist theories which appeared to be gaining a foothold. While waiting to see how the new books on sociobiology would be received, we embarked upon an active "study" program which would help us to assess the new developments and trends in biological determinist theorizing. Besides Rossi's article, we read one by Sandra Scarr and Richard Weinberg, "Attitude, Interests and IQ," which appeared in *Human Nature* and which claimed evidence for a genetic basis for IQ, career interest and attitudes.(14) The Scarr and Weinberg claim is based on two large-scale studies, launched in 1973, of adopted children as compared both with "biological" children raised in the same family and with their biological parents. The authors gave the children and parents in the studies a battery of tests, including an IQ test, a test that supposedly measures "a person's degree of authoritarianism, rigidity of belief, and prejudice," and a vocational interests test. They found that the scores on the tests of genetically related members of a family resemble each other more (are more highly correlated) than those of the adopted, genetically unrelated, family members, and conclude that IQ, attitudes, and vocational interests must therefore be due to genetic factors.

## *On Human Nature* Appears

As expected, Wilson's *On Human Nature* received considerable attention in the press and periodicals. Some of the reviews panned the book, criticizing Wilson's conception of human nature and the evidence he gave to support his claims, while some of those who wrote favorable reviews pointed to its being less rigorous but more accessible than *Sociobiology*. Wilson states in the Preface of *On Human Nature* that it "is not a work of science; it is a work about science,"(15) implying that the book is a popularized version of the theory. But the chapter in *Sociobiology* on humans is not rigorous at all: it is written in a highly speculative and undocumented manner.

In substantiating his theory in *On Human Nature*, Wilson trots out many by now well-known references: Konrad Lorenz and Robin Fox on sociobiological themes; the work *Women in the Kibbutz* by Lionel Tiger and Joseph Shepher, which claims a biological basis for the increase in the sexual division of labor and sex-role inequality in the kibbutz (with men predominantly in management and decision making positions and women predominantly in the service and childcare sectors) in what was supposedly a system of total sexual equality; the work *Man and Woman, Boy and Girl*, by John Money and Anke Ehrhardt in which the authors claim that prenatal hormones organize male-female brains; the work *The Psychology of Sex Differences* by Eleanor Maccoby and Carol Jacklin, generally regarded as a definitive review of sex differences, in which the authors claim a biological basis for greater aggressiveness in males than females. These works have been subjected to extensive criticism in the scientific community for making claims based on highly questionable evidence and using deeply flawed methodology.(8,16)

Besides these older "warhorses," Wilson also draws upon a whole new generation of claims for biological determinants of behavior. He refers to the Scarr and Weinberg work as providing "important new evidence of the inheritance of intelligence and personality traits based on comparisons of children raised by biological as opposed to adoptive parents."(17) He cites new twin studies of J.C. Loehlin and R.C. Nichols, *Heredity, Environment and Personality* (1976), and states in a forward to another book on sociobiology that "the most carefully controlled of the twin studies, such as those by John C. Loehlin and Robert C. Nichols..... strongly indicate the existence of a moderate amount of heritability in a wide range of mental abilities and personality traits basic to the development of social relationships."(18) Wilson also cites a recently reported study by June Reinisch and William Karow on the effects of prenatal exposure to androgens (frequently referred to as "male" sex hormones because they occur in higher

levels in males) on female personality, a study which Wilson states "is especially important because it demonstrates effects on the personality of girls who were exposed prenatally to progestins but were not hermaphroditic at birth and hence not treated in any special way subsequent to birth."(19)

Other research programs are in the offing. For example, Maccoby and Jacklin of Stanford University are embarked on a long-range study in which they measure the levels of testosterone (one of the androgens) and estrogen ("female") hormones in new-borns. They propose then to follow the children as they grow up, supposedly to determine the relative influence of biology and environment in producing differences in males and females in mental abilities and personalities. How many more research undertakings have been "inspired" by a newly found interest in or a "need to know" the biological basis for behavior and for differences between individuals and between groups, we do not know — but we suspect that the number is considerable.

At the present time, the field of sex differences has become particularly active, not only in studies of the effects of hormones on the brain and behavior, but also in other areas, such as the burgeoning field of sex differences in brain lateralization.(20) Lead articles on the question of sex differences, claiming an irreducible core of innate sex differences, have appeared in diverse places, from *The New York Times* to *Psychology Today*, as well as in *On Human Nature* — "So at birth the twig is already bent a little," as Wilson puts it.(21) Sex differences in behavior naturally plays a central role in sociobiology, an evolutionary theory which tries to draw analogies with animals which have limited social interactions and to find universal human social traits that hold for all societies and epochs, including very primitively living groups.

The growth of explicit claims of biologically based sex differences in behavior reflects the present political climate. As Wilson notes in *On Human Nature*, the question of a biological basis for "racial" differences in behavior "is the most emotionally explosive and politically dangerous of all subjects."(22) But claims for a biological basis for sex differences in behavior — and sex roles — have not caused protest. Thus, Wilson feels at liberty to make statements such as "Even with identical education for men and women and equal access to all professions, men are likely to maintain disproportionate representation in political life, business, and science,"(21) without offering any scientific evidence.

Wilson asserts, as do Rossi and others, that sex role inequality is not necessarily inevitable. Sociobiology is not nineteenth century determinism, as the dust jacket of *On Human Nature* states, Wilson "arrives at conclusions far removed from the social Darwinist legacy of the last century. Sociobiological theory, he shows, is

compatible with a broadly humane and egalitarian outlook." For example, society could choose to compensate for the supposed innate sex differences — but, according to Rossi and Wilson, only at a price! For Rossi,

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***We are equipped, Wilson tells us, with a "jerrybuilt foundation of partly obsolete Ice-Age adaptations."***

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the compensatory training that males would need to be equally good parents is "far in excess of anything now envisioned." For Wilson the price of sex equality is that "...the amount of regulation required would certainly place some personal freedoms in jeopardy, and at least a few individuals would not be allowed to reach their full potential."(21) Neither Rossi nor Wilson offer *any* evidence that equality would involve the cost they claim.

We have here a twentieth century form of genetic determinism which serves to legitimate the scientific engineering and management of human society.(23) We are equipped, Wilson tells us, with "a jerrybuilt foundation of partly obsolete Ice-Age adaptations."(24) Or, as Rossi states, *in italics*:(25)

*Westernized human beings now living in a technological world are still genetically equipped only with an ancient mammalian primate heritage that evolved largely through adaptations appropriate to much earlier times.*

They claim we need professionals and scientific experts to tell us what our genetic propensities are and to make a cost-benefit analysis in terms of the compensatory training and regulation of behavior that would be required to realize different kinds of social systems.

Sociobiologists draw evidence from several major fields: analogies with animal behavior, cross-cultural anthropological studies and evolutionary anthropology, and specific studies designed to determine the genetic basis of human social traits. There are now increasing numbers of criticisms of these claims from within the academic community. For example, a recent indictment of sociobiology with respect to animal analogies has been made by a noted anthropologist who has done important primate studies, S.L. Washburn:(26)

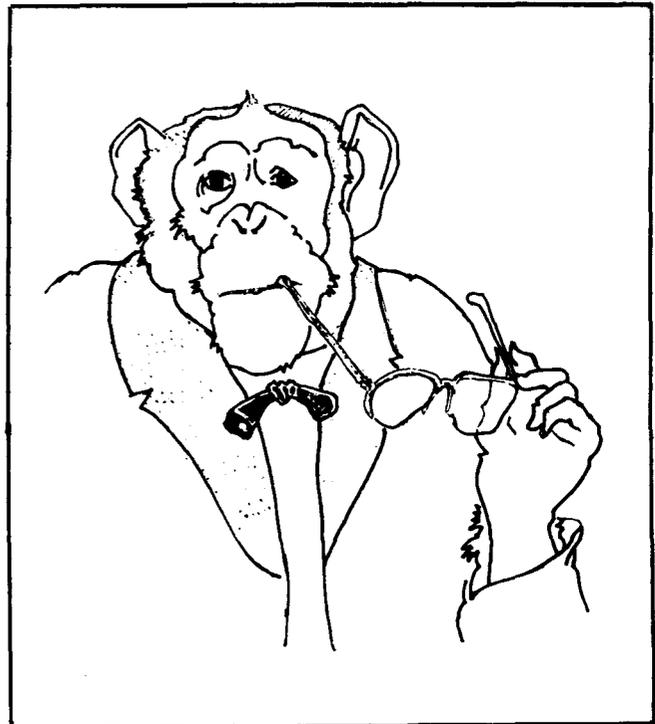
The claim that genes are responsible for different types of behavior in animals and in people is the most controversial part of sociobiological theory. More to the point, this way of thinking, in its

application to human behavior, repeats the errors of past generations of evolutionists, social Darwinists, eugenicists and racists.

### Politics of Sociobiology

The proposed sociobiological program is a pseudo-scientific myth — the program can not even get off the ground because we lack any means at present of rigorously determining the genetic basis for human social behavior (in the normal range), as we made clear in our first extensive critique of sociobiology.(27) Due to the enormous importance of learning and the social environment in the development of humans, and due to the degree of bias and stratification in our society, the methodological problems in doing rigorous studies are essentially insurmountable. Of course, there is still a prior problem: Most complex social traits, such as intelligence, aggression, dominance, cannot be quantified so that they can be dealt with in a scientifically meaningful manner. The fact that such studies are proliferating, as well as new claims for evidence for the genetic basis for human social behavior, is, as we stated in our earlier critique, *a political problem*.(27)

The politics of the controversy is nowhere more evident than in the manner in which critics of sociobiology are dealt with in pro-sociobiology reviews and works of sociobiologists. Critics of sociobiology, with Science for the People usually singled out, are simply dismissed as being Marxists or left-leaning liberals who are letting their politics interfere with hard science — "Burning Darwin to Save Marx," as the title of a recent article in *Harper's* states.(28) It is claimed that these left-leaning



Adapted from *New Scientist*

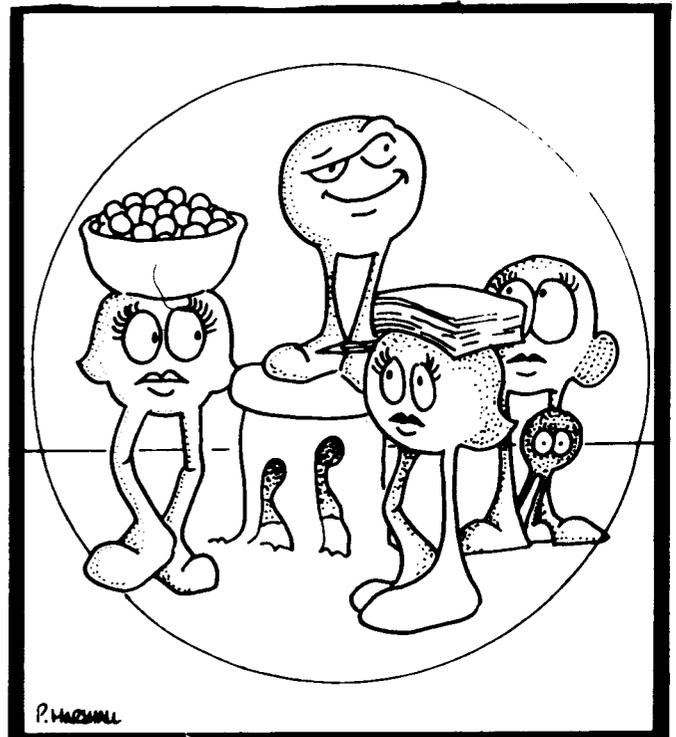
professors, because of their politics, wish to believe that humans are born with a clean slate, and are infinitely malleable. Thus, the argument goes, these politically motivated scientists are trying to discourage studies which would show the genetic basis of human social traits because they are afraid to know the truth. This characterization of our position is a pure fabrication, attributing totally false motives to us. We are indeed political, as well as scientific, and our claim is that human sociobiology, as presently formulated and promoted, is without any real scientific merit, but is political ideology for the status quo masquerading as pure, objective, value-free science.

The political nature of the scientific establishment is clearly discernible in the way in which the tremendous publicity and praise given to sociobiology — and to the whole string of biological determinist theories preceding it — has noticeably affected the direction of research. Behavioral and social scientists now know, wittingly or unwittingly, that they will get far more professional and public recognition from coming up with evidence for the biological basis for human traits than from work in what is considered less fashionable or exciting fields of

***Our claim is that human sociobiology, as presently formulated and promoted, is without any real scientific merit, but is political ideology for the status quo, masquerading as pure, objective, value-free science.***

endeavor. As was the case with Social Darwinism, claims for biologically-based behavior gain new significance if a supporting evolutionary argument is given. For example, at a recent lecture,(29) Shepher noted that sociobiologist Trivers' "parental investment" theory, based on evolutionary principles of sociobiology, provides a new and deeper understanding of the biological basis of sex role inequality observed in the kibbutz. In turn, sociobiologists use these new claims for biologically-based behavior to buttress their own theories, which is well-illustrated in *On Human Nature*. We have again the same interplay of theory, the studies performed, and interpretation of findings as occurred earlier.

In summary, we find that while the attack on sociobiology has grown, the cancer of biological determinist theorizing has metastasized. The Boston Sociobiology Study Group is committed to continuing the attack on various aspects of these theories. Future articles will include a variety of topics: a review of Wilson's *On Human Nature*; a critique of the Scarr and Weinberg article; an examination of the question of objectivity in science; a critique of the present upsurge of biological theories of mothering; and perhaps, ones on sex equality in the kib-



Drawings: Paul Marshall

Dollars & Sense

### male-dominance

butz and revisiting twin studies. This series of articles is in line with our belief that while it is imperative that sociobiology continue to be refuted on the academic level, it is equally important to continue the critique in the public arena. That is, it is imperative that we help to demystify this work and enable people to become aware that sociobiology is a powerful political weapon, which is used to maintain inequality and to justify our present oppressive social institutions.□

*I am greatly indebted to members of the Sociobiology Study Group for helpful comments and suggestions. Many thanks go to members of the Editorial Collective, particularly Martha and Connie, for their committed, time-consuming effort to have the ideas presented as clearly as possible, and for helpful suggestions.*

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### REFERENCES

1. J. Beckwith and B. Lange, "AAAS: Sociobiology on the Run," *Science for the People*, March/April 1978, pp. 38-39.
2. For a critique of the IQ controversy, see *Science for the People* pamphlet "IQ: Scientific or Social Controversy?"; The Ann Arbor Science for the People Editorial Collective, *Biology as a Social Weapon* (Burgess, 1977), section "Race and IQ," pp. 19-55; and N. Block and G. Dworkin, eds., *The IQ Controversy* (Pantheon, 1976).

3. For a critique of hormones and sex differences in behavior studies in the 1920's, see D.L. Hall "Biology, Sex Hormones and Sexism in the 1920's," in C.C. Gould and M.W. Wartofsky, eds., *Women and Philosophy* (Putnam's Sons, 1976), pp. 81-96.

4. For a historical review and critique of dominant theories of the psychology of women, see S.A. Shields, "Functionalism, Darwinism, and the Psychology of Women, A Study in Social Myth," *American Psychologist*, Vol. 30, July 1975, pp. 739-754.

5. For a humorous, excellent critique of primate studies, see R. Herschberger, *Adam's Rib* (1948)(Har/Row Books, 1970), Chapter 2. "Josie Takes the Stand," pp. 5-14.

6. For a description and critique of primate studies, particularly from the perspective of the emergence of sociobiology, see D. Haraway, "Animal Sociology and a Natural Economy of the Body Politic," Parts I and II, *Signs*, Vol. 4., No. 1 (Autumn 1978), pp. 21-60.

7. For an excellent critique of "maternal deprivation" and "attachment" theories, see R.P. Wortis, "The Acceptance of the Concept of the Maternal Role by Behavioral Scientists: Its Effects on Women," *American Journal of Orthopsychiatry*, 41 5 (1971), pp. 733-746; see, also M. Rutter, *Maternal Deprivation Reassessed* (Penguin, 1972); and R.F. Baxandall, "Who Shall Care for Our Children? The History and Development of Day Care in the United States," in J. Freeman, ed., *Women: A Feminist Perspective* (Mayfield, 1975), pp. 88-102.

8. For a critique of current studies of sex hormones and sex differentiated behavior, see E. Adkins, "Genes, Hormones, and Gender," in G. Barlow and J. Silverberg, eds., (forthcoming); and F. Salzman, "Are Sex Roles Biologically Determined?" *Science for the People*, Vol. 9, No. 4 (1977), pp. 27-32, 43; and for a critique of current biological determinist theorizing, see The Ann Arbor Science for the People Editorial Collective (cited above, note 2).

9. For a critique of the racist, as well as sexist, implications of sociobiology, see J. Alper, "The Ethical and Social Implications of Sociobiology," M.S. Gregory, A. Silvers, and D. Sutch, eds., *Sociobiology and Human Nature* (Jossey-Bass, 1978), pp. 195-220.

10. For a critique of the role of Social Darwinism and racism in American thought and politics, see C. Vann Woodward, *The Strange Career of Jim Crow*, 2nd revised edition (Oxford University Press, 1966); T.F. Gossett, *Race: The History of an Idea in America* (Schocken, 1965); and R. Hofstadter, *Social Darwinism in American Thought* (Beacon, 1955).

11. See G. Allen, "A History of Eugenics in the Class Struggle," *Science for the People* pamphlet, (cited above, note 2), pp. 4-10.

12. A. Rossi, "A Biosocial Perspective on Parenting," *Daedalus*, Spring 1977, pp. 1-31.

13. *Ibid.*, p. 30.

14. S. Scarr and R. Weinberg, "Attitude, Interests and IQ," *Human Nature*, April 1978, pp. 29-36.

15. E.O. Wilson, *On Human Nature* (Harvard University Press, 1978), p.x.

16. For a critique of *Women in the Kibbutz*, see P. Bart, "Biological Determinism: Is It All in the Ovaries?," in Ann Arbor Science for the People Editorial Collective, (cited above, note 2), in particular pp. 77-81; and, R. M. Kanter, review of *Women in the Kibbutz*, *Science*, Vol. 192, 14 May 1976, pp. 662-663. For an account of women's experience in the kibbutz see Y. Talmon, *Family and Community in the Kibbutz* (Harvard University Press, 1972).

For an analysis that shows that the evidence pertaining to humans cited by Maccoby and Jacklin to support their claim (that there is a biological basis for greater aggressiveness in males) is so methodologically flawed as to invalidate their conclusion, see F. Salzman, "Aggression and Gender: A Critique of the Nature-Nurture Question for Humans," in R. Hubbard and M. Lowe, eds., *Genes and Gender II: Pitfalls in Research on Sex and Gender* (Gordian, forthcoming).

17. E.O. Wilson (cited above, note 15), p. 230.

18. E.O. Wilson, "Foreward," in A.L. Caplan, ed., *The Sociobiology Debate* (Harper and Row, 1978), pp. xii-xiii.

19. E.O. Wilson, (cited above, note 15), p. 242.

For a critique of the Reinsich and Karow study, "Prenatal Exposure to Synthetic Progestins and Estrogens: Effects on Human Development" in *Archives of Sexual Behavior* 6 (1977), pp. 257-288, see E. Adkins 33(cited above, note 8).

20. The brain is divided into two hemispheres and a number of functions, such as language, analytic abilities, and visual-spatial perception, seem to be controlled by the left or right hemisphere. This is called left or right lateralization. There are reports that boys' and girls' brains may be lateralized differently with respect to certain tasks, such as those involving visual-spatial ability, and that this may be associated with differences in performance. D. Kimura, "The Asymmetry of the Human Brain," *Scientific American*, March 1973.

For a critique of brain lateralization studies and the interpretations of the findings, see S. Leigh Star, "Right and Left: An Examination of Research on Sex Differences in Hemispheric Brain Asymmetry," in R. Hubbard and M. Lowe (cited above, note 16); and for a more general critique of sex differences studies of cognitive abilities, see D. Griffiths and E. Saraga, "Sex differences in Cognitive Abilities: A Sterile Field of Enquiry?" in O. Harnett and G. Boden, *Sex Role Stereotyping* (Tavistock, forthcoming).

21. E.O. Wilson (cited above, note 15), pp. 132-133.

22. *Ibid.*, p. 47.

23. D. Haraway, (cited above, note 6), p. 28.

24. E.O. Wilson (cited above, note 15), p. 208.

25. A. Rossi, (cited above, note 12), p. 3.

26. S.L. Washburn, "What We Can't Learn About People from Apes," *Human Nature*, November 1978, pp. 70-75.

27. Sociobiology Study Group, "Sociobiology — A New Biological Determinism," in Ann Arbor Science for the People Editorial Collective, (cited above, note 2), p. 142.

28. T. Bethell, "Burning Darwin to Save Marx," *Harper's*, December 1978, pp. 31-38, 91-92.

29. J. Shepherd, lecture "Is Sex Role Equality Possible? Kibbutz Research," Kibbutz Lecture Series, Harvard Graduate School of Education, November 21, 1978.

## Literature on Sociobiology Available

Now available from Science for the People is a packet of articles on sociobiology, written by members of Science for the People and the SftP Sociobiology Study Group. The packet includes:

"Sociobiology — A New Biological Determinism", by the Sociobiology Study Group, reprinted from *Biology as a Social Weapon* by the Ann Arbor SftP Editorial Collective.

"The Fallacy of Biological Determinism", by Richard Lewontin, reprinted from *The Sciences* (March-April 1976).

"A Methodological Analysis of Sociobiology" by Joseph Alper and Hiroshi Inouye.

"Sociobiology is a Political Issue" by Joseph Alper, Jon Beckwith, and Larry Miller, from Arthur Caplan's *The Sociobiology Debate*.

"The Ethical and Social Implications of Sociobiology" by Joseph Alper, from *Sociobiology and Human Nature*.

"Sociobiological Determinism: Theme with Variations" by the Ann Arbor SftP Sociobiology Study Group, from *Michigan Discussions in Anthropology*, Vol. 3, Winter 1978.

"Sociobiology: A Sexist Synthesis" by Barbara Chasin, and "Are Sex Roles Biologically Determined?" by Freda Salzman, from *Science for the People* magazine, May 1977 and July 1977, respectively.

The packet costs \$3.00, which includes postage (add 50 cents more in U.S. money for foreign orders), and is available from Science for the People, 897 Main Street, Cambridge, MA 02139.

## LETTERS.

*continued from p.6*

so ingrained into lumpen thinking until most prisoners cannot or refuse to recognize their true class background. They are caught up into two main religions: the worship of self and the Almighty Dollar.

Here and there, you might find some strong pockets of resistance, and from time to time, a wave of militancy might arise. But it would be wise not to be deluded by the *form* of prison struggle, because the *content* determines the nature of that struggle. In the past, we perceived our own struggle in an idealistic perspective, refusing to recognize the true content of it and refusing to acknowledge our weaknesses and objective limitations. This, in turn, led to a good deal of romanticism surrounding the prison struggle. Where some romanticism is necessary to propel the spirit of resistance, we must come to grips with the concrete obstacles impeding our advancement. In other words, we can no longer go forward on pure spirited (emotional) militancy. A clenched fist, a "Right on", a running head-long into violent combat can no longer change repressive policies and practices inside the prison system, for the simple fact that the mode of repression has changed from being overtly bestial to a subtle and sophisticated system of psychological warfare. Thus, we must critically demand of ourselves a higher development — one which can meet the needs and challenge of today's conditions. We exclude nothing in terms of tactics, it's just that we need a more developed strategy and more *effective* tactics.

A necessary prerequisite for reaching a higher level of revolutionary development is to deepen our political understanding of the capitalist system — with particular emphasis on the present stage of its development. For us, that means sharpening our Marxism to confront and deal with some of the critical social, political, and theoretical questions of the day. This is basically where some of us are at here in the Control Unit.

I guess you might say we are trying to take the Control Unit and turn it into a revolutionary "think tank". And though we are still very few in numbers, with the proper resources, I believe we can make some major contributions to the overall class struggle.

So, we truly appreciate your offer of aid, and we'll address the offer as the need arises. What is more important at this point is to maintain communication with SftP collectives in order to discuss and clarify issues of mutual interest. In the meantime, we extend our solidarity to you and the other brothers and sisters at Science for the People.

Venceremos,  
Eddie Q. Griffin #29484  
P.O. Box 1000  
Marion IL 62959

### NATIONAL AIR AND SPACE MUSEUM

Dear SftP,

Ask anyone who has visited Washington lately — THE place to visit is the National Air and Space Museum. To the serious observer of government and society, however, the Museum is likely to create feelings of disgust, shame, and anger.

Granted, it is fun to see old airplanes and spacecraft, including a life-size model of Skylab (although they don't show which pieces might hit the ground after re-entry). The much-touted film, "To Fly", made by Conoco (which sells lots of jet fuel for those who want To Fly), exemplifies, as does the rest of the Museum, the dilemma of science education in this country. We have been teaching not science but science worship for too long. The film promotes the glorious developments in the field of flight, including the eventual colonization of space, as a technological imperative and as a future technical fix to many of mankind's contemporary problems. It does not discuss the fact that once the military potential of any flight technology was realized that technology was co-opted for warfare purposes.

The Museum goes one step further with a beautiful display, courtesy of General Dynamics, of the newest adaptation of an old technology — the cruise missile. The display includes a shiny life-size model, beautiful full-color photographs, and a film loop of the cruise missile being launched from a B-52, the cruise-missile being launched from a submarine, the cruise-missile being launched from the ground, and the cruise-missile flying low over mountains. General Dynamics does not provide us with a discussion of the political

and social implications of the cruise missile (a renewed arms race and destruction of the SALT talks), the immorality of the weapon, especially when used to carry an "enhanced Radiation Warhead" (neutron bomb), or the whole basic absurdity of it! When you visit the National Air and Space Museum, please do not feel guilty about puking on their floor.

Stephen Blythe

### "ICING ON THE CAKE"

Dear SftP,

I became interested in SftP through the issues of race and class differences in IQ scores and the supposed genetic basis for these differences. The magazine and other publications of SftP chapters were invaluable to me in that they provided an alternative perspective for dealing with biologically deterministic arguments. I look forward to receiving the magazine and pretty much read every word. It may be a personal quirk, but I especially enjoy reading the letters. They serve as an indication of the diversity of viewpoint that exists, and this I find refreshing.

Within the letters column there seems to be a running controversy about how technical or political the magazine should be. Its funny, but I didn't know the problem existed before I started reading the letters. Speaking as one of the "tepid thinkers," the social problems of this world are not going to be solved by a doctrinaire stance by SftP magazine. As a thinking person I prefer to come to my own positions even though I need to be helped along sometimes by being made aware of different viewpoints. The beauty of this magazine is that it provides alternative perspectives to oppressive status quo thought; e.g. biological determinism. That it can do this for a variety of issues is icing on the cake. I wouldn't want to see the magazine become too scientifically technical or too politically rhetorical.

I agree with Barbara Williamson (letters, *SftP*, Nov./Dec. 1978). I prefer articles with data and bibliography but see the value of the magazine as a way for people to identify issues and communicate their ideas.

A good and valuable effort. Thank you,

Keith Kriet  
Portland, Oregon

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**ST. LOUIS  
CHAPTER REPORT**

After a July/August vacation the St. Louis chapter has begun yet another round of general study of the political nature of science and technology. September organizing meetings brought in a dozen or so new members who are interested mainly in attending a study/support group that politically compliments their school work, most of which is on the graduate level. To date we have covered material in each of the following books: Brian Easlea, *Liberation and the Aims of Science*; David Noble, *America by Design*; David Dickson, *Politics of Alternative Technology*; and Science for the People, *China: Science Walks on Two Legs*.

The few members in the chapter who have been around a year or more working on a project we hope will install a stable and more active identity for the group in the St. Louis left-wing community. Our idea is to establish a politically directed technical research service for neighborhood groups, union groups, environmental groups and the like. Our problem will be how and where to draw the lines between who we do and do not serve. If you have any suggestions, please let me know. Two reasons make this an attractive project for our chapter: 1) it serves the nature of our varied backgrounds which makes single issue work very hard, 2) it could be kept up by just a few coordinators allowing for the tremendous transience in our group.

We plan to formally affiliate (add SftP to a printed list of supporters) with the local Coalition for the Environment and St. Louisians for Safe Energy. If you see a problem with this please say so now! We are participating in the Karen Silkwood activities this week and we are having a potluck with the Mobilization for Survival and Feminist Coalition people in a couple of weeks.

**ANN ARBOR  
CHAPTER REPORT**

During the summer and fall the Ann Arbor chapter has turned outward and grown smaller. The Nuclear Policy Group helped found the Arbor Alliance, a broad-based anti-nuclear coalition formed at the initiative of Friends of the

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# chapter reports

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Earth. By September, the Nuclear Policy Group had been absorbed by the Arbor Alliance and ceased to exist as a part of SftP. Since that time there has been debate in AASftP over whether or not SftP members in the Arbor Alliance should form a caucus in order to present a particular analysis of the political-social relations connected with nuclear power, and to try to give some focus to the work of the Alliance. In addition, since many SftP chapters are working on nuclear issues, SftP is a natural channel of communication and coordination.

The FLOC Support Group has continued working, making trips to Ohio to support the farmworkers strike, researching the role of the canneries, preparing an article for SftP magazine, and publicizing the strike boycott through newsnotes to newsletters and at meetings.

The China Study Group is busy publicizing information from China. It has given two talks in Ann Arbor and one each in Detroit and E. Lansing.

The Sociobiology Study Group had a table and distributed articles at the sociobiologists conference on 'Natural Selection and Social Behavior' in October. Many of those attending the conference were receptive to the points of view expressed in the articles. This group has since disbanded but is being reformed with mostly new people.

Two groups currently in limbo are the Science Teaching Group and a Cuba Study Group. The latter group appears likely to get started.

The chapter as a whole has initiated support work for the Sandinistas, for whom we've already collected a lot of money, and held two open (organizational) meetings. The first meeting, in September, included a slide show on China, and the second, in October, included a slide show on the 11th World Youth and Student Festival in Cuba. As slide shows/educational meetings, they were effective, people said they learned a lot. However, the primary purpose of the meetings was to recruit new people, and in this they largely failed.

Other chapter activities include preparing for this conference and the National Conference in March, and preparing the May issue of the magazine.

**IRVINE CHAPTER  
REPORT**

Greetings!

This is to announce the establishment of a Science for the People chapter in Irvine, California. Enclosed please find the names and dues for the chapter's national members. Most of us are students at the University of California campus here, but there are also faculty and people outside the University among us. The disciplines of physics, biology, chemistry, and engineering are represented.

Many of us had come together during the past year in the formation on campus of a weekly "Science and Society" seminar series. This successful series was climaxed by a talk given by prominent SftP member, Charles Schwartz, on U.S. involvement in the nuclear arms race. This event drew about 100 people and gave an impetus to the establishment of the present Irvine SftP group. In the short time since its formation, our SftP chapter has taken part in several actions such as the leafletting of a talk by Los Alamos head, Harold Agnew, and the sponsorship of two successful discussions on Sociobiology and Space industrialization.

Beyond this brief description, it is difficult to characterize the group at this early stage. We form no consensus on the pressing issues arising from the interaction between science and society. We are not even agreed as to what those issues are. Our first task is to follow an intensive program of gathering resources and educating ourselves. Today, we are in the dark. Tomorrow, we will know not only where we stand, but where we are going. We share the commitment to change what needs changing.

—The Irvine Chapter  
Science for the People  
Irvine, Ca.

## The Federal Government and People's Needs

As food and energy prices soar, they pose an immediate problem for the poor, who must worry about keeping warm and feeding themselves. As food products become more processed, synthetic and chemicalized, they pose a longer-term threat to the health of all economic classes. The less poor, those not immediately threatened by price inflation, have the relative luxury of seeking remedies for the longer-term problems, and are attracted to such alternatives as organically grown produce, solar heating, and other forms of appropriate technology (AT). By AT is meant small scale, relatively inexpensive technology, suitable for community use, based on local resources, ecologically sound, and geared towards local community self-reliance.

Many people realize the government is not meeting its responsibility to assure adequate supplies of reasonably priced food and energy, and to assure the quality of food products. But the government is intrinsically unable to serve our food and energy needs because 1) these needs are in direct conflict with the competitive drive for higher profits by the large corporations which dominate these industries, and 2) the government's first priority is to serve large corporate interests, i.e. to maintain the viability of corporate capitalism.

Therefore we should be highly skeptical of government programs ostensibly designed to help us and should seek, instead of so-called federal funding, large-scale systemic changes which will prevent the federal government from taxing a large share of community wealth. Food and energy activists will become ineffective, in my opinion, if enticed to switch efforts from locally independent grass-roots community work to government organized or sponsored projects. I will show by one example, that of AT, what I believe to be generally true, namely that even when the government appears to be deliberately helping us, it is in fact really serving corporate interests and harming us in the process. These issues came to mind through my involvement recently in various federally funded public meetings on food and energy, meetings which I believe were largely a waste of time and energy for the many activists who participated.

Since August the Food and Drug Administration, the Department of Agriculture and the Federal Trade Commission have held hearings in each of five major geographical areas to obtain public input on food-product labels. Since October at least five federally supported public meetings have been held in Boston, Worcester, and Amherst on energy alternatives and/or AT. I believe it is important to ask why the government is sponsoring so many public hearings and meetings. I believe the explanation is as follows.

In recent years there has been a rapidly growing awareness of the many ways in which our health is damaged by the air we breathe, the water we drink, the toxic chemicals we consume in commercial food-products, and the noise and other physical and psychological stresses we must endure. With this awareness has come a corresponding rapid growth of efforts by ordinary people and activist groups to reduce or stop the damages. Not infrequently, these efforts offer challenges, at least in principle, to the capitalist system of production for profit, which people are coming more and more to identify as the basic cause of the problems. For example, international agribusiness, the energy industry oligopoly, and the automotive industry with its stranglehold on transportation (which accounts for 25% of U.S. energy use) are now widely seen as operating not to meet people's needs for food, energy, and transportation but rather to exploit our basic requirements for survival in America today in order to amass endlessly huge corporate profits, and to do so at the expense of our pocket-books, our environment, and our health.

Naturally the corporations and the government are trying to stem this popular activism and to reestablish in people's minds the idea that we can count on their efforts to solve the problems. The larger part of the government's effort remains where it has always been, on the propaganda front. The many public meetings of course add to the desired image of a concerned government, but their primary aim, I believe, is at the activists. Since practically everything activists try to do is legal, the avenues of lawful repression by the government are limited to either 1) rewriting or reinterpreting the law, e.g. defining childbirth at home as being not a natural process but a medical procedure, and thus subjecting it to legally defined

by George Salzman

medical supervision, or 2) pretending that the government shares our goals, and needs our help to decide how best to achieve them, thereby diverting our energy from effective grassroots work into the labyrinth of federal bureaucracy, where it can be safely dissipated (from the government's and the large corporations' point of view).

The second approach, cooptation, is of course more 'positive'. The food-product labeling hearings are, in my opinion, one example. Another is the government's sudden interest in and (pseudo) commitment to AT. Last summer the Department of Energy (DOE) initiated a nation-wide program in AT, which is now being implemented through establishment of its AT Small Grants Program. The average grant is expected to be about \$12,000. However, the significant fact is not this figure, but rather the total allocation of the DOE for this program compared to others.

An article appropriately titled "Run For the Money" (in the Sept-Oct issue of *New Roots*) reports that \$1.2 million will be granted in the fiscal year 1979 (FY79) for the entire region consisting of the six New England states, New York, New Jersey, Puerto Rico, and the Virgin Islands. It is estimated that only about five per cent of the several thousand proposals anticipated will actually be funded. Since the allocations are to be proportional to the populations of the individual states, the total national figure should be just about \$6 million.

Small is in this case not only *not* beautiful, but parsimonious in the extreme. The Research and Development (R & D) part of the DOE FY 79 (this is turning into alphabet soup!) budget is \$5.4 billion. Thus the DOE is spending just a bit over one-thousandth of its R & D pie for AT. When one keeps in mind that this is the *only* technology which would not promote continued corporate control of energy supply and distribution, then it is manifest that the DOE expends nearly all the resources at its disposal to maintain corporate capitalism. Let's see how the R & D pie goes.

The part of the DOE R & D budget for all aspects of nuclear power\* amounts to \$3.2 billion, just over 59%. Then, in descending order, fossil fuels energy takes \$6.7 hundred million, 12.4%; solar \$4.4 hundred million, 8%; conservation \$3.9 hundred million, 7%; geothermal \$1.6 hundred million, 3%; biomass \$42 million, 0.8%; hydroelectric \$28 million, 0.5%; and finally, last *and* least, AT \$6 million, 0.1%. Although it is true that some of the other R & D categories may have limited spin-off contributions to AT, it is clear that the *intent* of the funding allocations is to support large corporate interests.

In order to distribute the AT small grants the DOE is establishing a sizeable bureaucratic grant review procedure involving active participation by AT activists. The overall picture which emerges is that of the federal government taking, through taxes, at least \$1,150 per person, most of which will come directly from us, and then, to signify its desire to help us achieve local community self-reliance through the development of AT, "giving" us 3¢ per person of "federal money" through a highly competitive process that itself will consume much time and energy of AT activists.

Some activists would see the DOE budget as another example of misdirected government priorities and would think we need to strive for more effective government efforts to limit the damaging effects of corporate greed. I believe this view to be in error, and that the DOE budget is but one more clear expression of the government's *genuine* priorities. As long as we do not adequately recognize that the government and the large corporations are acting *in concert* to meet their priorities, then it is likely that our priorities for how we expend our efforts will be misdirected, and we will actually be coopted into helping the government and the corporations to achieve their ends. □

\*Includes basic nuclear science research, nuclear and high-energy physics research, and "Atomic Energy Defense R&D," which presumably means the necessary security against theft, terrorism, etc. involving nuclear materials.

References and note. *New Roots*, c/o Rm A25, Grad Research Center, Univ of Mass, Amherst MA 01003; *Science*, Vol 202, p 1064 (Dec 8 '78); "Congressional Action on R&D in the FY 79 Budget," AAAS Office of Public Sector Programs, 1776 Mass Ave NW, Wash DC 20036; *Dollars & Sense*, Oct '78; *Seven Days*, Nov 10 '78; Unpublished item of author, Nov 26, '78. I want to thank Steve Karian for a very helpful critical reading of an earlier draft of this article and for a useful discussion.

cancer epidemic in about 20 years if they continued to use the dyes. DuPont took immediate action: they fired Heuper. The predicted cancers did occur.(13) Heuper knew that the dye was not the only carcinogen around. In 1942 he wrote an 800-page book on occupational carcinogenesis, documenting all kinds of cancers in Europe and America. This book never became known to the general public.

The current cancer "epidemic" has only become widely apparent to the public in the last decade. One reason is that it was not hard to keep quiet the likely link between occupational chemicals as long as the cancers were invisibly developing. The main industries involved are those which expose workers to chemicals and particles, industries which mushroomed in the post-war boom. Since it takes about 20 years from first exposure for most cancers to become apparent, the first "crop" from the 40's did not show up until the mid-60's. What many scientists, bureaucrats and industrialists had long known could not remain unseen any longer.

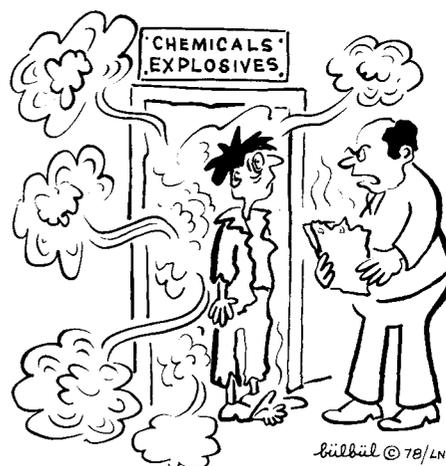
Today occupational cancer is no hidden danger. In the industrialized world one in five deaths is from cancer.(14) In addition, it is well-documented that particular cancers are associated with particular industries. Geographical clusters of deaths have spurred *retrospective* studies to isolate causes. Had there been *prospective* studies with animals, such as Heuper's, and had the results been acted upon, an unknowable number of cancer deaths could have been prevented. Rather, industry chose to develop an arsenal of tactics to avoid spending any money on cleanup, rather than one to solve health problems. The firing of Heuper by DuPont was only an unsophisticated harbinger of what was to come.

### The Chemical Coverup

A major tactic is the coverup. The asbestos industry, for example, attempted for half a century to hide evidence that asbestos is dangerous. Asbestos has long been known to cause asbestosis (lungs irreversibly damaged by the buildup of microscopic asbestos fibers) and lung cancer; more recently it was also found to cause a once rare cancer called mesothelioma, which affects the membranes of the lungs or abdominal cavity. Almost 20% of all deaths of asbestos workers are from lung cancer, and 6-7% are from mesothelioma (which is less common but always fatal). Workers in associated trades which use asbestos or simply work in an area near asbestos are also at high risk. Shipyards, for example, house a variety of trades, only some of which involve direct contact with asbestos but all of which are subject to risk. In one study in which lung X-rays were done of shipyard workers, spanning all trades, 85% showed abnormalities.(15)

As evidence grew about asbestos dangers, so did industry's coverup escalate. (The history is detailed in an excellent article in *Healthpac*.(16) ) In the course of the coverup, industry produced eleven studies, pretending to show how harmless the material is. The main method (according to the *Healthpac* article) was to test workers who had only recent limited exposure, so that the effects had not yet shown up. Just one such study cost \$8 million.

Another form of coverup is misdirected health education. The American Cancer Society, for instance, is now touting a cancer education program for workers. One might expect, in view of the significant role of industrial chemicals in causing cancer, that such a program would teach workers and employers about hazards on the job. Rather it advertises that cancer education leading to early screening and monitoring can save the *employer* money, by decreasing hospitalization and disability expenses. Nowhere in the advertisement for the program is risk-avoidance mentioned.



THE COMPANY WON'T ACCEPT THIS REPORT ON UNSAFE WORKING CONDITIONS. ITS NOT TYPED DOUBLE SPACED!

### Shifting the Blame

Given that the evidence against asbestos was overwhelming, the industry used another form of coverup, shifting the blame to various scapegoats including certain "bad" but atypical fibers, the bags asbestos was stored in, and most persistently, cigarette smoking.

By pointing the finger at smoking, the asbestos industry has been quite successful at shifting responsibility from industry to worker. In so doing they have also provided fuel for the lifestyle change advocates. The contribution of smoking to lung cancer, the industry points out, is much greater than of asbestos. An asbestos worker who smokes has somewhere between 7 and 90 times the risk of lung cancer as the non-smoking asbestos worker, depending on what you read.(17) But what does one conclude should be done if smoking increases the risk? Should regulation and education focus on helping workers not to smoke, or on forcing industry

to clean up the workplace? Any campaign to be truly effective must do both; asbestos alone is carcinogenic, and even workers' families and people living within a quarter mile of an asbestos plant are affected. Furthermore, any stop-smoking program to be effective in reducing the asbestos risk, must not only be combined with cleanup, but must be part of a nationwide anti-tobacco campaign aimed at the production, sales and advertising of cigarettes, as discussed earlier. But the emphasis on cigarette smoking has served to hide the need to clean up the workplace, rather than to spur a 2-pronged attack.

The lung cancer/smoking link has served to obscure two facts. One, rarely brought out in the asbestos literature, is that smoking is *not* linked to mesothelioma.(18) Mesothelioma kills less than one third as many asbestos workers as lung cancer, but it still kills and it is definitely linked to asbestos. The second fact usually obscured is that other cancers (of the rectum, stomach and colon, for example) are associated with asbestos and not with smoking.

Curiously, if one relies on the newspapers and magazines for information, one finds many articles which raise the issue of smoking and other chemical hazards; usually, it is correctly pointed out that in the cases where both are relevant, smoking is believed to be the more important factor, as in the case of asbestos-related lung cancer. It is less widely published that there are many kinds of non-smoking-related cancers. For example in a study of bladder cancer among workers in Eastern Massachusetts, it was found that 18% of all bladder cancers in men and 6% in women could be attributed to chemicals on the job. Rubber, leather, paint and organic chemical workers were all at risk. In all these cases the excess mortality was the same whether or not the worker smoked.(19)

### *Union Busting and Intimidation*

Coverups have a way of holding back information until workers die or become ill in embarrassingly large numbers, causing an outcry by the appropriate union. Not surprisingly, industry then rotates its big guns towards the unions, employing various union-busting techniques. Usually union (and anti-union) campaigns are not over work hazard issues alone, but often safety is a part of the reason workers seek to unionize. A case in point is the struggle of textile workers in the south to organize against employers like J.P. Stevens. The textile industry, which has been maiming workers with brown lung for years, has put enormous sums into union-busting activities, money which could have been spent on safety.

Whether or not there is a union, outright intimidation may be employed. Workers are often harassed and/or fired for such activities as organizing health and safety committees. A particularly flagrant example was

the well-publicized death of Karen Silkwood. She was killed in a suspicious auto accident on her way to give information to a New York Times reporter on safety violations concerning radiation hazards at the Kerr-McGhee plant in Oklahoma.(20)

### *Playing Poor*

When the facts are out, the unions are in, and the company is up against the wall, management often resorts to cries of "We can't afford it." The expense of cleanup, they claim, would put them out of business or "force" them to raise their prices. In either case, they point out, the economy would be hurt. From industry's viewpoint we are faced with a choice between the health of the economy and that of the worker. A free enterprise system pits one person's health and life against another person's profit.

### *Lobbying*

Industries lobby to prevent legislation regulating hazardous substances. One of the most desperately needed forms of legislation, given the extent of chemical carcinogenesis, is laws governing toxic chemicals. No such legislation existed until 1976, thanks to the lobbying efforts of the chemical industry.(21) This legislation is a step in the right direction, but it is inherently limited by its mandate to balance risk of injury against economic cost and social benefits.(22)

### *Screening*

The latest industry technique of cleanup avoidance comes packaged as a form of worker protection: screening workers for susceptibility. In the asbestos industry this can take many forms, such as rating workers for "susceptibility" to lung cancer based on the amount they smoke or using newly emerging techniques which reportedly detect genetic propensity toward disease. Of course such screening procedures could be used as preventative medicine by alerting some workers to their need for more frequent medical examinations. But given industry's record of avoidance in improving safety conditions, it is much more likely that the lists will in effect become worker blacklists in certain industries. It will be the workers' bodies which are inspected for compliance to standards, rather than the work environment. Already some companies (such as General Motors) are refusing to hire women in their child-bearing years because of a possible risk of genetic damage to the offspring.

### **Industry and the Environment**

Many of the same chemicals used in manufacturing make their way into products and wastes that eventually move into air, water, soil and crops, exposing all of us, albeit at slower rates. How serious are the effects of

metals, pesticides, hormones (like DES) and other chemicals when inhaled or ingested?

The answer is uncertain. We do know of many instances when an accident which suddenly exposed the public to an unusually large dose of a chemical had visible and tragic consequences. The infamous air pollution disasters of Donora, Ponna, and the Meuse Valley led to many deaths among people with respiratory ailments; the recent leakage of waste chemicals that had been buried near Niagra Falls has resulted in a doubling of births requiring Caesarian sections. But what of the small amounts of chemicals to which we are all exposed daily? How is one to trace an illness back to one or more of all the known (and unknown) exposures one has undergone in a lifetime? Data must be epidemiologic; that is, disease rates must be correlated with local environmental or biological factors. However, such data can never be conclusive, only suggestive, because of the multitude of inseparable and hard-to-measure factors. But if unregulated or inadequately regulated chemicals continue to be incorporated into the environment, we will likely see an accelerating number of chemical disasters and a continuing increase in cancer incidence.

#### Role of the Government in Occupational Safety

The government role has varied from out and out complicity with industry to attempts at regulation. But even those regulations which exist have been emasculated before becoming law by capitulation to industry pressure.

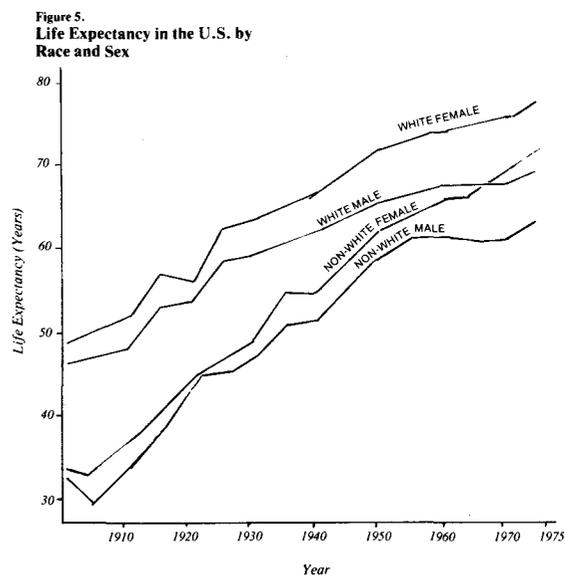
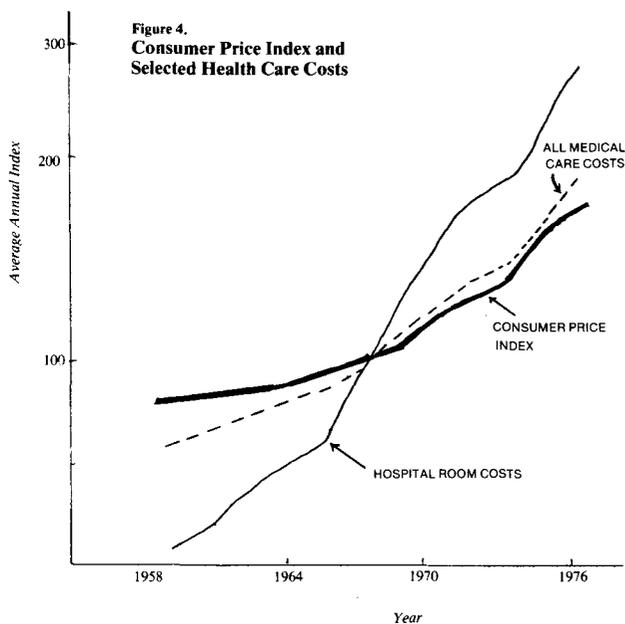
One of the biggest breakthroughs for worker safety was the creation of the Occupational Safety and Health

Administration (OSHA) in 1970. But not only has it employed laughably small penalties (maximum penalty \$1000 per violation; average penalty \$30 per violation),(23) it has been so underfunded that its rules have been almost unenforced. For example in a study done of enforcement of asbestos standards in Connecticut in 1974, it was found that there was only one industrial hygienist in the entire Connecticut-Western Massachusetts region, and the several safety inspectors were not trained in industrial hygiene. Even if there had been sufficient staff, the study points out, there were no accessible medical facilities to comply with OSHA medical examination requirements.(24)

Not only does OSHA lack the apparatus and funds to put teeth into its regulations, but it is also under siege by industry (frequently with the help of the courts). OSHA procedures are such that industry can buy time and win reprieves by taking to court every citation of a violation and every standard that OSHA promulgates. The courts have severely eroded many OSHA provisions. For example, the 5th Circuit Court of Appeals threw out a standard for benzene on the highly dubious grounds that OSHA did not quantify exactly how many lives would be saved by the standard despite clear evidence that benzene causes cancer.(25) Similarly the OSHA provision that workers can walk off the job without fear of reprisal when faced with a severe imminent hazard, was virtually wiped out by the same court.(26)

Given that regulation threatens industry with enormous potential expense, it is not surprising that industry will do all it can to weaken OSHA.

One of the more progressive proposals currently being considered by OSHA is a generic cancer standard.



SOURCE: National Center for Health Statistics, in *Health in the U.S. Chartbook, 1976-77*, published by DHEW (HRA).

This means that chemicals would be classified as known or potential carcinogens and restricted as such. It would eliminate the overwhelming burden OSHA now has of definitively proving each chemical carcinogenic on a case by case basis. Such a proposal, if implemented would restrict thousands of chemicals now in use and thus is potentially very expensive to industry.

In fact according to a recent article,

Some 120 companies and 60 trade associations have banded together to form the American Industrial Health Council, with the expressed purpose of combating (OSHA's proposed generic cancer standards). . . Carter's Regulatory Analysis Review Group, chaired by Council of Economic Advisors chairman Charles Schultze, selected the generic carcinogen policy as one of the handful of very expensive regulations it would study in 1978. . . . The review group recommended, as did industry, that OSHA pay closer attention to the costs as well as the benefits of proposed regulations.(27)

Probably the most knowing witness to the government's role is Wilhelm Heuper, the same epidemiologist who documented occupational carcinogenesis and who was fired by Dupont. Heuper became head of the Environmental Cancer section of the National Cancer Institute. One of his concerns was the high rate of cancer among chromate miners. The chromate industry became nervous when Heuper began speaking out on the hazards, and put pressure on the government to quiet him. The Surgeon General in 1952 actually forbade Heuper to share any evidence with state Departments of Health and forced him to stop all epidemiological studies. Because of this and other government suppression and inaction, as Heuper later pointed out, for the crucial decades following World War II there were no records kept in the United States of worker exposure and cancer rates. As was mentioned earlier it took the later rash of cancer deaths to spur retrospective studies, seeking to do what prospective ones could have done better 10 years before.(13)

The ambiguous role of government in setting safety standards too few and too late, and in crippling enforcement, is a reflection of the general role of government in this society. For though it is in some ways responsive to public needs and certainly employs some dedicated advocates, its role really amounts to little more than legitimization, and is curtailed by more powerful interests. The real clout is in the hands of capitalists. An article on OSHA regulation states,

. . . in instances where carcinogenic hazards to workers of a chemical is established, the overriding consideration of the employer must be whether he can remain competitive in a situation in which

costly engineering controls . . . (are) required by stringent regulation.(28)

Along the same lines, a Carter administration official said, "it is important to ensure that any new regulations do not impose unnecessary and uneconomic costs on American industry."(29) In short, the regulatory agencies should be the protectors of the common people, but they exist within a government which is the protector of industry. Should the interests of the two conflict, it is not hard to see which sector is favored by legislation and the courts.

### Class, Race and Health

For all the factors which have been discussed which erode health, such as stress and job hazards, one might expect the impact to be greater for the poor and minorities. If we look at mortality (or life expectancy, which is calculated from mortality rates), a common index of health status, we find in fact clear class and race correlations. Life expectancy has historically been higher for whites than non-whites in the U.S. (Fig. 5). Interestingly, the black-white gap in mortality closed by 1975 (Table 1) if one looks at the figures combined for both sexes. Figure 5 suggests that the improvement in life expectancy for black women is responsible; there is still a large gap between black men and white men.

Similarly there is a difference in mortality depending on one's socio-economic status. David Jenkins and coworkers did a study in the Boston area which showed what they called "zones of excess mortality."(30) They compared the mortality rates in two Mental Health Catchment areas. An upper-middle class area showed a mortality rate which was 81% as great as the Massachusetts rate. A poor area had a mortality rate of 128% as great as the state rate. A similar study in three American cities calculated an index of excess mortality due to socioeconomic differences. Not only did mortality correlate with socioeconomic status, but the inequality measured by the index increased between 1960 and 1970

TABLE 1.

*Mortality Rates in the United States by Race*

Year	Deaths per 100,000 population	
	white	black
1972	95	97
1973	94	97
1974	92	92
1975	90	89

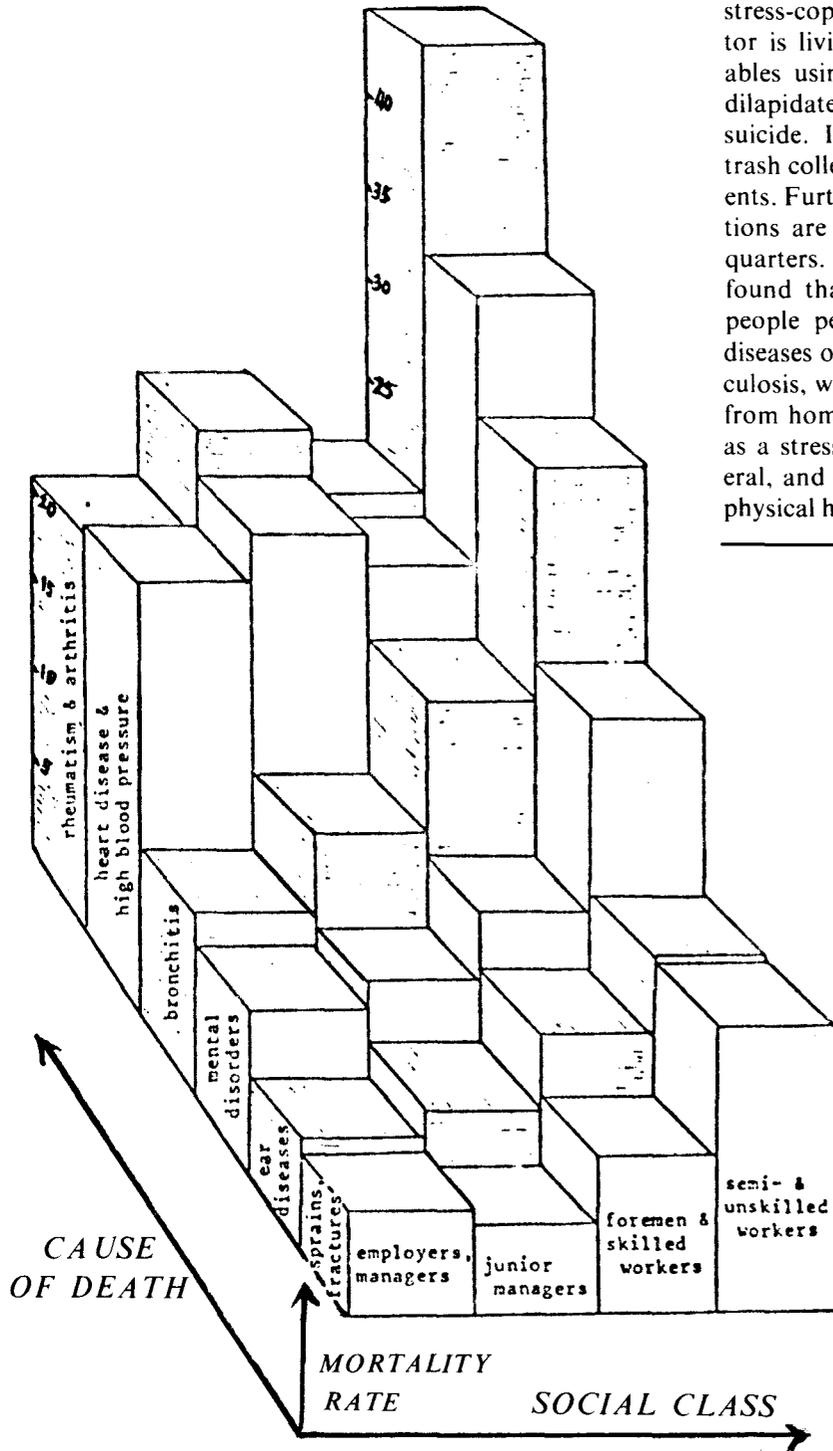
SOURCE: Health in the U.S. Chartbook, 1976-1977 DHEW (HRA).

(Table II). Their study interpreted this and other data to mean,

... improvements in the health of our nation seem to benefit the higher socioeconomic groups and health deterioration to tax the lower socioeconomic groups.(31)

What we see is that the chance of dying is greater among non-white than white, and greater among poor than rich. The trend is improving by one index (overall race differences in life expectancy) but worsening by another (socioeconomic differences in mortality).

What factors account for the class and race health differences? We have already discussed stress and hazards of work as factors, and touched on the effects of stress-coping drugs and nutritional status. Another factor is living conditions. Urban studies of health variables using census and agency data have shown that dilapidated housing correlates with tuberculosis and suicide. In general poor neighborhoods have poorer trash collection and often infestation by insects and rodents. Furthermore diseases which flourish in such conditions are most likely to spread in overcrowded living quarters. The National Health Survey of 1969-1971 found that crowding, defined in terms of number of people per room, correlates with common infectious diseases of childhood, with adult pneumonia and tuberculosis, with disability due to illness, and with disability from home accidents.(32) Crowding is also well-known as a stressful condition; the stresses of poverty in general, and crowding in particular, put mental as well as physical health at risk.



**Figure 6.**  
**Class Differences in Mortality**  
**in England**

Source: *Science for People* (Britain), No. 38, Winter 1977-78.

A third factor is unequal accessibility of health care. Table 3 illustrates a race difference in hospital usage by children in 1964 as an example. There has been some catch-up in accessibility since medicaid and medicare were introduced. But even in 1974, when a large percent of people were covered by government insurance, 40.2% of people under 65 were uninsured because insurance was too expensive(33).

Access to health care, though important once there is a health disorder, should not be overestimated as a contributor to the health status of a population, as measured by mortality. It contributes little toward prevention of illness or maintenance of health.

If medical care had much effect on overall health, one would expect that equalizing access to health care facilities would wipe out class differences in health. But in England after 30 years of universal free health care, the class differences remain in health as they do in the society in general (Figure 6). (34)

In looking at how life and work in capitalist society affect health, the class nature of health emerges. We can go further than illustrating the class and race differentials in health status, and point out that health reflects the level of class struggle at any moment. Health of workers always involves expense to capitalists, and as such it is an object of struggle. (It also is the object of conflicts within the capitalist class, as certain sectors profit from the health care industry.) But overall worker health is a privilege which must be won, and the degree to which it is won and maintained reflects the strength of working class struggles. Historically, for example, improved working conditions and shorter working hours constituted the hard won gains of a growing labor movement. Currently, regulatory legislation on occupations and environmental health may be seen as the gains of a strong labor movement, but the hot battle against regulation reflects the urgency with which capitalists seek to head off threats to profit in a time of economic crisis. In the balance of the struggle around regulation lie the health and lives of millions. A second example of current struggle is the trend toward cutbacks in government spending on health. Cutbacks can be expected to increase as the tax revolt grows, illustrating that capital can afford less and less human services. What services people manage to retain will be a measure of the strength of workers.

In this context the "lifestyle" movement can be seen for what it really is. Capital is threatened by the skyrocketing cost of health care (which is increasing faster than the overall rate of inflation — see Figure 4). At the same time the increase in chronic diseases such as heart disease and cancer is not being slowed by the massive expenditure on curative medicine. To the industrial employer, chronic disease means long expensive hospitalization, high insurance premiums (the bulk of

TABLE 2.

*Increase in Excess Mortality due to Socioeconomic Status in Three Cities*

	1960	1970
Birmingham	5.7	10.3
Buffalo	7.15	9.5
Indianapolis	19.5	23.0

SOURCE: See note 31.

TABLE 3.

*Number of Children Hospitalized, by Race and Family Income*

*Age under 15 years, with one or more episode per 1,000 population per year. Percentage having a total stay of 1-7 days. United States, 1968.*

Income	Hospitalization rate		Percentage with stay 1-7 days	
	white	non-white	white	non-white
under \$3000	65	38	72.7	59.1
\$3000-\$4999	59	36	79.5	69.9
\$5000-\$6999	53	38	82.3	59.5
\$7000-\$9999	57	44	84.3	69.4
\$10,000 and over	48	44	84.4	61.1

SOURCE: U.S. Public Health Service

which are paid by the employer) and days lost from work. It is this situation, rather than an altruistic concern for health, which is behind the current movement for health education toward lifestyle change. Unfortunately it is a misguided movement which will have no impact other than propaganda value, and will probably fade away in a few years. The real battles for health are in the arenas of class struggle. What is needed are advances in unity and strength of workers and growth in awareness that private enterprise itself is the problem. In the short run, such advances may be focused on reform, such as a national health service or strengthened regulatory laws. But in the long run the overthrow of the capitalist system is the only step which can put health ahead of profit.

**Where Do We Go From Here?**

What kinds of actions around health can help build class struggle?

- Health educators can continue to help individuals change habits, but with a perspective that clarifies rather than obscures the limitations of individual change, and shows people they are not to blame for health behavior. Perhaps such an approach would allow a sense of social outrage to be a motivating factor; but more important, health educators must teach the need for social change and seek avenues of struggle at the local level. For example, neighborhood residents can demand and fight against pollution.

•People can fight for increased funding of the existing environmental, OSHA and toxic chemical laws, but again, not without realizing that this legislation is only a stop-gap measure as the system of private profit remains intact.

•People can continue to struggle for tougher national environmental standards and occupational safety standards. All advances which have occurred so far have been the result of public or union pressure.

•People can fight in the courts for redress of illness due to past unhealthful workplaces. If enough cases are won requiring monetary retribution, industry may even do some cleaning up.

•At the workplace, workers can continue to form

health and safety committees within their unions, and form unions where they are unorganized.

•People can pressure the media to employ healthful messages and the Federal Communications Commission to require counter-advertising of harmful products.

These struggles require long range united actions. They may begin to result in improvements in health, but they will not change the manufacturing and advertising of dangerous consumables, nor will they change the basic priorities of the society. The only way that health will become more important than profit is by throwing out the system which is the slave of profits. Ultimately, that is the task of the worker, the consumer, and the health educator.□

#### NOTES

1. Wechsler, H., and Gottlieb, N., eds, *Health Thyself*, Blue Cross of Massachusetts, Inc. and the Medical Foundation, Inc., p. 2.

2. Knowles, J., "The Responsibility of the Individual", *Daedalus*, special issue on health care, "Doing Better but Feeling Worse", Winter 1977, p. 59.

3. Work in America, Report of a Special Task Force to the Secretary of HEW, M.I.T. Press 1973, p. 79.

4. *Federal Trade Commission Report to Congress: Pursuant to the Public Health Cigarette Smoking Act*, 1976. Part I Report to Congress (1977).

5. The summary of the activities of the F.C.C. is from Roberts, C.D., "A Summary of Federal Communications Commission Activities, Dealing with Cigarette Advertising on Both Radio and Television," in *Proceedings of the 3rd World Conference on Smoking and Health*, Vol. II, DHEW, 1975, p. 415ff.

6. According to R.J. Reynolds Co. President, William D. Hobbs, quoted in *Consumer Reports*, Aug. 1978.

7. Several references are cited in Eyer, J. and Sterling, P., "Stress-Related Mortality and Social Organization", *The Review of Radical Political Economics*, special edition, *The Political Economy of Health*, Vol. 9 No. 1, spring, 1977, published by the Union for Radical Political Economics, N.Y., especially footnote 29.

8. Parkes, C., Benjamin, B. and Fitzgerald, R., "Broken Heart: A Statistical Study of Increased Mortality Among Widowers," *Brit. Med. J.*, 1:740-743, 1969, cited in Syme (ref. 9A).

9. Syme, S., "Social and Psychological Risk Factors in Coronary Heart Disease," *Modern Concepts of Cardiovascular Disease*, Vol. XLIV, No. 4, April 1975.

10. "Hypertension and Racism", *Progressive Labor Magazine* Vol. 9:4, March-April 1974.

11. Figures are cited in Turner, Steve, "Work can be Dangerous to your Health", *Boston Globe*, New England Magazine, May 2, 1976.

12. Some good general reviews of occupational hazards include: Eckholm, E., "Unhealthy Jobs", *Environment* 19:6, Aug/Sept. 1977; Eckholm, E., *The Picture of Health*, N.Y.: Norton and Co., Inc., 1977; ref. cited in note 11; several article on Occupational Health and ty in *Science for the People*, VII:5, Sept. 1975; Epstein, S., "The Political and Economic Basis of Cancer", *Tech. Rev.* July/Aug. 1976; for particular substances see the *Healthpac* publication, and *Survival Kit*, published by Mass. COSH, 120 Boylston St., Boston, MA 02116.

13. Agran, L., *The Cancer Connection*, Houghton-Mifflin, 1977.

14. Eckholm, E., *The Picture of Health*, N.Y., Norton and Co., Inc., 1977, p. 89.

15. "Asbestos-Associated Diseases in U.S. Shipyards", *CA—A Cancer Journal for Clinicians*, 28:2 Mar/April 78, pp. 87-89.

16. Kotelchuck, David, "Asbestos Research: Winning the Battle but Losing the War," *Healthpac Bulletin* No. 16, Nov/Dec. 1974, and

Kotelchuck, "Asbestos, Science for Sale", *Science for the People* VII: 5, Sept. 1975.

17. According to a Physician's Advisory from DHEW called "Health Effects of Asbestos", April 25, 1978, the increased risk is 7.5-30 times; according to Selikoff, I., et al., it is 92 times, in "Asbestos Exposure, Smoking and Neoplasia," *JAMA*, 204:2, April 8, 1968.

18. *Cancer and the Worker*, New York Academy of Science, 1977, p. 44.

19. Cole, P. et. al., "Occupation and Cancer of the Lower Urinary Tract," *Cancer*, 29, May 1972.

20. Supporters of Silkwood Newsletter, #5, May 1978.

21. Epstein, S., "The Political and Economic Basis of Cancer", *Tech Review*, July/Aug. 1976.

22. Public Law 94-496.

23. Draft of *How to Use OSHA: A Guide for Workers*, by the Occupational Safety and Health Project, Urban Planning Aid, Boston, MA 1974.

24. Schoenberg, J. and Mitchell, C., "Implementation of the Federal Asbestos Standard in Connecticut," *J. Occ. Med.* 16:12, Dec. 1974.

25. The American Petroleum Institute et al vs. OSHA, et al, U.S. Court of Appeals, 5th Circuit, Oct. 5, 1978.

26. Marshall & Daniel Construction Co., Inc. vs OSHA 1031, 1977.

27. Clark, Timothy, "Cracking Down on the Causes of Cancer," *National Journal*, 12/30/78.

28. Lassiter, D., "Case Study 3: Vinyl Chloride — Best Available Technology", in *Occupational Carcinogenesis*, Wagoner, eds, N.Y. Academy of Science, 271:1-516, 1976.

29. "Economy in Crisis" in *Dollars and Sense*, July/Aug., 1978, p. 5.

30. Jenkins, D., et. al., "Zones of Excess Mortality in Massachusetts," *NEJM* 296: 1354-1356, June 9, 1977.

31. Yeracarios, C. and Kim, J., "Socioeconomic Differentials in Selected Causes of Death", *AJPH*, 68:4, April 1978.

32. All data are from a review article, Kasl, S., "Effects of the Residential Environment on Health and Behavior," a review in Hinkle, L. and Loring, W., eds, *The Effect of the Man-Made Environment on Health and Behavior*, DHEW, 1977.

33. *Health in the U.S. Chartbook 1976-77*, DHEW (HRA) 1977.

34. Health Group Collective, "The Social Production of Ill-Health" *Science for the People*, No. 38, Winter 1977-78.

35. Fitch, K. and Johnson, P., *Human Life Science*, Holt, Rinehart and Winston, 1977, p. 476.

36. General description of the fight or flight response is summarized from Eyer and Sterling (see note 8).

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**Procedure:** 1. New articles: submit 3 copies (manuscripts are not usually returned, so don't send originals unless

you have kept a copy for yourself). The Editorial Committee works hard in revising articles and discussing them with authors. You may want to send an outline of a proposed article to the Editorial Committee in advance for response to content and emphasis, and suggestions for source materials. Final substantive changes are cleared with authors. In the "About This Issue" column, the Editorial Committee may describe the range of opinions on a particular issue, point out unexplored questions, or draw some additional implications from the articles.

2. Articles written for another purpose: submit 3 copies, along with a letter describing the article's origin, and whether or not it may be adapted.

3. Current Opinion: Submit 3 copies. Contributions should be about 500 words, tightly argued positions on timely subjects, including occasional contributions from the Editorial Committee. The Editorial Committee may discuss with authors changes which clarify debate.

4. Readers are also encouraged to contribute letters, News Notes — news

items on the social and political role of science and technology, and especially reporting people's activities around these issues, Chapter Reports and SftP Activities — brief summaries essentially assured of publication, and graphics — cartoons, designs, photographs, etc., not necessarily original but with credits.

**Science for the People** is a collective effort of the Editorial, Production, and Distribution Committees (volunteer) and the Magazine and Office Coordinators (paid). All committees are accountable to the membership of **Science for the People** through the annual Eastern Regional Conference. Members of **Science for the People** outside the Boston area are encouraged to participate (by mail or in person) in the work of the Editorial Committee. People interested in reviewing and editing articles should contact the Magazine Coordinator through the Boston SftP office.

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