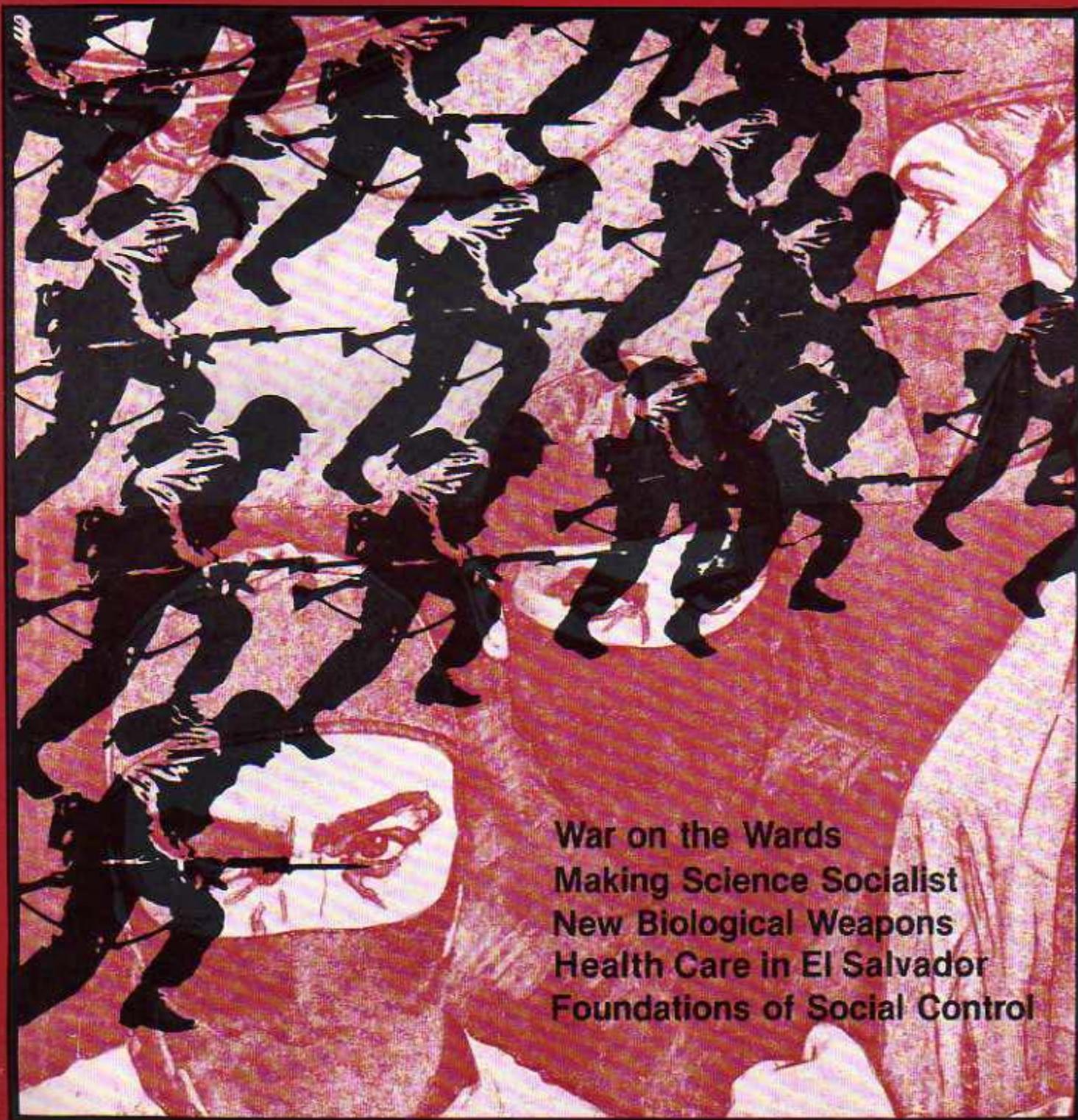


SCIENCE FOR THE PEOPLE

THE PRESENT WAR

Vol. 14 No. 3
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War on the Wards
Making Science Socialist
New Biological Weapons
Health Care in El Salvador
Foundations of Social Control

about this issue

Torture and murder in El Salvador, Pentagon seizure of U.S. hospitals, corporate restructuring of social thought—each is a struggle for power by U.S. capitalist elites. Each battle emerges from the real contradictions inherent in the political-economic system. Science and technology, as parts of that system, embody these same contradictions. From the resulting struggles will emerge new understandings, new structures, and new relations of production.

In El Salvador the historical contradictions between the land-owning elite and the mass of poor peasants have driven the country into a bloody revolution. “Health Care Under Siege: El Salvador” shows how health care under the junta serves the interests of the ruling elite, its military and security forces, while the people suffer from poverty, malnutrition and inadequate medical care. FMLN/FDR forces are battling to return the country to its people. Even now in the liberated zones the FMLN/FDR is initiating a health care system to meet people’s needs.

The people of El Salvador would be victorious today if it were not for relentless U.S. intervention. “The Present War” makes clear that we are now in an effective state of war. The interests of U.S. imperialists throughout the world are thereby protected, while monetary economic spurts profit selected military industries. This war is a *conventional* one, with nuclear blackmail as a backup when necessary. It has been argued, and we agree, that the United States is one of the most militarized, war-faring societies that has ever existed on the face of this earth.

At home the contradictions between U.S. militarism and social needs are apparent in “War on the Wards”, which describes the Pentagon’s efforts to enjoin hospitals into war preparations. The Civilian-Military Contingency Hospital System (CMCHS) is a psychological warfare assault aimed at North American people, both to prepare them for war and to engender paranoia about some vague enemy. Domestically, fear is one of the best ways to consolidate power in the government and military. Some national groups are opposing CMCHS because of its assumed role in nuclear warfare plans. However, the Pentagon is now proclaiming publicly that what they really have in mind is a *conventional* war.

One of the contradictions facing anti-militarist movements is precisely this false nuclear/conventional dichotomy. Some organizations, whether for strategic or ideological reasons, do not oppose conventional militarism, only nuclear. We reject this position. As anal-

ized in “The Present War”, whether conventional or nuclear, the enemy is imperialism.

Each new technological development brings with it the potential for both benefit or repression—whichever is to be realized depends on the political-economic system. Thus the new biotechnologies (recombinant DNA and hybridoma techniques) can produce drugs and medicines with great human benefit. Yet as suggested in “The Next Generation of Biological Weapons”, there is evidence that the Pentagon is developing these biotechnologies for use as weapons, including capabilities for attacking selected human populations, livestock, or crops whether in time of open or secret war.

Developments in the social sciences harbor the same potential for benefit or repression. When social unrest and disaffection with the electoral process threatened in the 1950s, the Ford Foundation moved in to restructure thinking about social organization. “The Ford Foundation and Social Control” is a case study in how the contradictions of capitalist society are smoothed over by corporate planners who set out to transform the entire basis of social science research.

It is therefore no surprise that the current reform of government-sponsored science in Britain falls far short of socialist goals. In “Making Science Socialist” the contradictions between the class interests of the managerial elite of science and the majority of scientists and technologists give rise to struggle over the implementation of a socialist science. Thus the past reform governments of the British Labour Party (as perhaps with U.S. left-liberals) dramatically failed to confront the real contradictions in the system. Consequently the commotion over socialist science often serves only to obscure yet another success of capitalist domination.

Only by starting from the contradictions inherent in science and technology, and struggling to deal with those contradictions by a dynamic pursuit of theory and practice, will science become not just ostensibly *for* the people, but *by* and *of* the people as well.

UPCOMING ISSUE OF SCIENCE FOR THE PEOPLE

The *SftP* Editorial Committees are now soliciting articles for the Jan/Feb 1983 special issue on, “Towards a Science for the People.” This thematic issue will celebrate volume 15 of the magazine. It will articulate our vision of a people’s based science. We welcome submissions of articles, poetry, photography, essays, science fiction, commentaries, book reviews, graphics, and descriptions of activities of groups who are practicing science for the people.

Materials should be sent to: Science for the People, 897 Main St., Cambridge, MA 02139. A set of guidelines for authors is available from the office.

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letters

“WESTERN” VERSUS “INDIGENOUS” SCIENCE

Dear SftP:

A technological change is being imposed in India and elsewhere in the Third World, displacing people from their traditional occupations and causing pauperisation among them in increasing numbers. In reaction to this development, there appears to be an urge growing especially among the scientists to defend the traditional systems and develop them as alternatives. A recognition of adverse implications of the new technologies on the local people is to be welcome among those who constitute the manpower (sic) responsible for putting such technologies into practice. However, the diversion into a debate on the “Western” versus “indigenous” science and appearance of a growing concern with the vanishing traditional technologies do not reflect health trends. They appear to be, on one hand, bemoaning a historical process and wish “had it not occurred” and, on the other, view the traditional technologies by themselves as superior to the new ones. This diversion and the tendency need amends.

It must be recognised that a change, technological or other, is a characteristic of a particular social system and is imposed by, and in the interest of, the politico-economic forces dominant during a period. Such a change is a historical fact, a consequence of the historical process, and can not just be wished away. Our main concern should be with “how to prevent and reverse such a change.” For that, the first question would be “who are the beneficiaries of the change which is forced on the people.” In India, we know them to be the few rich feudals, industrialists and elite bureaucrats. However, the new technologies have been developed in the West and they are under the control of the industrial and financial interests thereof. These technologies and the accompanying change are being imposed on the Indian people, dictated by the world dominant vested interests through their local agents and allies in

India. Instead of making the technologies as targets of attack, therefore, the correct approach obviously is to identify, expose and struggle against the local and foreign vested interests who are imposing the technologies and the change unconcerned with the adverse effects on the life of the common people. The main objective has to be real political-economic independence for freedom from the rule of such forces and, instead, for promoting a change with people’s conscious participation in it. There is evidently no alternative but for all, including the scientists concerned with the adverse implications of the new technologies and the imposed change, to join in common struggle for real political-economic independence.

In the prevalent social context, efforts to develop the traditional systems as alternative technologies are of no practical value. These systems vanish just because they fail to serve the interests of the ruling forces. Even if facilities occur to develop them, they would be mere diversions. The instances abound. They have no scope for productive use and they would always remain mere ornaments. Productive use means real effective proliferation in economy for social production. It must also be clear that such technologies can never be alternatives to solve the problems of poverty and deprivation. Those problems are political-economic in origin and nature, not amenable to technological approaches and for a real solution need actions and measures leading to social transformation.

Counterposing the traditional systems versus new/western technologies is not correct. No doubt, new technologies are products of intensely promoted technological development under the capitalist economies to serve the aims of accentuating consumerism and maximising profits by ruthless exploitation of human and material resources. Even within the industrial world, they have given rise to ecological and environmental disruption, and social and human problems. When liberated and diverted from those aims, these technologies can be real boons even for the common people in the industrial world. In the Third World countries, the adversities from the use of new technologies get compounded. They are being imposed and transplanted onto a non-technological socio-economic base of

the countries which have not undergone even the historical social transformation of capitalist development and industrial revolution. Once the Third World countries achieve politico-economic independence, unvitiated by capitalist aims, they would have a tremendous potential of using the new technologies in conjunction with the traditional systems. Not as alternatives, but what has been rightly called “walking on two legs,” as in China. It is only after real political-independence, with freedom from foreign imposition and interference, (that) the traditional systems can also be further developed. Not as alternatives, but to put them on scientific basis and change them into reliable and effective approaches to serve the interests of people and society at large. This again brings us down to the basic issue of political-economic independence.

There is a need for scientists and others not to fall victims to the diversionary emphases on traditional systems as alternatives to new technologies. Their aspirations can find fulfilment, and their concern amelioration, only in real political-independence. That alone can provide the really effective basis for developing traditional systems along scientific lines and for walking on two legs of traditional plus modern technologies. For any progress in that direction, they must join others in common struggle against foreign interests and their local allies for real political-economic independence of the country.

*Narendra Singh
Mysore, India*

RADIATION DETECTOR WANTED

Dear SftP:

Over the years I’ve been interested in purchasing a compact, inexpensive instrument to measure radioactivity because of the accumulation of radioactive wastes.

It is felt that the contemporary state of the art would enable the production of a pocket-sized device selling for about \$100. Such an item would not only serve to alert individuals to contamination of their food or environment, but would enable reports to the authorities on situations of which they would otherwise be unaware.

While suggesting this to no apparent avail in the past, perhaps a manufacturer reading this will make such a product.

Charles G. Santora
1115 Buffalo Ave.
Ventnor, N.J. 08406

EUROPEAN DISARMAMENT MOVEMENT

Dear SftP:

After having read numerous articles and editorials in the *Pittsburgh Press*, *Post Gazette*, *New York Times*, *Washington Post* and several magazines pertaining to the European peace rallies I have felt a genuine concern which I hope to convey in this letter.

If one were to think of the consciousness of modern day man (sic) as a culmination of his (sic) entire history on earth, particularly of advanced societies in having had experience and education pertaining to wars, pestilence, famine, nuclear and non-nuclear holocausts, tyrannical leaders, ignorance, etc. and yet the likelihood of another—possibly beyond all other tragedies—a nuclear war, the uncertainty and alarm expressed by Europeans should be more than understandable. The protesters in Europe that have thus far measured over a million being dismissed as merely people disillusioned by Russian propaganda, as was implied in many of these articles I read is a joke that is hardly funny. America is on the offensive and Europeans know it. Of course, there is no such thing as red, white and blue propaganda only red propaganda; right? This is a further degradation of truth that no less contributes to the destruction of mass population than the bomb itself. Absolute truth is unAmerican but anything other than it is the abolition of it. Carnegie Mellon University had a recent "Teach In" about nuclear arms build-up at which Doctor George Rathjens of MIT and one time policy advisor to the defense department said that Russia has no intent of invading Europe and that the allegation serves more as a contrived scenario to further U.S. arms build-up in Europe. More pertinent to reality are Russia's real fears over U.S. missiles in West Germany, Britain, and Italy, as well as other means of nuclear delivery to Russian population sites. Russia has ample reason for the missiles she (sic) has stationed in her own territory. Mr.

Reagan's bold proposal of refraining from deploying even more missiles in Europe if Russia dismantles hers is an absolute hoax that has no better purpose than to soothe European and American uneasiness over just what will result from the latest of United States military endeavors. I wonder what the reaction by our government officials would be if Russian leaders proposed that in the name of peace it would not station nuclear missiles in Cuba if United States dismantled theirs say in South Dakota, Arizona, New Mexico, etc. After all are not those weapons a threat to Cuba and non-pro-American countries in Central and South America?

The staunch unwillingness of the Reagan administration to moderate in its support of repressive regimes in many countries, justified on the premise that they will turn Communist, exhausts any real attempt to resolve the underlying antagonism between Russia and America. If one were to cite Poland as an example of the violation of human rights under communism, are Salvadorians or South Africans any less entitled to human rights? Where were the human rights of hundreds of Lebanese that were bombed by Israeli jets? Is America an example of how democracy can work in Poland? Americans are conditioned to repetitive anti-Communist extremes like a broken record that stifles any creative alternative to this vicious circle. America has not developed an overall alternative to its economic dependence on the military industrial complex with corporations eagerly seeking increased defense contracts, while war remains inevitable. Americans are expected to digest the technical jargon of complex war strategy and technology.

The "better dead than red" or "better red than dead" cliches become devoid of logic in the face of the likelihood of nuclear war. These strongly indoctrinated distinctions lose credibility. We are dealing with a question of irreparable damage to the human species. The whole premise of referring to the "us" and "them" as opposing super powers must be abolished.

As the American rulers' interests become imperiled through the overthrow of many of their favored regimes throughout the world, the greater the likelihood nuclear weapons will be used to thwart the threat to their great wealth. These rulers exercise a global

policy of nuclear coercion and the latter is similarly so of Israel's rulers on the Middle East.

The Reagan Administration's purported alert over a volatile nuclear world is like an arsonist pulling a fire alarm. Sometime shortly before or after the assassination of John F. Kennedy this country was gripped by malevolent people who will stop at nothing to realize their objectives and if within the framework of their interests populated areas of the United States are calculable targets of Soviet missiles, then such is the case.

A nation's militaristic trends can be turned on her own people, threatening our civil liberties and inviting repression. America is a land of great beauty. American peace initiatives should show parity with Europe's demonstrations. Maybe we're too busy making money and playing battle video games. Values sustained on excessive materialism don't value survival.

Hope is an essence of life and life the essence of hope. Let us organize and pressure the big boys to give up their war toys or it will be too late to stop an oblivion fate. Time is running out!

Tommy Daniels
Pittsburgh, PA

We welcome letters in response to SftP articles or on topics of current concern. All letters should be typed and include a name and address. Send them to Science for the People, 897 Main St., Cambridge, MA 02139.



news notes

CIA WHISTLE-BLOWER MUFFLED

Over the last two decades, the controversy surrounding U.S. foreign policy has created a dilemma for the American government. On the one hand, as we have seen since the days of the Korean War, the U.S. government is intent on creating a state of paranoia at home. It portrays other countries as places where the dignity and rights of individuals are constantly under siege, and where the U.S. alone stands as the guardian of freedom. On the other hand, in order to sustain this myth, it is imperative that the American people not inquire too deeply into the government's activities. Thus the American government is put into the position of harrassing and intimidating U.S. citizens who speak out against it, all under the guise of protecting democracy.

This repressive policy, which became clearer during the Vietnam War and Civil Rights Movements, is now being used by the Reagan administration to silence critics of its Central American policy. The administration wants to insure that people receive information on the CIA's activities in Latin America only from the government.

One of the most outspoken critics of CIA activities in Central America has been Dr. Fred Landis, a Chilean born, North American psychologist who served as a consultant for the Subcom-

mittee on CIA Covert Action in Chile for the Church Committee. In a recent issue of *Science for the People* (Vol. 14 No. 1), Dr. Landis described in detail the manner in which the CIA has obtained control and manipulated newspapers in Chile, Jamaica, and Nicaragua. The article describes how the CIA uses subliminal associations and the manipulation of emotionally powerful symbols in an attempt to subvert the government and destabilize the targeted country. While the use of psychological terrorism began during the Vietnam War with the dropping of billions of leaflets across the country, the CIA now directly manipulates the newspapers.

Upon Dr. Landis' return from a recent trip to Latin America, Customs officials at the Los Angeles Airport seized, under an allegation of seditious materials, copies of *Science for the People*, *Covert Action Information Bulletin*, Landis' Ph.D. thesis, a series of slides, and his video tapes on CIA operations. Most of the materials were later returned, after the American Civil Liberties Union threatened officials with a law suit. The officials had damaged one copy of the video tape, and kept the originals of the slides of the photographs that appeared in the *Science for the People* article.

According to Landis, he was detained for six hours while officials searched for a reason to arrest him. All they could uncover was a year-old civil dispute involving a car rental agency in Illinois, a dispute which had already been settled out of court. Landis' lawyer was contacted on March 24th by the Customs officials and told that the charges would be dropped.

At the time of his arrest, Landis was on his way to a press conference at the Latin American Studies Association (LASA) Conference in Washington, D.C. in order to show his slides on

CIA covert media operations in Nicaragua. By "coincidence" the officials held Landis' materials long enough to prevent him from attending the LASA meeting and press conference. At the same time, a law was passed which outlaws the publication of the names of CIA agents or of information that could potentially lead to the identification of a CIA agent.

Dr. Landis found out during the trip to Central America that the "CIA Psychological Warfare Operations" article was published as a six part serial on the front page of a leading Nicaraguan paper called *El Nuevo Diario*. The article has also received a great deal of interest and attention in the United States.



Dr. Landis and Donald Freed, co-authors of *Death in Washington: The Assassination of Orlando Letelier*, are being sued by the Association of Retired Intelligence Officers for a total of \$230 million. According to Landis, the Association has sent people to question individuals in the defendant's home communities and to infiltrate their defense committees in an attempt to gain information for the suit. Dr. Landis needs financial help for this law suit and the legal matters related to the seizure of his documents. Please send all contributions to Fred Landis, Box 3086, Anaheim, CA 92803.

DISABLED HIRED FOR DIRTY WORK

By special invitation of the mayor of Niagara Falls, New York, persons with cerebral palsy and mental retardation will "perform maintenance work" on abandoned houses in the neighborhood of the Love Canal chemical dump, reported Larry Hunt in *Not Man Apart* ("On the Use of Retarded Persons," December 1981).

As part of a summer redevelopment project intended "to maintain and improve the grounds of the houses which were abandoned by residents when high levels of very toxic chemicals were

viva la
democraCIA



found to have leaked from the disposal site to their lots," the local United Cerebral Palsy and the Niagara Falls Association for Retarded Children (ARC) have signed contracts to provide three retarded persons and two with cerebral palsy to work under supervision of two other persons hired from the community.

Although former residents of the neighborhood complained of frequent health problems, including nausea, respiratory ailments, epilepsy, urinary tract disease, liver and blood chemistry problems, and blood disease, "no tests have been conducted nor are any tests planned to assure that significant levels of toxic chemicals are not inhaled or absorbed by individuals working on the site," Hunt wrote.

Mrs. Marilyn Zahler, executive director of the ARC, informed Hunt that adverse publicity about Love Canal had discouraged new industrial development in an area already suffering from a declining economy. "Faced with few prospects for competitive employment," in Hunt's words, those least able to protect themselves must accept the only choice society offers them—one that their fellow citizens would shun. The ARC plans to bid on this contract again next summer.

HARVESTING CHROMOSOME VALLEYS

In late March an elite brotherhood of university presidents, professors, scientists, and corporate representatives met in closed sessions at Pajaro Dunes, California, to establish what Stanford University Vice President Robert Rosenzweig calls "principles that might guide the growth of biotechnology." At stake are the potentially very lucrative patents arising from genetic and biotechnology research at universities. For the corporations represented at the meetings,* enormous profits could be gleaned from the public research sector; for the faculty-scientists, money and prestige are the benefits; and for the universities,** enhanced revenues in a time of declining public support are an important factor. According to the Stanford conference prospectus, "We are now seeing the beginning of an entirely new pattern of affiliation among university researchers, universities and high-tech industry."

This closed-session "conference" reveals the pattern of developing ties between publicly funded research institutions and capitalist faculty and corporations. For example, Dr. Edward E. Penhoet, Associate Professor of Bio-

chemistry at the University of California, Berkeley, and Dr. William Rudder of the University of California, San Francisco, last year founded Chiron, a consulting-research genetic engineering firm expected to bring in \$5 to \$6 million this year. Many other University of California biochemistry faculty act as "independent consultants" for firms, especially in the highly competitive areas of recombinant DNA and monoclonal antibodies. Virtually every biochemistry faculty at Stanford is already contracted with a company, and their graduate students are almost automatically drawn into the same affiliation.

While some faculty members and public interest groups protested the recent closed-session conference, no doubt lucrative "chromosome valleys" will be springing up around major research universities, such fertile ground for such a furtive product: profits.

*Beckman Instruments, Syntex Corporation, Genentech, Cetus Corporation, Cabot Corporation, Applied Biosystems Inc., Damon Corporation, Gillette Corporation, Dupont Inc., and Eli Lilly and Company.

**University of California, Stanford University, California Institute of Technology, Massachusetts Institute of Technology, and Harvard University.

SFTP GETS NEW COMPUTER

Take a look at your mailing address label on this issue of **Science for the People**. It looks different than the labels on issues you have received in the past. As of the March issue, SftP began using a new mailing list computer system. The Computer Group in Boston SftP raised the money to purchase a Radio Shack TRS 80 Model II computer plus mailing list software system. The group is currently trying to raise an additional \$3 thousand to purchase a printer and other necessary equipment. (The labels for this magazine were printed elsewhere.)

A number of people in the Boston SftP Chapter spent numerous hours entering our mailing list name-after-name into the new system. We are very grateful for their time. However, take a close look at your label and make sure your name and address are correct. Please let us know if we made any mistakes.

The new computer will give us much more control over our list and help us promote the magazine. In addition, it has greater capacity to sort and categorize SftP subscribers. The numbers and letters printed above your name on the label indicate when the label was printed, when your subscription will expire, where we got your subscription, what type of subscriber you are (foreign, library, teacher, etc.), whether you are a member or not, and how many magazines we send to you. In addition, the system allows us to record whether you want us to exchange or sell your name to other publications for direct mail purposes. If you would not like us to give your name to other magazines, please let us know.

We think the new computer will help get the magazine to you more quickly and reliably. If you are in a position to help us raise the rest of the money that we need, we would greatly appreciate your assistance. All donations are tax deductible.

Making the Unthinkable Appear Routine

WAR OF THE WARDS

by Marilyn Flower and Liz Jacobs

The Department of Defense is seeking the assistance of the civilian health community to temporarily supplement its medical capability for future wartime needs.¹

An integral part of U.S. war preparation is the Civilian-Military Contingency Hospital System (CMCHS). CMCHS was created under the Carter Administration in early 1980, and fits neatly into the beginnings of a shift in spending priorities from social services to the military. Specifically, it is a patriotic call to duty by the Department of Defense (DOD) to civilian hospitals nationwide (with greater than 150 beds) to reserve a minimum of 50 staffed beds to provide the medical support for a "future major conflict outside the United States."² The Department of Defense is asking hospital administrators to sign a Memorandum of Understanding (M.O.U.) which is a non-binding agreement acknowledging participation.

There has never been a plan like this in the history of this country. Civilian hospitals have never been asked to prepare for war *before* a congressional declaration. It is modeled after a similar Israeli plan to use civilian hospitals for quick expansion of military services in times of disaster or "sudden... short and violent wars."³ According to James Doherty, an American hospital official on loan to the Pentagon, CMCHS is an attempt to prepare for a potential large scale conventional war or a confrontation involving tactical nuclear weapons in Europe or in the Middle East or both.⁴

There are three phases to the unfolding of this atrocity. As part of Phase I, 17 cities nationwide have been targeted, based on their strategic importance and proximity to military medical centers (see map). The goal of Phase I is to commit 50,000 civilian beds to supplement 15,000 existing military beds. Phase II goes after hospitals near smaller military facilities and Phase III targets medium to large urban medical centers. The

Marilyn Flower is a trade union activist in SEIU Local 616 in Oakland California; and she is currently fighting Reaganomics with the Alameda County Labor-Community Coalition.

Liz Jacobs is a long-time health care worker, currently a nurse at the Native American Health Center in San Francisco, California.

goal of these final phases is 100,000 additional beds. As of October 1981, 19,000 beds had already been "pledged."

CMCHS can only be understood in the context of recent trends in U.S. foreign policy. The "Vietnam Syndrome"⁵ has been overshadowed by an increasingly belligerent U.S. foreign policy. The U.S. is now frantically attempting to strengthen ideological and military superiority over the Soviet Union and national liberation movements, in order to turn back the successes of struggles in Central America, Africa, and the Middle East. It is clear that U.S. foreign policy is a *war* policy based on imperialist intervention and nuclear threats.

Witness the many illustrations of this increasing war threat and the consequent militarization of U.S. society. Social services won through 50 years of struggle, have been sacrificed to an already crippling military budget. U.S. military and economic aggression have escalated against Cuba, Nicaragua and the liberation forces of El Salvador. Administration pronouncements support the idea that the U.S. is planning to engage in a "limited" nuclear war in Europe. U.S. military might has been displayed through provocative war games such as "Operation Bright Star" in November 1981, in which 5000 troops engaged in a mock battle in the Middle East.

CMCHS is more than a means for the military to acquire a back-up medical system. It starts with a military briefing for hospital administrators, complete with slides of Soviet tanks, tables and graphs of bed availability and casualty rates. Then, with a 50 page plan, U.S. aggression is spoonfed to hospital administrators and health workers as the challenge of "saving lives together." The entire operation is based on the premise that "the Soviet Union's awesome military power poses a threat to the United States"—although the report also assumes there will not be an attack on the U.S. homeland.⁶ This is not a defensive plan to be used in case of attack.

Grim Particulars

The minimum commitment for CMCHS is 50 "normally occupied" beds which could be commandeered in 24 to 48 hours, or with no notice at all. Be-

yond beds, the military will need surgery and intensive care units, blood banks, respiratory therapy equipment, x-ray machines, laboratories, emergency rooms, pharmaceuticals, physical therapy facilities, and support services such as food supplies and nursing.

Hospitals joining CMCHS must complete a questionnaire detailing age, sex, military affiliation and draft status of hospital staff; submit daily bed availability reports to local military liaison officers; and appoint two staff members—one administrative and one medical—to coordinate operations with the military. (“Plans must be developed within your institution, refined, and tested to ensure that the system could be successfully implemented on short notice.”)⁷

To test a hospital’s preparedness, participation in annual drills with the military is required. “You will be expected to commit sufficient resources to the exercise to ensure that key staff personnel including physicians become thoroughly familiar with the system, prepare a critique, and make necessary changes (in it).”⁸ This drill may also include triage (sorting) of casualties at the landing site, presumably military bases. Through CMCHS the military bypasses the usual draft of individuals to draft institutions in which individuals have no recourse for objection or appeal. There are no provisions for conscientious objectors.

Although the plan is designed to acclimate hospital staff and the community to military control over civilians and civilian institutions, there is no mention of consulting hospital workers or their unions about the dramatic changes required in administrative and working conditions. According to the National Lawyers Guild, the implementation of these changes, without contract

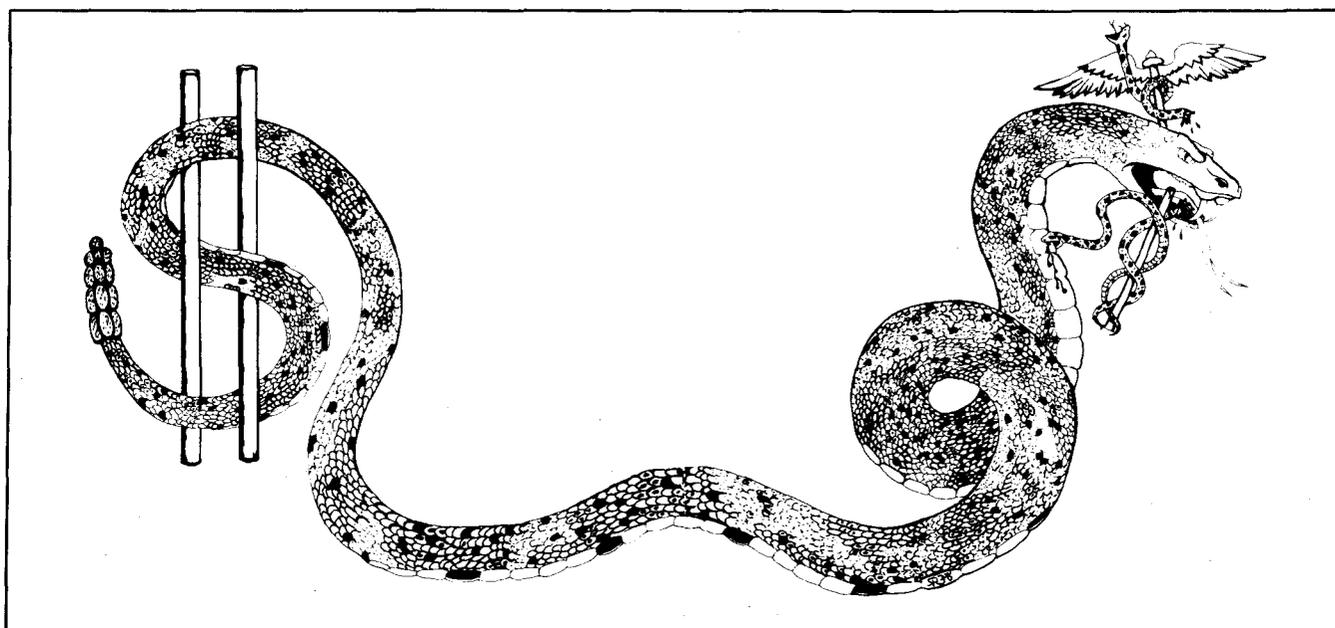
negotiations, is in clear violation of National Labor Relations Board regulations, and can be contested on those grounds.

The envisioned scale of civilian involvement in war preparations goes well beyond hospitals. Military medical commanders will be “establishing liaison with local civilian agencies which have the capacity to supplement the military health system . . . for example, Emergency Medical Services Systems (EMSS), fire and rescue services, mass transit services, communications centers and others.”⁹

The DOD has two goals with CMCHS. The first is to anticipate needs for military hospital services which match an increasingly aggressive U.S. foreign policy. It is already understood that military hospitals cannot now handle the massive casualties resulting from the various war scenarios being planned—particularly “limited tactical” nuclear wars. Further, because the President is given the power to declare a state of emergency at any time and to requisition hospital beds, CMCHS permits rapid response without the necessity of a Congressional declaration of war.

The second, possibly more significant, role of CMCHS is in the psychological preparation of the U.S. people for war. War in this mental framework becomes viewed as a realistic and acceptable possibility, so it is best to be well prepared. In turn, war preparedness legitimates and enhances the ability of the government to threaten other nations with war.

Hospitals joining CMCHS are encouraged to make their stand known publically, with the DOD doing likewise. The plan includes a substantial press release for hospitals’ use. Accordingly, one of the benefits to par-





Keith McHenry

ticipating hospitals is public relations: "the public will enthusiastically support a well organized, professionally coordinated opportunity to participate directly in the national defense effort."¹⁰ However, no hospital on the West Coast has voluntarily publicized its choice to participate, for whenever the plan has been subjected to public scrutiny, opposition has been massive and broad-based.

Another "benefit" CMCHS offers health workers is "staff challenge." "The types and severity of injuries and illnesses which are anticipated from the combat zone will present a challenge to your hospital staff, and there would be no question about their direct involvement in the support of the national defense effort."¹¹ The plan even includes a "national patient profile" summary giving 100 likely injuries and diseases with which the medical staff will be challenged.

Given the premise of the CMCHS plan—that the next war will feature the latest weaponry and that casualties will be astronomical—a likely scenario is nuclear war. In fact, Dr. Moxley (DOD's former medical chief) responded to direct inquiries by stating that, "This does not rule out the possibility that such a war could escalate to a tactical nuclear exchange and planning must, of course, consider that possibility." The "national patient profile" lists 11 severe burn cases which could well represent radiation victims. No doubt in an actual nuclear war the percentage would be far higher than 11, and would probably be so high that medical assistance would be virtually meaningless. There is no mention of this in the plan even though health care providers have publically criticized the as-

sumption that they can medically treat radiation injuries in a nuclear war. Nevertheless, President Reagan operates under the assumption that a "limited" nuclear war can be waged with a minimum of risk. This assumption, which also underlies CMCHS, makes CMCHS inseparable from current U.S. foreign policy, which attempts to make war (even nuclear war) viable, if not acceptable.

Impact on Health Care

The question most asked about CMCHS is, "What happens to the patients using the 50 beds when war breaks out?" There is *no civilian contingency system* in the plan. The plan explicitly states that the 50 to 150 beds will be "normally occupied" beds; increased casualties may require expansion into unused beds. It is true that many hospitals are "overbedded." This is because there is a tendency to build medical complexes in affluent communities where there is a building cash flow and municipal tax breaks. Especially in suburban areas, the number of beds are so high that the hospitals are actually in competition for the lucrative insured patients. But while there may be extra beds, they are not usually staffed or serviced. Changes would have to be made to utilize them.

In contrast to suburban areas, most urban hospitals have fewer staffed beds than are needed. The average urban hospital is likely to be filled or nearly filled with patients, with overcrowded clinics and waiting rooms. Low wages and poor working conditions, archaic administrative practices, forced overtime, professional disrespect, racism, sexism, and other such problems are factors in the chronic understaffing of these hospitals. Under CMCHS, these personnel and bed shortages will be further taxed, and facilities may even be taken out of public use. The result would be dangerous both to displaced individuals and to the community that has had its health services drastically reduced. In the case of public hospitals, which are often the only facilities that will treat Medicaid and "medically indigent" (working poor) patients, the displacement may mean no care at all.

Since most urban hospitals serve poor or minority communities, the greatest impact of CMCHS will be the removal of health services from groups historically given the least adequate care. Racist patterns of health care delivery will be exacerbated by CMCHS. As one county hospital patient put it at a recent CMCHS hearing in Oakland, California, "Instead of coming here and taking our only beds, the Federal Government should see the state of emergency we're in. They should

send doctors and nurses to come here and help meet the needs of our suffering communities instead of the other way around.”

CMCHS was introduced to West Coast hospital administrators at about the same time Reagan began his cuts in social spending which helped finance the inflated military budget. Some of these cuts have a direct impact on federal and state reimbursement for health services, such as those in Medicaid and Medicare. Others have an indirect impact by making people more vulnerable to disease, such as cuts in food stamps and the WIC (women, infants and children nutrition) program. With these cuts, infant mortality, birth defects, and children's diseases in poor and minority communities will rise.

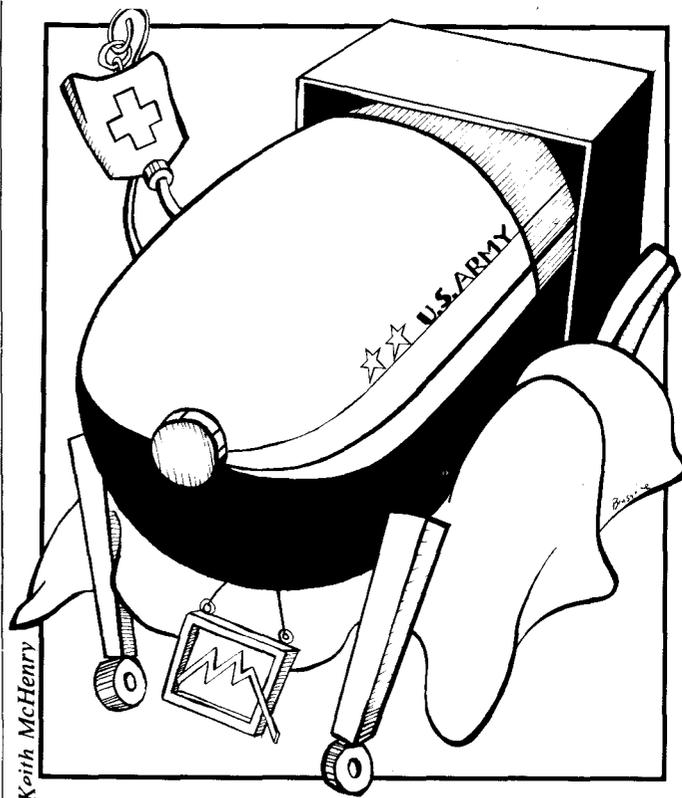
Hospitals, then, will be faced with greater health care needs with fewer sources of funding and reimbursement. During the last decade, public hospitals have been closing at an alarming rate. New York City, for instance, used to have 25 public hospitals, it now has only five. And as states toughen Medicaid eligibility to conform to lower federal subsidies, as high unemployment continues, and as community health centers close, there will be an ever greater demand for low cost (or totally subsidized) health services.

CMCHS may appeal to opportunistic hospital administrators looking for a way out of financial problems. No doubt the DOD would have a stake in the closure question of hospitals signed up with the plan. No doubt the possibility of full-paying military patients looks attractive at this time. For public hospitals the possibility of conversion into a military facility is increasing: San Francisco's U.S. Public Health Hospital, for example, was recently closed only to reopen as a military hospital.

Through CMCHS, DOD has “civilianized” its responsibilities towards war veterans. While the Vietnam veterans' struggle for recognition and treatment of long term effects of the last war continues, contingency plans unfold for the next war. The money going into the military budget at an unprecedented rate goes for weapons, war technology, defense contracts, and nuclear research. It is not going to veterans' benefits or health programs. Nor it is going to medical weapons or nuclear radiation injuries. This responsibility to armed service people will be passed along to civilian hospitals as part of their “staff challenge.”

Mounting Opposition

CMCHS has not slipped by unnoticed as hospital administrators and the Pentagon had hoped. Initially the plan unfolded smoothly with endorsements from the power centers of the medical industry. The American Hospital Association was willing “to cooperate with the



DOD in the implementation of the system with our member hospitals.” The Joint Committee on Accreditation of Hospitals supported the plan and the American Medical Association pledged to “utilize its leadership position to commend the DOD program to the consideration of other components of the U.S. health care community.” However, as news of the plan has become public opposition has steadily gained momentum and encompassed increasingly broader sectors of the San Francisco Bay Area community, where the Pentagon first introduced the plan. An overview of opposition to the plan there could serve as a model for other areas.

In February 1981 the DOD invited hospital administrators of the Bay Area to a multimedia presentation introducing CMCHS, the latest in war preparedness for the medical community. They neglected to invite those most affected by the plan—hospital workers and patient communities. Word of this meeting slipped out and resulted in the first public awareness of CMCHS.

Shortly thereafter an ad hoc committee in opposition to the plan was formed. CMCHS exacerbated tensions which already existed between the medically underserved minority communities and the hospitals which supposedly care for them. In San Francisco and Oakland, members of community groups became involved in the fight against CMCHS. They were joined by activists in health workers' unions; several locals of Service Employees International Union (SEIU) and the

American Federation of State, County and Municipal Employees (AFSCME) passed resolutions opposing the plan.

The campaign at San Francisco General Hospital was won through such a broad-based coalition. Opposition involved Latino community groups, black trade unionists, the Grey Panthers, other unions such as AFSCME local 1650, the San Francisco Interns and Residents Association, and El Salvador support groups. A rally of almost 100 people outside the hospital, and rising media attention, forced the hospital administrator who was on the verge of signing the Memorandum of Understanding, to back down.

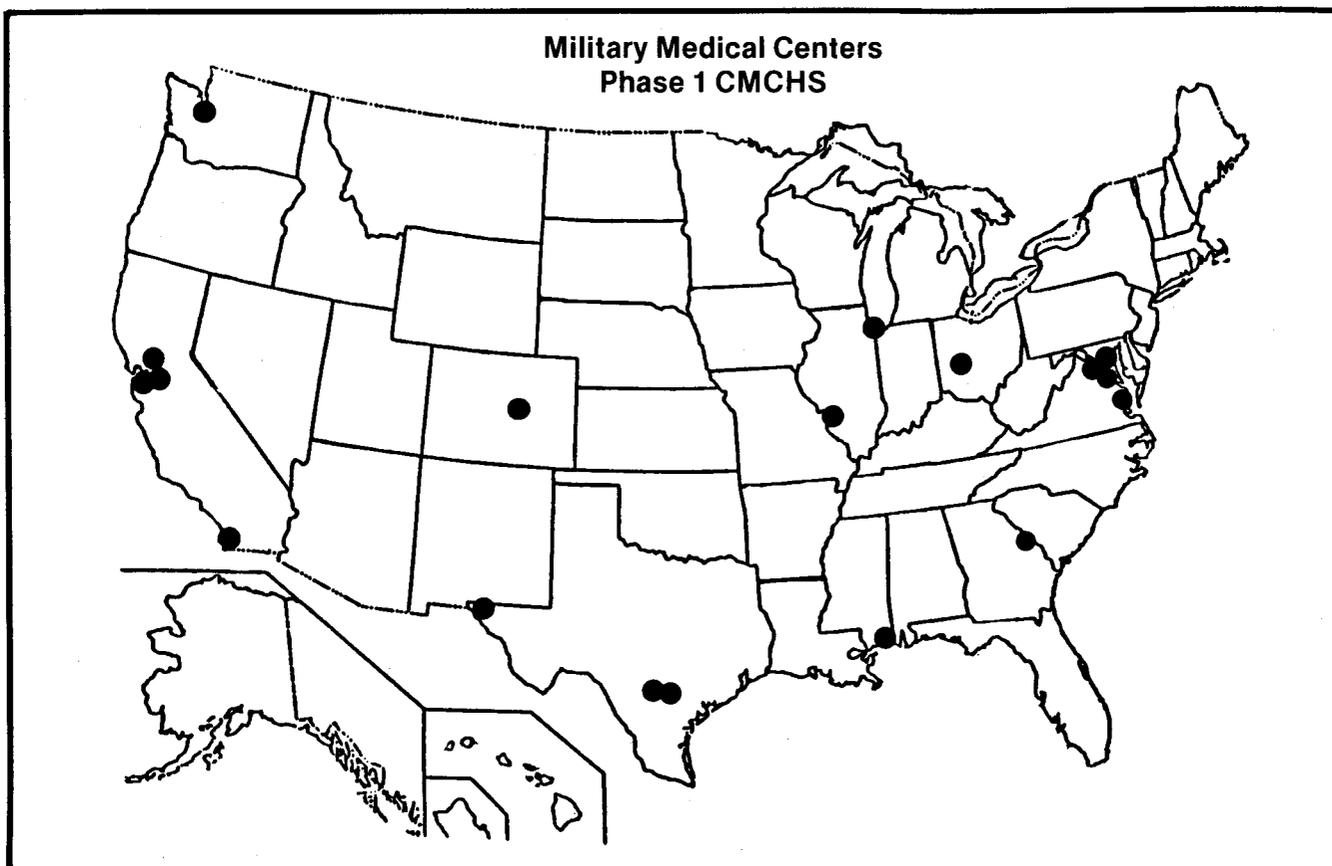
In addition to San Francisco General, the most significant opposition locally has been mounted at public hospitals. Our experience as health care workers has led us to recognize several reasons for this.

At Highland, the Alameda County public hospital, sharp opposition to CMCHS at a meeting of the community advisory board, for example, resulted in a vote against endorsing the plan. Health workers and community members successfully debunked the slide show and patriotic pep talk given by Captain Hodge, the local DOD sales rep for CMCHS. As one member of the board said, "Whatever our personal views, we are here to represent the community."

Contra Costa County Hospital went on record in early September as the first hospital in the country to formally oppose the plan. In a letter to the Pentagon, medical staff president Dr. Kathryn Bennet stated, "the medical staff...does not wish to participate in CMCHS. The plan encourages preparations for a war of catastrophic proportions." The letter placed the plan in the context of current social service cutbacks and concluded that "participation in CMCHS would offer tacit approval for the planning of a nuclear war."

Another publicly funded system is the statewide University of California, which operates three large teaching hospitals. Due to public protest, they decided not to join the plan. Stanford University, faced with opposition from its medical staff, voted not to join CMCHS.

While public hospitals were encountering vocal protests, administrators of private hospitals were eagerly signing the M.O.U., sometimes with a poll of their medical staff, sometimes in total secrecy from all employees. Yet the success of public protests has had reverberations in the more insulated private sector. One Berkeley hospital administrator stated he would not sign because he expected "trouble from the community."



The ABCs of Fighting HMOs

As the accompanying article suggests, fighting a hospital administration on behalf of consumers of their services presents a real organizing challenge. Public hospitals can be held accountable by the public bodies which administer them; private hospitals can be threatened with a consumer boycott. But what about Health Maintenance Organizations (HMOs)—the cradle-to-grave health care systems run on the basis of prepaid (usually payroll deduction) fees? On the West Coast there are several such HMOs, but the giant of them all is Kaiser Foundation Hospitals.

The fight against Kaiser acceptance of the CMCHS plan is continuing as this article goes to the press; what follows is a summary of what we've learned about organizing against HMO cooperation with the Pentagon.

Questions to Ask

- Is the HMO considering the Plan? Kaiser made the agreement with the DOD without a whisper of publicity—until we accidentally heard about it and gave them some.
- What is the HMO's contract with the community?

Riding on the momentum of the various actions against CMCHS, other voices began rising in protest. Among these are the Catholic Church and Physicians for Social Responsibility (PSR). PSR, a national organization of doctors opposed to nuclear war, began the first attempt to regionalize opposition. The organization's opposition to CMCHS is based on their fear that the Pentagon plans a *tactical nuclear war* that could lead to an all-out nuclear exchange. PSR addresses itself to doctors and makes minimal attempts to educate and organize other parts of the hospital workforce. A letter from PSR to Chiefs of Staff at eligible Bay Area hospitals urged them to bring the matter before their medical staffs. Following this, 90 physicians at Kaiser-Permanente Hospital in San Francisco signed a resolution against Kaiser's participation (see box). One weakness of PSR's approach is that they limit their CMCHS opposition to the premise that it envisions a nuclear war. They do not take a stand against war per se, which implies silent complicity on conventional war scenarios such as the growing danger of U.S. intervention in Central America.

Are they required to have community representatives on their Board of Directors?

- Who are the main consumers of the services? In the case of Kaiser, 60% of the subscribers are union members, and most of the remainder are public employees.
- Are there competing HMOs to which subscribers can threaten to go? (Why send money to an outfit which gives the military first dibs on services?)
- Are the employees unionized?

Actions to Consider

- We formed a group representing employees and subscribers. Our first goal was to inform all subscribers of Kaiser's decision to sign the plan.
- Go to organized groups of subscribers. Both the Alameda County Central Labor Council, representing 40,000 Kaiser members, and the Berkeley City Council, representing city employees belonging to Kaiser, passed resolutions demanding that Kaiser not sign. Other organized groups are expected to follow.

- Publicity! HMOs enjoy an untarnished public image, free of the taint of profit-making. Use letters to the editor, petition campaigns, union and community newsletters to let people know that this HMO sold its members down the river.
- Consider a lawsuit. CMCHS is seen by many as illegal on three fronts: as a violation of the HMO contract with the community; as a violation of the collective bargaining agreements of hospital employees; and as a violation of the contract the HMO has with its subscribers—to provide services in return for fees.

—Coalition Against the Pentagon-Kaiser Agreement



Appealing to another constituency, Roman Catholic Archbishop John Quinn addressed a San Francisco congregation of 2400 in mid-October, calling for a spiritual and secular program opposing nuclear proliferation. He specifically urged the administration and staffs of Catholic Hospitals to oppose CMCHS. The church makes it clear that they view this as a moral issue. On the heels of this widely acclaimed pastoral address, at least one Catholic Hospital in this area backed-down from participation in the plan.

Challenging Militarism

CMCHS, like the rise of militarism itself, is spreading across the country. Opposition is difficult to centralize, partly due to the large number of hospitals approached, and partly due to the lack of a unified movement opposing current U.S. policy and practice.

At this writing it has been about a year since the DOD came to town with their offer of a "gentlemen's agreement" to hospital administrators. In that time thousands of people in the Bay Area have been alerted

to the plan's existence by speeches, articles, media coverage, petition campaigns and public actions.

CMCHS is a vital issue to raise in the context of today's political and economic crisis. Stopping CMCHS will take a nation-wide broad-based movement opposing U.S. war preparations. Fighting CMCHS is a good way to expose the link between the military budget and the human service cutbacks that result from it. It is one more insidious piece of a jigsaw puzzle that attempts to make the unthinkable appear routine. □

Not to Worry

We can rest assured, declares the Department of Defense in a late-March issue of the *New England Journal of Medicine*, that the Civilian-Military Contingency Hospital System (CMCHS) is based solely on a *conventional* warfare scenario, not a nuclear attack. In the same issue of the Journal, the Physicians for Social Responsibility decry the Pentagon's plan as a diversion from the dangerous "potential for nuclear war."

No doubt the military is finding their plans for nuclear war hard to sell, deciding instead to peddle CMCHS as that garden variety conventional war we have come to know and accept.

"FOLLOW THE MONEY"

said Deep Throat to Woodward and Bernstein.

And when you apply that axiom to the news of the day—whether it's from the Midwest or the Middle East—many things become clear.

Why?

- Why has Congress refused to allow Haig, Reagan and the CIA to overthrow the Marxist government of Angola?
- Why has the Yanomami tribe of Amazonian Indians been virtually wiped out by disease over the last few years?
- Why should we care that billions of pounds of pesticides are sold each year to underdeveloped countries?

Because:

- Gulf, Mobil, Boeing, Chase Manhattan Bank, General Electric—all have valuable deals with the Angolan government to extract oil and minerals there.

The authors are interested in hearing from people concerned about CMCHS, particularly those wishing to challenge CMCHS in their community. They have packets of material available, including the DOD plan, for \$4.00. Please write: CMCHS, c/o Alameda County Labor/Community Coalition. P.O. Box 27163, Oakland, CA 94602.

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1. Department of Defense manual on the CMCHS plan: "CMCHS—In Combat, In the Community, Saving Lives... Together," Foreword.
2. Department of Defense, p. 1.
3. David Allen, *Hindsight*, September 1981.
4. *Los Angeles Times*, April 10, 1981.
5. The "Vietnam Syndrome" is that polite term which refers to government fears that new U.S. military interventions abroad will lead to the renewal of mass political opposition at home.
6. Department of Defense, p. 1.
7. Department of Defense, p. 9.
8. Department of Defense, p. 9.
9. Department of Defense, p. 3.
10. Department of Defense, p. 7.
11. Department of Defense, p. 7.

- Resources again—the Yanomami have lived for centuries isolated from diseases such as measles, on resource-rich land now swarming with roadbuilders and multinational prospectors who transmit the diseases and devastate the Indian culture.
- Those pesticides are responsible for disease and death amongst the thousands of workers in third world plantations—whose protection is minimal. And we consume those poisons when they are exported back to the USA in fruit, vegetables, meat and coffee!

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THE PRESENT WAR

by The Berkeley Study Group

The U.S. government is at war. A graph of military costs, adjusted for inflation, since 1900, clearly shows that the war began in the late 1950s following the Korean conflict, and has continued ever since. Two additional hot peaks rise above this level of permanent militarization, Vietnam is one. The other all-out conflict began in the last years of the Carter administration and has continued full-force under the Reagan regime. Already tens of thousands of Latin Americans have died as a result. In the next few years the U.S. war will surpass in real dollars the peak Vietnam War costs—making it comparable only to World War II.

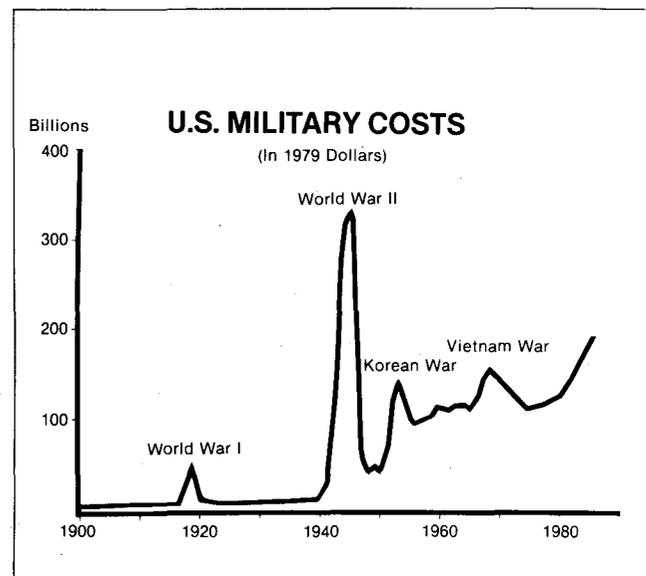
Don't get us wrong. Nuclear weapons are a devastating, world-threatening force that demands organized mass opposition to insure that idiocy, error or scheme does not result in world holocaust. It is also clear that the U.S. is developing an increasingly potent first-strike capability and that the boundary between conventional and nuclear weapons is systematically being blurred with the introduction of the neutron bomb and the cruise missile. These are grave conditions that demand attention.

But the harsh reality is that the present war is almost entirely *conventional*. This above all else must be foremost in our political analysis and action. Strategic (i.e., nuclear) forces account for less than 15% of the military budget. According to the U.S. Fiscal Year 1982 budget, "The largest funding in the defense function is for conventional military forces, which help to deter or counter non-nuclear military aggression. The budget proposes 1982 budget authority of \$73.5 billion for general purpose forces, a 12% increase over 1981. Active general purpose forces include 16 army divisions, 3 marine divisions, 3 marine air wings, 26 wings of air force tactical aircraft, and 309 general purpose naval warships, including 13 aircraft carriers and 12 carrier air wings. A number of important initiatives for modernizing existing forces and improving their readiness for combat are proposed."

The Berkeley Study Group focuses on issues of militarism and science and is currently engaged in an in-depth analysis of military control of research and development funding in the U.S. It is composed of members of Bay Area Science for the People and the University of California, Berkeley, community.

Not only is the bulk of U.S. military for conventional war, but the recent dramatic budget increases are primarily for conventional weapons and support, not nuclear. Thus when Reagan increased the Carter fiscal 1981 and 1982 military budgets by \$33 billion, only three billion was for strategic nuclear forces—Trident submarine, cruise and Minuteman missiles. Yet, \$2.5 billion is going to upgrading the Rapid Deployment Force, \$4 billion is going for new shipbuilding (146 new warships and the down payment on a new aircraft carrier), and \$16 billion for new heavy equipment (including 55 jet fighters, 236 Army infantry fighting vehicles, and 360 more M-1 tanks).

U.S. ruling interests are thereby served. On the one hand, strategic oil and other natural resource interests are protected and regional stability maintained according to U.S. dictates—in the Middle East, Africa, Southeast Asia, and Latin America. On the other hand, some sectors of the domestic military industry are given a momentary economic shot in the arm (see J. Cypher, "The Basic Economics of 'Rearming America' ", *Science for the People*, July/August 1981). Of course, nuclear weapons are also used to serve these interests. Every president since Truman has threatened a (usually non-nuclear) country with nuclear annihilation in order

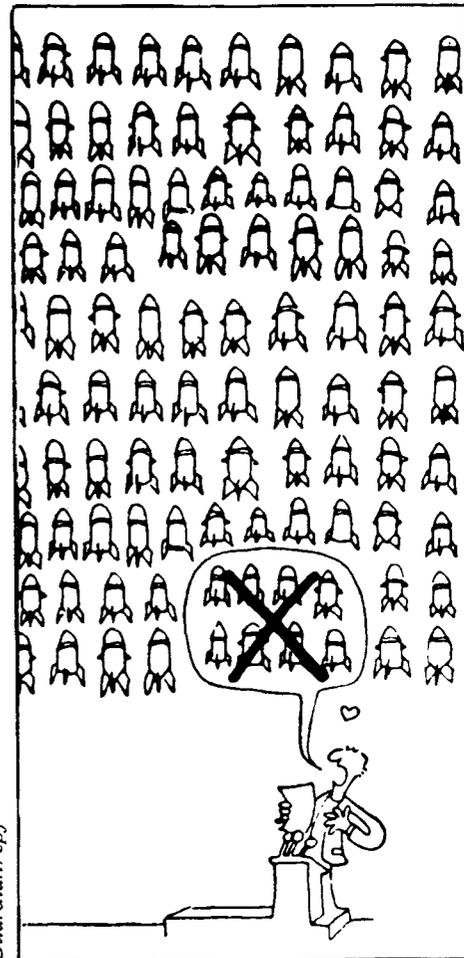


to gain concessions or win battles in otherwise conventional conflicts (see D. Ellsberg in *Protest and Survive*, Monthly Review Press, 1981). Thus U.S. nuclear build-up is not in response to a "Soviet threat," but rather aims to achieve first strike capability to back up U.S. Third World intervention while keeping the Soviets at bay.

We must fight and battle against nuclear weapons. But that cannot substitute for analysis and action against the major thrust of U.S. militarism—which most prominently includes conventional war. We must educate others on the political factors leading to both nuclear and conventional wars.

There are many reasons why the present war is being waged against Third World countries. The mid-1970s saw the beginning of a series of successful Third World revolutions: Ethiopia (1974); Vietnam, Laos, Cambodia, Angola, Mozambique, and Guinea-Bissau (1975); Afghanistan (1978); Iran and Nicaragua (1979); and Zimbabwe (1980). The U.S. government was worried. The Persian Gulf was declared a vital U.S. interest in which "hostile interference" will not be tolerated. Meanwhile the U.S. is seeing a decline in control over its major capitalist allies, in large part due to the falling economic strength of the U.S. and the shifting political orientation of European countries. Also important are the increasing visibility of Soviet might—notably in Afghanistan and Poland—along with the finger-pointing and bullying of U.S. military strategists and military manufacturers. (For further analysis on these points see F. Halliday, *Soviet Policy in the Arc of Crisis*, Institute for Policy Studies, 1981.)

Our response must move beyond one of mere moral outrage to one of critical political understanding. At this juncture, where groups like the Physicians for Social Responsibility, the Federation of American Scientists, and so many others, fail—Science for the People must not. We must fight and battle against nuclear weapons on all fronts. But that cannot substitute for analysis and action against the major thrust of U.S. militarism, which includes most prominently, conventional interventionist war against Third World countries and covert operations against struggles for national liberation.



We must take actions on many fronts. We must educate others on the political factors leading to both nuclear and *conventional* wars and their interrelation. We must take up the pragmatic struggle to stop militarization and concurrent gutting of social programs. We must also return to antimilitarist actions, the roots of Science for the People. Scientific and technological effort in the U.S. is overwhelmingly dominated by the military—Science for the People banded together to reveal and challenge this reality. We must again reveal and challenge these forces: the role of prominent scientists in counterinsurgency operations—as with the notorious Jason Group, which still operates today; the resurgence of DOD and CIA activity on campuses; the increasing application of scientific expertise to police, prison, and paramilitary operations for domestic use and for export. (For more details on the above see The Berkeley Study Group, "Resurgent Militarism in Academia," *Science for the People*, July/August 1981.)

The red rising before the eyes of the U.S. government is not the peril of Communism, it is the real blood of people dying at the hands of the U.S. in the battles now being waged in the present war. □

Where Murder is the Leading Cause of Death

HEALTH CARE UNDER SIEGE: EL SALVADOR

by The Bay Area Chapter of the Committee for Health Rights in El Salvador

Involvement of the Reagan administration in El Salvador is increasing at a frightening pace. In an effort to prevent a victory by the growing popular forces, the U.S. Government has been backing the ruling junta with increasing levels of economic and military "aid." Tiny El Salvador now receives more U.S. "aid" per capita than any other country in the entire Western Hemisphere. Thomas Enders, Assistant Secretary of State for Inter-American Affairs, proclaimed to the Senate in February: "There is no mistaking that the decisive battle for Central America is underway in El Salvador." Perhaps the clearest statement of the Reagan administration's preoccupation with a military victory in Central America came from the President himself when he told the Organization of American States that, "If we do not act promptly and decisively in defense of freedom, new Cubas will arise from the ruins of today's conflicts." Two weeks later, in early March, newspapers across the country reported that President Reagan had approved a CIA covert operation to recruit, train and arm Latin American mercenaries to destabilize the Sandinista government of neighboring Nicaragua.

In order to justify its position, the Reagan administration has attempted to whip up anticommunist hysteria, invoking images of dominoes falling at our very doorstep. We are fed confusing euphemisms about defending strategic American interests all the while being reassured that similarities with our "involvement" in Vietnam are being overdrawn.

What is at stake in El Salvador? What position should North Americans take regarding the Salvadoran conflict? Because the health of a people reflects their social conditions, an understanding of El Salvador through the prism of health can help penetrate the rhetoric, statistics, and ideologies, and extract the truly human essence of the situation.

Historical Conditions

The overwhelming majority of Salvadoreans have lived under an oppressive oligarchical system characterized by extreme inequality. Five percent of the popula-

tion received 38% of the national income. The land-owning aristocracy (the oligarchy) is 2% of the total population but owns 60% of the arable land. Six families own as much land as 80% of the rural population.¹

Beginning in the mid 1800s, communal lands, which once provided the peasantry with basic foodstuffs, were taken over by the oligarchy and converted to coffee, cotton, and sugar plantations. The loss of the communal lands, the extremely low wages (averaging \$340 per year) paid to farm workers, high rural unemployment (45% with only 16% able to find work year round), condemn most of the population to lives of poverty, illiteracy, hunger, and disease. In addition, those agricultural workers "lucky" enough to find jobs are frequently exposed to pesticides such as DDT (now banned in the United States) which is routinely used on cotton, the second commercial crop after coffee. Fifty-two percent of all documented cases of DDT poisoning in Central America are in El Salvador.

We are a group of physicians, nurses, mental health workers and other health care workers organized toward these goals:

- To educate ourselves about the history and current situation in Central America, emphasizing health needs of the civilian population and progressive forces in El Salvador, and abuses of medical neutrality by its ruling junta.
- To disseminate this information to the medical community.
- To collect medical supplies and raise money for medical supplies which will be sent to El Salvador through FMLN/FDR channels in Mexico.

We know that FMLN/FDR clinics, however primitive, are saving lives and contribute to the struggle in El Salvador. We invite your participation or monetary contributions.

Bay Area Chapter of the Committee for
Health Rights in El Salvador,
P.O. Box 1405,
2000 Center Street,
Berkeley, CA 94704.

The urban population is not much better off. Factory workers make an average of \$1200 yearly. High rural unemployment has forced tens of thousands to flee to the cities where they live marginal existences without adequate income. Forty percent of all urban wage earners, in 1974, were receiving less than the legal minimum wage.

The health effects of this grinding poverty and the accompanying poor housing (8 people per dwelling averaging 21 square feet), inadequate nutrition (1750 calories/day, 60% protein deficient), and poor sanitation (only 15% of the people have running water or sanitary facilities), are predictable:

- Infant mortality is extremely high (120/1000)*;
- 25% of all children die before the age of five;
- 75% of the children suffer from malnutrition;
- 600,000 Salvadoreans have Vitamin A deficiency severe enough to affect their vision;
- The average life span of peasant and factory workers is 40 while that of the oligarchy is 70.

It is also predictable that people living under such oppression will rebel. In 1912 the National Guard was instituted to suppress rural uprisings. In 1932, an uprising by workers and peasants was brutally suppressed and 30,000 people (4% of the population) were massacred, including Farabundo Marti, one of the leaders. Today the FMLN/FDR (Farabundo Marti Front for National Liberation/Democratic Revolutionary Front) is continuing the struggle against oligarchical oppression. The ruling junta has responded by declaring war against its own people.

State of Siege

In El Salvador today, murder has replaced infectious disease as the leading cause of death, with over 32,000 killed in the past 2½ years. The legal aid office of the Archdiocese of San Salvador estimates that at least 80% of these murders are the work of right wing death squads and the government's own security forces. Daily life has become a horror due to these barbarous acts of the military and security forces: male cadavers are displayed with genitals cut off and stuffed in victims' mouths, female cadavers are often found with breasts cut off and placed in outstretched hands, and decapitation is commonplace. Fetuses are cut out of pregnant women while the attackers proudly proclaim that they are preventing another rebel from being born. The rape and murder of nuns in a predominantly Catholic country is indicative of how depraved this situation has become.

* The worst levels in the U.S. are in Harlem and Oakland at 26/1000.

When people can escape the horror they often wind up in refugee camps which lack adequate food, shelter, sanitation, and medical supplies, making them breeding grounds for infectious diseases. The army and security forces frequently attack these refugees for allegedly being guerrilla sympathizers. As part of its repressive counterinsurgency policy the junta has shown a total disregard for the principle of medical neutrality.

The Commission of Inquiry

Since the Geneva Convention of 1864, nations have pledged to regard doctors, nurses, and other health workers as well as the sick and wounded as neutrals during military conflict. These principles of medical neutrality are being flagrantly disregarded in El Salvador today. Recurrent reports of violations of the neutrality of medical institutions resulted in a recent inquiry by North American health experts. This delegation, the Public Health Commission of Inquiry, was organized by the Committee for Health Rights in El Salvador in cooperation with the American Public Health Association, the Physicians Forum, and the American Friends Service Committee. A professor of public health, a teacher of community health and social medicine, and three physicians visited San Salvador in mid-July 1980. They interviewed almost 50 individuals in health and relief fields, representing many organizations from a wide spectrum of political beliefs, including the Minister of Health and a member of the ruling junta who is a physician. Representatives of the major national doctor, nurse, and health worker organizations were also consulted.

The Commission found:

- *Since the coup of October 15, 1979, the traditional protection conferred on doctors and other health workers has been increasingly ignored as military and para-military gangs have assassinated, tortured and threatened doctors, nurses and medical students.*
- *Military and para-military personnel have flagrantly entered hospitals and shot down patients in cold blood.*
- *There is no instance in which the Salvadoran Government has punished or even identified those responsible for these killings.²*

The Commission documents a pattern of terrorization of medical practitioners and patients. Uniformed forces enter clinics and shoot medical workers as well as their patients. At least nine physicians, seven medical students, and one nurse have been killed. Spies are posted in hospitals to pass information to the military about admissions and ward assignments and later the military enters the hospital, killing or kidnapping



FMLN health worker performing inoculation in the liberated area of San Vicente

selected patients. Patients with bullet wounds are especially vulnerable, whether politically involved or not. The report cites over a dozen incidents of armed incursions into medical centers, "On May 26, after being seriously wounded by uniformed officers earlier that day, Candelano Portillo Calderon was executed in the operating room of Usulután Hospital while receiving treatment for his wounds." And, "At the out-patient clinic in Ciudad Bauos in late May the line of patients awaiting care was machine gunned, leaving three patients dead."

One health worker in El Salvador told the Commission of a slaughter which occurred in late June in the vicinity of Santa Ana. While conducting a routine sweeping search for "oppositionists," military forces entered the home of Dr. Montes and his wife, a nurse. Two medical students (one named Tonativ Ramos) and two relatives were visiting the Montes at the time the military appeared. Hearing a commotion, another young physician who lived nearby, Dr. Matamoros, went to the house, too. Four hours later and after the soldiers had departed, our informant felt it safe to enter the house. He found all seven killed by shots in the head, apparently with a high powered weapon. The reason for the massacre was that an ordinary examining table and a small amount of anesthesia material had been found. The military presumed that they had discovered a clandestine clinic for the treatment of guerrillas...

The brutality involved in the killings of health workers and patients and the accompanying tor-

ture suggest that this is a deliberate tactic aimed at striking terror into the hearts of others. Victims have been decapitated, emasculated or found with the initials "EM" which stands for Esquadron de la Muerte (Death Squad), in their flesh. Official forensic medical reports document these atrocities.³

In addition, the Commission found evidence of strict government control over medicines, blood supplies, and health care equipment. Many health care practitioners are unable to obtain ordinary medical equipment and the blood bank prioritizes all blood for military use. The peasantry of El Salvador is left to fend for itself.

Medical education was halted when El Salvador's only medical school was eliminated along with the rest of the National University in June 1979 as government troops occupied the buildings. This had disastrous effects on rural health care delivery since almost all physicians in these areas had been drawn from medical students in their final year and the medical school was the only training site for most non-physician health workers.

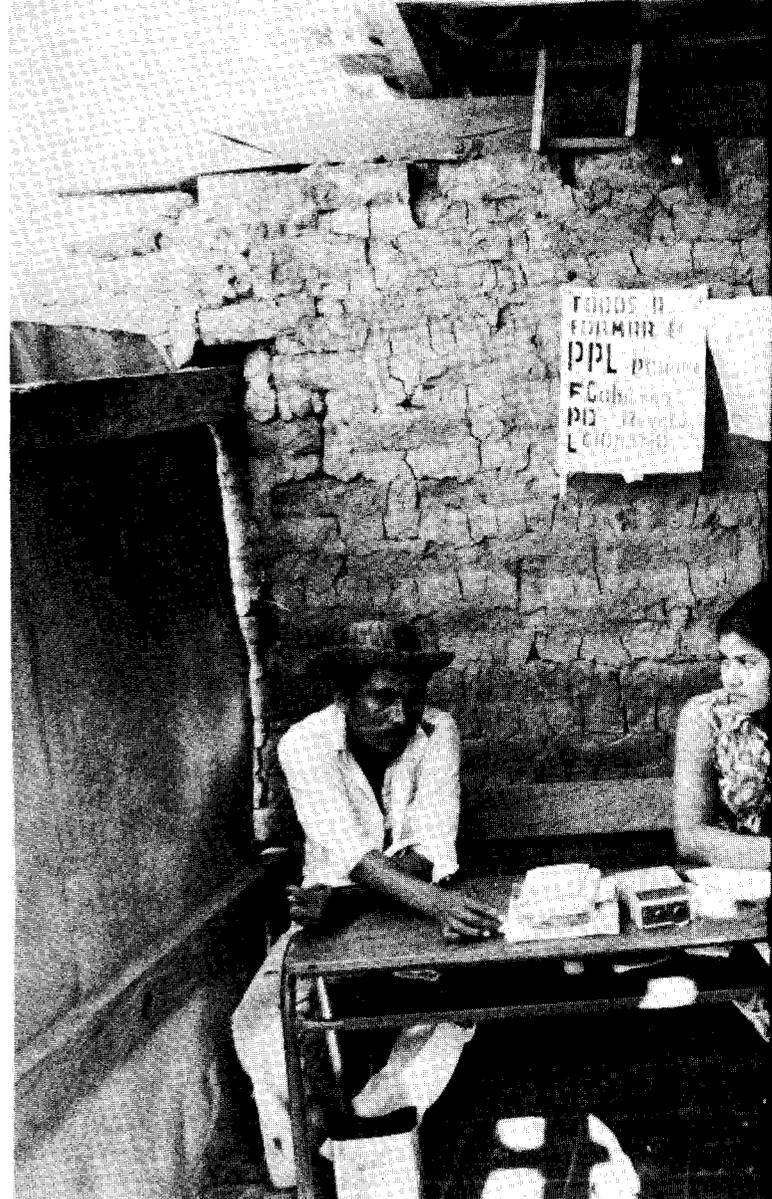
In May 1980, health care institutions and most physicians participated in a general medical strike to protest the intimidation, repression, and assassination of patients and health care workers. Throughout the work stoppage, the names of protest leaders were widely publicized in the media, inviting reprisals. Only after the junta reportedly "promised" to protect patients and health care workers was the strike called off.



As a direct result of the junta's policies, access to health care has become a privilege reserved for members of the military, security forces, and those close to the government. In the best of times there were only three doctors available for every 10,000 Salvadoreans and most of those were concentrated in the large cities. To answer the crying need the FMLN/FDR has established a rudimentary health delivery system.

People's Medicine: Clinics in Liberated Areas

While the atrocities by the military and right wing forces continue, medical care for the people is being provided by the FMLN/FDR. In areas not under popular control "popular clinics" function clandestinely. These guerrilla medical teams have carried out badly needed inoculation programs in the heart of San Salvador, leaving before government detection.⁴ The health network for the vast area controlled by the FMLN is distributed throughout many encampments and guerrilla bases. Doctor-technician teams are made up of five members: a surgeon, an anesthetist, and three mid-level health workers. They are backed up by a



Above: FMLN clinic in the liberated region of San Vicente. A right James Harney/Overview Latin America.

transport and security team of six people who retrieve the injured and carry them to camp in hammock-style stretchers. These teams are trained in first aid, and paramedics are given an intensive four day course which enables them to make preliminary diagnoses, help with childbirths, and perform numerous other medical services.

The practice of medicine behind revolutionary lines is a hybrid of western and traditional knowledge. Because the Salvadoran Army controls all the medical laboratories, industrially produced medicines and pharmaceuticals, the revolutionary medics often must take



t and right: children in El Salvador. All photographs copy-

advantage of traditional medicine. They often make use of people who know certain shrubs and husks of trees which provide effective remedies. The following illustrates the value of such natural remedies in emergency treatment:

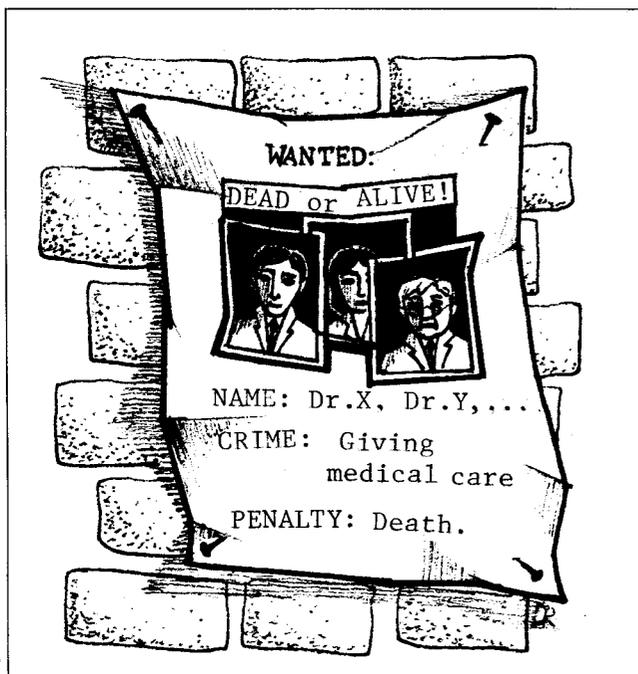
When the enemy launched a large operation against us in this zone, a comrade lit a fuse of a homemade grenade and waited too long to throw it. It exploded in his hand and burned his whole chest. With the soldiers firing overhead we had to evacuate him to another place where we took care of him immediately, using roots, herbs and the

bark of amate. Later he was removed to another site where there were more advanced health workers. The comrade is once again part of the People's Liberation Army.⁵

Preventive medicine is a major FMLN health objective. They hold twice-monthly meetings for children and adults on topics such as personal hygiene, construction of cesspools, and other aspects of preventive medicine. Although the project is currently limited, it is approached with a vision toward a new world after the revolution.

Practice has taught us that one must become aware of the problems of the people. We are born in and have grown up in the midst of our suffering people. But it is very important to realize that we do not become revolutionaries overnight. Practice itself must give us the basis from which we can make qualitative leaps. Many comrade doctors have acquired a high level of consciousness and are here at great sacrifice because [of] their political level and their love of their people.⁶

—Giovanni, member of the FMLN health team



Supporting the Medical Revolution

The health care community in El Salvador has a special stake in the current revolution. The only medical school has been closed, medical education halted, rural mobile health care units destroyed, supplies of blood and drugs confiscated by the military, and—against international law—patients and health care practitioners have been selected for intimidation, torture, and assassination. Health care workers inside El Salvador reported to the Public Health Commission of Inquiry that U.S. aid dollars find their way into the hands of those who aggravate rather than alleviate repression in health institutions.

From the health perspective itself the essence of the struggle in El Salvador can be understood. An oligarchical system which has caused untold human suffering and disease is being challenged by a popular movement. The ruling junta has responded to the challenge by unleashing a savage policy of repression making political assassination by the right wing the leading cause of death. Health care providers and health care institutions have been attacked. The popular movement has responded by creating a primitive health delivery system. Because the junta has pursued a policy of genocide, the provision of health care to ordinary people has needed to become a revolutionary act. The doctors and medical students who are risking their own lives in these popular clinics deserve our help. Along with other support groups throughout the U.S., the Committee for Health Rights in El Salvador has developed the channels necessary to deliver that help. Please send what you can. □

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From a British Perspective

MAKING SCIENCE SOCIALIST

by Hilary Rose and Steven Rose

We are confronted by the savagery of the immediate cuts on the universities and polytechnics. We are witnessing the destruction of a generation of young teachers and researchers denied the possibility of exercising their skills, and squeezing out of older colleagues. The supports of "pure" research in Britain—financing through the Research Councils and the University Grants Committee, and the tenure system—are collapsing. In the face of such threats, it is tempting to merely demand the reversal of what has happened—a return to the sixties and seventies. The New Right aims to use the crisis to restructure the whole of higher education (and by implication, research) in an increasingly elitist and authoritarian direction. For the Left, indeed for everyone in the entire educational system, the New Right is real; nonetheless the crisis opens possibilities for restructuring towards socialist goals of democracy and equality which go far beyond mere resistance to the cuts. The alternative objectives for education are beginning to be fashioned out of this struggle.

Science and technology ought to be of central concern to socialists. The development and "exploitation" of new technologies in a capitalist and militarist society lie at the heart of many of the key political problems which confront us. They range from the biggest question of all, human survival in an era of nuclear weaponry, to national economic salvation in the context of rapid deindustrialization, which is accompanying a historic shift in the center of production from old industrial countries like Britain, to Japan and Southeast Asia.

Editors Note: Hilary Rose and Steven Rose have been active for many years in the progressive science movement in Britain. They are also editors of two important books, The Political Economy of Science and The Radicalisation of Science. These books were recently published in the U.S. as Ideology Of/In Natural Sciences by Schenkman Publishing Co., 3 Mount Auburn Pl., Cambridge, MA 02138. While the present article addresses the current political struggles in Britain, it is curiously appropriate for the United States as well. A shorter version of the article appeared in England in New Socialist, March 1982.

The legacy of old technological forms profoundly shapes the way we live and think, and limits our future options.

The Critique of Science

Many recent social movements—the Campaign for Nuclear Disarmament (CND), the nuclear power protest movement, the campaigns against new airports and motorways, pollution and work hazards—emerged in response to threats of new technologies and the rationalities they impose. Some social movements have sought to contest the exploitation of nature, and have looked instead for appropriate technologies, renewable energy sources, food and agricultural practices. Whereas the capitalists, and even the old Left, viewed the relationship of humanity to nature as essentially exploitative and exclusively concerned with production, the new understanding emphasizes the necessity of a cooperative relationship between humanity and nature. Movements against capitalist and militarist science and technology, and movements for an alternative science and technology both recognize that more of the same is no response to the crisis of society or science.

Science is authoritarian, hierarchical, patriarchal, and arrogant. It dismisses the knowledge embodied in the skills and experience of the majority of "non-scientific," "non-expert" men and women. This is why making science socialist means we must focus on the relations of women and men to one another and in the social order.

Labourism and Science

Yet, mainstream left parties and groups are surprisingly reluctant to see the relationship between these concerns, these movements, and new science and technology policies. They cling to an image of science which is at best benign, at least neutral, to be applied or misapplied at will to social goals.

It is not enough for the Labour Party¹ to offer itself once more as the government of National Reconstruction. Labour government after Labour government in the post war period has come to the rescue of industrial capitalism. Labour subsidizes, nationalizes, and facilitates the R & D for an industrial capital which appears to be lazy, greedy and incompetent. As the Party of industrial capital, Labour has had a much harder time than the Tories who, particularly in the Thatcherian era, appear to be untroubled by economic nationalism. The Tories work instead to facilitate a truly international finance capital which has long found London a convenient address.

Labour's Technoconomism

Many early twentieth century socialist writers assumed that an efficient, centrally planned and science-based industrial economy is synonymous with socialism. This was most strongly spelt out in J.D. Bernal's *The Social Function of Science* (1939). There he argued that the full development of science as a productive force is incompatible with capitalism, for only a planned socialist society would enable science to be effectively used for human liberation. Scientists, as experts, would have a powerful say in the running of that society. World War II brought science and scientists into government, where they stayed as part of post war reconstruction, as successive Labour governments showed that planning was an essential part of the new society. *Socialism* became an optional extra, to be invoked at Labour Party conferences and meetings of the faithful, but was not allowed to get in the way of the real task of management. Science and technology, overwhelmingly oriented towards the production of goods for profit on the one hand, and the arms race on the other, had become incorporated into the machinery of the state. Labour had become the Party of technoconomism.

The 1964 Labour government's goals were: (1) to establish direct ministerial planning for a coordinated civil science, (2) to strengthen the traditionally poor links between science and technology, and (3) to foster technological rejuvenation and innovation by a variety of forms of state intervention: industrial grants, the National Research and Development Corporation, "new public enterprise" and industrial reorganization, and above all the rapid rationalization and merging of giant companies that led, for instance, to British Aerospace.

This strategy failed. Economic crises overwhelmed cabinet members' thinking throughout most of their period of office. More importantly, they held faulty analyses of the underlying reasons for the decline of British industrial capital and of the measures to reverse that decline.

"Defense" Research

One major aspect of this failure was the recurrent refusal to assert socialist (or even democratic) control over that major portion of science and technology funding—now some 53% of all state R & D—which goes to "defense." This is a much greater proportion than spent by Britain's industrial competitors—compare France at 35%, West Germany at 12%, or Japan at less than 5%. Britain has consistently *underspent* on non-defense science and technology through most of the post war period. We are not arguing that there would be no need for a socialist Britain to engage in defense research; following nuclear disarmament, it would still be necessary to find effective ways of protecting the population from attack. However, this civil defense would not be determined by the demands of NATO, a client status to the U.S., or a role as international arms dealer.

Science and technology, overwhelmingly oriented toward the production of goods for profit on the one hand, and the arms race on the other, had become incorporated into the machinery of the state.

In fact, "defense" research has developed a momentum of its own, escaped from all democratic control by cabinet or parliament. The Attlee government smuggled the atomic weapons program through the budget. The Callaghan government, we are asked to believe, did something similar with Chevaline.² Secrecy has masked a combination of political non-accountability, scientific and technological inefficiency, and industrial featherbedding.

Gigantism and Socialism

Labour's equation of gigantism and centralized planning with "socialism" has still more important lessons for socialists. Scientific and technological gigantism—like the parallel rationalization within the National Health Service, Personal Social Services and so forth—has led to increased bureaucracy and increased alienation, both of consumers of the services and of the work force which feels the weight of the managerial strata it supports. It generates an insensitivity to the popular movements against anti-human technologies that began to develop from 1967 onwards, typified by the anti-Concord campaign. In their interpenetration of public and private interests, the 1960s Ministry of Technology and its 1970s Callaghan offspring have been closer to that of the corporatism of Mussolini's Italy in the 1930s than any more liberatory practice. Indeed, it is

Agronomy Education in Vietnam:

Most agronomy* graduates in Vietnam previously had a tendency to stay in the university and avoid working in the villages. In 1976 a method of agronomic education was introduced at the University of Cantho to link research and field work as requirements for an agronomy degree.

Currently every province in southern Vietnam lacks trained agricultural researchers and extension agents. Consequently, a new problem-oriented educational program has been introduced, and has proved to be highly efficient in filling local needs. The University first identifies production problems that farmers encounter in the field. These problems are sorted out among the various disciplines, they become the major discussion topics in courses, and third year students are assigned one or two of these topics as their research project. The students have one full semester to study the literature, and then under the guidance of an instructor or professor, to design experiments to solve the problem. Under the supervision of a university adviser and local agricultural officers, students then go out into the fields to conduct their thesis experiments where the problems arise. They work with farmers through one crop cycle, giving the farmers a chance to try new practices and help identify which technology or practice is most suited to their con-

*The science of crop production and soil management.

Integrating Theory and Practice

ditions. Local governments give full financial and material support to the experiments because they see that the experiments are designed to solve their own problems.

This new program (1) benefits the students, since they obtain practical experience in their profession while gaining acceptance of farmers and administrators; (2) benefits the local farmers and administrators, since they can scientifically determine which practices to adopt; and (3) benefits the university, because this method turns out better agronomy graduates who are not field-shy, while at the same time accomplishing a successful community extension program.

The overall effect has been very encouraging. With an average of 40 experimental sites throughout the nine provinces of the Mekong Delta, we have formed an extensive network of on-site research stations to improve agricultural productivity in the region. Our most outstanding achievements have been the rapid and effective eradication of the brown plant-hopper which damages the rice crop, and implementation of new land and water management programs such as double cropping (with appropriate rice varieties for dry seeding) on moderately acid sulphate and saline soils.

Vo-Tong Xuan
Professor of Agronomy
University of Cantho
Hau-giang, Vietnam

important to recognize that Labour's penchant for creating this type of bureaucracy in the nationalized industries and the welfare services, provides a steady grist to the mill of New Right and Thatcherian ideology.

Independent Professionals?

The Labour Party has developed an identification with the interests of industrial capital, its managers, and "top scientists," who formed an interlocking directorate during the growth of what Eisenhower called the military-industrial complex. Behind this lies a peculiar feature of Labour governments—a consistent inability to distinguish allies and friends of socialism from the fellow-travelers of industrial capitalism. There has been a deference to the presumed neutrality of the professional and the belief in the inherent progressiveness of scientists and managers, such that the political credentials of the few score who run Britain's industrial and university science have rarely been challenged.

This is why the emergence of the Social Democratic Party (from the right wing of the Labour Party) is something of a help to progressives. Conspicuous among its early supporters have been some leading educators and

scientists to whom in earlier times a Labour government might have gravitated for support. An increasingly abrasive ideological climate has enabled others to speak more frankly than they might have otherwise. Lord Todd, Nobel Prizewinning chemist and retiring President of the Royal Society, is a man whom at other times Labour has been pleased to regard as a sympathetic expert. In his 1980 anniversary address to the Royal Society, however, he makes no secret of where he stands: the 1964 Labour government was full of "wild talk of a white hot technological revolution." And he criticized his predecessor for a "political commitment" whose consequence was a "regrettable" jeopardizing of the Royal Society's "independence."

Or consider the University Grants Committee (UGC) in its wielding of the Thatcher axe. Despite the fact that Britain educates a lower proportion of its 18-21 year olds than any other advanced industrial country, the UGC and several Vice Chancellors, have taken to the rhetoric of "leaner and fitter." They have concentrated their cuts in the northern, working class technological universities and in social sciences. By contrast, universities from which UGC members come have tended to escape more lightly.

The point is that we cannot assume that the class interests of the managerial elite of science—as opposed to that of the majority of scientists and technologists—are automatically in accord with socialism, if socialism means something other than the management of state industrial capital. *The frequently invoked image of “the scientific community” obscures this class division, as do the claims made by its elite, that science is in some sense “public knowledge.”* The truth is that most of science and technology are distinctly private activities, not amenable to public scrutiny or control. It is not merely the secret world of defense research or even the “normal” secret science of industry, but the peculiarly closed nature of British society. For instance, even in announcing its cuts, the UGC would not make publicly available the criteria on which they were based.

Science and the Alternative Economic Strategy

These are the reasons why, this time round, Labour must attempt something more fundamental. The problems posed by the task of creating an alternative science and technology policy are very similar to those of creating an alternative economic strategy (AES). To date, AES scenarios range from a sophisticated Keynesianism, offered as a sensible—but essentially capitalist—alternative to loony monetarism, through left variants which, while drawing on Keynesian techniques to restore the national economy, seek also to aid the development of the Third World and overcome capitalist social relations through the democratization of the work place. With 3 million unemployed and no prospects for a significant turn up in the economy, developing an alternative economic strategy is an urgent business. But at the center of all the present AES scenarios—whether sane capitalist or left—is a preoccupation with the paid work place and a neglect of the unpaid work place, with the production of things but not the production of people. The silence on patriarchal relations in the segregated labor market, on the domestic division of labor which takes women’s double oppression for granted, on the problems of child care, means that at best the AES deserves only two cheers. Just how alternative is the AES for women?

The AES takes for granted the need for an innovative high technology economy whose overwhelming priority is production, without questioning the nature of *what* is being produced. It is not just a question of changing the budgetary labels from “economic” to “socially” oriented research. Even when in formal public expenditure analysis the goal is ostensibly social welfare, the research objective may in practice be more concerned with profit and social control than human need. Thus it is not good enough to argue only that we need

more R & D in this or that field merely to produce more things; we must ask what things, and what social relations would thereby be sustained.

There are no easy answers. Britain has a collapsing car industry, with increasing social distress in what were once economically buoyant cities like Coventry. Our wants conflict. We want the Metro and the Triumph Acclaim to do well so that jobs and livelihoods are protected, and we also want to move beyond the private motor car with its not-so-hidden human and societal costs.

We have to work towards a structure in which the three loci of democratic control interlock: scientific and technological workers; the community in which that science and technology is done; and the central democratic power.

Production, Reproduction and Appropriate Technology

This is why the appropriate technology debate—pioneered equally by the ecology movement and the Lucas shop stewards³—must move to the center of the discussion about a socialist science and technology strategy. And the problem is that appropriate technology is not necessarily today’s high technology. Microchips are doubtless better employed in sophisticated hospital equipment than they are in Trident. But their potential should not blind us to the fact that the major problems of improving the population’s health do not lie in advanced production of more machinery, or even in strengthening the health care system, but in organizing a health-producing society which generates health equitably throughout regions, sexes and classes. This requires both political will and a science which transcends traditional divisions of “natural,” “medical” and “social” but integrates all these knowledges within an agenda of transformation.

Democratization of Science

Of course, there are immediate tasks for a labor movement engaged in the process of transforming British society. Some of these tasks revolve around the question of the democratization of scientific knowledge and technological practice. We have to work towards a structure in which the three loci of democratic control can interlock: scientific and technological workers; the community in which that science and technology is done; and the central democratic power. For example,

there has been a call for Trade Union representation on Research Council boards and a structure in which membership of the boards is at least partly elected from the constituency whose work it funds. Similarly, control of the direction of research at the level of individual laboratories needs to be open to the local community as well as to the laboratory workers themselves.

Achieving democratic control of the laboratories will depend upon, and help in, breaking down the barriers of expertise which science erects around itself in this society. We must understand the legitimacy of the searching questions asked by the Animal Liberation Front concerning the physiological experiments within biology labs. Whereas most academic research could probably convince critics of its legitimacy, the cosmetic and tobacco industries would rightly be in for a harder time. And could anyone doubt that the hazards of asbestosis, or the dumping of dioxin-contaminated

2,4,5-T, would be subject to sharper control by the local community than merely by an overpressed Factory Inspectorate?

In a similar vein, we need to try out ideas of community science modeled on the experience of the science shops in Holland, laboratories and academic centers attached to the universities where "counter-expertise" and technical advice is available to local community and trade union groups.

We have criticized the AES, and the implications of AES thinking for socialist science and technology policies. The point is that an insufficiently "alternative" strategy simply is impractical. For practical women and men, the test of whether we are developing a genuinely alternative science and technology policy will be the same as the E.P. Thompson test of the power of the anti-nuclear movement. It will be marked by our capacity to prevent the first Cruise missile being sited. □

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Because of the struggles of the left, the Labor Party program for the next election now includes: (1) nationalization of banking and leading industries; (2) a 35 hour work week, at current pay levels, to end unemployment; (3) controls on interest rates; (4) United Nations

sanctions against South Africa; (5) the refusal to accept siting of new U.S. nuclear missiles in Britain. (A proposal for unilateral British nuclear disarmament fell just short of the two-thirds majority needed to become official Labor policy.) (Editors)

2. A nuclear missile system of the late sixties which incorporated decoys into Polaris missiles in order to confuse any potential Soviet anti-ballistic missile system. It was initiated by British nuclear weapons researchers without ministerial or other governmental approval. (Editors)

3. When in the late 1970s Lucas Aerospace, a major British defense contractor, threatened to close down many of its plants, British unionists did not respond with worker concessions to increase profitability. Instead, a rank and file movement arose, centered in the Lucas shop stewards' council, to develop a program of socially useful production. Lucas workers developed a proposal by which the company, with its existing plants and equipment, could convert to profitably producing needed goods instead of armaments. Workers developed plans for the production of medical equipment, energy efficient mass transit, etc. Even though the workers were unsuccessful in winning conversion, and the plants were closed, the process was a practical experience of worker planning of production. (Editors)

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THE FORD FOUNDATION AND SOCIAL CONTROL

by Peter Seybold

The current structure of public policy and social science research owes a great deal to the events of the 1950s, and to the key role played by the Ford Foundation. It was during this period that the Foundation quickly rose to be the largest and most influential private philanthropic foundation. One can hardly discover a field of academic research in the social sciences or a major social policy question in the 1950s which does not bear the mark of its influence. Its powerful force in shaping public policy and redirecting academic social science research has had a lasting effect.

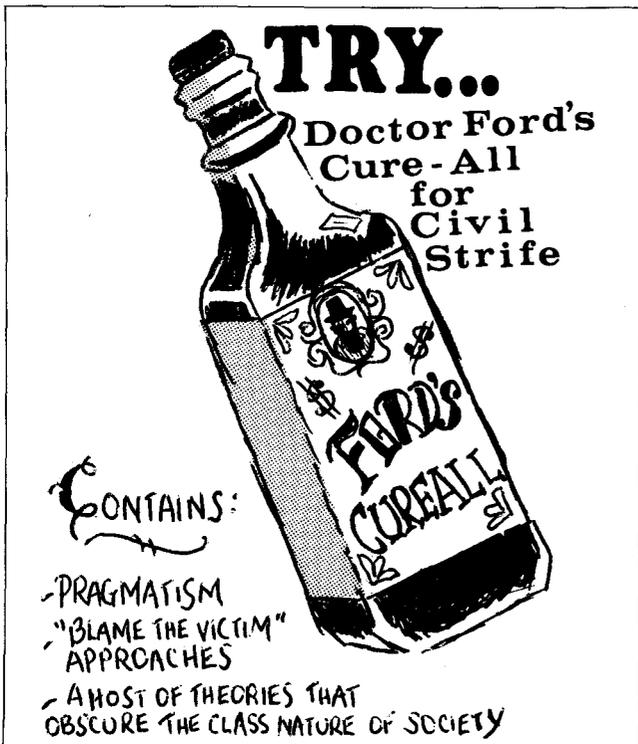
The "Legitimation Crisis" and Social Unrest

In the decade following World War II the United States faced many new challenges, particularly problems of "social control" such as industrial strife, civil rights, and questions of legitimacy. While many of these

problems were in their embryonic stages, uneasiness about the level of social disorganization and memories of the upheavals of the Great Depression were still quite apparent. At any one moment one of these problems might generate widescale political protest which could shake an already fragile base of legitimation. From the perspective of the U.S. elite it was essential that conflict and discord be minimized and stability restored.

Thus it was that the Ford Foundation embarked on an ambitious program of economic control of the behavioral sciences, particularly behavioral political sociology. The Foundation's guiding influence was its 1949 Study Committee Report, which focused in large part on the widespread questioning of the electoral process and the fear of mass discontent. The 1948 Presidential election drew just 51.4% of the eligible voters, and according to the 1949 Report it was "the belief of a number of Americans that the principles of democracy are a collection of cliches." There therefore arose a "struggle of thoughtful and informed persons to find a meaningful, contemporary, and usable definition of democracy." It was here that the Ford Foundation saw its role in maintaining the status quo: "The processes of government are seriously affected by public apathy and lack of citizen participation. Research will be required to analyze public apathy in order to understand its causes and the ways which it may be lessened."¹

It came to be believed that the most general problem which confronted ruling class members was this "legitimation crisis." It would therefore be necessary not only to strengthen the image of democracy, but also to provide at least some preliminary remedies to pressing social problems. At stake was the possibility that



Beverly Chorbajian

Peter Seybold teaches Sociology at the University of Wisconsin—Parkside, Kenosha, Wisconsin. He authored "The Ford Foundation and The Triumph of Behavioralism in American Political Science," in Robert Arnove (ed.), Philanthropy and Cultural Imperialism: The Foundation at Home and Abroad (1980), and is currently writing a book on the influence of the Ford Foundation on American Political Sociology.

elite concessions would have to be made to a defiant poor. The Foundation set out to develop sophisticated methods to analyze electoral behavior and to judge the level and form of political protest in the U.S., along with strategies to structure that protest. The task was to promote a better understanding of the system by defining new social norms and to alleviate anomie* and social disorganization by practical community programs.

The Foundation during this period sought to dominate the social outlook by defining the scope of community reform programs and by setting the tone for academic research in social science. In short, it tried to establish hegemony over community and research efforts to confront these issues. A prominent example of this two-pronged approach was the Foundation's extensive involvement with urban problems. Decay of the cities and irrationalities of city government started to become visible in the 1950s. The Foundation responded by supporting research centers on metropolitan politics, graduate school training focused on metropolitan government, and a number of practical civic programs (Great Cities Improvement Program, Community Development Program—Gray Areas Projects, Mobilization for Youth, etc.).

Transforming Political Science

While ameliorative social programs were an important part of Foundation strategy, the trustees also believed that in order to design programs which would work on the community level it was essential to develop a better understanding of human behavior. For this reason the Behavioral Sciences Division (1951-1957) was created within the Ford Foundation.

From its beginning the Behavioral Science Division focused on practical solutions to problems identified by the 1949 study: problems of low voter turnout and the questioning of the classical democratic image. One of the most vital legitimating mechanisms of bourgeois democracy was losing its hold: voters were questioning the viability of the electoral process by simply not going to the polls, voting ritualistically, or suggesting that their votes were worthless. Though this did not necessarily mean troubled times for the elite, it carried the probability of more difficult problems in the future. More troubling was the possibility that the electoral process might become discredited as a means for changing American society, leading subordinate class members to illegitimate and extra-institutional means for changing the system. Consequently, most of the Foundation's ef-

*anomie: a state of society in which normative standards of conduct have weakened or disappeared.

forts in political sociology during this time were directed toward pragmatic understanding of American political behavior and the construction of a revised democratic theory to replace the idealistic and seemingly outdated classical view.

The effort to restructure political science required a substantial financial investment. During the crucial decade of the 1950s, it was the Ford Foundation which played the key role in supporting the behavioral sciences. Between 1951 and 1957 the Behavioral Science Division granted over \$23,000,000 in support; this was clearly the largest investment made by any institution, including the Federal Government. For a period of time grant money from private foundations was the only source of funds.

This situation gave Ford (and other foundations) tremendous leverage in shaping the behavioral social sciences around empirical problems. As Behavioral Science Division head Bernard Berelson pointed out, the Foundation was not interested in supporting academic disciplines for their own sake.

The foundations have always been interested in improving man's estate, and from the beginning they hoped for and wanted *practical returns* that could be directly applied to the solution or amelioration of human problems.² (emphasis added)

The Foundation's support for the behavioral revolution thus was part of its more general effort to insure that the behavioral sciences would succumb to "liberal practicality" in the post World War II era.³ Political scientists were encouraged to do empirical research rather than dealing with overriding theoretical or normative issues.

To accomplish this dramatic transformation of the field, the Foundation concentrated on building an institutional structure which would insure victory for the behavioralists. This required involvement at a number of different levels: support for individual scholars and creation of academic "stars" within disciplines; grants to elite universities, research institutes, and new "think tanks"; shaping of professional journals (*American Political Science Review*, *American Sociological Review*, *Journal of Politics*) and even the creation of new journals (*Behavioral Science*); domination of intermediary research clearinghouses such as the Social Science Research Council**; and promotion of behavioral science techniques, especially survey research.

**Between 1956 and 1969 the Ford Foundation granted the Social Science Research Council \$23.5 million, which accounted for roughly 72% of its outside revenues. Administration of the very important Ford-created Foreign Area Fellowship Program was also turned over to the Council.



The Behavioral Revolution

The behavioral revolution in political science succeeded on a number of levels. For example, the results of a 1962 survey⁴ of American political scientists clearly demonstrated the extent of the change: “comparative government” and “political behavior” were listed as areas in which the most significant work was taking place, rather than the more traditional areas of “public law” and “political theory.” Also, the political scientists most frequently identified as making the most important contributions to the field since World War II were all behaviorists: Robert Dahl, Harold Lasswell, Herbert Simon, David Truman, and V.O. Key.

Another indicator of the success of the behavioral revolution has been the control of the American Political Science Association presidency. From 1927 when Charles Merriam (an early proponent of behavioralism) was elected president, until 1950, none of the presidents were prominently identified as advocates of the behavioral approach. However, with the election of Peter Odegard in 1950, no fewer than six of the political scientists who have been chosen president of the association have also served on the (Ford Foundation funded) Social Science Research Council’s Committee on Political Behavior. Moreover, of the 23 presidents from 1950 to 1973, at least 13 are generally identified as behaviorists.⁵ Behaviorists have thus been able to show disproportionate strength in professional activities.

The impact of the postwar behavioral revolution in political science is also evident in the age distribution of members in various subfields. In the newer behavioral specializations (such as political psychology; political socialization; methodology; judicial, legislative and voting behavior; revolution and violence; and empirical theory), more than 70% of the respondents in a 1967 survey were 37 or younger.⁶ On the other hand, specializations like administrative law, government regulation of business, and personnel administration attract few

young people. Traditional political science areas such as normative and historical political theory, constitutional law and political history witnessed a decline while behavioral political science theories and methods established dominance.

Constraining Alternative Views

By the mid-1960s, the behavioral approach to political science became firmly entrenched. As a consequence, a “mobilization of bias” prevailed, severely limiting alternative approaches that could challenge behavioralism.⁷ By definition, traditional political science, constitutional law, political history, and radical political science research were not part of the “new” political science.

This new perspective stressed survey research as the dominant technique. By narrowing broad political issues to “technical questions”—such as how people vote, what increases allegiance to the prevailing value system, and how to increase voter turnout—the Foundation indirectly imposed a framework which delimited challenges to the fundamental underpinnings of these issues. Alternative frameworks which located the same problems on a structural level and suggested broader historical or class-based analyses were deemed inappropriate.

Rather than adopting an alternative theory grounded in a Marxist framework, the opposition took the form of a fragmented perspective which accepted the terms of the debate established by behaviorist methodology. The limitation of the debate to questions suggested by liberal political theory is testimony to the fact that the prevailing liberal ideology was able to shape even the form of its opposition.⁸ The importance of setting limits to debate would suggest again that a very powerful influence on academic research occurs at the early stages when the scope of legitimate research projects is being defined.

Thus a narrow pragmatic orientation became prominent, and continues to focus ever more exclusively on policy questions, while excluding other perspectives as too broad or too philosophical.

Although there is clearly a circulation of elites within the profession, the data suggest a rather stable and relatively homogenous "learned discipline" whose principle concern is with American political phenomena and whose preferred mode of inquiry is *behavioral*.¹

Contradictions in Social Control

From the perspective of the Ford Foundation officials, the perceived problems were those of increasing social strain, indexed by voter apathy, worker dissatisfaction, and more visible demonstrations such as protest movements. Insofar as the Foundation was concerned, the root cause of these problems was one of inadequate communications. Thus the Foundation embarked on a series of programs to redefine social norms and ideology, while supporting extremely limited social reforms.¹⁰

In place of programs which might encourage genuine political participation by the citizenry, the Ford Foundation tried to develop new justifications for the social order. The hidden agenda of its involvement in political science during this period was an attempt to restructure the field so that political scientists would adopt a harmonious perspective. In the Foundation's view, a "new" political science would contribute to the effort of stabilizing a social structure which was experiencing "disequilibrium due to social disorganization." The Foundation defined the problems of this era as the product of an outdated ideology; it sought therefore through redirection of a part of academia to reestablish ideological hegemony rather than fundamentally restructure social institutions.

The problems facing American society, however, were not simply those of communication. Structural contradictions in the system threatened to produce alternative definitions of reality which challenged the dominant framework.¹¹ Piecemeal attempts at reform and reorganization of political science were short term steps which were inadequate because the problem was much more deeply rooted in the contradictions of capitalist society. These approaches were not able to effectively reestablish order either in the community or academia.

Even the most influential private foundations cannot anticipate successfully the challenges which emerge within the larger society. The Ford Foundation's efforts reflect the contradictions which it was trying to overcome. At first glance it appears that it was successful,

but closer examination reveals that it could neither establish effective control over the social forces within the community or, for that matter, prevent opposition to the perspective which it supported in political sociology.

This case study of Ford Foundation involvement in political science illustrates the way Ford, and similar foundations, shape the development of research in areas critical to the corporate elite. Crucial to this process is foundation ability to create academic "stars," influence intermediary funding organizations, develop think tanks, and build university programs. Although the Ford Foundation's mechanisms of control have become increasingly subtle and unobtrusive as the institutional base—which it was instrumental in establishing—matured and gained some autonomy, its influence continues because it shaped the larger environment in which research programs operated. Even the publications (which were produced from its early grants) have come to define conventional political sociology. Ultimately, then, this ability to build institutions and dominate the networks involved in the production of knowledge allowed the Ford Foundation both to set the agenda for social science research in the United States and enlist the social sciences in the struggle to promote social stability. □

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New Biotechnologies Suggest New Weapons

THE NEXT GENERATION OF BIOLOGICAL WEAPONS

by Alexander Hiam

The U.S. Department of Defense is rapidly expanding a research program to utilize new advances in biotechnology—recombinant DNA (recDNA) and hybridoma technology—for the creation of new biological weapons (BW). Many of the problems which limit the uses of conventional BW agents, such as danger to the users, lack of specificity, unpredictable dispersal and effectiveness, can be overcome with the new biotechnologies. The new generation of BW may well be so sophisticated and deadly, and yet so simple to use, that they *will* be used. It is therefore imperative that research programs be challenged before a new generation of biological weapons is fully developed.

Officially, since 1969, chemical and biological warfare research has been restricted to “defensive” purposes. Yet in 1977, a series of Senate hearings revealed the continuing development and large-scale production of antipersonnel, antianimal, and anticrop agents.¹ Since then a number of reports have provided additional evidence of the continuing BW activities of the U.S. military.²

The Department of Defense has stockpiled many organisms which are pathogenic in humans, such as anthrax, tularemia, salmonellosis, tuberculosis, and Valley Fever. A. Conadera, in a recent *Science for the People* article, observed that the organisms *Mycobacterium tuberculosis* and *Coccidioides immitis* (which cause tuberculosis and Valley Fever) have both been shown to pose greater health risks for blacks than whites.³ The fact that the army has chosen to stockpile these two organisms underlines one goal of BW research: weapons which can be targeted to specific national or racial groups.

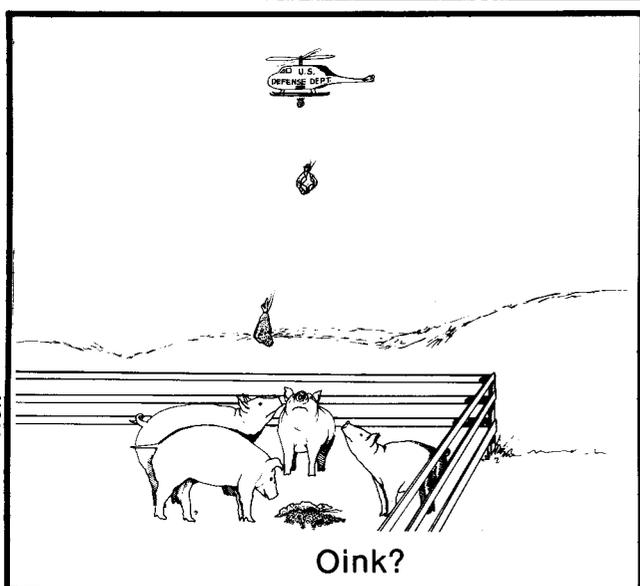
Alexander Hiam is a science writer and consultant to biotechnology companies. He has written on the commercial and social impacts of genetic engineering.

Antipersonnel, Antianimal, Anticrop

The most sinister potential application of recDNA and other new biotechnologies is the refinement of race-specific agents. The traits which make certain BW agents slightly race-specific could be identified, amplified, and transferred to other agents using newly developed techniques. It might be possible to develop new kinds of specific agents in this way, or to engineer BW agents which would produce toxins only in combination with substances in a food item unique to a target group.

RecDNA is well suited to the development of novel pathogens; it will no longer be necessary to use naturally occurring pathogens in BW. For example, slight genetic alterations in bacteria which naturally occur in the human body (i.e., *E. coli*) could produce novel, deadly agents for BW. *E. coli* must be the best known of all bacteria, and methods for introducing foreign DNA into *E. coli*, and methods for mass-producing *E. coli*, are becoming highly refined. There are a great many viral pathogens which have not been developed for BW use to date. But molecular biology has made great advances in the understanding and manipulation of viruses in recent years, and it is likely that the new technologies will lead to the development of many new viral agents for BW. An advantage of viruses is the lack of successful vaccines and antibodies to defend against viral BW agents.

The new technologies will lend themselves to development of improved methods for dispersal of BW agents. The munitions for large-scale dispersal of antipersonnel agents which have proved most successful are bags and bomblets dropped from airplanes (for arthropod agents such as fleas), and aerosol and other liquid spray systems (for direct release of microorganisms designed to be inhaled).⁴ It is already possible to selectively breed new varieties of mosquitos, ticks, fleas, or other agents which are resistant to insecticides, and with



the new biotechnologies it may soon be possible to engineer into such agents many other traits. RecDNA could be used to develop more hardy pathogens, designed for greater survivability in high-speed dispersal systems.

Finally, hybridoma technology could be used in the development of monoclonal antibodies to the biological and chemical weapons in the U.S. arsenal. These could be used in protection and treatment of personnel, and in improved detection kits. A reliable vaccine can make use of a pathogen possible, or be an effective weapon in itself. Such was the case in Vietnam in the mid 1960s, when an epidemic of plague was responsible for thousands of North Vietnamese deaths, but had no significant effect on U.S. troops, who received vaccines and regular boosters.⁵

Many similar applications to antianimal agents are possible. BW directed at livestock can be especially damaging, because it can be used during "peacetime" to do damage to a country's economy. For example, the 1979 swine virus epidemic which led to the destruction of one half million swine in Cuba was thought by many to have been started by the CIA.⁶ Whether these allegations can be proven or not, the epidemic could easily have been caused by BW, and illustrates the tremendous impact on a nation's economy such antianimal agents may have. There are more than 125 known viral diseases which affect livestock, but vaccines exist for less than fifty of these. It is clear that opportunity exists for development of new viral BW agents for antianimal uses.

New anticrop agents can also be developed. Because many new varieties of crops are available to military researchers while under development at the U.S.-dominated International Agricultural Research Centers, new diseases and pests might be developed for new varieties before they are even introduced. One result of the adoption by both industrialized and Third

World countries of the new "high yield varieties" of crops is a trend toward monocultures. Because of the increasing genetic uniformity in such crops, a single agent could be used to wipe out a larger proportion of the year's harvest. RecDNA is suited to the manipulation of various pests of crops, especially the fungi. A variety of research has focused on fungi as agents for biocontrol of weed species, and this experience suggests that fungi are especially well suited for economical, large-scale destruction of a target species, whether a weed or a staple crop.⁷ It should be noted that crop destruction has always been a favorite tactic of the U.S. military.⁸

Antioil, Antimachine...

The new biotechnologies could also be used to develop completely new classes of biological agents. One such agent is suggested by a recently developed microorganism for which General Electric received a patent in a controversial Supreme Court decision.⁹ This new bacterium contains a combination of plasmids from several bacteria with abilities to eat different hydrocarbons, and it is purportedly capable of degrading all the important hydrocarbons in oil. Its targeted application is cleaning up oil spills, but it or similar organisms might also be used for destruction of oil reserves.

While it sounds a bit far fetched to imagine the Department of Defense developing microorganisms capable of debilitating military equipment of other countries, such agents may in fact be conceivable. For example, the Office of Naval Research has assembled a group of scientists to look into applications of recDNA in the control of slime molds which fowl the bottom of ships, reducing their speed and fuel economy.¹⁰ If recDNA can be used to protect U.S. naval ships against these microorganisms, it could also be used to increase their growth and persistence on the ships of other navies. Microorganisms could also be developed with an appetite for plastics or rubber, materials which play a central role in many kinds of military equipment.

Why Not the Best?

These examples illustrate how the new biotechnologies may, and no doubt will, be applied to BW research. It would be a strange day when the U.S. military failed to utilize new technologies as quickly as applications for them could be found. There is now reasonable evidence to indicate that a growing research program exists within the Department of Defense to apply recDNA and hybridoma technologies. Jonathan King, MIT biologist, is convinced that the military is exploring recDNA, and points to a request to the Recombinant DNA Advisory Committee of the National Institutes of Health for per-



THE NEW BIOTECHNOLOGIES

Recombinant DNA (recDNA) technology consists of using various enzymes to insert foreign DNA into the genetic material of a living cell. It has been used to insert human genes which code for useful proteins into microorganisms such as *E. coli* (which lives in the human intestine). For example, human growth hormone and human insulin are now being produced by engineered *E. coli* for clinical use. While recDNA methods have been applied mainly to microorganisms, it is clear that genetic engineering of plants and animals will soon follow.

These advances are being exploited by hundreds of new commercial laboratories in the U.S. alone, as well as many in Europe, Japan, Israel, and other countries. Commercial applications are being developed for agriculture, medicine, and the chemical and energy industries.

Another important new technique is a process of fusing fast-growing, cancerous cells with antibody-producing cells to make what are known as hybridoma cells. These can be grown in culture to produce monoclonal antibodies—pure highly specific antibodies—in large quantities. Advances in plant cell culture, fusion of cells to combine their DNA, and other new techniques, in combination with recDNA and hybridoma technology, have led to a revolution in biotechnology. It is now possible to manipulate the genes of many organisms in more controlled ways than ever before. It is also possible to store organisms as undifferentiated cells, then clone whole organisms as needed, or to engineer many new kinds of biological factories in which needed proteins are produced by fermentation.

mission to transfer the pneumococcus toxin gene to *E. coli* as an example of recDNA research with BW implications.¹¹ Pneumococcus is responsible for pneumonia in humans.

A recent advertisement which appeared in the "Positions Open" section of *Science* provides another clue.¹² The ad starts, "The U.S. Army is seeking a Deputy Director for the Chemical Systems Laboratory, a major laboratory of the U.S. Armament Research Command." It goes on to say that, "Located on Aberdeen Proving Ground in Maryland, approximately 20 miles east of Baltimore, Chemical Systems Laboratory conducts research and development activities for material related to chemical and biological defense and chemical deterrent. *This area has recently received intense attention with the result of substantially increased programs, and support at all levels within the Department of Defense*" (emphasis added).

The implication is that recDNA research already exists in the Department of Defense, as confirmed by the man who supervises all life sciences research for the Pentagon.¹³ According to this source, there is already a small program involving a half dozen recDNA projects and a larger number of hybridoma research projects, and this program is expected "to expand considerably in the next year or two." Much of this expansion will take place at the Naval Biosciences Laboratory in Oakland, California (which is associated with the University of California, Berkeley). Further, beginning next year the Army, Navy, and Air Force will all "be in a position to consider proposals" for recDNA research.

While new developments in BW research have support at all levels within the Department of Defense, the

State Department acts curiously naive as to the impact of recDNA on biological warfare. In 1981 a special Genetic Engineering Expert Panel was convened to advise the State Department on the strategic implications of genetic engineering. Among other topics, this panel of leading scientists discussed the "possible impact of genetic engineering in biological warfare against people," and concluded that, "Genetic engineering will not yield pathogens that are any more lethal than some that already exist (e.g., anthrax). Essentially, genetic engineering is not required—Napoleon's army was decimated by dysentery."¹⁴ This view is apparently shared by those in charge of formulating guidelines for recDNA research at the National Institutes of Health as well. For example, Dr. Stanley Barban of the Office of Recombinant DNA Activities knows of only one Department of Defense recDNA project—developing a vaccine to Rift Valley Fever in collaboration with a "private concern"—and believes that recDNA will not be used in BW research. He also argues that existing pathogens are effective enough.

This attitude is dangerously misleading. The sooner it is recognized that the Department of Defense has already initiated a program to apply recDNA and other new biotechnologies to BW research and development, the sooner realistic steps can be taken to limit the development of new, more dangerous biological weapons. What can be done to increase awareness of this issue, and prevent further military research and development?

Antimilitary Agents

As a first step we must develop a better understanding of the army's plans and current research activities. This might best be done through enlisting prominent politicians, journalists, scientists and activists in an effort to bring relevant information to the public. The second step is to examine the potential impact of new biological weapons on the future of this country and its foreign policy.

Now is the time to act, before the new biological weapons become as ubiquitous as nuclear weapons have become. Tactics used by Science for the People in the past might be a good place to start, such as demanding that these issues be debated in public, revealing military control of the research, and challenging the political-economic structure which supports it.

The next generation of biological weapons will affect everyone, but their development could easily remain secret until long after the new weapons become a permanent feature of armaments throughout the world. □

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Mismeasure of Man

by Stephen Jay Gould, W.W. Norton, Inc, 500 Fifth Ave., New York, 1981.

Louis Agassiz, the esteemed naturalist who had perhaps the greatest influence in establishing the American scientific community in the 19th century, wrote in 1850: "naturalists have a right to consider the questions growing out of men's physical relations as merely scientific questions, and to investigate them without reference to either politics or religion." (Gould, p. 20) Once the answers to these "neutral" questions were found, they could be used in making social and political decisions. Agassiz advised, "social equality (for the negro) I deem at all times impracticable," for they are "indolent, playful, sensuous, imitative, subservient. . . Therefore I hold that they are at all times incapable of living on a footing of social equality with the whites, in one and the same community, without being an element of social disorder." (p. 48)

Biodeterminism is the notion that social arrangements are a manifestation of the innate capabilities of individuals. Steven J. Gould's latest book, *The Mismeasure of Man*, traces the history of one form of biodeterministic theory, that of measuring and ranking human intelligence. Gould chronologically presents the theories of the major proponents of biodeterminism, drawing connections between their arguments and the social/political beliefs that influence them. Although the specific arguments used, as well as the groups targeted (racial, ethnic, sex) have varied as a result of scientific developments and according to political context, the basic fallacy remains the same: that social position can be ex-

Barbara Homan is a student at Hampshire College in Amherst, Massachusetts concentrating in women's studies. She is currently involved with the Sociobiology Study Group in Boston, Massachusetts.

plained by "innate" differences between groups.

Craniometry (the science of skull measurements) provided the first "proof" of the intellectual inferiority of non-white males, and emerged as a new science during the mid-19th century with the work of Samuel Morton. In the early 1900s mental testing techniques replaced craniometrics, and soon the arguments of Eugenicians came to rely on intelligence tests as the new basis for biodeterminism. Research was aimed at differences between ethnic groups. In the past 10 years, there has been a resurgence of interest in biodeterministic theory—supposed differences in brain structure and genes are now being used to rationalize differences in, for example, mathematical performance or "ability" of the sexes.

Gould's careful reanalysis of the scientific arguments of biodeterminists reveals that their preconceptions influenced not only the initial hypothesis, but also the numbers themselves. For example, much of Samuel Morton's craniometric data had been manipulated. Morton's repeated errors in-

cluded: (1) *shifting criteria*—he included Indians with small brains while deleting Hindus to raise the Caucasian mean; (2) *rounding off measurements* to match group averages in accordance with preconceptions; and (3) *making obvious procedural omissions*—Morton used an all female sample of Hottentots to which he compared an all male sample of Englishmen (asserting from this the superiority of whites). Similarly, Paul Broca, the widely respected French craniometrist, consistently presented the smaller cranial capacity of females as evidence of the innate intellectual inferiority of women; yet in analyzing the disparity in brain size between the French and Germans, he would make adjustments for body size.

Even when the numbers are presumably accurate, the conclusions of biodeterministic studies have been biased. Robert Yerkes discovered a direct correlation between mental test scores and the amount of time an immigrant had been in the United States. From this he argued that the new wave of European immigrants was less intelligent, rather



than drawing the obvious conclusion that test scores reflected environmental influence, for example, familiarity with American culture. In fact, the test contained such culture-bound questions as, "Christy Mathewson is famous as a: writer, artist, baseball player, comedian." (p. 232) And when Paul Broca discovered that some "inferior" racial groups had a relatively large brain size, he conceded that "a lowly race may therefore have a big brain. . . But this does not destroy the value of small brain size as a mark of inferiority." (p. 87)

Despite the often blatant fallacies of biodeterministic arguments, their use of influencing political decisions and

social stereotypes has been widespread. Unfortunately, Gould discusses the impact of biodeterminists' theories in a very limited way—political decisions influenced by these theories are analyzed as isolated happenings. Thus, in discussing the impact of biodeterminists' theories in the Eugenics period, Gould focuses primarily on their effect in passage of the Immigration Restriction Act of 1924. It would have been more important to discuss the widespread acceptance of Eugenic philosophy, aided primarily by widespread attention given to such arguments both in education (many colleges were teaching Eugenic philosophy) and by the media during this period.

Gould establishes without a doubt that science is a socially embedded activity. But Gould does not go far enough. He focuses almost exclusively on the impact of social/political biases of the biodeterminists, but does not pay much attention to the social impact of these theories. Scientists must not only recognize the relationship between science and society, but they must take active responsibility for their role in reflecting and shaping social ideology. The public, too, must become aware of the relationship between science and society. Only then can we begin to take away the power of science as a weapon of social control. □

resources

DEVIANT SCIENCE

On The Margins of Science: The Social Construction of Rejected Knowledge, Roy Wallis, Editor, Sociological Review Monograph #27 (Sociology Department; University of Keele; Keele, Staffs ST5 5BG ENGLAND), 1979, 339 pp., \$12.00. A collection of essays on deviant science.

The Reception of Unconventional Science, Seymour Mauskopf, Editor, Westview Press (5500 Central Avenue; Boulder, CO 80301), 1979, 137 pp., \$13.25. Five papers from a recent AAAS symposium. An addition to the literature on innovation and deviance in science.

DEBUNKING DEVIANT SCIENCE

Astrology, Mysticism and the Occult: A Critical Bibliography, Laird M. Wilcox, Editorial Research Service (P.O. Box 1832; Kansas City, MO 64141), 1980, 30 pp., \$9.95. Over 500 entries. Most entries represent critical analysis and opinion regarding the claims made by advocates and practitioners of the occult and paranormal.

The Reception of Unconventional Science, Seymour Mauskopf, Westview Press (5500 Central Avenue; Boulder, CO 80301), 1979, 137 pp., \$13.25. Five papers from a recent AAAS symposium.

Paranormal Borderlands of Science, Kendrick Frazier, Prometheus Books (700 East Amherst Street; Buffalo, N.Y. 14215), 1981, 490 pp., \$12.95. An anthology that exposes deception in paranormal claims.

IQ and Mental Testing: An Unnatural Science and Its Social History, Brian Evans & Bernard Waites, Humanities Press (Atlantic Highlands, N.J. 07716), 1981, 228 pp., \$30 (cloth), \$13 (paperback).

This highly critical account of mental testing is an examination of the historical roots of psychometrics. It demonstrates that psychometrics has been dominated by ideological commitments and an unsound methodology and has failed to establish itself as an authentic scientific discipline.

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Transition: Quarterly Journal of the Socially and Ecologically Responsible Geographers (Department of Geography; University of Cincinnati, Cincinnati, OH 45221), \$6.00/year.

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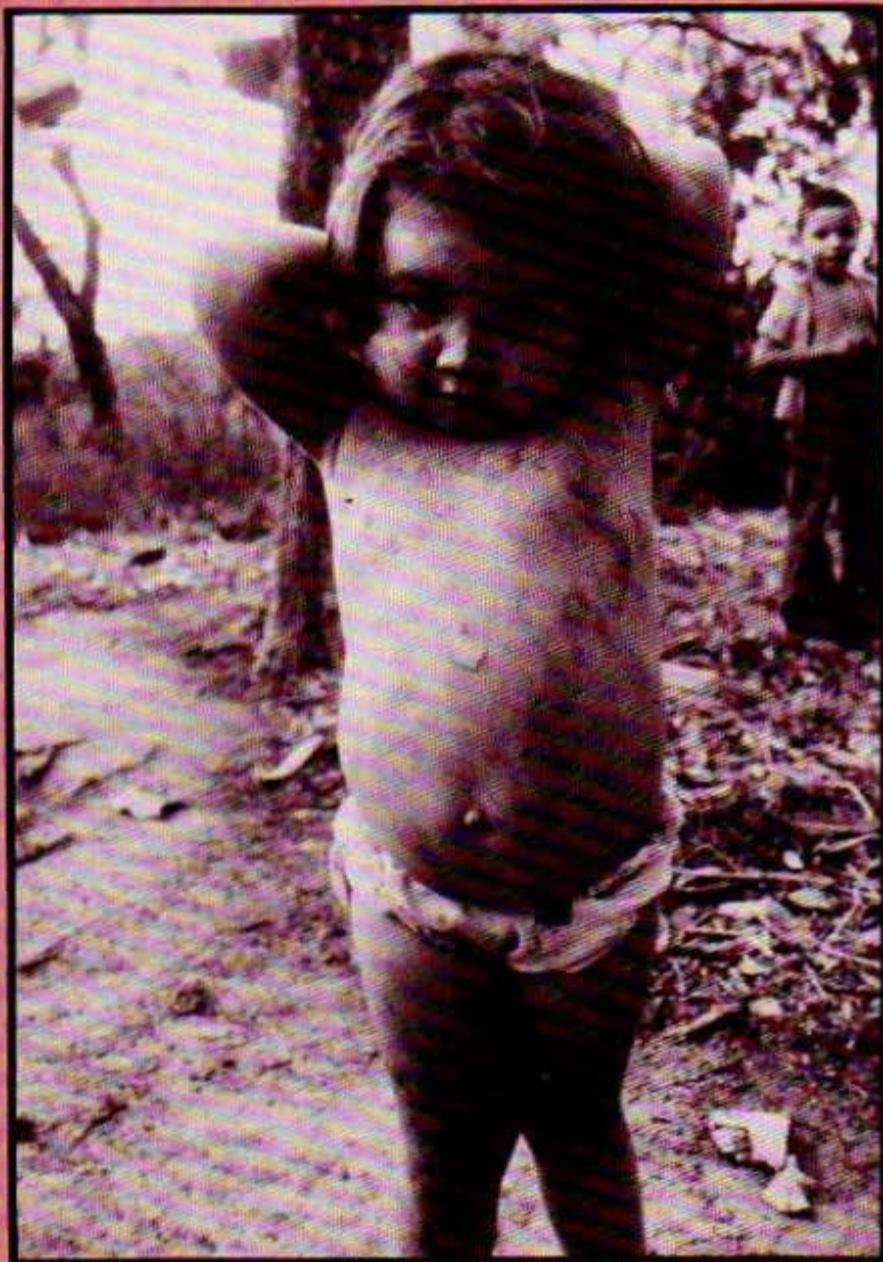
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