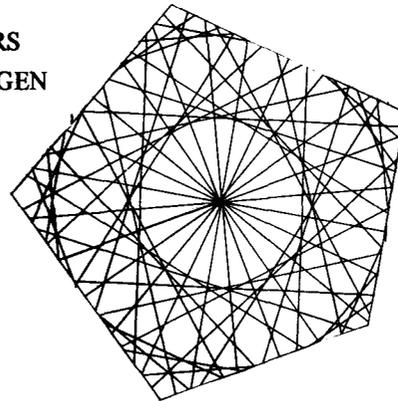




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SCIENCE FOR THE PEOPLE

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Thanks to NEAR (New England Action Research) for "Toys Against the People". For more information on military R&D contact them at 48 Inman Street, Cambridge, Massachusetts 02139.

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## EDITORIAL PRACTICE

Each issue of *Science for the People* is prepared by a collective, assembled from volunteers by a committee made up of the collectives of the past calendar year. A collective carries out all editorial, production, and distribution functions for one issue. The following is a distillation of the actual practice of the past collectives. **Due dates:** Articles received by the first week of an odd-numbered month can generally be considered for the magazine to be issued on the 15th of the next month. **Form:** One of the ways you can help is to submit double-spaced typewritten manuscripts with ample margins. If you can send six copies, that helps even more. One of the few founding principles of *SESPA* is that articles must be signed (a pseudonym is acceptable). **Criteria for acceptance:** *SESPA Newsletter*, predecessor to *Science for the People*, was pledged to print everything submitted. It is no longer feasible to continue this policy, although the practice thus far has been to print all articles descriptive of *SESPA/Science for the People* activities. Considerably more discrimination is applied to analytical articles. These are expected to reflect the general political outlook of *Science for the People*. All articles are judged on the basis of length, style, subject and content. **Editorial Procedure:** The content of each issue is determined by unanimous consent of the collective. Where extensive rewriting of an article is required, the preference of the collective is to discuss the changes with the author. If this is not practical, reasons for rejection are sent to the author. An attempt is made to convey suggestions for improvement. If an article is late or excluded for lack of space, or if it has non-unanimous support, it is generally passed on to the next collective. **Editorial statements:** Unsigned articles are statements of the editorial collective. **Opportunities for participation:** Volunteers for editorial collectives should be aware that each issue requires a substantial contribution of time and energy for an eight-week period. Help is always appreciated and provides an opportunity for the helper to learn, and for the collective to get to know a prospective member. There are presently plans to move the magazine production to other cities. This will increase the opportunity for participation. For legal purposes *Science for the People* has become incorporated.

# ABOUT THIS ISSUE

In the last issue of *Science for the People* mention was made of the political reevaluation going on in Boston and elsewhere. The Boston chapter report suggested that SESPA has suffered by failing to develop a clearer self-definition and political discussion of our goals. As one step forward we are beginning such a discussion in this issue. We have solicited statements and assembled others from letters and publications. None of the statements are meant to be definitive, and we hope they will be analyzed and challenged.

Is our society getting closer to 1984? The article on remote warfare, "Toys Against the People", describes some military elements of the perfectly-ordered nightmare. However, we have chosen to add a commentary following the article to discuss why these developments are taking place and why they will not be as effective as the Pentagon planners would like to believe. "Runaway Electronics" is in part a commentary on the "why" of remote warfare. The article gives some of the reasons why it is important to American corporations that Third World countries be "pacified" and made safe for their investments.

Since Hiroshima scientists have been concerned about taking social responsibility for the effects of their work. For a much longer time industrial workers, including technical workers, have been concerned about the conditions of their work. Now both are putting these two perspectives together. That means that scientists realize they are hired workers and technical workers—they are social and political beings. Three articles in this issue describe this transition. "Workplace Politics: Experiences at Honeywell" relates what happened to technical workers at Honeywell who became incensed at what their work was used for. The proposal for scientific organizing is based on an understanding of how present scientific work is structured by who pays for it. The article on stopping university war research partially comes out of people's experience of how DoD funding affects their work conditions, viewing the university as a workplace, not a paradise for isolated individuals.

Women, like so many other groups in our society, have not avoided the ill effects of "advancing" science. One use of women as guinea pigs, with tragic consequences, is related in the article on Stilbestrol. The discussion of midwifery shows how the real interests of people are left behind in the competition to produce and institutionalize the most "advanced" science. A whole issue of *Science for the People* is now being prepared on how science has participated in the exploitation of women.

A number of articles provide needed critiques of Establishment Science. The call for actions at the AAAS convention, the AEC articles, and the description of actions at the ACS convention all point out the nature of the beast and why it must be caged. Despite recent efforts at face-lifting (the AAAS is a good example) Establishment Science continues to assure the Pentagon and corporations of the knowledge they need, while not meeting the needs of the people. It also acts as a sort of house ideologue to offer mystifying explanations for real problems. "Ecology for the People" points out that while our ecological problems are serious, they have been analyzed in such a way that any solution appears to be against the interests of working people, women, the poor, and the Third World. Actually, the opposite is true, and some of the big losers will be the mandarins of Establishment Science. (So onward toward ecological sanity and Science for the People!)

This issue is filled with thought-provoking (and action-inspiring!) articles. If there is something you don't like, send us some criticism. If there is something missing, send us an article.



# sespa

# politics

*The present issue of Science for the People is initiating a discussion of the political orientation of SESPA. SESPA has no definite political orientation at this time. The various constituent collectives are each doing their own thing, and many of our members express the feeling that discussion of broader political perspectives for SESPA, let alone the adoption of a political program, is unnecessary or even harmful. This is not our opinion. We feel that the discussion of SESPA's political perspectives will contribute to the growth and vitality of the organization and our actions.*

*To clarify matters, we will try to state the key issues that should be discussed.*

*First of all, there is a question of whether it is desirable for SESPA to have a political program. At the very least such a discussion could induce people to formulate and share their own political goals.*

*Second, the political meaning of the present SESPA activities should be critically scrutinized. We have to examine the pros and cons of informative, organizing, and confrontational activities.*

*Third, who are we addressing ourselves to? Researchers, technical workers, all those where we work; students, community groups, or political groups?*

*Fourth, how should we address our constituency? Providing technical assistance, exposing the harmful uses of science, organizing around short- or long-term demands? There have recently been attempts to redefine unionism. (Gorz and others) Are any of these ideas relevant to us?*

*Fifth, what role in our activities should alternative science and alternative community building play?*

*Sixth, we should try to define the relation of SESPA to other political movements in this country. If at the present time we cannot relate to any political movement we should at least discuss the characteristics of a future movement to which we could relate.*

*The above outline is hardly exhaustive. We invite members of SESPA either collectively or individually to contribute to this discussion in future issues of the magazine.*

## STATEMENT FROM ARLENE ASH

The more I work within this system, the more I feel the need for radical (fundamental) change. But

however radical I may become, I want never to let my analysis — the framework within which I seek reform — keep me from doing what is right. For example, I won't accept that human suffering should be fostered ( or, at least, should not be opposed ) to hasten the fall of capitalism. The fall of capitalism in no obvious way creates or guarantees the rise of a more decent structure. To me, fascism seems just as likely a response, since revolutions can only be made by mass revolutionary movements, not by circumstances or by power vacuums. From this perspective, socialism itself is a tactic. The goal is communal decency and I'm willing to work under the same banner with anyone striving in that direction who is honestly willing to re-evaluate assumptions on the basis of feedback. I think it would be a big mistake to pinpoint exactly what SESPA'S ideology is. I don't see why we need a spokesman or ideology. Why can't we be defined by the things our chapters are doing?

I want to talk a little about the AAAS actions. I read Al Weinrub's letter (printed in this issue) and found it useful and informative. What exactly does SESPA want out of the AAAS meetings? Is it best to talk intensively to a few likely recruits, to try to jar the main body of scientists into some kind of minimal kind of recognition of the failings of the convention to face reality, or to try to make publicity for the general public to discredit the mythology surrounding the scientific establishment? You may wish to work towards all three, but not with the same action. I think it is merely facing reality to see that these separate goals are not easily reconciled — both making anti-science publicity and winning over the hearts and minds of your fellow scientists is difficult, if at all possible.

Each potential action, then, should be tailored to the special audience you are trying to reach. General harangues against the scientific establishment are a drag when someone is already looking for an alternative to the state he is in. Better to talk about alternative actions that SESPA is into. Your potential recruit knows that something is wrong and I think there is plenty of time for him to get a deeper sense of the structural nature of his problems. SESPA should seek one-to-one or small informal rap-sessions in which it listens first and then talks about how it is dealing with similar disaffections.

Perhaps the recurrent theme of all my criticisms and suggestions boils down to the maxim that political action must be individually tailored – to your audience if you're recruiting – to each person's sense of usefulness and satisfaction when we are joined to make the revolution. Continual openness to criticism should serve to prevent us from getting carried away with our individualism.

## INDUSTRIAL GROUP STATEMENT

*The following article was submitted by the Boston industrial group in response to a request from the December/January Editorial Collective.*

That SESPA has continued to exist and has even grown is evidence that there are shared motivations for political unity. These include: (1) rejection of the pervasive and perverse uses of technology in this society; (2) objection to being used as instruments of that technology and to being victims of the oppressive corporate-state apparatus that pursues those technological objectives; (3) particular outrage at those blatant atrocities made routinely feasible at "acceptable political cost" by technology; and (4) the desire to encourage among other technology-related workers a political consciousness leading toward unity and toward alliances with other groups of working people.

The organization that has evolved has been avowedly characterized as a "non-organization", often professing to have no "political line" and it has largely taken the form of somewhat autonomously operating subgroups. Together these groups have constituted a type of counter-community, providing support for their members in our politically hostile environment. In this organizational framework, the consequence of most activities regardless of their intent has been consciousness raising and those who join are usually those already receptive to radical ideas.

These characteristics developed as we were acquiring experience. Nevertheless, they reveal inherent weaknesses, some of which reflect features of our society at large and invite further analysis. For example, trying to be an organization that doesn't formulate explicit positions – having no political line – suggest a lack of confidence in struggling collectively over political concepts. Numerous attitudes resulting from our socialization favor that outlook. Elitism, competitiveness, individualism and authoritarianism themselves reflect the stratification and fragmentation of our workplace roles in society. Thus the willingness to take criticism and to openly criticize, to express the honest basis of our views, and to learn from and teach others – which are essential for the synthesis of political agreement – are very difficult processes when our training says: "Don't rely on other people", "competence reflects innate ability", "success means outperforming other people" and "people won't agree so don't bother trying", etc. Authoritarian attitudes taking the

form of relying on the judgement of leader, frequently defined by society's criteria of successful, i.e., workers of high status, also deny the relevance of political struggle and see political action in terms of co-existing clubs. An opposing view, one which perceives how manipulation occurs in this social system, is anti-authoritarianism. In its extreme form it denies that any view is really correct, or holds that all views are valid, or that no legitimacy could possibly be accorded to a view collectively arrived at and put into practice. Another aspect of extreme anti-authoritarianism is the position that while collectively derived decisions are appropriate, there should be no resulting organization, structure or leadership since these cannot be made to serve the collective will.

It is on this basis that the idea of non-organization grows, and from which the role of an organization is seen primarily as being whatever the naturally coalescing subgroups happen to be "into" – which may in themselves be very worthwhile activities. A damaging consequence of this is that the organization is unable to bring together and focus its members' experiences and resources on very important questions or even to



decide what these questions are. One question which has lacked SESPA's attention is how to function politically in our respective workplaces – industrial, academic or government – developing support and participation among our fellow employees. This is the fundamental problem to confront in order for SESPA to provide technology-related working people with the radical organizations they need to unite them in struggle.

In deciding what the important questions are we should consider the societal context. People in general are organized by the system itself, in ways which serve the interest of those in power. For example, technology-related workers constitute a group having many common experiences and perspectives. Their educational and employment histories, their role in the technological program prescribed by the system – in education, research and/or applications – define them as an identifiable sector of the working class. They form a subculture which, for some, means attending meetings, seeing certain trade publications, and being cultivated as purportedly privileged "professionals" by management or the administration. For many of them organizing, in the form of unions or insurgent movements in the

professional societies, has begun.

While disenchantment with technology as it has functioned in the corporate economy is becoming widespread among all working people, it is particularly apparent in those who directly deal with it in their work. Technology assessment is a debated issue in journals. Nader-type exposures of industry, government and academia are becoming common, frequently assisted by employees inside the institutions themselves. At the same time, profound problems affecting the profit outlook and security of the capitalist class and its administrators demand ever-increasing reliance upon technological responses, ranging from developing new hardware to packaging and disseminating revised ideologies, and thus depends increasingly on the tacit cooperation of the practitioners of technology. Meanwhile, as suggested by the organizing activities, many technical-scientific workers now perceive that rather than being a group protected and "valued" by management and the academic-government establishment, they are merely another resource which, after years of scarcity, has finally been brought to a market equilibrium more favorable to their employers. Thus, there is an objective basis for technology-related workers developing a more cohesive political unity. Furthermore, the conditions that bring technical workers together are even more oppressive to other workers and therefore, the potential exists for political unity among all working people in organizing to oppose their common enemies.

However, several endemic features of our society again stand in the way and are thus important matters for our attention. Unity among technology-related workers is strongly discouraged by the status-stratification, elitism, competitiveness and division of labor that the system fosters as well as by discriminatory ideology, primarily sexism. Within the working class as a whole, unity including the sector of technical-scientific workers is further inhibited by the intellectual elitism implicit in the "professional" categories: mental vs. manual labor; the mystification of intellectual skills; the relative privilege of technical workers; and very crucially, the discrimination which operates throughout the institutions of this society — mainly racism in all its manifestations, and again, sexism. So effective is racism that minority groups are scarcely represented in the higher status levels of technological work.

Unless political organizations striving for unity learn to deal with these causes of division in their programs and daily practice, unity will not be achieved.

Analyzing society and ourselves leads us to conclude that the system is fundamentally destructive to the majority of people, and that our task is to help unite that majority in struggle for basic change. Since, as workers, we find ourselves already organized in groups functioning as integral parts of this system, politicizing these groups attacks the system in a fundamental way. Perceiving the nature of the system increases the alienation from the workplace and fosters disunity. However, finding a basis for common involvement with others in

the same situation (not always easy) is not only politically valuable, but also is gratifying and counters the alienation. In the industrial-government workplace, SESPA has had limited but encouraging experience with study groups, which have led to varying degrees of involvement in action. We need to find out and describe how to make study-action groups most meaningful to technical workers, and what activities outside the workplace might stimulate their participation. These might be forums, exposes of corporate behavior, newsletters, public campaigns, etc. Collectively pursuing small but significant goals in the workers' interests can be valuable and exemplary for other groups in the



same company and in other industries. In some companies, serious fights against workplace oppression are taking the form of successful union struggles. In this form of struggle there is obviously ample opportunity to address the divisiveness based on stratification, racism, sexism, etc.

Schools and universities are where almost all technology-related workers are produced. Faculty and research-in-training workers thus also have an important workplace to politicize. Student and faculty political consciousness can be raised through study/action groups that critique curriculum and propose alternatives; exposing the role of schools and universities and attacking specific research projects, intellectual swindles and the ideological foundations of racism, elitism, sexism, etc. The experiences of some SESPA groups have already shown the value of these activities. An important and largely untouched area related to academic workplace organizing is discussions of students' career plans from a political perspective. It is not enough to analyze how most institutions don't serve the people. Learning how to function in those institutions would be an invaluable aid to many people who want to have productive lives and who see but don't yet understand the defects in the system which will someday, maybe, employ them.

As scientists and technicians we are close to the workings of technology and therefore have a special role in making public issues of the control and use of technology. This includes activities at professional meetings, muckraking and making hard-hitting analyses of current technology. We should also make serious suggestions of alternative technological possibilities

*continued on page 42*

# LETTERS

Dear People,

Our street vendor was (after 2 months of adjournments) convicted of street trading without a license (which he admitted all along), and the charge of stall-trading was dismissed because the prosecution failed to bring any evidence. The police here seem vaguely moronic, or else they are on our side and resent being ordered around by the Minister for "Justice." The last trial I was at, the prosecution didn't bother to turn up at all (understandably) . . . Anyway he didn't even get a fine (Just as well, he couldn't afford it). He has a license now—a guard (policeman) went out to his house on a motorbike and delivered it ("Urgent—By Hand") a day or two before the final hearing—so perhaps he will be back on sales in a few days; we are watching to see if anything happens to the others who are selling there.

Love/Truth,  
H.N. Dobbs  
Dublin

Dear Al and all,

Happy halloween.

I've been meaning/needing to write you all a letter to tell you where I'm at and to start a dialogue about where I fit into Science for the People.

I remember how flipped-out I was by Science for the People when I walked into the AAAS conference in Philadelphia last year. It took the top of my head off because it was something that I had thought about an awful lot before, about the importance of science now and in the future and what a nitemare could be ahead unless something was done.

Just for information I want to tell you about what's up in Arkansas in case you are fuzzy on it.

I have never met anyone from Arkansas whose parents were in the CP or were even socialists. This is to point out the fact that the seedbed for radicalism is virgin soil right now. Arkansas has no major heavy-duty industrial areas, even Little Rock, to breed the kind of radical opposition to the system you might find in Boston or Kansas City. Ar-

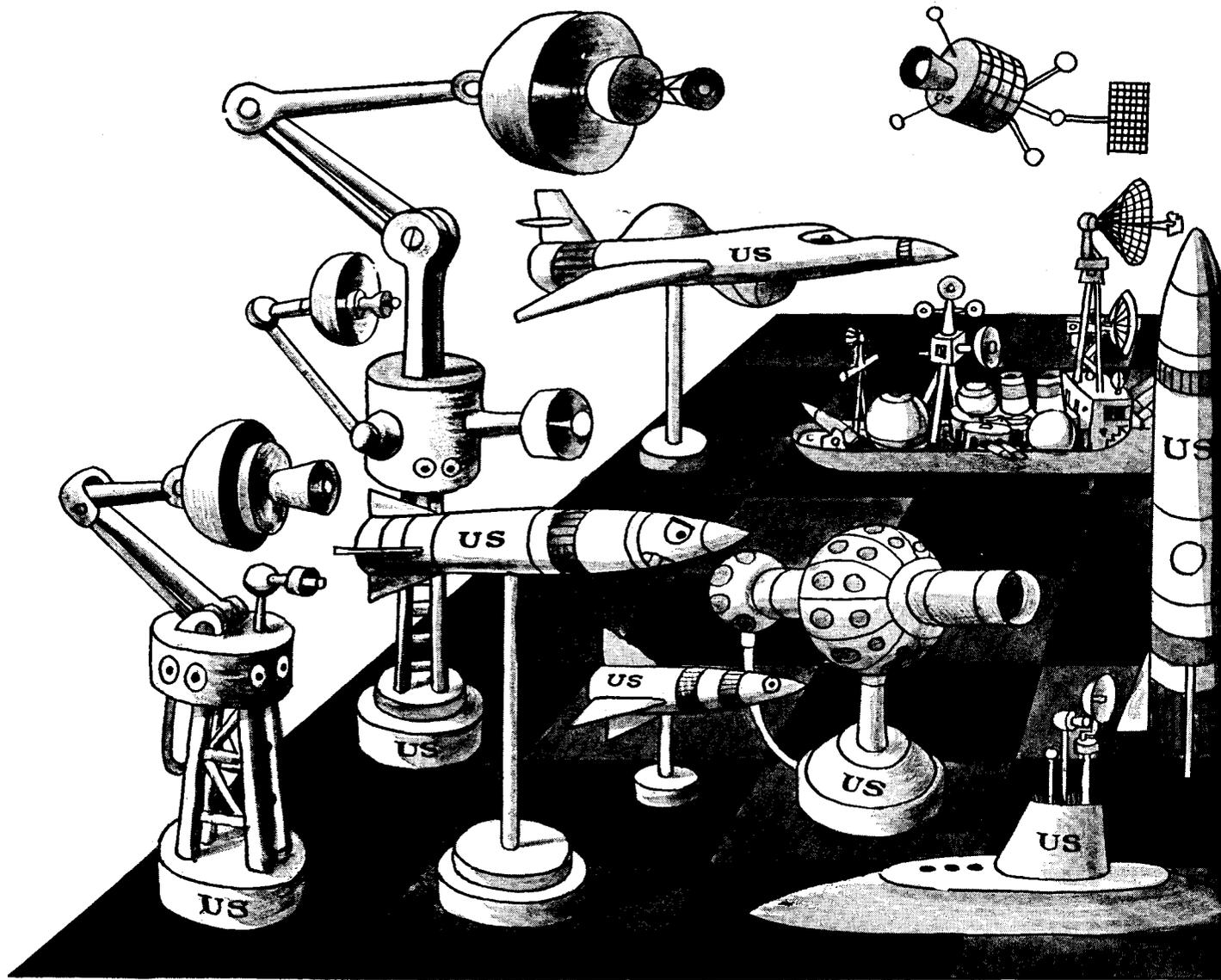
kansas has been and for the great part still is a rural state. Historically rural areas have been ripe for populism and in the 1930's even a kind of socialism (the Southern Tenant Farmer's Union had 30,000 members in the Arkansas Delta region and was mildly socialist with some CP organizers when the CIO was at its height), but not Communism. What Arkansas does have is fundamentalist religion, I mean the locus of power in most communities is between the First Baptist Church and the older family or two with the most bread and whose sons traditionally are either Assemblymen or secretaries of the county Democratic committee and have "reputable" law firms. People are poor but there are few slumlords because that is the way rural areas are. Poor people often own poor land and a poor, ramshackle house, but they own it and that is one hell of a distance from a smelly NY factory and renting a cold-water slum. Black people in Fayetteville fought an urban development plan because the government was out to buy the pitiful homes they owned. Now this is all in a way of saying that industrialism is just beginning to creep into Arkansas and is yet to call forth the massive, angry response of radical unionism and radicalism in general that is nurtured by capitalism in the East; we are in a take-off stage where people are pretty happy to sell small farms and move to town and live in cheap, high-profit-making houses and work for cheap wages in Levi-Strauss plants because it seems better than the farm. My grandfather sold his farm for peanuts (no pun there) in 1930 and moved to Ft. Smith, where I'm from, and worked for 10 cents an hour and was damn glad to get it. Life seemed easier in town. What all this adds up to is that it isn't easy to garner the multitudes to the banners of any sort of radicalism at this point tho there is great potential and one must be patient and plug along doing the things that will allow a movement to develop. Talk to people, discuss things, listen patiently, add your bit, give some lit where appropriate, always be ready to respond, seek out your friends, avoid liberals, etc.

We have interest in Women's Liberation, Gay Liberation, a few people who dig PL, a few radicals who oppose McGovern, etc. Within this context I talk about the necessity of making science relevant to everyday needs of common people. The talk is received and there is interest, but because of history, probably my laziness (this is true—I'm not trying to be cute), and so forth, most of Science for the People magazines are handed out to friends in hopes that they will circulate.

I hope to come to Washington, tho I am not sure. I feel that I should come and want to very much. My father died a few months ago and I think my mother will want me at home at Christmas, but maybe even with that I can work something out. Money problems, etc. But I still am at work in the vineyards and you can count on that. There is need for serious struggle.

Love to you all,  
Jo Neal  
University of Arkansas  
Fayetteville, Arkansas

*more letters are on page 44 . . .*



# TOYS AGAINST the PEOPLE

During the next few years the United States Military is going to develop and deploy a highly advanced form of the electronic battlefield. Some parts of this advanced electronic battlefield have already entered combat in S. E. Asia. Other parts have only feasibility study status. Taken in total the outline of a killing machine at least 100 times more efficient than the present "Air War—primitive automated battlefield" can be sketched. The concentrated power of this killing machine will be effectively controlled by the U. S. military alone.

## THE AIR WAR

The Air War in Indochina is well known and documented.<sup>1,2</sup> To provide sharper comparison with the new warfare to be introduced in the coming years, I will briefly describe its nature.

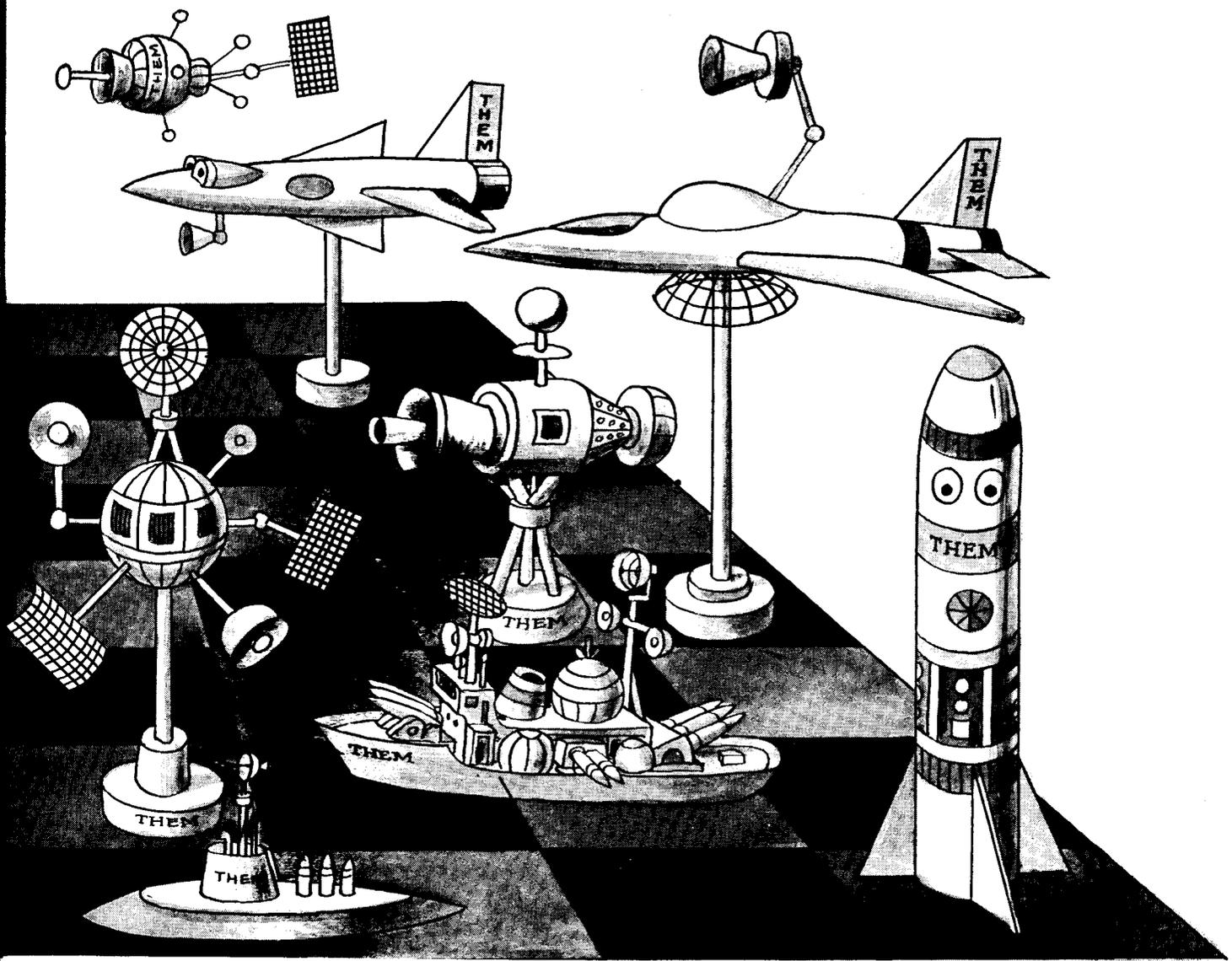
With the withdrawal of U. S. ground troops, the U. S. military's reliance on enormous firepower has come to mean

intense air attack. *The Air War concedes the ground to the NVA-NLF but attempts stabilization by exerting control from the air.* While the U. S. military does not expect victory through airpower, it does expect to prolong the war indefinitely. Airpower is the principle killing instrument which prevents collapse of the weak ARVN forces.

The dynamics of the Air War involve a coordination of the following major components:

*Reconnaissance and observation aircraft* provide information on the location of ground targets. These include everything from small planes whose pilots depend on eyesight to spot targets, to large jets with multi-sensory equipment (e.g. photographic, infra-red, and radar) whose data is transmitted instantaneously to ground stations for interpretation and targeting.

*Bomber and attack aircraft* occur in many specialized forms to deliver everything from pinpoint to saturation bombing. A typical bombing mission only requires a pilot



# OR REMOTE WARFARE

to punch in the target coordinates and a computer automatically steers the plane and drops the bombs.

*Gunships* are flying gun platforms which can fire up to 600 rounds per second. Specifically designed for the S. E. Asian war, they are equipped with multi-sensory devices enabling them to hunt targets at night.

*Fixed sensors* are immovable sensors (e.g. seismic and acoustic) which are dropped from aircraft over the countryside. The data from the sensors is relayed by communication link aircraft to a distant base where computers assist interpretation, correlation, and targeting.

*ARVN* ground troops are used to locate NVA-NLF forces so that air and artillery strikes can do the killing. Sometimes ARVN is used as bait to bring NVA-NLF forces into the open. ARVN bases also employ fixed sensors and portable radar for protection against surprise attack.

Integration of these components is the basis of the current Air War. Fixed sensors detect traffic on a section

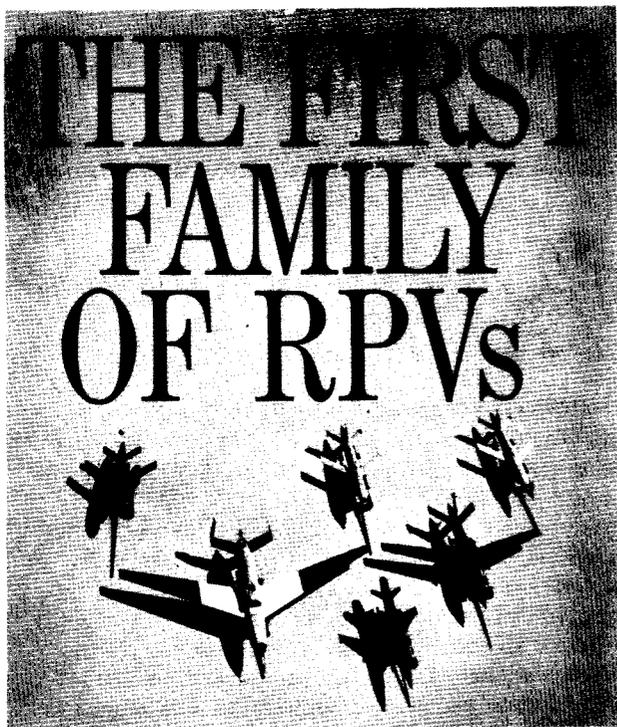
of the Ho Chi Minh Trail and a gunship is directed to hunt down the trucks... Or a reconnaissance jet picks up suspicious multisensory data from a jungle area and B-52s are directed to saturate that area... And so on.

The principal differences between the present Air War and the preceding Ground War are the heavy reliance on aircraft, widespread use of a great variety of sensors, and the computerization of many operations. Without U. S. combat troops the Air War is strategically a defensive war for the U. S. While stationary targets can be attacked, mobile NVA-NLF forces cannot be detected and tracked well enough to be targeted. When NVA-NLF forces choose to attack ARVN forces, the NVA-NLF in turn become subject to air attack. However when the NVA-NLF choose to break off battle, there is nothing that effectively pursues them. In general ARVN is not an offensive weapon. The awesome "Lunari-zation" of Indochina by the Air War merely shows its ability to destroy landscape not the NVA-NLF forces.

## AFTER THE AIR WAR

After the Air War a new form of warfare will appear much as the Air War succeeded the Ground War. We can call it the Remote War. Because only a few components are fully operational now and the rest range from initial combat testing to mere feasibility study status, detailed description of the mechanics of Remote War cannot be given now. However enough information is available to sketch out the major components, dynamics, capabilities, and implications of Remote Warfare.

The central concept to Remote War is the remotely manned system, abbreviated RMS, which usually includes a remotely manned vehicle, RMV. The vehicle operator is located at a distant site and presented with information from sensors in the vehicle itself. With this data the operator uses the vehicle control set to send steering signals back to the vehicle. For example, *the vehicle might be an aircraft; the sensor, a TV camera; the data display, a TV screen; and the operator would be an aircraft pilot.* In the specific, important case in which the vehicle is an aircraft, *the abbreviation RPV is used for remotely piloted vehicle.* In principle any combination of vehicle and sensor can be used to make a remotely manned vehicle. The concept is to remove the human body from the vehicle yet create a sensory illusion that the vehicle operator is in the vehicle.



Now a whole family of Remotely Piloted Vehicles, ready to go when you are. Special RPVs to fly special missions . . . fast or slow, high, medium and low. Part of a tradition of leadership that began over 20 years ago. A tradition that runs in the family.

TELEDYNE RYAN AERONAUTICAL  
SAN DIEGO, CALIFORNIA 92112

The communication links between the RMV and operator are critically important. Because signal transmission is limited to line-of-sight distances (unless cables are used), direct remote control is limited to short ranges. For this reason, airborne communication links are the most important means of controlling RMVs. A series of RPV signal relayers can obtain out-of-sight and over-the-horizon remote control. Satellite communication links are also possible. However the finite velocity of light (and other signals) create a time delay between vehicle and controller, setting a maximum range to feasible remote control. For a 1/16 sec delay this maximum range is a radius of roughly 1/4 the earth's circumference; i.e., a single base can exert remote control over half the earth's surface.

Engineering requirements for an RMV are drastically simpler than those for a manned vehicle. The absence of human body limitations allows the vehicle to be designed solely from the consideration of machine limitation. For example, there is no limit to how small RMVs can be made other than the current state of electronic miniaturization. RPVs can be incredibly maneuverable since there is no pilot to blackout under too high accelerations. RMVs can be manufactured cheaply because much of the expensive electronic blackboxes are removed with the human (and life support equipment) to the remote control site and the RMV itself does not need the costly human safety tolerances. In fact, for many types of RPVs, air frames may be stamped out of plastic as in toy manufacturing.

Remotely manned systems have penetrated many different environments. Robot-like RMVs walk on land or work in factories.<sup>3</sup> RMVs can operate in space with space shuttles and space stations.<sup>4</sup> They have already served as planetary rover vehicles on the moon.<sup>5</sup> Using communication cables, RMVs function underwater.<sup>6</sup> However, the need for simple, line-of-sight communication links mean that the aircraft is the most important vehicle for an RMS. For this reason in Remote Warfare RPVs are the most effective form of RMV.

Dynamics of the Remote War involve a coordination of the following major components:

*Reconnaissance* RPVs are operational both in S. E. Asia and the Middle East.<sup>7</sup> A particularly revealing picture is that taken from an RPV flying *under* power transmission lines while on reconnaissance over North Vietnam.<sup>8</sup> Because of their cheapness and lack of onboard pilot, recon RPVs are able to perform much higher risk missions than comparable manned recon aircraft. Thus SR-71 (the manned recon jet replacing the U-2) flights over China were stopped during Nixon's visit while unmanned flights were not.<sup>9</sup>

Reconnaissance RPVs were derived from drone recon and/or target aircraft.<sup>10</sup> Precisely speaking, a drone aircraft is unmanned but lacks vehicle originated, sensory data presentation to a remote pilot. A drone can be tracked using a control site based radar and directed with radio signals, or it can be internally programmed for a specific flight pattern. Since a drone is already unmanned, conversion to remote pilot is relatively easy. There are at least 15 different recon drone aircraft, many of which are also produced in the RPV

*continued on page 37*

# Workplace Politics honeywell capers

In June of 1972, after having worked for Honeywell for a period of three years, I was fired. The firing was in all likelihood precipitated by my political and organizational activities.

Honeywell Information Systems is a branch of Honeywell corporation specializing in the manufacturing computers. In 1968 Honeywell launched a major effort to produce a new line of 'fourth generation' computers, which if successful would constitute a major challenge to IBM.

In 1970 Honeywell acquired from the General Electric Corporation its computer manufacturing facilities, becoming a second largest computer manufacturer in the U.S.A..

The two years since the acquisition of the G-E computer plant was a period of enormous instability. First, since the G-E and Honeywell facilities were both engaged in the design of a new computer line, the merger allowed the management to consolidate and to lay-off several hundred engineers and programmers. The lay-offs were concentrated in the New England area. Second, one of the conditions of the merger, insisted upon by the French government was that the French facilities involved in the acquisition were not to suffer from the cutbacks and that a substantial part of the design and the development was to be done there. As a consequence a large portion of the design effort was moved to France. This however was only accomplished after a period of intense struggle between various groups in the upper management.

For these reasons the period 1970-72 was characterized by great organizational instability. Major across-the-company restructurings were occurring on the average of every six months. In addition local reorganizations on the departmental and project level were occurring with great frequency. The likelihood of any project being completed rather than abruptly terminated was very small. It was a common experience to see one's effort completely wasted, and the

results of months of thought and labor end up under the shredder.

These conditions generated among the technical employees a climate of insecurity and demoralization. Nevertheless due to the prevailing unfavorable economic conditions the turnover was relatively low.

Until 1971, Honeywell was politically a very quiet place. The war in Viet-Nam and the role that Honeywell plays in the production of weaponry used there undoubtedly produced in many individual employees feelings of unease, doubt and revulsion. But neither these feelings, nor the lay-offs, gave rise to political or organizational activities.

The only expression of the opposition to Honeywell's involvement in the production of deadly weaponry (anti-personal fragmentation bombs etc.) took the form of individual protest. One individual, an employee of long standing went to the stockholders meeting in Minneapolis to propose formation of a committee to review the moral and social implications of the corporation policy. As could be expected the proposal was rejected or what is perhaps a more accurate description ignored. The man himself was eventually rebuked by his superior who, after unsuccessfully trying to convince him that his action was inappropriate, told him that if he persisted in such activities his professional judgement would have been questioned.

In May 1972 a meeting by the committee of Clergy and Laity Concerned was called in a Lexington church, at which a slide lecture "Automated Battlefield" was shown and discussed. The meeting was attended by about twenty Honeywell employees.

The ensuing discussion revolved around whether the plant represents a proper focus for antiwar activities. In addition to the conventional abstract arguments against political activity within the place of work (i.e. the company is merely doing business, the pressure should be directed at the government, etc.) Some individuals very honestly expressed their feelings of

impotence and fear. The fact that people were openly describing those very conditions in their lives, which are the key to the maintenance of the corporate structure, seemed to me significant. I took it as a sign that people are beginning to go beyond the diverse levels of justifications to the roots of the problems: the lack of effective political organization at the work place level. After talking to two other Honeywell employees of similar conviction we decided to try to hold a similar meeting (lecture with slides followed by a discussion) on Honeywell's premises right after working hours. Subsequently we drafted a letter to the corporation's management asking for permission to use the premises and circulated it among the employees.

I think it was important to hold the meeting on the premises for the following reasons: (1) Such a meeting is bound to generate more interest among the employees and is likely to be attended by a large number of people. (2) The fact that a meeting critical of company policies is held on the premises means that an element of conflict between the corporation and the employees is introduced. (3) People attending such a meeting attend it as employees rather than as private individuals; this may foster a feeling of collectivity. (4) Getting people to sign a petition requesting Honeywell's permission for use of facilities was in itself an important step in helping people to commit themselves. (5) Circulating the petition gave us a chance to talk

about political questions to a large number of our colleagues.

The response was very good. Within a couple of days we got over 50 signatures. Moreover several people helped us circulate the petition. The petition was signed and sent through appropriate channels within Honeywell and, as could be expected, rejected.

In talking with people while circulating the petition, I suggested to some that there were a number of issues of common interest to us as employees of a particular corporation, which it would be worthwhile to discuss collectively. Without being very specific about the issues I stressed my own feeling of not having enough control over my life. I raised the question of the possibility of a struggle for the restructuring of work environment, and suggested that a few of us meet informally to discuss these issues.

A small meeting was held subsequently which was attended by 6 people including 3 non-Honeywell employees with similar interests. We decided at this meeting to try to launch a kind of underground company newspaper. It was thought that such a newspaper, in which a large number of people could participate, would provide a forum for issues which are never publicly discussed (one is tempted to say—repressed). In effect the paper would serve as an instrument of politicization of the employees. We also felt that this collective forum of activity would precipitate a sense of collectivity, the need for which was felt strongly by all of us. Subsequently we approached a number of employees who could be counted on having a fairly sympathetic reaction to such a project and arranged for an organizational meeting to take place. This meeting was held approximately two weeks later and was attended by about 25 people. Though all of those present agreed on the need for such a paper, certain differences in political perspective became evident. Broadly speaking two points of view emerged. There were those who tended to see a basic clash of interest between the employees and the corporation and therefore viewed the paper as fundamentally inimical to the interests of the corporation. On the other hand, there were also those employees who tended to view the newspaper as either complementary to the already existing company publications, or at most letting the management know about certain shortcomings which for some reason had escaped their attention. These underlying attitudes showed in the particular issues facing us at this meeting. Those were: should we seek the corporation's prior approval of the newspaper or perhaps seek a voice on the existing company publication? what kind of articles are admissible? what should the editorial policy be? who should write for the paper? should the managers be invited to cooperate and should they be allowed to write for it.

The decisions reached at this meeting were of a rather vague sort, partially because of the desire to reach a consensus and partially because it seemed possible to deal with these issues as they arose. We did decide however to proceed without asking the management for prior permission and to refrain for the time being from inviting managers, even those who could be considered sympathetic to

## **Aggressive About Your Career ?**

**Talk to an  
Aggressive  
Organization  
Honeywell**



our views. We then decided to hold another meeting in a week in order to work out a statement of purpose, read over articles submitted, and further solidify organizational details. The meeting was concluded with a declaration of solidarity whereby those present declared themselves responsible in equal measure for the paper. I was then entrusted with the job of writing a summary of the meeting and an announcement concerning the next one, which was to be distributed to a wider group of people.

On Friday of the same week, I was summoned to the department head office and was informed that I was being fired for 'incompetence'. In spite of my insistence, I was not shown my personnel file in which the justification of my firing should be, according to the internal company guidelines, documented.

My discharge from the company proved itself to be a catalytic event. Some people, present at the previous meeting, expressed the fear of reprisals and did not show up. I had written an account of my firing and sought to submit it as an article for the paper. The article, in addition to the factual account of the firing, raised some general questions concerning 'management prerogatives' and suggested possible reforms. This article aroused intense controversy. Some people felt that it could not be objective since it was written by an 'interested party', others felt that issues of that sort should not be raised since they are too provocative. Also raised was the issue of alienating management and some more conservative employees. The reforms I have suggested—an employee grievance committee, accessibility to personnel files and evaluation of an employee by his colleagues in addition to evaluation by his managers—were considered by some unacceptable to the corporation's management. Nevertheless, after a very heated debate the article was, with some minor modifications, accepted.

There were also two other articles submitted: one by an individual who went to the stockholders' meeting, and another initiating a questionnaire concerning salaries with a view of discovering possible unfairness in salary levels. As a justification for the questionnaire, the article stated that the secretiveness surrounding the salary policy of the corporation works only to the latter's advantage. This also aroused conflict on the ground that such imputation of intention is unwarranted. Then somebody proposed that the names which were to appear on the newspaper's masthead should be divided into two categories: those who "supported its right to exist" and those who were responsible for the paper. This deeply divisive proposal was approved. We then agreed to reconvene next week with the revised articles and a statement of purpose.

The rest of the story is anticlimactic. The next and several more meetings were attended by a dwindling number of people. The initial enthusiasm was clearly abating. With a smaller number of people, the remaining individuals began to feel too exposed. One of the most committed people withdrew from active support in view of his already too visible commitment to the campaign against Honeywell's involvement in war production. Though the remaining individuals never formally acknowledged it, eventually the

idea of the paper was effectively buried.

I will try now to present my own ideas concerning this experience and the reasons for the failure of the project.

First, I think it is important to discuss exhaustively political ideas with a nucleus of committed people prior to the launching of an organizational effort. It is important to reach a common perspective and to act in unison and decisively within the larger group.

Second, it is important to choose a proper time for the launching of the project. The time should coincide with some time of crisis affecting the lives of the employees. For example, I feel that the paper could have been successful had it been launched at the time of the lay-offs. Finally, one should not try to minimize the difference in political perspectives between various segments of employees participating in the project. On the contrary, the existing differences should be seized as an opportunity to discuss thoroughly the underlying political attitudes. Then action can proceed on a real basis of unity.

A.S.



#### TECHNICAL ASSISTANCE LISTING

A number of requests for scientific and technical information have come into the Boston office, and we presently have no way to deal with them. Examples include requests for information from the G.E. project about reactor safety, from a group in the Philippines about the effects of nuclear testing, and from workers in a T.R.W. plant where 13 were felled by an unidentified gas. So we are setting up a listing of groups and individuals who are willing to provide technical assistance to movement, community, or Third World groups.

Although we haven't worked out the details, requests for information will be screened at the office to keep us from becoming over-occupied with this sort of work. We expect questions in nuclear engineering, health, electronics, pollution, telephone taps, plumbing, and the like. So please send us a note outlining the areas you could provide info or help in.

# stilbestrol

*Stilbestrol, a synthetic estrogen hormone, was used heavily on women from 1945 to 1952 to prevent complications of pregnancy and for scientific research on pregnancy. Science and the media have only half-heartedly discussed the direct connection of Stilbestrol to the vaginal cancer now being discovered in the young daughters of these women. The irresponsible use of this drug and the lack of concern for the victims involved re-emphasizes the need for the researchers and practitioners of medicine to be taken down off their professional pedestal and made accountable to the people.*

Natural estrogen is the hormone that is responsible for the development of the physical sex characteristics in women and the cyclic changes in lining of the vagina and the uterus. Stilbestrol (diethylstilbestrol) is a synthetic estrogen hormone. According to *Cancer*, 1957, Stilbestrol is a synthetic non-steroid estrogen known to be carcinogenic (related to cancer).

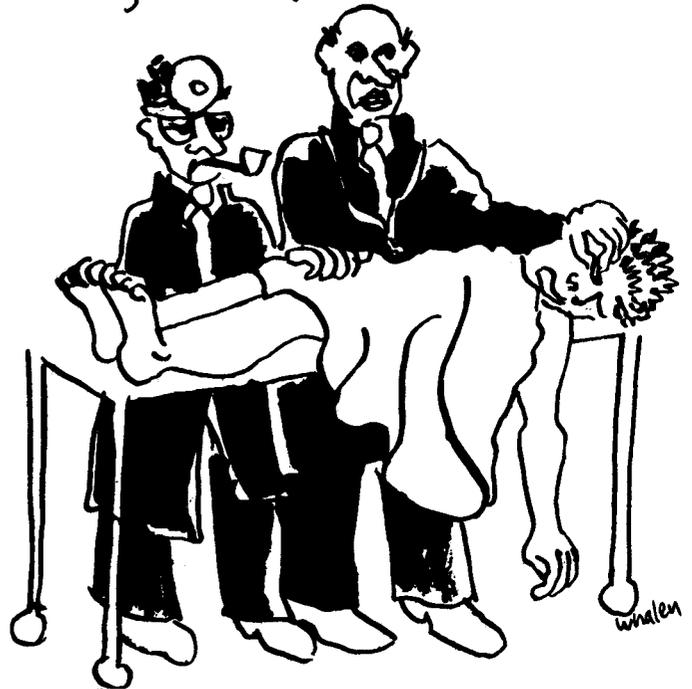
The specific type of cancer of the vaginal tissue associated with Stilbestrol is known as adenocarcinoma. Until Stilbestrol's almost fad-like use on pregnant women between 1945 and 1952, adenocarcinoma of the vagina comprised only five to ten percent of all the types of vaginal cancer, but in just the three years between 1966 and 1969 the number of women with this cancer was greater than the total discovered before 1945. All but one of these women were products of pregnancies where the mother was given Stilbestrol and all of these women were between fourteen and twenty-two years old. Adenocarcinoma had formerly occurred only in women over fifty years old.

## *The Use of Stilbestrol*

Many private doctors, medical centers and clinics throughout the country used Stilbestrol heavily between 1945 and 1952. Probably the most blatant abuse of medicine was at the University of Chicago's Department of Obstetrics and Gynecology in the Chicago Lying-In Hospital between 1950 and 1952. 840 pregnant women were given Stilbestrol as research to determine whether Stilbestrol really helped to prevent complications of pregnancy such as miscarriages, prematurity and stillbirths, as suggested in research done in 1948. The researchers in Chicago wanted to disprove the 1948 findings.

Not only weren't the women told that they and the

Is this case interesting  
enough for us?



children they were carrying were part of an experiment but they were given the pills and told they would help prevent complications of pregnancy and cause no harm to the child. All women registering at the clinic between Sept. 28, 1950, and Nov. 20, 1952, who were between six and twenty weeks pregnant were automatically entered into the experiment. Randomly some were given Stilbestrol and some were given a placebo (fake pill). This included women with known liver, kidney, asthma or cardiac problems, diseases where Stilbestrol is contra-indicated.

The identity of the women involved is known only to the hospital records, if in fact they kept good records, and no one has been able to find out if they are now trying to contact these women and children involved. Dr. McCartney, now at Chicago Lying-In Hospital, commented that he's glad for the study because it "provides a basis for studying the long range effect of use of the drug in pregnancy. It would help us a great deal if the patients in the study could be traced." Help you?!

The research done in 1948 that Chicago tried to refute was done with the Free Hospital for Women, Brookline, Massachusetts, along with the help of 117 obstetricians in 18 cities in New York, New Jersey, Pennsylvania, D.C., Illinois, North Carolina, Virginia, Texas, New Mexico and California. It involved 632 pregnant women with histories of problems including prematurity, bleeding, threatened miscarriages and stillbirths.

Between 1946 and 1951 Boston Hospital for Women carried on a similar program where one in twenty-one patients in their 'high risk' pregnancy clinic were given Stilbestrol, totalling 675 women involved with this drug. And there's no idea how many other clinics or private doctors in the country used Stilbestrol during these fad years.

*And Then Came . . .*

Results of Stilbestrol's use began to turn up in 1966. The New York State Cancer Registry lists five young women born between 1946 and 1953 as having adenocarcinoma of the vagina diagnosed in the late 1960's. All of the women were fifteen to nineteen years old when the cancer was diagnosed. Between 1966 and 1969 seven more young women between the ages of fourteen and twenty-two years were diagnosed at Vincent Memorial Hospital (Massachusetts General) as having adenocarcinoma of the vagina. One woman complained of pain during intercourse, one of pink staining after intercourse, one of having to urinate frequently, heavy or prolonged menstrual bleeding. Pap smears were negative because they only detect cancer of the cervix. The doctors in every case first treated them with birth control pills, treating the symptom not the cause of bleeding. **Sound familiar?**

After five months to one year of no improvement, cancer of the anterior vaginal wall was diagnosed in all twelve women, spreading to the bladder and uterus in several of the women and into the pelvic wall in four of the women. All had treatment by radical surgery which involved vaginectomy (removal of the vagina) and hysterectomy (removal of the uterus) and several had an oophorectomy (removal of the ovaries) and cystectomy (removal of the bladder plus diversion of urine through the intestines). Four of these women died from advanced cancer. All of the women who survived had their vaginas replaced with a mold made from tissue from the intestines which needed daily dilating to keep it open and which, according to one of the doctors, "comfortably admitted two examining fingers one year after operation"! The doctors described the women who survived as "living and well"! In the 1970 issue of *Cancer*, women with adenocarcinoma of the vagina are reported to have a thirty-three percent survival rate five years after radical surgical therapy.

According to the December, 1971, issue of the *Journal of American Medicine*, "Maternal Diethylstilbestrol — A Time Bomb for the Child", vaginal adenocarcinoma is derived from tissues not usually present in the vagina and whose precursors are gland-like structures situated beneath and not involving the vaginal lining. This tissue seems to respond to cyclical hormonal stimulation. Folkman in the *New England Journal of Medicine*, 1971, proposed that perhaps Stilbestrol initiates the cancer process changes in the tissue cells and the hormonal stimulation of puberty triggers it off.

*. . . And Silence*

The *New England Journal of Medicine*, August, 1971 declares, "There should no longer be doubt that synthetic estrogens are absolutely contraindicated in pregnancy." But the medical professionals still try to maintain the paternalistic attitudes of the American Medical Association about what patients should and should not know. In the December, 1971, *Journal of the American Medical Association*, a statement from the A.M.A. Department of Drugs

says:

*An organized effort by the medical profession to inform all women who were given estrogen therapy — in as far as records are available — of the possible tragic consequences for the female offspring is of questionable advisability . . . A definitive determination of risk must await the results of animal experimentation and further compilation of statistics from reports of hospitals, physicians and tumor registries.*

The Federal Drug Administration in 1971 supposedly required prescription instructions to warn that Stilbestrol and similar hormones must not be used in pregnancy but the *Physician's Desk Reference*, 1971, states rather mildly

*Because of possible adverse reactions on the fetus, the risk of estrogen therapy should be weighed against possible benefits when diethylstilbestrol is considered for use in known pregnancy.*

And this information is for the doctor, passed on with the patient's prescription at the doctor's "discretion."

*. . . The Panacea . . .*

The complete effects of Stilbestrol are still not known. There may be new kinds of cancer occurring from its use, a delayed reaction for those using smaller dosages, or possible problems in the male offspring of women using Stilbestrol.

Stilbestrol is one of the drugs used as the "morning after pill" to prevent pregnancy following rape or unwanted impregnation. Many emergency rooms of hospitals use this for women following rape and do not check to see if the woman aborted or held the pregnancy (and the 150-300 mg. of Stilbestrol). Though the dosage previously given to women in pregnancy went progressively from 5 mg. a day at the sixth week of pregnancy to 125 mg. a day by the thirty-fifth week the minimal dosage necessary to cause cancer or other unwanted effects on the infant or the woman taking the drug is not known.

Since 1954 Stilbestrol has been given to cattle to increase their weight for market. Sweden banned this use a long time ago but the U.S. and Great Britain still vigorously use it in veal and poultry. In August, 1972, the FDA passed a law against feeding cattle Stilbestrol but allowed injections and pellet-implantation of Stilbestrol to continue!

Estrogen in the natural rather than synthetic form is also found in Deladumone, an injection given early in labor (and therefore crossing the placenta to the infant) to dry up the mother's milk when she prefers not to breast feed. It contains 16 mg. of natural estrogen and 360 mg. of testosterone (male hormone) and the effects on the infant and mother are not known.

Birth control pills also contain about .05 mg. natural estrogen per pill along with instructions to "continue taking

the pills if you miss one period — if you miss a second period consult your physician and consider the possibility of pregnancy.” If pregnant there would be about 2 mg. of estrogen passing to the infant — a small amount perhaps but no one knows.

The advisability of estrogens in adolescents is being questioned because estrogen inhibits the lengthwise growth of bones. Orthopedic doctors are not sure whether birth control pills contain enough estrogen to inhibit the bone growth and therefore the final size of the person but some say “it’s possible.” Very little research has been done here.

*And Now . . .*

It is important now to make this information about Stilbestrol use, especially in pregnancy, known to all women who might have been involved in this medical fiasco. All women should have vaginal exams to check for this cancer. A pap smear is not sufficient because it detects only cancer of the cervix. Make sure that irregular, prolonged or heavy periods are not written off as imbalance of hormones — demand a vaginal examination, especially checking the anterior wall of the vagina. No longer accept any medication without question. And be prepared for the negative reaction of doctors towards patients who tread on their sacred territory by asking ‘too many questions,’ demanding explanations and wanting to share in the knowledge of medicine and their bodies.

(originally printed in *Off Our Backs*)

P.K.



Cathy Hull

# midwifery

Women Act To Control Healthcare (WATCH) is a Chicago based women’s group composed of healthcare workers and consumers concerned about the institutional healthcare services available for women in Chicago. In the past year, we have been working around two related healthcare institutions: the presently existing Chicago Maternity Center on the near west side, and a new institution to be completed in two years, the Women’s Hospital and Maternity Center which will incorporate the present Maternity Center facilities with the ob/gyn departments of Passavant and Wesley Hospitals.

The Chicago Maternity Center is the only remaining institutional service in an urban area that delivers babies at home. WATCH first got interested in the Center when we realized that it offered a unique, personalized maternity service for all women, regardless of their ability to pay; and that with its imminent incorporation into the Northwestern medical complex, home delivery might be phased out. We found that the Maternity Center treated all women equally and with dignity. For the population that now uses the Center (45% are Black, 40% Latin, 5% White Appalachian, 5% White middle class), home delivery is a need because: (1) these women cannot afford the fees of traditional hospital care, (2) there is no hospital to meet their ob/gyn needs in their own communities (e.g. Loretto Hospital in Maywood recently closed its ob/gyn ward leaving Maywood without any services, (3) their culture has always regarded childbirth as a natural process to happen at home, or (4) it is disruptive to leave their families for a hospital stay as there is often no-one to stay home with their children. Also, having a baby at home takes away from childbirth the mistaken notion of it being a disease, and makes it a natural process; hence, women have babies, doctors don’t deliver them while women are passive and impatient. Healthcare in this way becomes a human right, as it should be, defined by the women who use the institution.

With the imminent incorporation of the Maternity Center with the Northwestern medical complex, the survival and expansion of the present Maternity Center facilities are now threatened. WATCH is taking an active role to ensure that with this consolidation women get the kind of healthcare they need. We are presently meeting with health planning groups around the city,

e.g. Cook County Hospital, West Side Health Planning Organization, and Citizen's Health Organization to get support for community obstetrical care. We have raised the following demands to the Boards of the Chicago Maternity Center and the New Women's Hospital and Maternity Center: that home delivery continue as an option for all women; that the emergency coverage to women who have had no prenatal care continue; that the present Maternity Center located on the near west side remain; that in the new facility rich and poor women receive the same care and benefits; that the new heads of ob/gyn be supportive of home delivery; and that a patient's committee be set up to evaluate medical care.

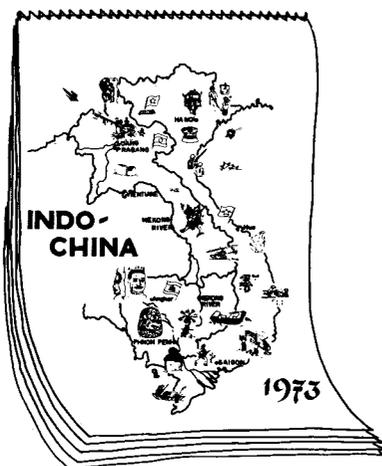
On another level, we have discovered that in every country where the infant mortality rate is less than ours, it is the nurse-midwife who gives the predominant care. We are researching what midwifery programs are available in the U.S., what the laws are concerning midwifery practise, where midwives are being used instead of doctors, and the direction midwifery is taking in this country. We are planning on attending the American College of Nurse-Midwives' Convention to be held in Washington, D.C. to recruit nurse-midwives to work at the Center and to interest nurse-midwives in home delivery.

We see our work around the Chicago Maternity Center and the building of the New Women's Hospital and Maternity Center as crucial in the larger struggle for women to control their own healthcare. Contact Laura Newman, WATCH, 2059 N. Clifton, Chicago, Illinois 60614, (Tel. 312-348-6225)



**Above:** Camouflaged in straight clothes, a group of women from the Berkeley and San Francisco Women's Health Collectives regroup outside the AMA Convention after disrupting the gynecology workshop. (Ralph Cook/LNS)

## In the Year of the Ox...



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# runaway *electronics*

Radios, refrigerators, radars, generators, and electrocardiographs—Americans have never used more electrical equipment. Yet two-hundred thousand fewer people can now find work in the industry than just two years ago.

Where have all the jobs gone? Have they been lost to the Japanese competition? In part, but not nearly so much as we've been led to believe.

At this point American manufacturers themselves pose the greatest threat to jobs. They are automating at home, and with the help of foreign aid they are continuing to shift their labor-intensive (high employment) production outside the U.S. to Korea, Hong Kong, Taiwan, Singapore, and Mexico.

The shift is not new, but the job loss was hidden by the inflationary economic boom of the Johnson era.

## *Radio-TV*

Look at the back of your portable radio or TV—even if the brand-name is American—and you'll probably find "Made in Japan," "Made in Hong Kong," "Made in Taiwan." 70% of all radios (close to 90% of all portables) sold in the U.S. are imports. We import 52% of our black-and-white televisions and a growing percentage of color TV's.<sup>1</sup>

This trend began in the late fifties, when the Japanese purchased American technology, starting with the transistor, and adapted it to produce consumer goods never considered by U.S. manufacturers—the portable radio and miniature television. During the sixties, the U.S. radio-TV industry caught on, but had difficulty competing with the Japanese, who paid wages less than half that paid American workers. Only in producing new products, specialized equipment, and sophisticated devices did the U.S. maintain a competitive edge.

Unable to compete effectively with Japanese imports, U.S. manufacturers arranged purchasing agreements with the Japanese. U.S. firms sold technology to Japanese firms and marketed the Japanese products as their own.

In the past five years American manufacturers have adopted a new strategy: the *runaway shops*. They still do their research, development, and design in the U.S. but they are shifting increasing proportions of production and assembly overseas to take advantage of low wage rates.

This strategy has been so successful that Edward Reavey of Motorola reported in April 1972, that "More



*Scene in Motorola's electronic component plant outside of Seoul. Because labor is less expensive in Korea, production costs are one-tenth those of a similar plant in Phoenix.*

exports (consumer electronics imports) are coming from Taiwan today than Japan, so we're beating them at their own game."<sup>2</sup> Mr. Reavey may have been a little optimistic, but the trend is clear. Many Japanese firms are beginning offshore production to meet the competition of the runaways.

## *Semiconductors*

In the semiconductor industry, manufacturers have established runaway shops to meet domestic, not Japanese competition.

Semiconductors are the miniature building blocks of modern electronics. They include transistors, integrated circuits, and pinhead computer-like devices called "large scale integrated circuits," (LSI).<sup>3</sup>

The technology for the manufacture of semiconductors is advanced and rapidly changing. The industry is extremely competitive: new companies are always entering the market; old ones often fail. Since U.S. firms hold a large but declining technological edge over the Japanese, competition has chiefly been between U.S. firms.

Production of semiconductors takes place in two major steps. In the first, complicated machines mold silicon wafers to circuit specifications. This process requires well paid, highly skilled workmen and is always done in the U.S.

The second step, assembly of connecting wires and testing, uses cheap, unskilled labor—usually women. Since transportation costs are low for high-value miniature components, manufacturers have been able to set up assembly lines in remote areas where labor is cheapest: the Far East, Mexico, and American Indian reservations.

Some 20,000 to 50,000 workers are employed in foreign semiconductor manufacture for U.S. corporations. Some workers in the U.S. are involved in the capital-intensive fabrication or processing of semiconductors which are assembled abroad, but not nearly so many as those employed abroad.

#### WAGE RATES IN THE ELECTRONICS INDUSTRY

1969

Consumer electronics (chiefly radio and TV)  
(ratio of U.S. hourly earnings to foreign hourly earnings)

Taiwan	18.2
Hong Kong	11.8
Mexico	4.4
Japan	2.8
Canada	1.1

Semiconductors (Radio . . .)

Singapore	11.1
Hong Kong	10.3
Korea	10.2
Jamaica	7.4
Netherlands	
Antilles	4.6
Ireland	4.2
Mexico	4.2
Japan	2.3
Canada	1.6

Source: U.S. Tariff Commission, "Economic Factors Affecting the Use of Items 807.00 and 806.30"

#### Domestic Impact

Import competition and runaway shops have an obvious effect on American workers: they have a harder time getting jobs in the electronics industry, despite the growth of sales. U.S. employment making radios and television receivers fell from a peak of 195,000 in November, 1966 to 140,000 in December, 1971. In December, 1971 341,000 had jobs manufacturing components, as opposed to a peak of 397,000 in October, 1969.<sup>4</sup>

By hiring fewer, but more-skilled workers, electronics producers are expanding the gulf between rich and poor within the United States. Skilled and professional employees get higher wages as productivity rises, while assemblers are threatened with wholesale lay-offs if they demand higher wages. Since the less-skilled assembly workers tend to be women and non-whites, current inequities are reinforced.

The job shift also hits older workers. While young workers who get laid off can often find new work by moving to new homes or by retraining, older workers—many of whom have toiled in electronics for their entire adult lives—have great difficulty finding new employment.

In the long run, the de-employment of electronics—in fact, most manufacturing—forces the government to subsidize more and more of the economy to provide jobs.

As the workforce shifts into service industries, manufacturing unions will lose their power and newer service unions will grow. The new unions—especially public employees'—will have a hard time establishing bargaining strength equal to that of manufacturing and construction unions.

#### Impact Overseas

Runaways also hurt the nations where they set up shop, although they often benefit the local ruling groups which invite them in. U.S. manufacturing investment in underdeveloped countries may raise overall production, but usually it appears to aggravate the existing differences between rich and poor.

The most important aspect of runaway shop development is that it increases the host nation's dependency upon U.S. or Japanese corporations for technology, parts, or marketing. This dependency gives American and Japanese elites control over the economic policies of the host nations. If the hosts don't go along, the companies can shift production—which requires few machines—elsewhere.

Foreign business also diverts investment capital—and often the most talented managers—away from industries better suited to raising the standard of living of the native population as a whole, as local investors invest in the parent multinational corporations or in companies which serve or supply the foreigners.

#### Policy

Are runaways and the problems they cause necessary? To defenders the answer is a simple yes. Runaway shops, they claim, are a natural outgrowth of the structure of international trade.

The structure of trade, however, was made by men, not nature.

Ever since World War II, the U.S. government, private foundations representing internationally minded business—Ford, Rockefeller, etc.—and multinational financial institutions like the World Bank have worked hard to promote the development of labor-intensive industry in Asia.



They have used military intervention and aid to create regimes sympathetic to U.S. investment in Taiwan, Korea, and the Philippines. Should the U.S. win in Indochina, Vietnam will be the newest center for cheap electronics assembly.

They have used police and military aid to help Asian client governments to repress trade unions. In Taiwan and Korea at least, U.S.-trained-and-equipped police forces enforce bans on strikes.

And in many Asian nations, they have concentrated on more subtle forms of control. The Ford Foundation, in conjunction with the U.S. Agency for International Development (AID), has for many years pursued a strategy of elite-building. Ford and AID bring promising Asians to the U.S. to study the American way of conducting business. Upon returning and assuming leadership roles, they listen approvingly to American strategies of development, such as "export-promotion"—tax and tariff incentives for runaway shops. In Indonesia, where the government recently began to seek runaway investment, the entire civilian ruling group is known as the "Berkeley Mafia" for its training at the University of California.

They have worked hard to provide "infrastructure"—transportation, communications, training water, and energy resources—to support industrial development. AID, the World Bank, and other agencies run by U.S., European, or Japanese businessmen have even gone so far as promoting the construction of industrial estates (industrial parts), with factories prefabricated to meet the needs of foreign manufacturers. In Korea the United Nations Development Program has supported the "Fine Instruments Center" with \$1.2 million since 1967. The Fine Instruments Center is the semi-governmental agency responsible for recruiting foreign investors in electronics.

They have even promoted the overpopulation of urban areas—a cause of cheap labor. In many nations they force people into cities through the Green Revolution, which replaces peasant labor with machinery and herbicides. In Vietnam they urbanize, quite consciously, through bombing.

### Conclusion

Organized labor, angered at the loss of work in the U.S., has attacked industry's decisions to license technology, shut plants, and invest overseas. The AFL-CIO is pushing Congress hard for the passage of the Hartke-Burke "Foreign Trade and Investment Act of 1972," which would severely restrict foreign trade and investment.

But protectionism is not the answer. Labor's offensive may pressure administration negotiators and strengthen the U.S. hand in international trade talks, but the adoption of the Foreign Trade and Investment Act would precipitate a major trade war with other industrialized powers, cutting exports as well as imports and thoroughly disrupting the American economy.

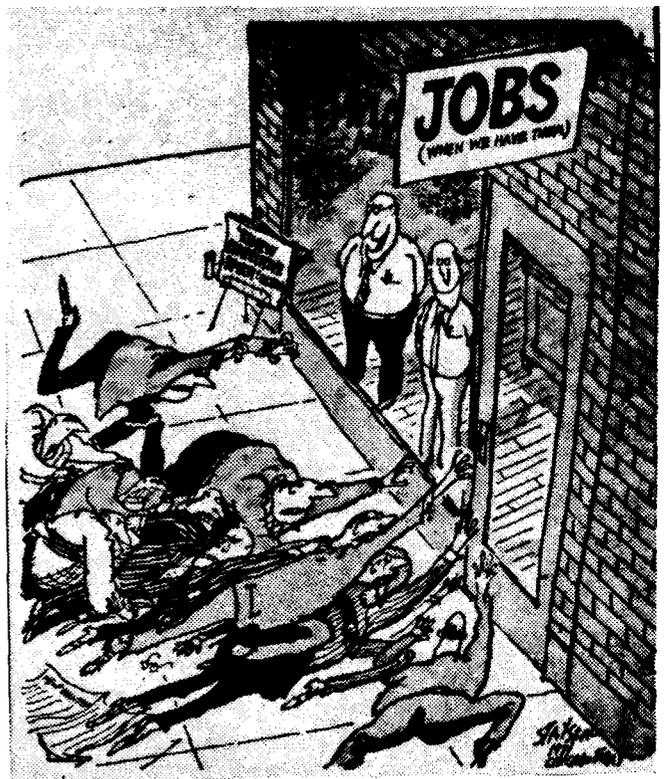
On the other hand, Labor has consistently supported a foreign policy which systematically promotes runaway shops in Asia. The AFL-CIO has staunchly backed U.S.

military involvement in Korea, Taiwan, and Vietnam. The AFL-CIO has cooperated with government and the foundations by training Third World union leaders in American methods. Though there are no runaway shops in Cuba, China, or North Korea, Labor's foreign policy literature is still virulently anti-Communist.

If American workers are to protect their jobs successfully against the runaways, then they must find a new leadership which identifies the source of their problem—U.S. foreign policy—and directly attack the foreign-policy dominance of the multinational business community.

### FOOTNOTES

1. Andrew Brimmer, "Imports and Economic Welfare in the United States," as printed in the *Congressional Record*, March 22, 1972, page H2359.
2. *Electronic News*, April 24, 1972, page 26.
3. For a useful but limited study of runaways in the semiconductor industry, see Y.S. Change, "The Transfer of Technology: Economics of Offshore Assembly—the Case of the Semiconductor Industry," United Nations Institute for Training and Research (UNITAR), Report No. 11, 1971.
4. See Bureau of Labor Statistics, U.S. Department of Labor, *Employment and Earnings* (monthly).
5. *Electronic News*, May 8, 1972, page 4.



"Nixon would be proud of their competitive spirit, Henley."

## CONTROLLING AGGRESSIVE BEHAVIOR

( or STOPPING WAR RESEARCH )

### INTRODUCTION

This article was written by a group of students and faculty of SUNY at Stony Brook, where Department of Defense (DoD) - sponsored research has been a campus issue for at least three years. Although this case history and analysis grew out of a struggle in a university community, we believe that it is equally relevant to other work places where the DoD attempts to channel research toward anti-people goals through grants and contracts.

We have tried to sum up our experience and provide solid information and analysis of the most important what's and why's, arguments and counter-arguments. In addition to presenting crucial factual data, we have made an effort to place the issue of banning DoD research in an historical and political context. We believe that this broad-er perspective is essential to a proper understanding of what is at stake and why and how we must act. We intend this statement to be useful as an organizing tool to anyone concerned with the elimination of DoD research. We also hope that it will generate debate about what is involved in confronting the university's support of the American military. Comments and criticisms are invited.

### THE FIGHT AGAINST DEFENSE RESEARCH AT STONY BROOK

The war in Indochina has generated increasing awareness that the military depends upon universities to meet critical manpower and research requirements. At Stony Brook this understanding was first expressed in protests against military recruiters on campus. Demonstrations soon followed against personnel recruiting by industrial interests which were profiting from the war.

In March 1969, a demonstration against a Dow Chemical Corporation (napalm manufacturers) recruiter led to a demand for access to the university's research files in an effort to expose suspected direct involvement of the university with the military. A group of over 100 demonstrators entered the graduate school offices where the records were housed. Acting under Stony Brook President Toll's orders, the police attempted to evict the protestors. These attacks were repulsed and the files were successfully photographed and xeroxed.

As expected, the files revealed several active research grants funded by the military. Among these were grants directly related to such high-priority military projects as aerial reconnaissance photography and chemical warfare. A

few days after this information became available, 500 students sat in at the administration offices. One of their key demands was the termination of military-related research at Stony Brook. President Toll denied its existence, but in an effort to get the demonstrators to leave, he promised to open the research files.

He later allowed people to see only abstracts of the proposals, making it impossible to understand the actual applications of the research.

During the next two months it became known that the university was also applying for Project Themis funding. Project Themis was aimed at small but developing universities such as Stony Brook; it attempted to channel research into areas of immediate interest to the military. The Stony Brook Themis proposal included research on the technology used in missile guidance systems.

The movement directed all its efforts towards preventing Project Themis from becoming established on campus. This may have played some role in the Defense Department's subsequent decision to turn down the university's Themis proposal.

The limited victory over Project Themis temporarily forestalled the growing protest against all Defense Department research at Stony Brook. It was not renewed until the Spring of 1970, when the invasion of Cambodia and the killings at Jackson State, Kent State and Augusta led to a campus-wide strike. Once again an end to military research at Stony Brook was a key demand.

The faculty was finally moved to act. After a debate which extended over several days, the Faculty Senate voted to terminate DoD funding by a vote of 105 to 66. Toll, revealing once again whose interests he serves, sought to undermine the faculty vote.

In the Fall, the Graduate Council and President Toll engineered a reversal of the Spring vote. At a Senate meeting in which no debate took place, a mail ballot was called for, but the mailing contained no examination of the issues. Furthermore, at the meeting, Vice President Pond made it clear that the administration would not consider a faculty vote against DoD binding.

In the spring of 1972, students responded to the mining of North Vietnamese ports and the resumption of large-scale bombing attacks above the Demilitarized Zone. Again the computer center was attacked. Again police were called in. Again there was a student strike. And again the Faculty Senate voted to do away with DoD funding by more than two to one (75-31).

This time, students and faculty decided to press the demand that Toll abide by the will of the university community. In order to close off the argument that too few faculty had participated in the Senate vote for it to be representative, a petition was circulated demanding that Toll honor the resolution. A representative group carried the petitions to Toll, who responded with a note taped to his locked door. When he finally consented to meet with representatives of the petitioners, he admitted that no vote against DoD by any of these groups would bind him.

Over the summer, DoD opponents tried to keep the issue alive so that Toll could not easily flout the faculty

resolution. They circulated further petitions, issued informational leaflets, and kept a watch on new grant applications. Scrutiny of the new applications revealed that faculty and student demands had been ignored once again: three new DoD grant applications had been signed. One application, submitted by Franco Jona of Material Sciences, asked for over a million dollars for a three-year study on "the structure of solid surfaces". Although this title has the ring of "pure research", the application went to the Advanced Research Projects Agency (ARPA) of the Department of Defense. ARPA provides "centralized management of selected high-priority projects"—which suggests immediate military application. Other ARPA research projects have included the cloud-seeding and attempted fire-storm bombing used in Vietnam as well as a great many other counter-insurgency projects.

Faculty and students have begun to plan for a continued and persistent campaign against Defense Department research. Toll's prediction that there would be "some opposition" to his decision will surely be the understatement of the year.

#### DoD RESEARCH AND ITS DEFENDERS

Most students and faculty oppose American foreign policy, and are uncomfortable with the knowledge that the university helps to prop up that policy through defense research. At the same time, many people, particularly faculty, are also uncomfortable with the notion of banning DoD research, for variety of reasons.

#### THE PROBLEM OF "BASIC" RESEARCH

The first is the rationale that a great portion of DoD research is "pure or basic research". The Department of Defense has firm opinions about the nature of the research it funds. Army Regulation No. 70-5, Section 1, paragraph 1 states that the purpose of awarding DoD grants is "support of basic scientific research in furtherance of the objectives of the Department of the Army." The mission of research funding is "increasing knowledge and understanding directly related to explicitly stated long-term national security needs...for the solution of identified military problems. *DoD itself, in other words, is publicly committed to funding only research which has foreseeable military application.*

DoD takes steps to insure that its funding does in fact produce results. Proposals submitted to the Department must *first* receive the approval of a screening panel of military experts *before* they are submitted to the usual review procedures by scientific referees selected by the National Academy of Sciences/National Research Council. The dental research recently carried on at Stony Brook was discontinued precisely because it was *not* providing knowledge useful to the military. A letter from the U.S. Medical Research and Development Command to the SUNY Research Foundation stated:

As you know, projects undertaken by the command can only be justified based on military relevancy.

A careful review of the goals and objectives of this project, as well as the current operation requirements of the potential user indicates there is no longer a military requirement for such a mass screening capability.

Given the large amount of funds involved, and the large percentage of all engineering research these funds account for, the DoD plays a powerful role in shaping the profile of engineering research at many universities.

Individual DoD-supported researchers often have no idea of the military significance of the work they do. Undoubtedly, many scientists whose laser research was supported by DoD would be dismayed to learn how the technology they helped to develop was indispensable for the production of "smart bombs" now victimizing the people of Indochina (though, of course, laser research has non-military applications).

DoD funds research only for a sufficient military reason; it is important to recognize that there is, in turn, a reason for DoD. Defense research is essential to the government's use of or threat to use, military force, and military force is an increasingly indispensable element of American foreign policy. The Defense Department is not a collection of crackpots with a penchant for creating bigger and better bombs; it serves a vital role in the attempt to continue American political, economic, and cultural domination of a major portion of the world. The seemingly limited question of what an individual researcher does in a particular laboratory is inescapably tied up with the fundamental issue of what America does with—and to—the rest of the world.



## THE SPIN-OFF EFFECT

A second rationale for DoD research is that the development of military technology yields information, techniques, and hardware with highly beneficial civilian applications. However, those benefits are purely incidental to its primary goals. The single-minded concentration on military utility makes defense research at best an inefficient generator of civilian technology; at worst, DoD's channeling of scientific inquiry is an actual impediment to socially useful research. DoD's swollen budget and narrowly restricted goals must be scrapped in order to facilitate research which might have a chance at contributing to the improvement of civilian life.

## IS FIGHTING DoD FUTILE?

It has been argued that if an individual university such as Stony Brook stopped DoD research, it would simply be carried out somewhere else. We would lose money (which pays for faculty, graduate students, laboratory equipment, etc.) and the DoD would lose nothing. Both arguments contain some truth, yet both are dangerously wrong, because both are arguments of impotence—they imply that change is impossible. However, the antiwar movement was successful in discrediting and removing ROTC at many campuses; resistance to military service, both in and outside the army, has led to the current dismantling of the draft system. It is also important to remember that Stony Brook is not the only campus which has been fighting DoD; defense work has been and is being challenged at Harvard, Stanford, Johns Hopkins, and several other places. No one has ever suggested that stopping DoD research here would be a complete victory; we are suggesting, however, that a strong campaign against DoD here would be an important stimulus to a crucial nation-wide fight. The difficulties involved in banning DoD should not be minimized, but neither should we minimize the potential of an organized, coordinated struggle against university complicity in the murderous American war machine.

## DoD AND ACADEMIC FREEDOM

Many people who honestly oppose the war in Vietnam don't want to ban DoD research because they feel that to do so would be a violation of academic freedom. However, a close look at this issue reveals that it simply does not apply to the DoD controversy. No one argues that academic freedom means that anyone can do anything. The entire academic community was outraged by the recent revelation that "researchers" deliberately infected mentally retarded children at Willowbrook Hospital with hepatitis, and a national scandal has surrounded the discovery that "researchers" in Alabama refused to treat syphilis patients for 30 years because they wanted to follow the development of the disease. Restrictions on research, which extend from methodology to subject matter to audience, indicate that academic freedom is not the fundamental guiding principle

for research at the university. Banning Defense research is not a violation of academic freedom, which doesn't exist. Banning Defense research is making a social judgment about the substance of research, the interests which it serves, and the uses to which it will be put.

## DoD AND UNIVERSITY POLITICS

Still another argument—that we must resist the politicization of the university—is the most recent one to be raised at Stony Brook, and it is, hands down, the most absurd. Universities *are* political arenas, always have been, and always will be; opponents of DoD research are not setting some dangerous new precedent. Continuing to do DoD research is entirely political—it specifically supports the brutal international and domestic policies of the American government. Toll's record of harassing and attempting to remove campus activists is political, as is his readiness to make university facilities available to military and defense recruiters. The question of whether this university is going to operate politically has already been answered in the affirmative. The remaining question facing us is much more specific: *what politics are to prevail?*

## THE POLITICS OF FIGHTING DoD RESEARCH

The issue of Defense Department research has been raised many times, but a concerted and long-term effort to ban it has never fully developed. Such an effort holds out the prospect of a truly effective protest against science for imperialism and war.

The role of the military in Vietnam is only part of the broader foreign policy of the United States and is connected significantly to domestic politics. The same military and the same advanced weaponry which operates in Vietnam has left its indelible imprint in Laos, Cambodia, and Thailand; it has backed up, with advice and resources, brutal regimes in Burma, Bolivia, Greece, Spain, South Africa, Portugal, and much of the rest of the "Free" World.

In the U.S., "counterinsurgency" methods are applied by the Army and the police to suppress ghetto rebellions. The government adopts military solutions, by means of the police and the National Guard, in its efforts to suppress strikes and student revolts. It is worth remembering that the National Guard units at Kent State arrived there fresh from crushing a Teamsters' strike in Cleveland. The resort to military force permeates government policy at home as well as abroad; in some cases, the technology the U.S. uses around the world returns here rather directly. A pair of spectacular examples are nighttime television surveillance of ghetto streets in Mount Vernon, N.Y., and a plan to implant electronic transmitting beacons in ex-convicts to monitor their movements! At Stony Brook, the Rand Corporation has worked in conjunction with the Urban Sciences Department on police deployment in the ghetto and other problems bearing on domestic counterinsurgency.

Such activities are not the accidental result of mistaken decisions, nor are they the insane maneuverings of crazed military chieftains. They are part of the maintenance of a particular kind of American power. These poli-

*continued on page 26*

The road to Hell is paved with good intentions.

Not a strikingly original thought, of course, but one suggested by the AAAS meeting this December in Washington and its significance for SESPA/Science for the People. Our experience over the last several years tells us that the majority of scientists who attend the AAAS meeting and partake in its sessions are motivated by deeply felt social concerns. They see the genocide in Indochina, environmental destruction, and massive social unrest as clear indicators of social decay, and true to a tradition in science which goes back to the 17th century, they want to apply their knowledge and expertise to the improvement of human welfare—in this case to the resolution of the present social problems.

But the question for us all is how such good intentions can be translated into action. For it is in action, in day to day practice, where we observe whether these good intentions don't in fact become self defeating. Why is it that the work of well meaning scientists and technologists has in many cases served only to *worsen* social conditions? Why does social alienation mount with the ever increasing technological advance of our society?

Simply this: that the energy of most scientists is directed towards strengthening the archaic, dehumanizing system in which we live. The endeavor of scientists to be socially productive has been within the context of a socially unproductive (read oppressive) political and economic system. The well intentioned attempts on the part of scientists to deal with social problems is nearly always within an ideological framework bound to frustrate such efforts.

Of course these rather general statements must be clarified and expanded upon, and that's our job as radical scientists. We have to examine in detail the nature of the system and how it affects people's lives. We must explain its imperative for expansion and consumption of resources, its need for a hierarchical and oppressive class structure, its systematic dehumanization of men and women through the productive relations of capitalism, its institutional forms of violence and destruction.

And as radical scientists our job also is to understand our own role in the perpetuation of that system. Not only in the direct sense of how our technological achievements are the tools for its maintenance, but also in how the structure and ideology of science itself serve to perpetuate the present social and economic order. How the specialization and professionalism within science lead to fragmented and myopic thinking. How the competition and hierarchy reinforce individualism and non-collective attitudes. How the myth of scientific neutrality makes scientists the unwitting instruments of political power. How the technocratic mentality (that of scientific, non-political decision making) is at best undemocratic and at worst fascistic. How the propagation of elitism and elitist attitudes serve only to deny the people power over their own lives. How the philosophy and methodology of a positivistic science, when applied to the social sciences, means only social manipulation and control.

While each of these points requires careful elaboration, it is sufficient for us now simply to realize that in

# call to *AAAS*

their totality they amount to the critical re-examination of the premises of society and the premises of science. Those who fail to make this critical re-examination serve only to strengthen the present destructive social order. In their practice, they thus make science a tool of the status quo, in direct opposition to the many peoples struggling for their liberation. Good intentions serve reactionary ends.

This brings us back to the AAAS meeting. While the actions of SESPA/Science for the People at the Washington meeting have many purposes, one of them should be to bring (by our own exemplary actions) the concerned and well intentioned scientists there over to a more radical perspective. Our most important activity in this regard is to raise fundamental and probing questions within the AAAS sessions, and in so doing, bring to light the basic political issues involved in the present practice of science. We must thus demonstrate the critical attitudes we want to impart to others. Of course, to vigorously challenge ideas and ideology often requires that the very structure of the meeting or its sessions also be challenged. Part of the political message is the search for democratic, participatory forms to replace the elitist, authoritarian structures which pervade the AAAS meeting (and society as a whole).

This somewhat abstract discussion is made more concrete in the descriptions and analyses of past AAAS actions which appear in past SESPA/Science for the People publications (*SESPA News*, vol II, no.1; *Science for the People*, vol III, no. 1, Feb 1971; vol IV, no. 2, March 1972). What emerges from past experience is that preparation and planning—with of course an added touch of on-the-spot spontaneity—is what made actions successful. Thus with an eye towards preparation for the coming AAAS meeting, let's look briefly at the preliminary program recently published in *Science* magazine.

As always the AAAS meeting program appears on the surface to deal with the important issues of science, society, and social needs. But what are the symposia really all about?

## Turning on With Science: Educational Programs for Minorities Affirmative Action Programs—Their Impact on Women Today Women and Ethnic Minorities in Science and Technology: The Role of Professional Societies

In these sessions the status of minorities will be dealt with in a way which suggests that the problems of racial minorities and women are amenable to solution within the present context. Will these sessions consider how and why racism and sexism have become institutionalized, or to what ex-

\* American Association for the Advancement of Science

# **S** actions

tent the present programs are mere tokenism? Note that there are no AAAS sessions which present a critique of the work of the well known scientist-apologists of racism—the Jenses, Shockleys, Hernsteins, Moynihans—nor are there sessions which analyse the role science has played in perpetuating the ideology of inferiority.

## **Educational Achievement and Social Indicators Methods of Social Indicator Analysis Is Social Experimentation a Practical Way to Develop Social Programs?**

The term “social indicator” appearing in these titles is used by social scientists who want to quantify social data for use in social planning. This is the rage today in social science because it supposedly provides a rational basis for the control and manipulation of society from the top (through federal social programs). The scientific and humanistic paucity of this whole technique should be seen as part of a broader critique of the methodology and goals of the present form of social science. Such a critique does not appear in the AAAS sessions where social planner technocrats merely try to improve upon their methods and technique.

## **Conceptions and Alleviations of Aggression and Violence Ethical, Legal, and Social Issues of Behavior Control The Future of Collective Violence: Societal and International Perspectives**

### **Prison Research Crime Prevention—Heredity and Environment Revisited**

Many scientists unfortunately don't recognize violence in this society as arising out of fundamental class conflicts or as being conditioned by the hostile social environment fostered by competition, financial insecurity, and other institutionalized forms. Rather, it is for them a psychological disposition of individuals, perhaps even of genetic origin! When “conflict resolution” is not achieved through social planning, recourse is made to modern forms of behavior control, drugs, or psychosurgery. Many scientists are also busy at work developing other tools of social control such as police weapons technology for crime prevention and surveillance techniques for political intimidation. All of these techniques are political tools. They aim at preserving the status quo, that is, the very precondition for violence. Where in the AAAS meeting do we find the analysis of institutionalized forms of violence—the Indochina war, malnutrition and disease, suicide, death and maiming from industrial hazards?

## **Rational Use of Scientific and Technical Manpower Institutions for the Application of Science to Social Needs Research Applied to National Needs The Stimulation and Control of Technology by Government Public Policy and Social Science**

Sessions such as these make for good propaganda about the scientific establishment's response to social needs. But nowhere do they deal with people's need to be liberated from alienating work and alienating life. Rather they deal with “national needs” like health of the economy or national defense. Thus national use of “manpower” and government control are simply ways of extending and strengthening the present social and economic system. This conception of needs must be challenged and shown to serve ruling class interests. When it comes to the more material human needs, say for a good diet, health care, and housing, we must point out the essential political conditions which create such unmet needs. Malnutrition in this country is not due to low food production, but to a system of distribution based on profit. Where in the AAAS meeting are scientists analysing why there exists such privation amidst such productivity and such waste? And how can such disparities be removed?

## **Man Against Machine: Anti-Technological Sentiments and Movements in History Science and the New Challenges to Rationality**

These sessions are a reaction to the growing anti-science and anti-technological attitudes in our society. Rather than recognize the serious anti-social functions of current science its practitioners here simply label the critics as irrational. What would be more important and useful would be to bring out the rational political basis for the challenge to present forms of science and technology.

The above comments are necessarily tentative in that they are based only on the limited information in the preliminary program and on past experience with AAAS material. But the program's emphasis on social planning and social control is quite clear and consistent with trends over the past few years. The reaction to growing social unrest is not to change, but rather to rationalize the system. Also notable in the program is the absence of sessions dealing with military technology and the automated air-war, use of captive populations for experimentation, analysis of the effects of U.S. scientific and technological programs on the peoples of the exploited countries, studies of the causes of the high technological unemployment rate, or anything critical of scientific practice.

Thus the AAAS meeting is not simply a gathering of well-intentioned scientists. It is an important scientific and ideological tool for preserving the status quo. It serves to obscure the essential political relations of science while perpetuating the elitist, technocratic attitudes which have characterized the scientific community. As a whole, the AAAS meeting is a reactionary element in opposition to the struggle to liberate science for the people. If SESPA/Science for the People is to be a progressive force in that struggle, we must develop our own and other people's understanding of what positive action we as scientists, technicians, teachers, engineers, and other technological workers can take. That's what the AAAS actions are all about.

## STOPPING WAR RESEARCH *continued from page 23*

cies have the common effect of allowing American "free enterprise" to enter and maintain itself in foreign countries, and to keep its profits high and its position stable in the United States. Among other things, American companies are interested in the resources and extremely low wage standards in Southeast Asia, including the \$1.40 per day *maximum* wage in South Vietnam. The military acts to defend tremendous investments in Latin America and helps Chase Manhattan Bank protect its highly profitable and highly political loans to the South African government. At home, the military uses its technology and force to quell ghetto rebellions and hence to defend the investments of slumlords and ghetto merchants. The suppression of strikes enforces the wage freeze and guarantees profits. Action against militant students not only defends profitable policies (like the War), but also guarantees that universities will remain safe repositories for defense research and for the production of compliant, "well-trained" technicians.

The DoD requires the most creative minds and the most advanced scientific insight to help maintain and improve old weapons, and to develop new and more effective ones for whatever new situations may arise. That is why the Defense Department so actively seeks research contact with universities. In addition

- 1) If scientists and universities devote their energies and resources to DoD research, dependencies are created. At Johns Hopkins, for example, efforts to ban the ROTC program on campus were countered by the threat to end DoD funding; the dependence on that funding exercised leverage on other university issues.
- 2) DoD research contributes to defining research interests and career options for graduate students. Given the large amount of funds involved, and the large percentage of all engineering research these funds account for, the DoD plays a powerful role in shaping the profile of engineering research at many universities.
- 3) By its association with universities, DoD manages to improve its image. The scientific community, and academic researchers generally, have a reputation for serious, objective, useful activity; DoD research on campus, by making this association, lends an air of respectability to its operation.

The military has all of these reasons for wanting to fund research here and elsewhere. We should prevent DoD from associating itself with the university. We should not allow our resources—intellectual and physical—to be channeled into defense work, nor should our students continue to be fed into defense-related fields. Certainly we do not want our research efforts to aid a racist program of substituting Vietnamese deaths for American deaths. Our efforts must be to stop the killing, and our research and resources must be devoted to work which serves mankind. The only clear way in which we can accomplish this is to deprive DoD of some of its scientific resources.

Naturally, the elimination of DoD research at Stony Brook alone will not accomplish this, but it could be important to a national movement. The faculty resolution last spring was reported in *Science* magazine; an anti-DoD

resolution was brought before the American Chemical Society; a great many students and faculty at other schools are interested in beginning anti-DoD fights. This campaign has the real potential of reaching enough campuses to seriously hamper DoD research activity.

When Dartmouth students began an anti-ROTC campaign in 1968, it may have seemed rather insignificant. In the next two years the fight spread to dozens of schools—the events at Kent State were part of an anti-ROTC fight—and resulted in a *one-third reduction* in the number of new officers. This shortage actually affected the Army's ability to train and lead men in Vietnam; it probably had something to do with the reduction of combat troops. Resistance within the Army, which at first glance might seem impossible, has grown in size and intensity to the point where high military officials are beginning to doubt the efficacy of fielding ground troops anywhere. Fighting to ban DoD research at Stony Brook may seem insignificant in relation to the overall strength of the American military effort, but this, too, has the potential for a serious challenge to the conduct of American policy. Our analysis of DoD research has two conclusions: DoD research *must* be stopped, and it *can* be stopped.

## HOW TO WIN THE DoD CAMPAIGN

In the history and analysis just presented we can see the weaknesses of past efforts to ban DoD research and also find the basis for a stronger, ultimately successful movement.

The central feature of past action has been its sporadic character. There have been strikes, sit-ins, petitions, arrests, votes and jail terms, spread over three years, but for all the energy, there has been no self-sustained movement. Student activity and faculty activity have been planned and conducted in separate and largely uncoordinated ways. This lack of unity has meant that *neither* the faculty nor the student elements of the past campaign have been able to build a focused, sustained and expanding movement.

Our local disunity is reflected on a larger scale in our isolation from groups elsewhere who are fighting against Defense Department activity and whose interests we share. This isolation keeps us from learning from the experiences of others. It makes us feel that our local activities are somehow worthless or trivial, the isolation pushes out of our attention the real and world-wide interests involved in DoD research.

The third major shortcoming of past work has been the low level of theoretical understanding of the issues involved. The foundation of any successful movement must be a proper understanding of the issues and forces involved. In the case of defense department research, the issue is not really one of academic freedom or university governance or research *per se*. The matter resolves itself to the role of the U.S. military and the interests of those who are protected or attacked by that military. The question of banning DoD research is not one of the politicization of the University. In the conflict between those protected by the U.S. military and those who fight back against it, the University necessarily plays some role. We must consciously choose

the role for ourselves, with respect to DoD research and a host of other matters about the university. To do that, we must deepen our understanding of those basic conflicts in which the military and the university find themselves embroiled.

The same university which supports DoD will not adequately support day care. The same university which is among the largest employers in Suffolk County does nothing for the Eastern Farm Workers Association. More broadly, we must seek unity with groups elsewhere who share our desire to stop American military power in Asia and around the world. In this country there are a number of groups working on DoD research and on other aspects of military and corporate power. Everyone involved in the DoD campaign here would be helped by studying critically the efforts of others engaged in fighting the same enemy, just as all those other groups would be aided by studying the work we do here at Stony Brook. Only on the basis of unity on campus, and unity with allies everywhere, will we be able to build a coordinated, effective movement which has a

chance of having a real impact.

In preparing this pamphlet, there was a lot of discussion about specific things to *do*. We do not present a detailed tactical program for ending DoD research because that should come from a much larger group of people engaged in unified effort to understand what to do. Successful movements on this campus and elsewhere in the past have involved a wide variety of actions, from petitions to demonstrations to violent confrontation. No campaign on the order of opposing DoD research has ever been won without *massive militant action*. From the anti-draft movement to the ROTC campaign to the war itself, massive united militance was essential at some point. In each case, the campaign was long. But victory came from understanding, unity and coordinated action of all sorts in a manner which successfully strengthened the movement and weakened the enemy. We think that this pattern can be repeated concerning DoD research, and it is in that spirit that we have written this article.

# A MODEST PROPOSAL

A difficult area for SESPA people has been in organizing scientific workers around their own legitimate interests. The problem of unemployment, underemployment, and meaningless employment are very real to many people working in science, but up till now SESPA has not been very effective in responding.

Actions at the last APS meeting in San Francisco are a good example. SESPA made a demand for jobs for all unemployed physicists, but the demand had little impact, for two reasons. First, we had no power with which to back our demands. Second, many of the jobs in physics that could be produced by this system are kinds of jobs that we have struggled against for the past years. Some involve producing weapons and other gadgets to defend the empire, and many others do little to benefit the vast majority of the people. We cannot easily justify demanding funds for many of these jobs.

But there is a lot of worthwhile scientific and technical work we could be doing. SESPA can emphasize this by drawing up a *Science for the People Program* for science and technology that would benefit the people, and use it as an organizing tool for demanding decent employment. Such a program would give us a way of reaching many scientific types, as well as others working in scientific areas

who are legitimately worried about their jobs.

The program can be made political by being specific. It is insufficient to just ask for jobs in health and ecology. We know very well that simply doing more research for the medical system, controlled the way it is in this country, is not going to provide a great boon to people's health. Moreover, much ecology research is just a sop to give the appearance of dealing with the problem, when nothing is really being accomplished.

We should demand funds aimed at preventive health, rather than just for the patch-up care which mainly exists now. Money should be appropriated for research in neglected areas such as in studying diseases that primarily affect poor people and people in certain hazardous occupations. Research in the area of nutrition should find out what people really need to eat (conversely, what they should not eat), what foods have these nutrients, and help recommend economical, ecologically sound diets that meet these needs. It is clear that the latter type of research will not be considered with special favor by food companies.

There are other types of scientific work that are even more threatening to corporations, but useful to the people. For example, the hazards associated with various chemicals found in ambient air, workplace

environments, food, and drugs should be carefully investigated. (The current studies on these chemicals are outrageously inadequate). Not only should hazards associated with drugs be researched, but so should alternatives to drug therapies.

I have outlined a possible plan for health related sciences, because this is an area I know something about. People in all sorts of fields can put together plans in their areas. This is not just a technical task, but a political one. Science for the People must involve those it purports to serve. A good example of this is the rat control article in the last issue. Community involvement in defining the problems also forces us out of our narrow technical perspectives. Instead of designing a safer machine, perhaps a whole new manufacturing process is called for to make the work safer, more interesting, and easier.

Involvement of the communities served by our proposed research is also necessary to take the next step, the application of the findings for human benefit. This next step will be difficult because it will be costly to corporations, and dangerous to the capitalist system. We should make this clear in our propaganda. We should demand that control of these projects be in the hands of the workers and communities involved.

Many of the useful jobs that we find may turn out not to involve the sophisticated, prestige science for which many of us have been trained. This is a good political lesson. The value system which puts a premium on certain prestige problems will have to be replaced by one that puts greatest importance on science for human need. This does not mean that basic, or theoretical, research should be neglected in our program, but in many instances this research should take a secondary role to more practical work. Teaching also is an important area which should not be neglected. Certainly our program should include jobs for teaching science in the political context it belongs.

An alternative program for technical work is no panacea. Scientists must realize that in this society almost any type of research stands a chance of being perverted. For science to serve the people the basic social structure will have to be changed. New tactics are needed. We can't get very far by organizing people around moralism, by calling them criminals, or by demanding they quit their jobs. That does not change society, and people will not listen to it because nothing better is offered. But people can be organized around the fact that something better *is* possible, but not within the present economic system.

I think the best way to implement the proposal is for collectives in different places to work up programs in particular areas. Several collectives in different places might all work on one program. When we get our ideas together we use them in several ways. They can be used at scientific meetings for critiquing the discipline of that meeting, and for demanding jobs. We can use them as a basis for demanding jobs in actions aimed at the institutions of the Federal Government.

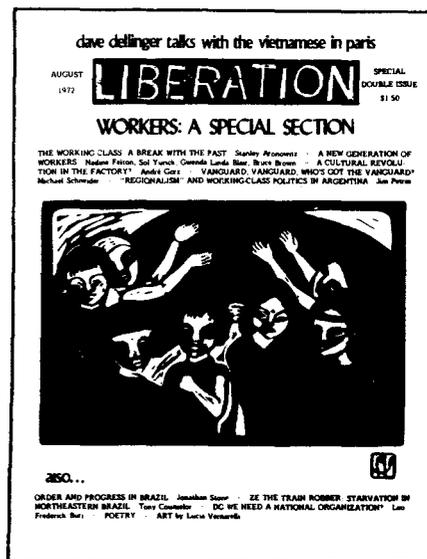
The initial actions could lead to day long activity. In previous years there have been "Days of Concern" on March 4th. Why not have a real strike this time? We could protest the misuse of science in this society, present our alternatives, and demand jobs. With the discontent among students and young scientists so great, such actions might have a tremendous impact.

I would like to hear responses, criticisms, and suggestions from other SESPA people regarding this proposal. If people like it, maybe various groups can begin working on it right away.

J.S.

Joel Swartz  
2532 Dana Street  
Berkeley  
California 94704

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# AMERICAN CHEMICAL SOCIETY

## ACTION!

Several centuries ago Newton postulated that a body at rest tends to stay at rest. The consequences of this postulate are distressing when applied to a body with the mass of the American Chemical Society (ACS). SESPA first experienced the inertia of the ACS in April, 1972, at the Boston national meeting (see SFP, Vol. IV, No. 4). We went to the N. Y. meeting last August to discuss with the membership what we feel are the roots of the problems that chemists face; e.g. mass layoffs, discrimination, etc.

Together the N. Y. and Boston chemistry collectives of SESPA formulated objectives and planned activities. First it was important to establish communication with as many ACS members as possible to discover their needs and sentiments. Besides talking with people, we prepared a questionnaire to poll opinions on subjects such as discrimination and the political role of the ACS. Second we hoped to encourage chemists to take action by stimulating them to consider the political aspects of their oppression and the oppression which technology makes possible. An automated version of *The Automated Air War*, a slide show prepared by National Action/Research on the Military-Industrial Complex (NARMIC), was shown continuously from a position near our literature table. We also sponsored an employment countersession, at which chemists discussed both the reasons for and solutions to their economic plight.

As much as possible, we attended various ACS committee meetings, at which we had a chance to dispute the positions of the influential elite of the ACS or their rubber stamps. Finally, we carried out a short disruptive action at the ACS Council meeting in order to bring dramatic attention to the grossly neglected area of discrimination against women in chemistry.

Some of these actions are worth considering in detail.

Unemployment, discrimination, and the industrial control of the ACS were major areas through which we felt we could relate directly to the needs and grievances of chemists. During a planning session, we came to the humbling conclusion that we did not know where most chemists stood politically. The idea of a questionnaire emerged, which we hoped would serve three functions: 1) to survey the attitudes of chemists, 2) to focus on specific problems and bring up the idea that people can organize to solve them, and 3) to give us a mechanism for talking to as many people as possible.

Five hundred questionnaires were given out and 234 were returned. The number of people who have witnessed or experienced discrimination is large enough to show that a serious problem exists. As one would expect, women have seen or experienced considerably more discrimination than men. Moreover, a large majority of the sample feel that it

**The American Capitalist:  
When his needs are financial,  
his reaction is Chemical.**



"LISTEN SON, THE NEXT TIME YOUR GIRLS WANT TO CAUSE A DISRUPTION, LET US KNOW SO WE CAN PUT IT IN THE SCHEDULE."

is the responsibility of the ACS to concern itself with this matter. The results of several other questions revealed the members' belief that the ACS should take an active stand in protecting the interests of its members and the general public. It also appears that many working chemists feel both the need for some organized group acting on their behalf and the necessity of organizing themselves. The answers indicate that such groups at the workplace often do not exist and that there may be significant obstacles to establishing them. Very few people expect much help from the ACS and, in fact, suspect that the ACS is working against them in favor of chemical management. The idea that a professional society should not become involved in social or political problems is no longer accepted by the majority of the membership who answered our questionnaire.

The N. Y. Collective constructed an automated, table-model apparatus for continuous showing of the slide show, *The Automated Air War*, by NARMIC.<sup>1</sup> Our objectives were to elucidate for chemists the role of technology in the war and attract attention to our table. The show ran for four days. To our joy, there were always 10-15 people stopping to watch. It seems that having a visual presentation is a very effective way to get the attention of people milling around at conventions. Surprisingly, the slide show was the one thing we did which brought vehement complaints. In retrospect, we could have been more effective if we had conducted more informal rap sessions following the slide show. We expect that a slide show which relates directly to the experience of the audience would also be very useful.

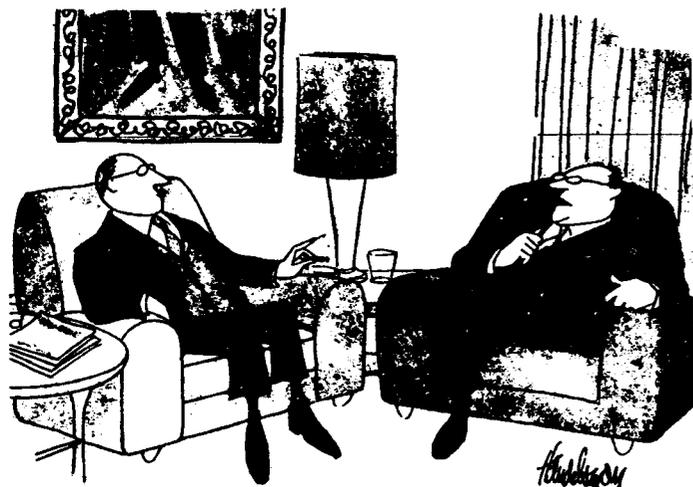
Our most dramatic action was a disruption of the ACS Council meeting, a gathering of over 300 people debating

everything from membership standards to saccharide nomenclature. Two women dressed in lab coats and draped with chains took over the podium and read a statement demanding rectification of the inequalities of women's salaries and promotion rates, while a support group passed out copies of the statement to the council members. During the weeks before the convention, the Boston Collective had discussed at length the need, the objectives, and the nature of a disruptive action. We focused on discrimination because it is a critical issue: recent statistics published in *Chemical and Engineering News (C&EN)* had confirmed nationwide discrimination against women. We hoped to pose a threat to an ACS structure which ignores the needs and real problems of its membership, and at the same time present a positive alternative to the moribund status quo.

The Boston group learned a sharp lesson about collective movement action when they simply announced their ideas at a general SESPA planning session the night before the council meeting—although most may have approved the plan, those uninvolved from the beginning felt unenthusiastic. We approached the disruption the next day as a nervous inexperienced group of eight and came out exuberant, maybe a function more of emotional relief rather than political achievement. But we had succeeded in jarring and even threatening many at the council meeting as well as making an important statement. The theme and action had drawn out a full range of reactions from open hostility to confusion to qualified approval. The women in chains recently received a letter from the ACS President, reprimanding them for this "unauthorized interruption" and reminding us that the ACS "provides channels through which members' opinions and desires can be made known." However, this invi-

tation to use proper channels is not as attractive as the generous offer made by an ACS official concerning future disruptions to simply let him know beforehand so that he could secretly work it into the schedule at the most advantageous time.

As part of our actions at ACS committee meetings, the Chemistry Collective presented five demands to the Chemistry and Public Affairs Committee at its open meeting: (1) that the ACS should officially assert that it is unethical practice for chemists to work on any project funded by the D. O. D. until further notice. (2) that the ACS condemn all aspects of chemical-biological-meteorological warfare and especially those carried out by the U. S. in S. E. Asia. (3) that the ACS actively lobby for the passage of the Toxic Substances Control Act of 1972, (4) that the ACS embark on a public campaign for new priorities in research funding along the lines of science for the people, rather than science for the militarists. (5) that the Committee sponsor a discussion of the question: "What is



**"All I can say is that if being a leading manufacturer means being a leading polluter, so be it."**

appropriate public service for scientists under criminal governments?"

In the discussion that followed, our demands were not directly attacked but were purported to be based on controversial definitions of war crimes, warfare, public interest, etc. In order to avoid taking action, the ACS bureaucrats resorted to the typical dodges such as: small over-extended staff, outside their competence to act on these issues, someone else was looking into it, or they couldn't get approval from the Directors. Our action taught us a little more about the "normal channels" of the ACS. Such a ritual, while necessary as a prelude to more direct action, can also be useful as a limited mechanism for bringing political issues into more open debate.

The Chemistry Collective went to the N. Y. meeting primarily to communicate with other chemists in hopes of determining how best to actively seek change. We were heartened to discover that most chemists we came into

contact with believed that the ACS should do more to serve the needs of its general membership and the public, rather than the limited interests of major chemical industries. We also learned that the structure of the ACS eliminates, or at least diffuses, any attempts at substantive change. The Chemistry Collective has been "working through channels" on several issues such as discrimination against women and the relation of the ACS to war research. These attempts have been futile as a mechanism for change, but hopefully have set the stage for more direct action with other chemists who have seen through the liberal bullshit.

The next national ACS meeting will be in Dallas next Spring. We are interested in hearing from people who are planning to attend that meeting, although the contingent going from Boston and N. Y. will probably be small (maybe 0) because of transportation and economic considerations. We realize that focusing our actions only on the ACS is not sufficient for creating a movement for social change among chemists. We are thus planning to become more active on a local level in both academic and industrial situations. We hope to stimulate the formation of other groups around the country and to facilitate the interchange of ideas and experiences. If you are involved or are interested in becoming involved in working on changing the social and political uses of chemistry, please contact us c/o SESPA, Boston. We have already compiled a sizable mailing list of interested people (mostly chemists and biochemists at this time). Our collective enthusiastically looks to the future because, despite the inertia of the ACS, we have found many with whom we can struggle together towards a better world.

Chemistry Collective, Boston and New York

- 1) Credit for construction of the automated slide show goes to The Committee for Social Responsibility in Engineering (CSRE, 475 Riverside Drive, New York, NY 10027), two members of which were active members of the N. Y. Collective. The slide show is available from CSRE and is described in more detail in their publication, *Spark*, Vol. 2, No. 2, Fall, 1972.

### THE NEW LEFT: BEYOND REMINISCENCE

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*The Atomic Establishment*  
H. Peter Metzger  
Simon and Schuster

# REVIEW

The Atomic Energy Commission was formed a year after the holocaust at Hiroshima and Nagasaki gave the world its first exposure to atomic energy as an instrument of U.S. Foreign Policy. The McMahon Act of 1946 set up a 5-man Commission, all civilians, to advise the President on all possible manifestations of this new source of energy, from nuclear weapons to nuclear power plants. The same Act established a Congressional watchdog — the Joint Committee on Atomic Energy — composed of nine senators and nine representatives, and invested the committee with a powerful and far-reaching mandate.

H. Peter Metzger, President of the Colorado Commission of Environmental Information, has written a clear and forceful indictment of the AEC during its 26 year history. It is a valuable addition to the growing arsenal of literature available to 'citizen activists' in their battles to assert some control over the policies that affect their lives, workplaces, communities and, in this case, the genetic heritage of future generations. While applauding Metzger for his lively, thorough and penetrating treatment of the AEC, one may disagree somewhat with the political assumptions that permeate the problems posed.

For example, Metzger views the present role of the AEC as having resulted from a breakdown in the system's checks and balances. He states

*The purpose of this book is to show how the Joint Committee and the AEC changed from healthy adversaries into pals; how the committee was changed from a critic into an apologist, from an attacker of the AEC into its defender, while the AEC itself was reduced to a fanatically defensive protectionist clique of tenured bureaucrats who have been drawing job security and prestige from the miraculous achievement of the Manhattan project over twenty-five years ago, and whose best efforts since then have been divided between wildly inappropriate technological adventures and the justification of their past mistakes.*

Whether such a system of checks and balances could ever ensure that the new technology would be used for the benefit of the vast majority is highly dubious, since there is no supporting evidence for such a view.

Metzger sees 1957 as the beginning of the fall from grace, when the AEC and the Joint Committee asserted that no danger could be expected from weapons testing. On being proved wrong some years later, there was a hardening of attitudes rather than an admission of error.

The Atomic Energy Commission has placed itself firmly against the interests of the American people as judged by its position on a number of issues — its role both as promoter and regulator of nuclear power, its serving of special interests (Dept. of Defense, large corporations such as GE and Union Carbide), its own self-perpetuation as a federal bureaucracy, a conscious and deliberate mystification of scientific issues, sordid attempts to discredit critics — referred to as kooks and stirrer-uppers — and squelch unfav-

orable reports, its scandalous irresponsibility in matters of public health, occupational safety and ecological damage, and its refusal to consider alternative sources of non-polluting energy.

Much of this receives excellent treatment in the book. One section deals with atomic weapons. More than two thirds of the \$51 billion committed to atomic energy since 1960 has been spent on military projects. Metzger analyzes the scientific and engineering structure that absorbs this loot. He is devastatingly critical of weapons' scientists who have unquestioningly accepted the Cold War, the Arms Race, the strategic arguments of the military game theorists, and of their placid bureaucratic life.

The major weakness in this section is an exclusive focusing on the values of the scientists, engineers and technicians, rather than the owners and controllers of the large corporate sector that benefits from military spending. There is very little discussion of the economic logic of the capitalist system, and its built-in structural dependence on wasteful spending and war materials.

The negligence of the AEC has spawned some chilling episodes in the history of industrial safety. To quote:

*The only reason the AEC can give its record of industrial safety good marks is because it uses a grading system designed to ignore its most obvious industrial hazard: long-term injury due to atomic radiation. The claim of a good record is based solely on a low number of lost-time accidents.*

Many job-connected cancers and deaths from radiation never appear in the lost-time accident statistics. A crash program by the AEC to obtain a domestic supply of uranium has led to the deaths of hundreds of uranium miners on the Colorado plateau — deaths caused by air-borne radioactivity in the mines. "The reason why this tragedy is the AEC's most shameful blunder is that the AEC knew all about the problem well before the miners ever went underground."

There is more in this vein. The cavalier disregard for human beings in the matter of radioactive waste disposal is a case in point. The AEC has proved itself unable to handle this problem. Metzger feels that the incompetence of the AEC stems from a desire to serve itself rather than the nation. Perhaps this is also due to the cost-accounting calculus of the AEC and its profit-oriented corporate clients, with its blatant disregard for the welfare of the people.

The book concludes with a section on nuclear power and some observations on possibilities for changing this state of affairs. A great deal of controversy has occurred over the effects of low-level radiation over long periods of time. The AEC maintains the fiction of a safe threshold level. This has been disputed by a number of critics, who feel that the existing 'safe' level will lead to several thousand additional cancer and leukemia deaths annually. A recent report has confirmed that low levels of radiation can be lethal.

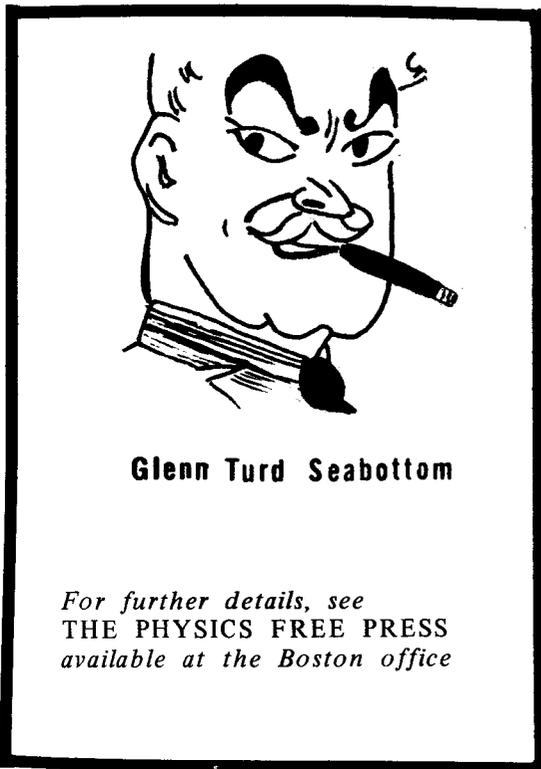
As if this were not enough, the AEC is just beginning to concede that the emergency core cooling system, the device that is supposed to prevent a core melt-down accident, may occasionally fail. This could lead to thousands of deaths

for reactors near populated areas. The issue of emergency core cooling has ignited a growing public discussion on reactor safety, which may or may not culminate early next year with the first public hearings on the subject ever to be held by the congressional Joint Committee on Atomic Energy.

Metzger feels that nuclear power is here to stay, but is pessimistic about the AEC. "But how can we expect that the job will be done properly when the exclusive responsibility for accomplishing it lies in the hands of demonstrable incompetents?" He goes on to say that the judicial branch of government provides the route most available to the public to control the AEC and cites several successful suits brought by citizens' groups. He comes down clearly in favor of public participation in technology development and assessment, but tactics to achieve this in the long term are not proposed.

Situations such as these surely point to the need for people to democratically control their workplaces, communities, and technology. Metzger concludes by stating that "the most immediate danger is not technical but political: When nobody is looking, the public will have its right of participation in public decisions taken away by someone in Washington." One might more appropriately suggest that the public is effectively disenfranchised from all of the important issues that we face today. It is only when the majority of the people control the resources of this country that we will have ecological and governmental sanity, not before.

D.J.



## NUCLEAR TRAGEDY

If you think that the AEC's concern for reactor safety can be counted upon to protect you from the potential hazards of a nuclear power plant, then consider the following case history in which two men have already died because of criminal negligence.

June 6, 1968: Virginia Electric and Power Company (Vepco) begins construction of a 788,000 kilowatt nuclear power plant on Hog Island, 15 miles NE of Surry, Virginia. Welding work is undertaken by Stone and Webster Engineering Corporation of Boston.

February 1970: Stone and Webster hire welding engineer Carl Huston, who finds 'thousands' of unsatisfactory welds. Huston's immediate boss tells him to ignore the problem. Huston writes to his Boston office — no reply. Huston writes to Virginia Dept. of Labor — no reply. Huston is fired and blacklisted from work for utilities. Huston writes the Governor of Virginia, receives a reply *one year later* acknowledging that the AEC found deficiencies and thanking him.

July 6, 1970: Huston writes AEC — no reply. Huston writes his Senators (Gore and Baker) who prod AEC.

July 21-22, 1970: AEC lawyer and metallurgist, *neither with knowledge of welding*, confer with Huston and accept 8 'allegations' of improper welds (Huston found 568 serious deficiencies in the welding). They threaten Huston with jail if his information is false.

November 1970: Huston goes to Washington to work on AEC, gets nowhere, gives story to press.

April 1971: Senator Mike Gravel reads Huston article into the Congressional Record.

May 1971: Southwest Research Institute of San Antonio verifies Huston charges: Vepco cuts out 224 bad welds, others simply 'covered up.'

August 1971: AEC writes Vepco that original 8 flaws have not been corrected and lists another 40 deficiencies to be corrected.

January 17, 1972: AEC Divisions of Regulation and Compliance sign waivers on all deficiencies, effectively certifying Unit 1 of Surry Power safe.

March 20-21, 1972: Public hearing before AEC Safety and Licensing Board — Huston is the only professional speaking against licensing.

May 1, 1972: Surry plant started up.

July 27, 1972: Steam line 'malfunctions.'

July 31, 1972: Employee Roger Woods dies as a result of the incident.

August 1, 1972: Employee William Van Duyn dies as a result of the incident.

How many people will die when the primary containment welds give out?

S.B.

# Ecology for the People

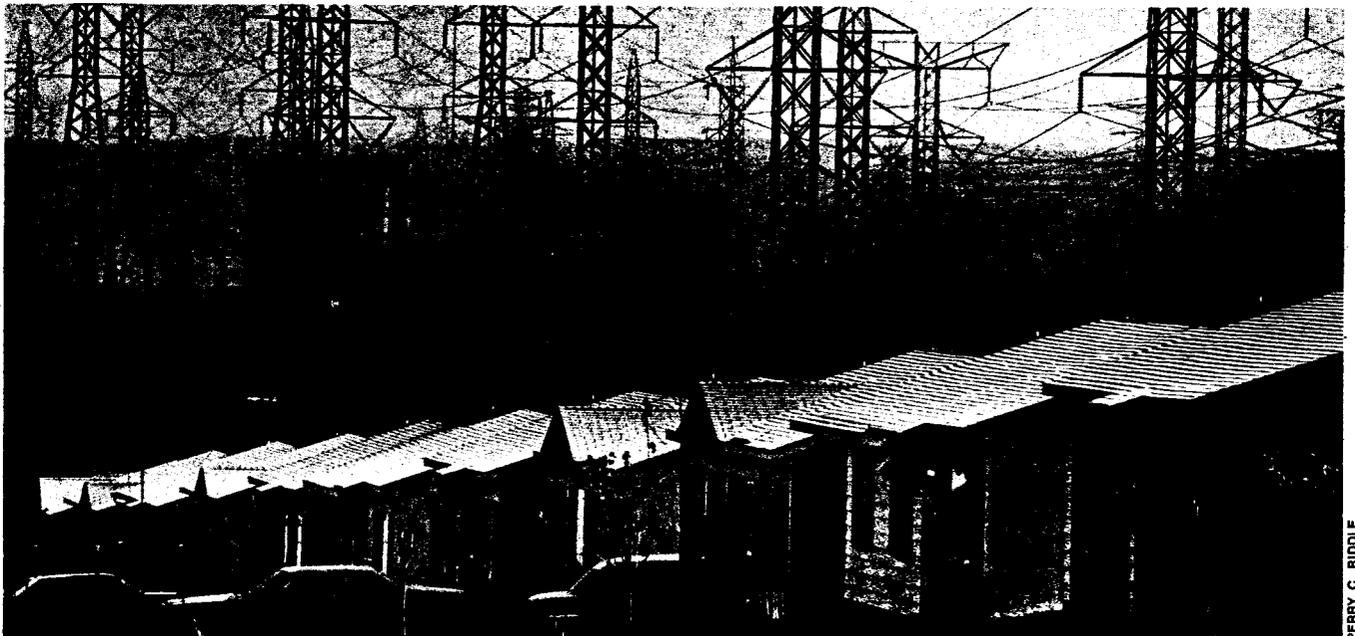
Not too long ago environmental concern was the dominant issue of the day. This was in no small part due to Paul Ehrlich and his book *The Population Bomb*. Ehrlich is viewed by the media and the public as a major spokesman of the environmental movement. He has been associated with a trend in environmental thought that receives a great deal of media coverage and governmental approval. This trend presumes the basic cause of environmental disruption to be population growth working in concert with diminishing returns on natural resources. This premise has served to justify such regressive environmental proposals as population control through forced sterilization of the poor; personalized recycling, which provides free labor and public relations to industry while diverting public attention from the industrial sources of massive pollution; and a new eugenics couched in the liberal rhetorics of Jensen and Hernstein.

The premise that population growth is the fundamental cause of environmental disruption is carried to its ultimate conclusion by Garrett Hardin who has recently written in *Science* magazine:

*Every day we (i.e., Americans) are a smaller minority. We are increasing at only one per cent a year; the rest of the world increases twice as fast. By the year 2000 one person in twenty-four will be an American; in one hundred years only one in forty-six . . . If the world is one great commons, in which all food is shared equally, then we are lost. Those who breed faster will replace the rest . . . In the absence of breeding control a policy of 'one mouth one meal' ultimately produces one totally miserable world. In a less than perfect world, the allocations of rights based on territory must be defended if a ruinous breeding race is to be avoided. It is unlikely that civilization and dignity can survive everywhere; but better in a few places than in none. Fortunate minorities must act as the trustees of a civilization that is threatened by uniformed good intentions. (1)*

It is not without significance that Hardin's view was published by *Science* as an editorial with the implication that this inhumane philosophy flows necessarily from "objective" science as embodied by the AAAS. Philip Ableson, the editor of this "objective" journal recently censored an analysis of the political nature of science submitted by members of SESPA. Ableson took this unprecedented action against the recommendation of two sets of referees. (2)

Hardin's editorial displays an amazing degree of insulation from social reality. Hardin allies himself with just those forces most responsible for environmental disruption; those who seek to perpetuate an obsolete economic system in opposition to the interests of those most affected by environmental disruption—working people, poor people, minorities, and people of the Third World. Ironically, these people are also the most disaffected from the current ecology movement. They perceive a clear contra-



PERRY G. RIDDLE

diction between their real needs and interests and ecology as it has been presented to them. However, because the environmental effects from which they suffer are not going to disappear—in fact they will continue to worsen—environment is sure to re-emerge as a major social issue. If ecology is to avoid another period of faddism and the resultant disillusionment we must develop an ecological analysis which resolves this contradiction.

It is our feeling that this can only be done by radical social and economic analysis, even though this approach will be stigmatized within academic circles and professional societies. Indeed, it is a prime function of these institutions to obscure the implicit political nature of science behind the labels of “objectivity” and “neutrality.” Nevertheless, certain environmentalists throughout the country have the integrity to heed scientific evidence which points toward the conclusion that our economic system is basically incompatible with sound ecology. This little publicized approach indicates that heretofore suspected causes such as population, affluence and mis-technology may be more appropriately viewed as symptoms of the environmental crisis.

A group connected with Berkeley SESPA is in the process of collating this type of evidence and preparing a detailed analysis which explains environmental disruption in terms of basic economic forces and places ecological issues in an historical context. This study will clarify numerous errors of fact and analysis that dominate ecological thought today—including misconceptions and omissions shared equally by Ehrlich and his most well-known antagonist Barry Commoner. We wish to outline here some of the major flaws which characterize thought crippled by residual premises of faddish and regressive ecology which ignores the tools of radical social analysis.

Ehrlich appears to believe that the basic cause of environmental disruption is population growth, although recently he has placed major qualifications on this theory in order to maintain its veracity. (3) In a review of Barry Commoner's *The Closing Circle* he states “Yet there is little purpose in deluding the public about the need to grapple *simultaneously* with overpopulation, excessive affluence and faulty technology.” (4) But without critical social analysis, an area Ehrlich consistently avoids, it is difficult to know what he means by “to grapple.”

In any case, the formula for ecological impact shared by Commoner and Ehrlich serves as a device to disguise a whole set of implicit social and economic assumptions which we would seriously challenge. The formula is  $I$  (environmental impact) = Population x Affluence (production per capita) x Mis-technology (environmental disruption per production) or  $I = P \times A \times T$ . (6)

Though this formula certainly is a valid tautological description, we find it totally inappropriate to view P, A, and T as the necessary causes of I. Instead, we wish to examine P, A, and T as independent variables of social and economic forces.

Let us look first at affluence. It is dangerously misleading to label production per capita as ‘affluence’. This implies that the quality of life is associated with per capita

production when, in fact, especially in the U.S., a decreasing level in the quality of life (including a declining life expectancy in the last ten years (7)) is associated with a high ‘affluence’; an increase in the quality of life could very well be associated with a substantial decrease in ‘affluence.’ This involves not only a large increase in the efficiency of energy and material utilization (as recently proposed (8)) but a transformation in life patterns which would eliminate the perceived need for a large amount of production. This transformation cannot take place on the personal level; it involves the transformation of social and economic institutions inherent in our society.

For example, the American health bill of \$80 billion annually, fully eight per cent of the GNP, could be reduced substantially by universal access to health knowledge and practice and by shifting the emphasis from disease treatment to health maintenance. But this can only be accomplished by challenging the professional monopoly of organized medicine, and the economic power of the pharmaceutical industry and the financial institutions that constitute the American Health Empire. (9, 10, 11, 12)

Likewise, the American agriculture system could be made immensely more efficient and less environmentally disruptive by switching our primary protein source from cattle to vegetarian sources. Currently in the United States seventy-eight per cent of the grain harvest is fed to cattle (in Russia, where the diet includes a comparable level of protein intake, this figure is only twenty-eight per cent).

We could discuss many more examples of alterations in life pattern which lead to an improved quality of life with a highly decreased level of production. A comprehensive study which examines the minimal energy and material usage required for a high quality of living, *disregarding constraints due to our present economic structure*, is sorely needed. In any case, the economic interests of the dominant corporations and the very structure of the capitalist economy stand as primary obstacles to such changes.

The very term production *per capita* also implies that we all share equal blame for the disproportionate share the U.S. consumes of the world's resources. This misconception fosters attempts at personalized solutions to the environmental crisis. A more realistic method of looking at this factor is to examine the *distribution* of ownership and control over production. When we do this we find that ownership and control of production is not spread homogeneously throughout the society but is concentrated in the hands of a very few. (14, 15, 16) These people, through institutions of capitalism they seek to perpetuate, determine not only the rate at which resources are to be exploited (Affluence) but also the mode of this exploitation (Technology).

Let us illustrate these points with a few examples.

The structure of cities is greatly distorted by land speculation. Land speculation, which could not occur without the institution of private ownership in land, is further aggravated by property tax assessment practices and federal tax depreciation allowances, laws which exist because of the political influence of the very rich who make the bulk of the real estate investments. One of the many undesirable effects of land speculation is ‘urban sprawl’ — the over -

extension of urban development due to speculatively induced under-utilization of land. Urban sprawl increases the need for highways, automobiles, sewage systems, telephone lines, etc. Another effect of land speculation is the urban slum, a highly profitable ecological disaster reserved for the socially immobile, the poor, minorities, and old people. (17) Here we see economic causes of environmental system decay which are hardly evident from stating  $I = PAT$ .

The history of the railroads in the U.S. provides another illuminating example. The building of the railroads was funded by public money and, in addition, huge portions of the public domain were handed over into the private ownership of the rail corporations. The value of these natural resources increased as society developed, resources stolen from the people and given to the private interests controlling the railroads, representing wealth-holding far in excess of the capital developed by the railroads themselves. The hundreds of billions of dollars derived from this real-estate was not reinvested into railroad development but into new technologies which served as mechanisms in the acquisition of new and greater resources, such as petroleum. (18) That is to say, the development and implementation of technology in this society is not determined by ecological considerations or even short term economic return, but by the utility of technology in facilitating the accumulation of natural resources in the hands of a few. The people who dominate economics in our society understand, perhaps better than many ecologists, the primacy of natural resources in all productive activities.

As a consequence, our transportation system today relies heavily on ecologically disastrous automobile and truck transport (and on air-transport to an increasing degree) while the ecologically sound rail system has been virtually abandoned by the real-estate rich railroads.

Lastly, consider the ideological function of private property in natural resources. Once we accept the validity of private property in land, it is a short step to private property in air and water. Indeed, when a corporation pollutes the air and water it is, in essence, seizing ownership of our common resources. That this can regularly be done with impunity on a massive scale is, in large part, due to the acceptance of the ideology which defends the privilege of private ownership of the Earth's resources as if it were the natural right of the individual. If industry had to pay to society the full economic value of the resources it exploits including air and water, we would see a massive conversion to technologies which minimize pollution and maximize efficiency of energy and material utilization. Instead, the corporations press for uniform federal pollution standards and so pass the cost of destroying our common resources on to the consumer. This arrogance is made possible only by the ideological acceptance of private property in resources. Ecologists should not blindly accept this ideology simply because it is defended by academic apologists in the social science departments of universities. The people of the Third World understand the bankruptcy of this ideology and the economic system it is designed to defend. Their struggle against economic imperialism is a struggle to free the resources of the world from the monopoly grip of imperialism.



And attempts to sever ecological thinking from these economic realities will only result in the discrediting of ecological considerations, with ramifications for us all.

It may be argued that rapid population growth in the underdeveloped countries is a direct result of economic imperialism. Whether by conscious planning, or as a natural consequence of economic and technological imperialism, the means to reduce infant mortality was introduced into the colonized areas, significantly decreasing the total death rate. However, nothing was done to raise the general quality of life. In addition, the birth rate remained high. The result was a swiftly growing population from which the international business interests could choose the best and cheapest labor, to be discarded, like a machine, when worn out. As the political consciousness of the increasing numbers of surplus laborers has been growing, especially with successful national revolutions to look to for inspiration and support, it is not surprising that massive programs to reduce their numbers have been proposed and have received approval from the governments which represent the more influential corporations. (19, 20, 21)

Socially aware ecologists must be careful to differentiate between free access to birth control information and techniques as part of a general improvement in the quality of life, and population control programs aimed at perpetuating economic imperialism. There is a vast difference between a population policy of China and a population control program for Brazil.

An environmental approach can be developed which resolves the contradictions between ecological requirements and the perceived needs of the majority of the people of the U.S. and the world. But this can only be done by examining mechanisms basic to the system which produce both economic inequities and ecological disruptions.

The objection may be raised that "socialist countries" also have environmental problems. This is only all the more reason for ecologists to join in the movements which struggle to fundamentally restructure society. Ecological wisdom can be incorporated into the restructuring only if ecologists are present to speak on its behalf. The

TOYS AGAINST THE PEOPLE *continued from page 10*  
 point is that an ecologically sound society cannot even begin to be developed as long as basic economic obstructions, inherent to capitalism, remain.

Ehrlich tells us that "it is better to tell the rich that they will have to share to survive." (22) Ecologists should not waste their time telling the rich to share. The rich will only hire a dozen renowned scientists from the most prestigious academic institutions which they fund, to prove you wrong, and to reassure themselves.

Instead, ecologists must take their message to those who are really affected by environmental disruption and who ultimately have the power to transform the society—the people.

Ecologists must struggle with the people for fundamental social change. When the life of the biosphere is at stake, ecological principle points in the direction of nothing less than revolution. Let us begin by creating an Ecology For The People!

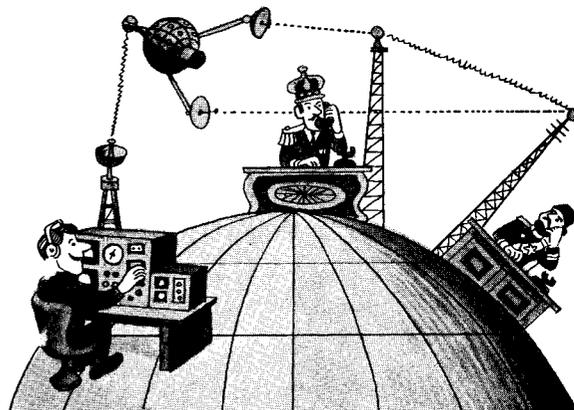
1. *Science* 172, p. 1297, 1971
2. *Censored*, published by Science for the People.
3. *Science* 171, p. 1212, 1971
4. Paul Ehrlich, "One Dimensional Ecology," pre-publication copy.
5. *San Francisco Chronical*, January 29, 1972
6. Paul Ehrlich, *op. cit.*
7. *Betrayal of the American Dream*, Student Research Facility, Berkeley.
8. A.B. Makhijani and A. J. Lichtenberg, *An Assessment of Energy and Materials Utilization in the U.S.A.*, Electronic Research Lab, University of California, Berkeley.
9. *Autopsy on the AMA*, and *From Disease Care to Health Maintenance*, Student Research Facility, Berkeley.
10. Barbara and John Ehrenreich, *The American Health Empire*, Health-Pac, 1071
11. Warren Winkelstein, "The Role of Ecology in the Design of Health Delivery Systems," *Journal of the CMA*, December 1970
12. Eliot Friedson, "Professionalism, the Doctor's Dilemma," *Social Policy*, January 1971
13. Frances Lappe, *Diet for a Small Planet*, Ballentine, 1971
14. Gabriel Kolko, *Wealth and Power in America*, Praeger
15. Ferdinand Lundberg, *The Rich and Super-Rich*, Lyle Stuart
16. Paul Baran and Paul Sweezy, *Monopoly Capital*, MR Press
17. Henry George, *Progress and Poverty*, Robert Schaulkenbach
18. Gustavus Myers, *History of the Great American Fortunes*, Modern Library
19. Barry Commoner, "Alternate Strategies for Environmentally Compatible Technology," AAAS Meeting, December 28, 1971
20. Josue de Castro, *The Black Book of Hunger, Geography of Hunger*.
21. Felix Greene, "The Enemy," *NACLA Newsletter*,

version.<sup>11</sup> Recon drones were operational even before Gary Powers' U-2 went down over Russia. Their major manufacturers are Teledyne Ryan Aeronautical, San Diego, California, Northrop Corporation of Northrup Ventura, Newbury Park, California, and Beech Aircraft Corporation, Wichita, Kansas.

*Electronic Countermeasures* (ECM) RPVs actively assist anti-aircraft defenses, based on electronic intelligence data gathered by recon RPVs. An example of an ECM-RPV (and/or drone) is the Teledyne Ryan AQM-34H. This vehicle carries chaff dispensing pods to sow air corridors of radar-reflecting chaff. In essence these are flight lanes that strike aircraft may take to targets remaining immune to radar directed weapons. This specific ECM technique using an RPV is operational and presumably employed against North Vietnam.<sup>12</sup> In addition to chaff dispensers, the AQM-34H is also capable of carrying other kinds of ECM pods.

*Bomber* RPVs are those that deliver air-to-ground weapons. Many combinations of RPV and air-to-ground weapons are possible, including guided weapons. TV-guided bombs and missiles are themselves an expendable "Kamikaze" RMV and work on exactly the same principles. For example, the Hobo TV-guided bomb is a glider RMV; the Condor TV-missile, a rocket RMV. Though guided weapons cost more apiece than unguided weapons, they are much more efficient. While half the unguided bombs typically hit within 250 feet of a target, half the guided bombs hit within 5 feet of the target. A single guided bomb effectively replaces 100 unguided bombs. Guided bombs are being used extensively against North Vietnam by manned bombers.

The first operational bomber RPV is believed to have entered combat early this summer in S. E. Asia.<sup>13</sup> Presumably it is the 234 class model of the Teledyne Ryan AQM-34L.<sup>14</sup> A rough comparison can be drawn between an F-4 Phantom manned bomber and the AQM-34L. The AQM-34L is approximately 4,000 lb and \$400,000, 1/10 the weight and cost of the F-4. The AQM-34L carries 1,000 lb, 1/10 the bomb load of the F-4. Using unguided bombs against



"Rint" (radio-frequency intelligence) spots unintended radio emissions. "Comint" eavesdrops on intended transmissions.

ground targets, even theoretical calculations heavily conservative in favor of the F-4 show that the AQM-34L costs only 1/10 as much as the F-4 to destroy the ground target.<sup>15</sup> These calculations did not include that the RPV also does not risk aircraft crew as an F-4 would.

*Laser Designator (LD) RPVs* illuminate targets for attack by laser guided weapons. Laser guided weapons home in on the laser light reflected off of the illuminate target. Laser guided weapons are simpler and cheaper than TV-guided weapons. This simplicity allows construction of laser guided artillery projectiles (which cannot be TV-guided) as well as bombs and missiles.<sup>16</sup> Bomber RPVs can carry laser designators and laser guided weapons. An example is the Gyrodyne QH-50D remotely piloted helicopter.<sup>17</sup> The QH-50D uses low-light-level TV and other sensors. Designed to destroy night truck traffic on the Ho Chi Minh Trail with laser guided rockets, the QH-50D has been built and tested, but we have found no mention of its combat deployment.

*LD-RPVs* are unarmed RPVs which direct weapons delivered by other means. Since it carries only a laser finder/designator besides its sensors, the LD-RPV can be quite small and inexpensive. Long range artillery would be automatically slaved to aim wherever the LD-RPV points its TV and laser. When the remote pilot sees a target on his TV screen, he pushes a button and a laser guided artillery shell destroys the target. The LD-RPV has a study status with the U.S. Army.<sup>18</sup> It is to weigh about 300 lbs, fly at 60 mph for 7 to 8 hours and be so small as to be undetectable beyond 3000 feet to the naked eye.

*Miniaturized (Mini) RPV* is a concept under investigation by the Pentagon's Advanced Research Projects Agency.<sup>19</sup> The goal is to make the RPV as small and inexpensive as possible. The Mini-RPV is a flying sensor and compliments the fixed sensor of the present automated battlefield. Unlike fixed sensors which are basically defensive, the Mini-RPV is offensive. It is designed to hunt targets at very low altitudes. Potentially it has the ability to replace an infantry ground patrol. How small Mini-RPVs can be made depends on the current state of electronic miniaturization. For example, RCA has built a TV camera weighing 1 lb.<sup>20</sup> This camera would make possible an RPV weighing about 30 lb, already 1/10 the size of the very small LD-RPV.

*Fighter RPVs* are at the opposite end of the cost-complexity scale from Mini-RPVs. Fighter RPVs are designed for air-to-air combat against manned aircraft. Fighter RPVs can make extremely tight turns which would crush an on-board pilot. This extreme maneuverability alone is capable of obsoleting manned fighters. However, fighter RPVs are necessarily the most complex of RPV types and will take considerably longer to develop. The USAF emphasizes the bomber RPV as opposed to the fighter.<sup>21</sup>

Finally we can sketch the *Computer and Communication* components of Remote Warfare. Remote War depends on a large capacity for data transmission and processing. This capacity already exists and the development of Remote War involves more an integration of already existent capabilities than research into new ones. Intrinsically, Remote War is much more automated than the present Air War. An ex-



ample is the computer assisted remote pilot. A digital computer performs the routine flight control of many RPVs enabling a single remote pilot to direct 5 RPVs simultaneously. Univac Division of Sperry Rand, who also manufactures the UPQ-3 microwave (communication link) command guidance system for RPVs,<sup>22</sup> is developing the computer assisted remote pilot.<sup>23</sup> A representative piece of communication equipment is the phased-array antenna being developed by the USAF Rome Air Development Center to send steering data to 25 RPVs simultaneously as well as providing 5 TV channel communication links.<sup>23</sup>

The dynamics of Remote Warfare involve the coordination of components to achieve an objective. The present USAF interest emphasizes defense suppression, i.e., to destroy Soviet built air defenses.<sup>24</sup> This is a plan to punch holes through Soviet air defense belts such as exist along the Suez Canal where overlapping radar, anti-aircraft guns, SA-2, SA-3 and SA-4 missiles make conventional air attack very costly. The scenario is roughly the following: Recon RPVs gather data on targets and air defenses. ECM-RPVs then confuse the air defense sensors. Next bomber RPVs attack the anti-aircraft weapons, sensors and control centers. Finally, manned bombers (assuming still some use for them) fly in and attack all the defenseless targets.

When the objective is suppression of a Third World guerilla war another scenario can be sketched. Mini-RPVs, acting as flying eyes (also other sensors), silently search the jungle at literally tree top level. With an invulnerability, efficiency and tirelessness unmatched by any human patrol, however dedicated, the Mini-RPVs would hunt down guerilla forces. Having located and tracked the guerillas, an LD-RPV would be dispatched to direct guided artillery shells. If the guerillas were outside artillery range, bomber RPVs would come with air-to-ground weapons. As seen in this sketch, Remote War is fundamentally offensive as opposed to the defensive nature of the current automated battlefield.

Defense against Remote Warfare is exceedingly difficult. Guerrillas would be faced with trying to avoid detection from flying or fixed sensors. No part of the jungle would be immune to search from Mini-RPVs. Booby traps or ambushes, so effective against infantry patrols, will not work. Guerrillas will be hard put to even know when they are being observed by Mini-RPVs. The untested extrapolation is that Remote Warfare will deny guerilla forces concealment in the countryside. Such a loss of jungle sanctuary would spell the end of country-based guerilla movements.

A corollary to suppression of rural guerilla wars, is that of urban guerilla wars. It is easy to imagine the following scenario: In the small areas of the cities, fixed security TVs (and other sensors) could be densely placed and used in close conjunction with mini-RPVs and other RMVs. City populations would be required to wear identification which can be sensed and tracked at a distance via these security sensors. This is probable unless techniques are developed which automatically discriminate specific individuals via sensors without the requisite of them wearing identification. Remote War applied to the city would again deny the guerilla concealment, in this case, among masses of people.

Active defense against RPVs with conventional anti-aircraft (AA) weapons is unlikely to be effective. Conventional AA weapons are designed against manned aircraft and have only limited value against RPVs which are from one tenth to one thousandth the size and cost of manned aircraft. The small size and great maneuverability make RPVs quite difficult to detect or hit. The low cost means quite possibly that the AA weapon costs more than the RPV. For these kinds of reasons the USAF is specifically designing RPVs to attack air defence systems. The extrapolation which is just beginning to be tested is that conventional AA weapons are targets for RPVs, not vice versa. This is not to imply that remote pilot bases cannot be attacked or the communication links jammed in some manner. However, the bases will always be far away and protected by RPVs. Jamming the line-of-sight communication links requires highly sophisticated technical ability and is a partial solution at best. RPVs can switch to a return-to-home mode of internal guidance, to forestall crashing if their external guidance link is broken.

A weapon system which in principle can stop RPV attack is the laser thermal weapon. A laser with a continuous output of roughly one megawatt can destroy targets several miles away by vaporizing holes through them. The laser would not be defeated by the RPV's smallness, low cost or great maneuverability. Funding for such a laser prototype weapon is expected within a year.<sup>25</sup> However, unlike RPVs, ray weapons are founded on very new or beyond the state-of-the-art technology. Ray weapons are not expected in wide-spread usage for a decade while RPVs are in service now.

In the next few years the U.S. military is going to finish developing and deploying the Remote War against which there is no effective (non-nuclear) defense. Any defense where the permanent physical limitations of the human body or machines physically connected with the human body are pitted against machines limited only by purely mechanical constraints, and yet controlled by a remote director, are doomed. Remote War is a war of human machines against the human body. It is as if the human spirit has decided to inhabit machines for the express purpose of destroying the human body.

This is not to imply that Remote Warfare is automatically 100% efficient. The first generation are mostly converted-drone recon aircraft and are not specifically designed for Remote War. They have very limited objectives and will not be wholly successful. The second generation will appear much quicker than a corresponding generation of manned aircraft because RPVs are much simpler to develop than manned aircraft. The "Constant Angel" ECM-RPV is a second generation RPV which is to be produced in either a \$20,000 expendable or a \$50,000 recoverable model. It is so simple to make that the USAF has asked for production bids from 50 manufacturers (instead of a normal 5 for manned aircraft) including several toy companies.<sup>26</sup> The second generation will have much greater efficiency, more sweeping objectives, . . . and so on, through the generations. In principle, Remote War will defeat the human body. One side loses people; the other side loses toys. All that is left is the

shooting and dying . . . and toys don't die.

### THE U.S. MILITARY DICTATORSHIP

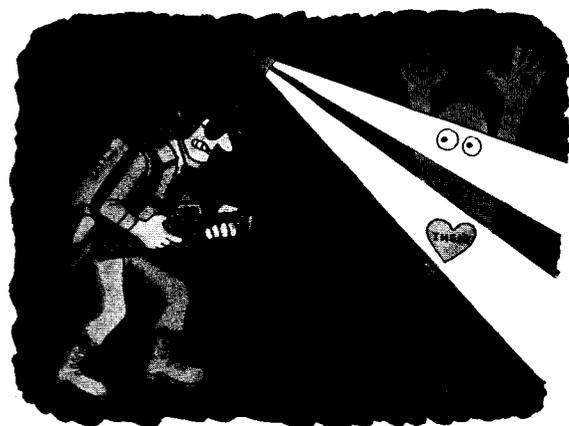
The economic and psychological characteristics of Remote War determine its ultimate controller. Economically, the Remote War is much cheaper than the Air War, besides being more effective. There are no large supply problems because there are few people, spare parts or ammunition requirements. Thus, 500 RPVs can be directed by 100 computer assisted remote pilots. Maintenance of the relatively simple RPVs would be highly automated. There would be no saturation bombing or artillery barrages. With guided ordinance, targets are "surgically" killed by single rounds. In principle, there need be no manned aircraft or ground troops, which drastically cuts cost. In comparison with the present Air War in S.E. Asia, a Remote War would cost (estimation) one one hundredth as much. A large scale Remote War would cost in the 100's of millions not 10's of billions of dollars. This relatively small cost is crucial in deciding who controls Remote Wars.

Because of this small cost, the U.S. Congress will have no realistic economic restraint over the U.S. military's conduct of Remote Wars. In practice, the "power of the purse string" of the U.S. Congress over the defense budget does not control sums as small as 100's of millions of dollars. With respect to the U.S. Congress, this leaves the U.S. Military free to wage Remote Wars wherever and whenever it chooses. This free hand allows the U.S. Military (or the CIA, for that matter) to expand the American empire's sphere of influence by forcibly crushing national movements which are considered against American interests.

The psychological characteristics of Remote Warfare also determine its ultimate controller. Television warriors are numbered in 1,000's, not the 100,000's of the Air War. The television warriors never face the prospect of being killed in action. If the Air War over Laos could go on for years without Congressional knowledge, if air strikes could go on for months over North Vietnam without presidential knowledge, then Remote Wars will remain rumors. Presidents and Congresses, wherever they might express opposition, can be kept uninformed. Psychologically, Remote Wars are easy to conceal and the U.S. Military has to tell no one.

Characteristics of Remote Warfare could be used to silence anti-war critics who try to stop its development. There will be no American killed-in-action or prisoners-of-war. Toys have no mothers or wives to protest their loss. Remote War is very cheap. Economic critics of war-induced expenses and inflation will have nothing to protest. With its precision killing ability, Remote War will not harm the ecology. Ecologists who complain of environmental devastation will have nothing to protest . . . and so on. The only thing left to protest is the killing and subjugation of any people the U.S. Military calls "Communists", "Gooks", . . . "the Enemy". Of course, in principle, the entire world is a potential enemy to the U.S. Military.

The U.S.S.R. will shortly face an aggressively expanding American Military Empire. The U.S.S.R. can build its own RMs for Remote Warfare. However, they are substant-



"Humint" (human intelligence) seeks to detect people by amplifying their heartbeats and eyeball reflections.

ially behind the U.S. in the important areas of electronic miniaturization and data processing. For instance, the U.S.S.R. is from 5 to 7 years behind the U.S. in general data processing.<sup>27</sup> This means the U.S.S.R. version of Remote War will be years behind the U.S. version both in deployment and capabilities. The U.S.S.R. itself will be protected by its nuclear weapons until it develops its own RMs. But until it deploys its own Remote War, the Russian Empire will be vulnerable.

What happens when two remote warfare systems oppose each other is basically conjecture. However, several important observations can be made. Until now the description of Remote War has been limited to RMS's vs. conventional warfare systems. This description is considerably altered for RMS vs. RMS combat. For example, the great cost savings, mentioned earlier, now disappear. If anything, RMS vs. RMS combat will be more expensive than previous completely conventional warfare. In Total Remote War industry can much more directly be converted to war production. The ease of manufacturing RMV's means that many more will be produced. In Total Remote War, as in any war of nearly equal antagonists, both sides are strained to their maximum.

A second observation about two opposing remote warfare systems is that a continuous state of war inevitably ensues. In Total Remote War there is no stable equilibrium between reconnaissance and combat. This can be seen for the following reasons: With conventional warfare, peace means, among other things, a continuous intelligence monitoring of the opponent's military systems. Thus reconnaissance craft actively probe the opponent's defences trying to get a response. In self-defence the opponent must respond which in turn is monitored by the recon craft to learn how the opponent's defence work. Naturally enough, the recon craft occasionally gets destroyed doing such dangerous operations. When the recon craft is manned, its destruction is an international incident which quickly dampens the operations. However, U.S. recon drones have been shot down over Communist nations for over a decade without any

international attention.<sup>10</sup> Until now this has not led to escalation because one or the other side has not had recon and bomber RPV's. When both sides have fully equipped remote warfare systems, the delicate difference between a peace time recon probe and actual war dissolves. Recon RPV's can self-destruct to remove any tangible evidence of their presence. Yet an opponent's military system can be reduced to a naked helplessness by aggressive RPV recon planes. Without any international incidents to dampen their activities both sides would escalate reconnaissance flights and then, in self-defence, armed recon flights and protective reaction RPV strikes would follow. The difference between war and peace dissolves and War is Peace.

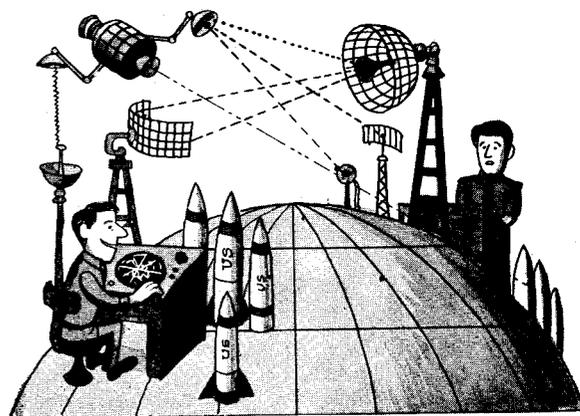
Historically, Total Remote War continues the human heritage of war and genocide into a perpetual state of war. For America, as never before, the societal and cultural heritage of an Empire will be turned into a genocide machine. Every aspect of American Industry will play an important production role. Every advance of American Science and Technology will be exploited into greater killing efficiency. All the Western Cowboys and Indians flicks merely become a precombat primer for the television children. The question of whether violence on TV is harmful to children is now resolved. Where genocide was once recreated on TV for entertainment, it will now be committed with TV. Children who grew up with Vietnam on the TV news at dinner time will surely stomach all the genocide the U.S. Military can produce. The separation of illusion and reality vanishes for the television warriors. Alienation and sterilization approach perfection. After kissing their wives good-bye and battling the rush hour traffic to work, the television warriors will settle down to a day of watching TV at the Ministry of Peace.

The tremendous concentration of power which Science and Technology have given the U.S. Military has shattered the checks and balances of power with which the U.S. Constitution tried to protect Americans. Foreign affairs of the American Empire will be run by the U.S. Military Dictatorship. Arms Limitation Treaties, Peace Treaties, and other Agreements, both public and secret, will be signed with other Military Dictatorships. But there will always be war because that is what peace means to the Ministry of Peace. If during peace time a citizen does not support war against the Enemy, then that individual is a subversive. The individual becomes the Enemy. The next step then is to control the internal affairs of Empire . . . the establishment of a Ministry of Love.

## REFERENCES

- 1) Project Air War and the Indochina Resource Center, *Air War*, 1972.
- 2) Cornell Univ. Center for International Studies, *The Air War in Indochina*, rev. edition, 1972.
- 3) Greene, Terrell, "Rise of Remotely Manned Systems", *Astronautics and Aeronautics*, April 1972, p. 44.
- 4) Deutsch, Stanley and Ewald Heer, "Manipulator Systems Extend Man's Capabilities in Space", *Astronautics and Aeronautics*, June 1972, p. 30.

- 5) Moore, Jesse, "Toward Remotely Controlled Planetary Rovers", *Astronautics and Aeronautics*, June 1972, p. 42.
- 6) AIAA Committee on Marine Systems and Technologies, "The Un-Man in the Sea", *Astronautics and Aeronautics*, July 1972, p. 56.
- 7) *Aviation Week and Space Technology*, 22 May 1972, p. 21.
- 8) *Ibid*, 26 July 1971, p. 50.
- 9) *Ibid*, 22 November 1971, p. 13.
- 10) *Ibid*, 9 November 1970, p. 46.
- 11) *Ibid*, 13 March 1972, p. 109.
- 12) *Ibid*, 21 February 1972, p. 94.
- 13) *Ibid*, 29 May 1972, p. 11.
- 14) *Ibid*, 14 April 1972, p. 23.
- 15) Graham, William, "RMVs in Aerial Warfare", *Astronautics and Aeronautics*, May 1972, p. 36.
- 16) *Aviation Week and Space Technology*, 3 May 1971, p. 49.
- 17) *Ibid*, 19 July 1971, p. 18.
- 18) *Ibid*, 19 June 1972, p. 13.
- 19) *Ibid*, 24 July 1972, p. 9.
- 20) *Ibid*, 3 April 1972, p. 35.
- 21) *Armed Forces Journal*, May 1972, p. 22.
- 22) *Aviation Week and Space Technology*, 16 November 1970, p. 67.
- 23) *Ibid*, 17 July 1972, p. 49.
- 24) *Ibid*, 14 June 1971, p. 26.
- 25) *Ibid*, 14 August 1972, p. 12.
- 26) *Ibid*, 22 May 1972, p. 75.
- 27) *Ibid*, 25 October 1972, p. 41.



"Elint" (electronic intelligence) not only spots enemy radar but "bugs" it, to report back what it is seeing.

## REMOTE WAR RATIONALE

We chose to print this article on remote warfare for two reasons. First, it increases the technical knowledge of those working against the war, making our actions more well-informed and hopefully, more effective. Second, it paints a convincing picture of the military-political thinking current among those who rule this country.

We do not, however, share the article's apocalyptic vision, nor its assumption of the ultimate superiority of those who control the most advanced technology.

Since we believe that the pessimistic and awe-stricken views presented in the article are essentially due to a lack of proper political perspective we are presenting our analysis of the place and significance of the remote war technology within the American Reich.

First it must be pointed out that the development of the remote war technology issues from the weakness, not strength of American capitalism. In fact, this technology signifies further estrangement of the system from the American people. The Air War was developed because the American Army was no longer trustworthy. Remote warfare will come into being because this war and any future wars waged by the American Imperialists to control the world are no longer *politically* acceptable to the American people. Just as there has been an increase of social control and surveillance research to deal with resistance and lack of support at home, the American military has had to try to find technological solutions for its political problems.

There is nothing new in this. American corporations have repeatedly used technical advances to diminish the power of organized labor. For example, there are numerous cases of increased mechanization or new processes requiring fewer workers directly following (and due to) strikes. This has taken place even when the new processes are less profitable.

Second, escalation to complex (and profitable) technology is an endemic feature of American capitalism. In the domain of consumer goods the process of substitution of more complex goods for the simpler ones is a feature so familiar that at times it even escapes our consciousness. Likewise, in the domain of capital goods the evolution of ever more capital intensive technology goes on relentlessly.

It is important to perceive these processes freed from their ideological justification. It is not "progress" nor greater efficiency nor better satisfaction of consumers' needs that drives these processes. In the background there always looms the system's need for expansion, for operations on ever larger profits. The Remote War is an application of the same principle to another industry, the war industry.

There are a few other points in the article that deserve some comment.

First, there is little indication that the new technology will result in a lower "defense" budget. What is more likely is that the successive levels of war technology will coexist side by side, much as the missiles and the bombers do. Then

there is the question of invincibility, the superhuman precision, the omniscience of sensors loaded on pilotless RPV's hooked to computer networks . . . etc. For those who are impressed by these claims we recommend paying attention to similar claims made in the past. There exists a vast difference between the results obtained under controlled conditions and the actual battle conditions. For most parts, the results obtained by the U.S. depend on massive and indiscriminate destruction and this dependence did not diminish in the last thirty years. The image of pinpoint destruction of individual resistors is a false one—saturation bombing has increased with the use of sensors, and there has been no quantum jump in their effectiveness.

It must be remembered that in this war, as must be the case in all wars of liberation, bombing is a terror weapon. Its major purpose is to denude the countryside of the actual and potential guerilla supporters, and destroy the traditional social fabric of the country, driving the people into American-dominated cities (providing, incidentally, an excess labor pool).

Technology is *not* invincible. That is a myth which leads to passivity. It is common among scientific workers and represents a kind of technical/intellectual chauvinism. The power for social change lies with the large oppressed segments of society, and it is with them that we must join.

—The Editorial Collective

### SESPA POLITICS, *continued from page 6*

as could occur in a society run by the working people, e.g. in transportation, health care or job stratification.

Our conviction that liberation struggles throughout the world are in the best interest of the majority of people leads us to unite with anti-imperialist struggle. Building organizational ties with foreign technical workers would help us fight nationalism and racism, factors which facilitate the execution of these wars. One way that SESPA's contact with many foreign technology-related workers could be vastly increased is to involve in our activities foreign students and workers who come to the U.S. for their education and special training.

These various forms of struggle at our workplaces determine what is required of our organization. For effective, concerted action on the larger issues, workplace groups need to interact, and Science for the People as a whole must act in coordination with other organizations such as antiwar groups, unions, community organizations, etc. Often a timely response to a situation such as a firing or layoff, or the appearance on campus of a racist ideologue can be decisive to the development of political struggle. Equally necessary is the research on profits, management personnel, company investment or moving plans, etc., that supports workplace politicizing and struggle. Virtually impossible to do alone, workplace politicizing requires skills and perseverance that can only be developed with the

BERKELEY SESPA  
STATEMENT

support and active assistance of an organization of dedicated comrades. This support is needed in the form of training and criticism, encouragement and the warmth of friendships that develop in mutual struggle. In the last analysis, our effectiveness in unifying and politicizing our fellow workers depends on how we act, how much and how well we understand, and how we relate to other people. Our organization must provide the means for all who would like to become such cadre without diminishing the opportunities for participation of those who would choose a less stringent commitment.

What structure is required in SESPA to carry out these functions? Coordination and ability to respond rapidly require some type of steering committee to carry out necessary decision-making between regular, general meetings. The composition of the steering committee should reflect the entire spectrum of workplaces, from industry to university. The structure should be sufficiently flexible such that committees to carry on research, prepare for general events, etc. can be formed as needed.

No organization is fully defined only by its goals and formal structure; the actual practice of its members in their relationship to one another and those not in the group is equally important. We must resocialize each other away from the destructive sexist, elitist, or authoritarian behavior. We also need to struggle against the dissipative effects of certain attitudes such as extreme anti-authoritarianism, individualism, lack of responsibility, cynicism, and liberalism. We cannot do this unless there is a general commitment to criticism, self-criticism, and mutual support. But such a commitment itself only can develop from constructive struggles and increased political understanding. We must begin therefore with a strong desire to develop a unified political understanding as we strive to achieve solidarity among ourselves and with our class sisters and brothers.

*Further contributions elaborating and extending the discussion will be submitted to subsequent issues of Science for the People. The industrial group in Boston has seven members from four and one-half companies (one was recently fired). Of the total constituency of about 1500 technical and associated workers about 150-200 have related to petition statements or actions in the past. Currently only about fifteen are active. There are three study groups, about fifteen subscriptions and twenty to twenty-five magazine sales each issue. The industrial group was formed to give mutual support to one another in developing more effective politicizing at the workplace, better understanding of the role of technical workers and to build a more numerous and more cohesive group of industrially employed workers in Science for the People.*

Science, in a Capitalist society is used against the people. The basic control over scientific work and its further development is in the hands of a few people at the head of large private institutions and government bureaucracies. Under these people science is consistently utilized for the perpetuation and extension of economic and political power based upon the monopolization of natural and human resources in the hands of a few.

Science provides the technology which is utilized to exploit resources on the basis of maximum profitability. This results in inefficiency and waste and in ecological disruptions which assault our health and life.

Science provides the ideology necessary for the camouflaging of social and economic problems by labeling them as technical problems with technical solutions.

Science provides for the intellectual intimidation of the public. Technical knowledge is mystified by special jargon and useful knowledge developed by the people is appropriated if it serves to support the system or stigmatized if it serves human needs against the system.

Academic institutions and professional societies serve to institutionalize the monopoly on knowledge and to legitimize as "neutral and objective" the political functions of science.

And, when all else fails,

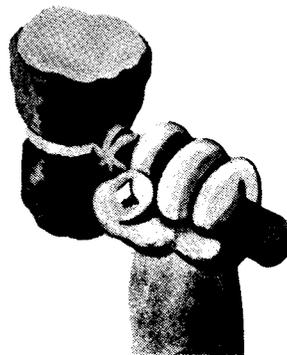
Science provides the weapons of war and the tools of the police state, so that an obsolete economic system can defend itself against growing movements for fundamental social change through force, violence and intimidation.

Science for the People means the explicit recognition of the political nature of science in this society.

Science for the People means access for all people to useful human knowledge.

Science for the People means the alliance of those who presently have access to scientific knowledge with movements for fundamental social change.

(Originally printed in *New Morning*) Berkeley SESPA



# MORE LETTERS

Dear Friends,

I have just finished reading your issue of *Science for the People*, Sept. 1972. I find it difficult to describe the impact that this has made on me, especially at this particular time. As a graduate student in microbiology, I have been conditioned to look forward to several exciting (!/?) years of post-graduate research and finally a position in a university where I will move in a narrow circle of co-workers, discussing sterile, apolitical, objective facts gleaned from my research and occasionally attending to the necessary evils (ugh!) of course preparation and lecturing. Of course, I will never achieve quite the status accorded male scientists, since being a woman I suffer from a less logical, non-objective, more emotional intellect. However in the last year as my graduate study has progressed, I have slowly become disillusioned and alienated from this goal. I can no longer accept for myself the role of a scientist pursuing some small facet of "pure knowledge" research and I will not burden our society with one more elitist snob in the technology bureaucracy. My life must have a more immediate practicality to it than that, and so I had decided to place my talents in the teaching profession which had been more personally satisfying to me. Teaching Assistantships have been a necessary means of supporting myself through graduate school. I have taught or assisted in several lab courses. In every one of them there was a definite lack of effort to relate the scientific knowledge that the student was learning to the everyday world in which he exists outside the classroom, or to make him aware of the social or economic implications that this "pure knowledge" carried.

My enthusiasm or desire to teach science courses in which these things would be brought out was about to be overwhelmed by the enormous task of setting up such a course. However this issue with its ideas of analyzing current curricula along with the students, the course outline for a course in biology, etc., has shown me what can be done, what possibilities exist and has provided a starting point for inspirations of my own. Much praise and thanks to you all for this issue—it has finally gotten me to send you the enclosed check for a regular membership. Please start with sending a copy of the Sept. 1972 issue of *Science for the People* to the above address as the copy I have was loaned to me. Thanks.

With you finally in the effort to make "Science for the People",

A.L. Thomas.

Dear Boston SESPA,

Meeting some of you and hearing all about the projects that you have going was an exhilarating experience. Bob and Robbie and I feel primed for the effort of becoming the core of an active chapter here in Chicago. As a first step, I have decided to formally critique some weaknesses in tactics that I observed which I think tend to alienate potential allies. We are a little worried about alienating *you* by *this* tactic, but have decided that you are quite mature enough to consider these criticisms as friendly and constructive as they are intended. It takes mutual respect to make criticisms useful.

Also, by way of placing my remarks in context, I will identify myself as a former Peace Corps Volunteer whose affiliation with the Committee of Returned Volunteers and the anti-war movement is still evolving into an increasingly radical analysis of the changes required to make morality and equity (rather than profit) the determinants of American policy. Coming to the movement as I do, I see the election of George McGovern as a priority, since speedily ending the killing in Vietnam under him is as near a certainty as is its interminable continuance under Richard Nixon, if re-elected — and after all, that is where I come in. Nevertheless, I do not expect any important changes in the structure of government whoever is elected, and working for McGovern is viewed as a flexible response within the context of radical politics, not as a substitute for such politics. I was pleased that we were eventually able to talk about the McGovern candidacy last weekend, because your willingness to respond to my frustration did a lot to establish trust. Now on to the body of the letter.

It was my understanding when I signed up for it that the meeting in western Massachusetts last weekend was a CPP conference. There were quite a few people at the conference who came as CPP members with specific problems, expectations, and topics which they wanted to discuss based on that affiliation. This was not a SESPA conference, it was a CPP meeting which was more or less receptive to the SESPA perspective. In these circumstances, SESPA individuals' pointed demonstrations of annoyance when non-SESPA topics were being discussed seems entirely unjustified.

I think we can agree on the following premises: that we are trying to create a mass movement of people bound together not by strict ideological uniformity, but by the search for a more humane social order; that meaningful reform cannot be imposed on the people but must originate from them; that "organizing" is only effective when responsive to people's needs as they see them; that an organizer needs to listen as much or more than he needs to talk or study. Out of these premises come the following guidelines which I see SESPA too ready to ignore.

*Never use ridicule or condescension in an argument with a potential ally.*

Such tactics should be used sparingly, even in countering the deliberate lies of out-and-out pigs, since they intimidate people whose political analysis is as yet unsophisticated enough to either be saying silly things or to be gulled by the lies. (It was common to tell a critical outsider that he had "missed the point" in an insider's argument, when objectively his criticisms deserved direct discussion.)

*Avoid the use of slick, manipulative tactics.*

It is easy to out-maneuver individuals at a meeting if your people act as a group which has prepared in advance and knows more or less exactly what it wants. It is easy to say "We want to talk about organizing the work place. Does anyone have any other ideas?" (This after an entire alternate agenda has been drawn up.) Usually, there is no vocal opposition at this point and the group gets its way, but the individuals who feel somehow cheated won't be back for the next meeting.

*Make and respect an agenda that deals with problems that non-SESPA individuals want to talk about.*

You can't convince people by starting where you are, you must start where they are. If they are concerned with trying to help society by alternative uses of computers, how effective is it to downgrade their concerns (by putting them in a catch-all category called "hippie bullshit") and run their interests off the agenda?

*Carefully regulate the use of rude or "indecorous" behavior in attempting to discredit other viewpoints.*

This is two-pronged: One is the extension of common courtesy in listening to what a fellow person-in-struggle has to say at a meeting like CPP (even if you think his views miss the main point); the other is more applicable to dealing with "respected figures of the scientific community" whose pontifications you want to discredit. In the first instance, there is no excuse for rudeness; in the second, you must make sure that the point of your rudeness (as a political act) is understood. This requires a large explanation to rudeness ratio.

Well, that's it for now. Perhaps you would publish a slightly edited edition of this letter in the magazine? In any case, I hope we get a chance to talk more before the AAAS actions.

Keep up the good fight,  
Arlene Ash  
October 7, 1972

*( CPP = Computer People for Peace. Arlene and other CPP'ers were not notified that SESPA had been invited to come and take part in the discussions at the CPP conference. Still, her criticisms are important ones that we should take into all our activities. — the editorial collective )*

*The Philadelphia Science for Vietnam Collective has suggested that the cover letter for a package of information sent to Hanoi be reprinted to stimulate interest in and discussion of the project. The Chicago Collective of Science for Vietnam has just published a booklet which contains a discussion of the overall purpose of the project as well as a list of ideas to pursue and suggestions for the organization of new collectives. For copies of the booklet, contact Science for Vietnam, Chicago Collective, 1103 E. 57th St., Room 43, Chicago, Ill., 60637.*

Dear Dr. Nguyen:

In the excellent collection of essays on health care in the Democratic Republic of Vietnam, *Twenty-Five Years of Health Work*, there is mentioned an Institute for Malariology in Hanoi and perhaps it is to that Institute that this letter and package should be directed. However, in speaking with a number of people who have visited Hanoi recently, we were unable to determine if such an Institute is in fact still in existence at the present time. For this reason we are, at the suggestion of Dr. Ethan Signer of the Massachusetts Institute of Technology, directing the letter and package to you with warm greetings from Dr. Signer.

Enclosed is a package of literature on malaria, prepared by the Philadelphia Science for Vietnam Collective. Included is a recent text by Wallace Peters, of which you may already have a copy, as well as some 68 articles. We became interested in the malaria project through correspondence with the Chicago chapter of Science for Vietnam, specifically Dick Levins and Ann Foley.

It is our understanding that the following questions came from a medical representative of the P.R.G. in Paris:

1. What are the best antimalarial drugs?
2. How do you overcome *Plasmodium falciparum* resistance to antimalarials?
3. What is the pharmacology of the action of anti-malarials, and biochemistry of their metabolic handling?
4. What is the pharmacology of *Pl. falciparum* resistance to antimalarials?
5. What are the long-range effects of malaria? (e.g. effects on blood)

We have tried to find material that covered all of these questions. We found a great deal of material on all but the questions concerning long-range effects, which are apparently not considered in any of the recent literature on malaria. The older texts which we looked at also did not deal with the question of long-range effects.

For the sake of convenience, we have divided the articles into four groups, as follows:

- A. Articles we thought would be of most interest. They are for the most part concerned with drug therapy, including the therapy of drug-resistant strains of *Pl. falciparum*.
- B. Three articles on possible mechanisms of drug resistance of Plasmodia to antimalarials.

C. Articles on biochemical and pharmacological effects of antimalarials on Plasmodia and on man.

D. Other articles of possible interest, including some good general reviews of various aspects of malariology.

Starting with little knowledge, but with two excellent medical libraries to work from, we have learned quite a bit about malaria in the course of sifting through many articles in order to choose the ones that appeared most relevant. However, remote as we are from the problem of malaria as it exists in Indochina, we recognize that this initial package of material may be of only limited usefulness to you. We view this package as a beginning, not as an end to the malaria project.

Therefore, if you have the opportunity, we would like your suggestions. In particular we have the following questions:

1. Are you receiving most of the journals from which these articles came, or should we continue to search for new articles similar to those we have sent?
2. Would it be useful to have articles concerning the chemical synthesis of antimalarials? (This was to be part of the project, but in order to get this material into the hands of someone going to Hanoi we have cut the project short.)
3. Would detailed articles concerning research on the immunology of malaria be of particular interest?
4. In your judgement, would similar packets of literature be of use to the P.R.G. and to the Liberation Forces of Laos and Cambodia, and if so, how might they best be directed? (We would be interested to know of any other regions you might think of suggesting as well.)

We find great strength in the successful struggle of the Vietnamese people, and wish to express our heartfelt solidarity. We look forward to being of continuing help in that struggle.

Please address correspondence care of:

John L. Pratt  
4615 Hazel Avenue  
Philadelphia, Pa.

To the Editorial Collective:

One of you (Alex) asked me to write a not lengthy statement giving my thoughts about what Science for the People should mean, and I agreed, because I thought the idea of soliciting a number of such statements and printing some or all of them to stimulate an on-going dialogue among the magazine's readership was a good one.

Since then, it occurred to me that the best statement I have seen on Science for the People—what it ought to mean, why it's necessary, and how it can be realized, or rather partially realized, in the United States today, is the article by Mel Rothenberg, Len Radinsky, Bart Meyers, and Bill Zimmerman entitled "Science for the People", published in December 1971 as the pamphlet "CENSORED" by a

small group of Science for the People people after it was rejected by *Science* magazine. It can (and I think should) be published in *Science for the People* magazine, particularly now that you are initiating a long overdue theoretical discussion about Science for the People.

In Struggle,  
George Salzman

To Office Collective, SESPA:

In response to your recent note: I do not intend to renew my subscription.

Engineers face massive problems:

- a) Mounting unemployment covered by false government statistics
- b) Routine discrimination against those over 40 years old
- c) Virtual exclusion of women from the field
- d) Effective silencing of engineers on mundane topics through firing and blacklist
- e) Pension schemes which give nothing to engineers and huge amounts to company officials
- f) Company domination of engineers' organizations
- g) Increasing university pressure on employed engineers to spend their limited time and money on courses to compensate for declining school enrollments.

Yet you devote no space to these questions. People are radicalized by reacting to their own problems. Until you recognize this truism by devoting some of your space to these questions, I will withhold my support.

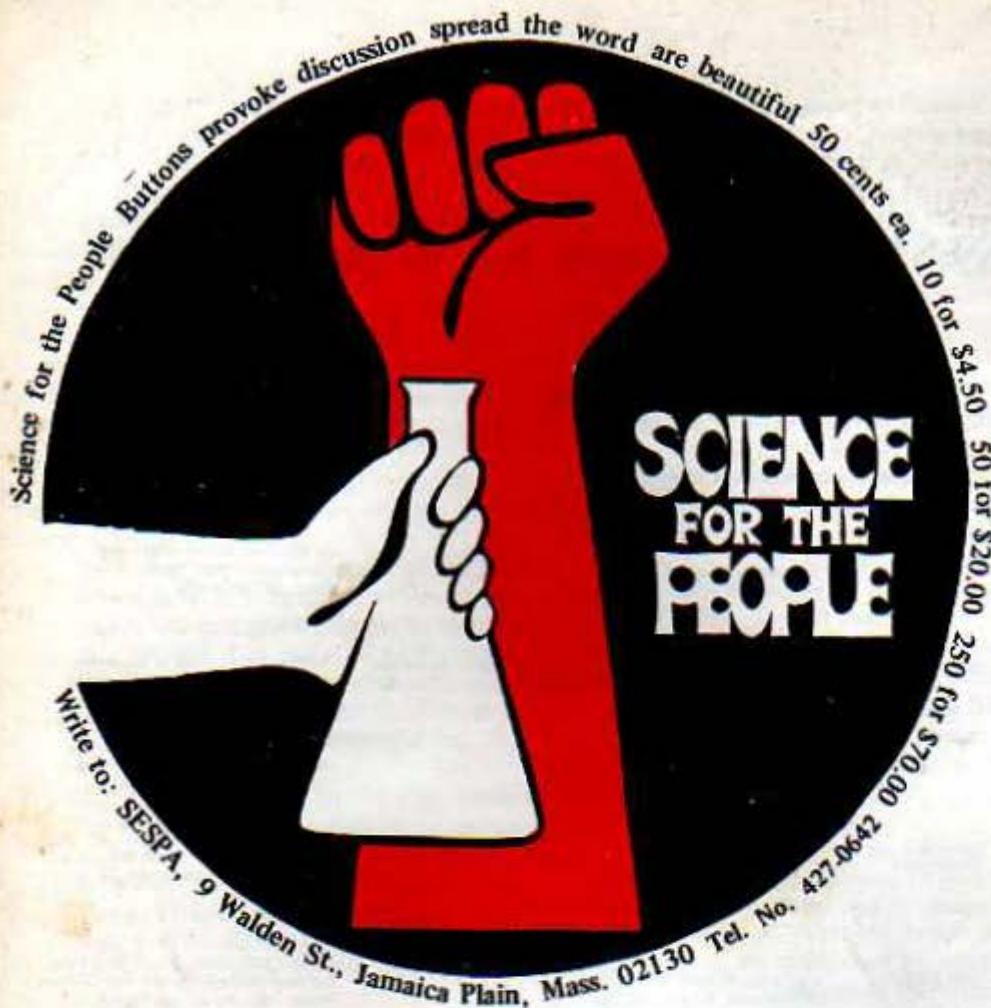
Best wishes,  
S.S.

Dear Al:

Yes, I've talked to Mike Goldstein, who gave the Sept. issue to my husband the day our 11 year old son stayed five minutes after school for being two and one-half minutes late to science. The cartoon about the bell cracked us all up. Our 13 year old son has spread xeroxed copies of it all over the school. We are Quakers and up to our ears in causes, and I am staying home to raise our two month old infant daughter with our particular set of prejudices! I had a rough time in the county school system, being considered too far out, and I assure you I am *not* far out, but disgustingly middle class straight. Loved the grading article, too. Have you read, *The Little Red Schoolbook*? Terrific paperback. Thesis is that schools don't teach what kids *need*; they teach what society wants in order to have conformist citizens. It's written for high school kids.

Laura Winefordner





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#### SUBSCRIPTIONS TO SCIENCE FOR THE PEOPLE AND MEMBERSHIP IN SESPA

SESPA is defined by its activities. People who participate in the (mostly local) activities consider themselves members. Of course, there are people who through a variety of circumstances are not in a position to be active but would like to maintain contact. They also consider themselves members.

The magazine keeps us all in touch. It encourages people who may be isolated, presents examples of activities that are useful to local groups, brings issues and information to the attention of the readers, presents analytical articles and offers a forum for discussion. Hence it is a vital activity of SESPA. It is also the only regular national activity.

We need to know who the members are in order to continue to send *SCIENCE FOR THE PEOPLE* to them. Please supply the following information:

I am a member (check here if subscriber only. [ ])

1. Name:

Address:

Telephone:

Occupation:  
(if student or unemployed please indicate)

If you are working, do you work in industry [ ], government [ ], university [ ], other \_\_\_\_\_

2. Local SESPA chapter or other group in which I'm active:
3. I am enclosing money according to the following scheme: (a) regular membership—\$10, (b) indigent membership—less than \$10, (c) affluent or sacrifice membership—more than \$10, (d) completely impoverished—nothing, (e) I have paid already.
4. I will sell \_\_\_ magazines. This can be done on consignment to bookstores and newsstands, to your colleagues, at meetings. (If you want to give some away free because you are organizing and can't pay for them, let us know)
5. I am attaching a list of names and addresses of people who I believe would be interested in the magazine. Please send them complimentary copies.
6. I would be willing to provide technical assistance to community, movement, or Third World groups in the areas of:

Please add any comments on the magazine or SESPA or your own circumstances. We welcome criticism, advice, and would like to get to know you.

SEND CHECKS TO: SESPA, 9 WALDEN ST., JAMAICA PLAIN, MASS. 02130