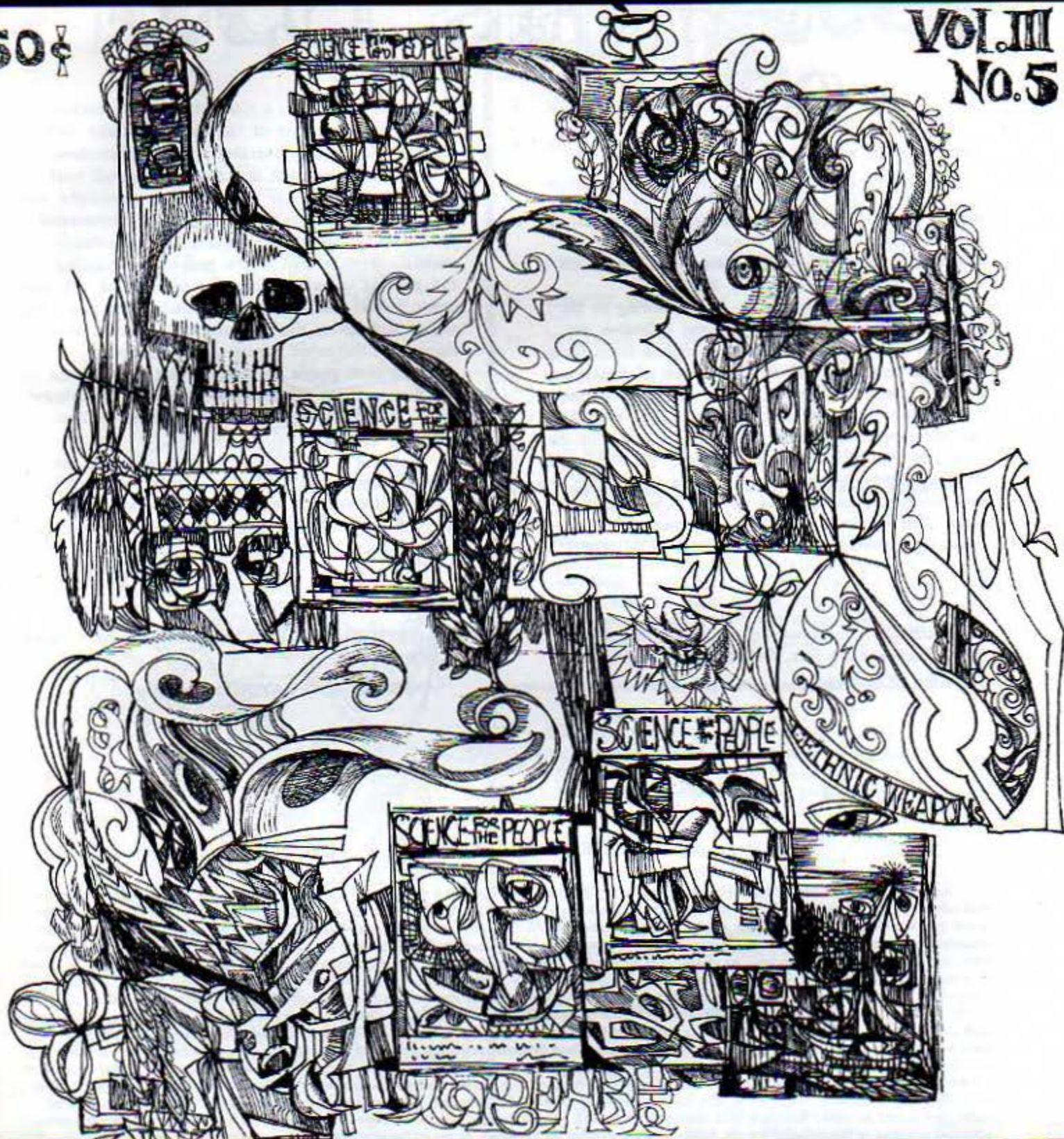


SCIENCE FOR THE PEOPLE

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VOL. III
No. 5



BI-MONTHLY PUBLICATION OF SCIENTISTS AND ENGINEERS
FOR SOCIAL AND POLITICAL ACTION · SESPA NOV. 1971

ABOUT THIS ISSUE OR

how to get by with a little help from your friends!

“Hegel remarks somewhere that all facts and personages of great importance in world history occur, as it were, twice. He forgot to add: the first time as tragedy, the second as farce.” (from *The Eighteenth Brumaire of Louis Bonaparte* by Karl Marx)

So history repeats itself. And following in the tradition of the past October editorial collective, we find that our numbers are few (diminished from seven to two in this case.) However our lack of great numbers precluded, of necessity, a deep sense of intimacy and involvement with this issue. Neither of us had previous experience on past collectives, and so, for the most part, the whole process of putting out this magazine, (see September editorial statement for details), was new, exciting, (inciting!) and initially, a bit overwhelming. But we finally did it, due to much criticism, support, confidence and labor on the part of several

people. And in time, a solidarity born of common struggle, and a posture of historical continuity with the movement, were generated by such phenomena as personal contact and collective, teleological work, among others, in a very beautiful and meaningful way.

However, as the months passed, a fundamental predisposition and strategy became so compellingly evident. A movement in the process of struggling and growing towards collective ends, can and will not prove fruitful sans a collective consciousness raised by, and in turn giving rise to, collective participation throughout the entire gamut of the endeavor.

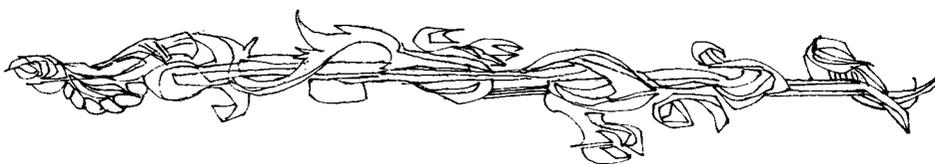
We need people to write articles, to subscribe to and distribute the magazine, to participate in political activities, and to help in any way, shape, or form that they so desire.

So here it is. Brought to, for, with, and because of you, via a “little (lot of) help from our friends.” (Whether it be farce as Marx implied, is of course, another issue . . . the December one maybe?)

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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 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.

INSIDE

- 4 ETHNIC WEAPONS
- 6 THEATER OF THE ABSURD?
- 8 WOODS HOLE—SEEING THE FOREST AND TREES
- 10 SCIENCE FOR VIETNAM
- 12 WORSHIP AND THE DANGEROUS LIFE
- 13 CHAPTER REPORTS
- 14 STATISTICS FOR THE PEOPLE
- 14 LETTERS
- 22 LIBERATION IN THE LIBERATION
- 23 BUT WHAT ABOUT THOSE LAMB CHOPS?

FALL ACTIONS

November 15-18: Fall Joint Computer Conference; Inst. of Electrical and Electronics Engrs. and Amer. Fed. of Info. Proc. Societies. Convention Hall, Las Vegas, Nevada. For information contact Dave Mathews, 603 S. Del Mar, San Gabriel, Ca. 91776. Tel. 213-289-6986.

December 26-31: The AAAS meetings this year will be held from December 26-31 in Philadelphia, Pa. We wish to encourage people to get together to plan disciplined actions, position papers, and work shops.

For information, facilities and coordination call days: Peter Lipkin (215) 594-8922

Bob Dorman (215) 594-8891

evenings: Peter Sterling (215) 471-9084

Jim Bowring (215) EV6-7351

For advice and suggestions also contact the Boston and Chicago SESPA chapters.

The conferences of the American Association of Physics Teachers (AAPT), and the American Physical Society (APS) will be held in late January. For further information see the January issue of *Science for the People*.



The annals of history show that down through the ages man has sought to enlist the aid of chemistry and disease in his conduct of warfare, but it was not until the twentieth century that science made it possible.

1960 Army Chemical Corps Handbook on CBW

It appeared that the United States was going to institute a new policy regarding the use of chemical-biological warfare (CBW) when President Nixon announced on November 25, 1969 that:

1. The United States will never employ biological weapons; existing stockpiles of germ weapons are to be destroyed. Germ warfare research will be confined to defensive measures.

2. The Geneva Protocol will be submitted to the Senate for ratification.

3. The United States reaffirms its renunciation of first-use of lethal chemical weapons and extends the renunciation to the so-called "incapacitating" agents.

Despite these fine-sounding phrases it took another three months for the White House to concede that toxins (chemical products of bacteria) were chemical rather than biological and therefore banned, the existing stockpiles of biological weapons have yet to be destroyed, and the Senate still has not acted on the Geneva Protocol of 1925 banning the use of asphyxiating, poisonous or other gases, analogous devices, and biological weapons.

Chemical weapons—including phosgene, chlorine (both poisonous) and mustard gas (which penetrates clothing and causes the skin to blister) were first used during World War I. After the war many nations, repelled by their experience with gases, joined together to support the Geneva Protocol. Although the United States originally introduced the Protocol, it has never ratified it even though sixty other nations have. The ban was observed by all during World War II and the years after, with the exception of allegations made by Korea and China that the U.S. had dropped germ bombs on North Korea in the early fifties. The charges investigated by an impartial fact-finding body including scientists from Sweden, France, Italy, Russia, Brazil and England. The commission concluded, after a lengthy investigation that "the peoples of Korea and China did actually serve as targets for bacteriological weapons. These weapons were used by detachments of the armed forces of the U.S.A., who used for this purpose many and various methods." For example, plague and cholera-carrying fleas, flies, rats, voles (small rodents), and clams were dropped by American planes in those countries in 1952. (A partial transcript of the commission's findings is available from the Committee for Solidarity with the Korean People, address below).¹ The Swedish newspaper *Dagens Nyheter* reported on August 18, 1970 "that a



deadly nerve gas (VX) had been used against North Vietnamese troops in Cambodia" in 1969. Throughout the Vietnamese War the U.S. has used massive amounts of tear gas, nausea gas, herbicides and defoliants, even though such substances are banned by the Geneva Protocol.

Now a new kind of weapon is being added to the arsenal of biological warfare. This is the so-called ethnic weapon, a chemical or biological weapon designed to attack specific populations racially distinct from those using the weapon. Ethnic weapons are new and explicitly racist, which is not to say that racist warfare is new, as is evident from the Korean and Vietnamese wars. From the point of view of the military, previous CBW was not as efficient as it might be because the dispersion of agents such as nerve gas is difficult to limit and unpredictable factors such as shifting winds could spread it back to friendly troops. Therefore, ethnic weapons which will not have these side effects are presumably more desirable. Their advent may in fact have made the "conventional" CBW obsolete.

In the November 1970 issue (note: one year after the ban on biological weapons) of *Military Review* there appeared an article entitled "Ethnic Weapons" by Carl Larson. We reprint here a shortened version of the article. The sections omitted do not differ in tone and intent from those printed except that they are less directly relevant to ethnic weapons.

"A new generation of chemical weapons seems to be growing out of information collected and interpreted

1 "Report of the International Scientific Commission for the Investigation of the Facts Concerning Bacterial Warfare in Korea and China" in *CBW in Asia* published by the Committee for Solidarity with the Korean People, July 19, 1971, 2490 Channing Way, Room 213, Berkeley, California

in research centers in both East and West.... Forthcoming chemical agents with selective manstopping power will put into the hands of an assailant a weapon with which he cannot be attacked....

"Catalysts of living organisms have attracted an increasing interest, and new methods for the study of enzymes have accumulated some imposing, and mostly new, facts. One way to knowledge about the ladders of chemical reactions furthered at each step by a special enzyme is to study what happens when one enzymatic step is blocked. Material for such study is provided by nature and by artificial inactivation of particular enzymes, intentional and accidental...."

Since World War I "blood groups were used to map the world population . . . European, Asian, and African populations could be characterized by a number of independently varying gene frequencies . . .

"Careful analysis of enzymatic reaction patterns to a series of drugs are underway, and we may soon have a grid where new observations of this kind can be pinpointed. One set of reference lines in this grid goes from genes necessary for enzyme production. Another set of lines marks substances turning off and on the making of active enzymes which can, but need not, be alerted.

"Recently, a series of widely debated observations have revealed an enzyme deficiency in southeastern Asian populations, making them susceptible to a poison to which Caucasoids are largely adapted. In such situations, the sketchy grid just mentioned is of some use. One looks for the possibility of the poison-provoking enzyme production, an individual adaptation observed in several instances.

"The poison now at issue is milk. In Europeans, intolerance to lactose, or milk sugar, occurs as a rare recessive trait. Healthy parents, each carrying a single mutant gene, have children approximately one fourth of whom react to milk ingestion with diarrhea, vomiting, malabsorption, and even death. When reports on milk intolerance in various groups of non-European [sic] began to accumulate, it was remembered that malnourished children in East Africa got diarrhea when treated with dried skimmed milk. Then, the enzyme lactase was found to lose its activity in the intestinal mucosa of African infants over the first four years of life.

"New reports on milk intolerance in Chinese, Filipinos, and Indians were met with skepticism in that the groups studied might not be representative of their peoples. A study reported from the Chiangmai University in Thailand has, however, revealed a widespread lactose intolerance in adults in northern Thailand, the lactase activity getting lost between the first and fourth years of life. By inference it has been found likely that Southeast Asians, in general, are deficient in lac-

tase production....

"A series of enzyme inhibitors and chemically active substances interfering with signal transmission in the brain and spinal cord have been intensely studied since the early fifties....

"The incapacitant known as BZ derives from a drug which before its present renaissance as lysergic acid diethylamide (LSD) caused epidemic outbursts of Saint Anthony's fire in the Dark Ages.... BZ (has) the capacity to produce transient toxic psychosis, sometimes compared to schizophrenia....

"Psychochemicals would make it possible to paralyze temporarily entire population centers without damage to homes and other structures. In addition, with the small quantities required for full effect of modern incapacitating agents, logistics problems would be minute. The effective dose of BZ-type agents amounts to micrograms.

"It is quite possible to use incapacitating agents over the entire range of offensive operations, from covert activities to mass destruction....

This **"prospect may tempt an aggressor who knows he can recruit from a population largely tolerant against an incapacitating agent to which the target population is susceptible. An innate immunity would offer concealment of preparations and obvious advantages in many tactical situations.** When the proper chemical agent is used against intermingled friendly and enemy units, casualties may occur in proportions one to ten.

"Such inferences are barely extrapolations of observed genetic differences between major human populations and of research programs known to be in progress. Widely different opinions have been ventured as to the type of chemical operations likely to be directed against military and the civilian population in a future war. There have been some recent tendencies to stress the wide latitude between incapacitating and the lethal action of BZ-type agents. **Friendly troops could use them to dampen belligerence.** They effectively slow down physical and mental activity, make the poisoned personnel giddy, disoriented, and more or less unable or unwilling to carry out commands.

"Friendly forces would discriminatingly use incapacitants in entangled situations to give friend and foe a short period of enforced rest to sort them out. By gentle persuasion, aided by psychochemicals, civilians in enemy cities could be reeducated. The adversary would use incapacitants to spare those whom he could use for slaves. There is little that human biology can contribute to prognoses of that type. . .

". . . the production of enzymes in the living cell could not be selectively quenched until details of early signal transmission from the gene became known in 1969.

continued on page 19

THEATRE OF THE ABSURD

Edwin Land is a Harvard Hero. No, not because of his prowess on the football field or even on the debate team, for that matter, but because Ed Land has achieved what so many Nobel prize winners have only hoped to achieve. Land has made himself a fortune by turning science into cash. He is the scientific entrepreneur par excellence, and on top of it he symbolizes to many the great humanitarian concerns of corporate liberalism.

And in a similar fashion, Harvard's Nobel Prize winners are Edwin Land's Heroes. They have been recognized by the Club for their superior scientific accomplishments and have achieved the scientific eminence that even money can't buy (at least not always). Thus we find that mutual respect and admiration and envy have drawn Land and the Harvard Physics Department into a very close relationship: on the one hand, a respected member of the Physics Department Visiting Committee (the corporate overseers of the department's activities) is making generous contributions to Harvard University, and on the other hand, members of the department are acknowledging Land's gifts by inviting him to speak at the American Physical Society Meeting and at departmental colloquia.

This love affair formed the backdrop to the thrilling psycho-drama of last spring performed at the department's experimental theater. The performance was characterized by spontaneity and zest rarely seen in the resident company's acting. Undoubtedly inspired by guest star Edwin Land, the cast rose to heights of excess unusual even for theater of the absurd. But while, on one level, this performance was an unquestionable *tour de farce*, on a deeper level it had rather serious political implications.

The central event around which the plot revolved was the cancellation, at the last moment, of the Physics colloquium at which Edwin Land was scheduled to speak. The cancellation caught two groups by surprise. The one was composed of several hundred physicists and physics students, who, massed upstairs in the library, were anxiously awaiting the little bell which would signal the opening of the lecture hall below. The other group, about 50 in number, meeting downstairs, was composed



predominantly of Harvard students, but included scientists from other local institutions, as well as a few Physics Department informants. While those upstairs sipped tea and munched on crumpets, those downstairs were frantically trying to decide upon a strategy for raising the political issues occasioned by Land's appearance. They had agreed only that these issues would be raised before the end of the scheduled lecture. The pressing question was just how to do that. Suddenly the whole show was called off. Why the cancellation? The chairman of the Physics Department, stated that the group meeting downstairs would have created an unsuitable climate for the lecture. That statement should be put in its proper context. Land is not generally regarded as a physicist, yet he had been invited by his friends to speak at the Physics Colloquium about a theory (Retinex theory of Color Vision) over ten years old and only marginally related to the professional interests of the faculty. The invitation was tendered actually as public recognition of his rather great contributions to science—\$12 million for the construction of the Harvard Undergraduate Science Center (HUSC). The intended actions of those meeting downstairs, however, threatened to turn this public accolade into a highly embarrassing situation for Land. Precedent had already been set when Land demonstrated his inability to deal with such issues at the American Physical Society Meeting a month earlier (see *Science for the People*, Vol. III. no. 2, May 1971).

Five faculty members were involved in the decision to cancel the colloquium. These included the department chairman, the colloquium chairman, and two members of the HUSC Committee. Furthermore, two other members of the HUSC Committee, one of them being none other than the Dean of the College himself, called for an immediate investigation of the cancellation by Harvard's Commission of Inquiry (Whitewash Commission). More on that later. What is important here is simply an understanding of the political motivation for Land's scheduled appearance, his monetary value to Harvard, and, as a consequence, the overreaction of those in charge.

So much for the elite. What were the concerns of those who, crowded into the small room downstairs, were engaged in an intense debate over tactics and strategy? They realized that it was impossible to distinguish between Land's role as President, Chairman of the Board, and Director of Research of Polaroid Corporation, on the one hand, and his role as pure scientist, on the other. His ability to perform expensive research has been inextricably linked to his utilization of cheap Black labor abroad, his economic discrimination against Black employees in Cambridge, Massachusetts, and his firing and intimidation of those scientists in his laboratories who oppose his policies. In addition, his research on color vision has been closely tied to the technology of color photography, a technology used in the ID-2 Instant Identification system which his company has developed to aid in the control and manipulation of people. Thus it was not only appropriate but also necessary for the group to raise the questions of Polaroid's foreign and domestic policies and to confront Land with these issues on the occasion of his virtuoso performance at Harvard. This was especially so since he had consistently refused to publically discuss these issues. In addition, the group felt that the presence of Mr. Polaroid in the Physics Department was the appropriate time to advocate that scientists join the Polaroid Boycott by refusing to use the company's products in their laboratories.

It was clear to all that the cancellation of the colloquium constituted the direct suppression not only of a particular point of view but also of open discussion and free exchange of ideas. (Though the lecture hall was finally liberated for a teach-in on Polaroid and South Africa.) Such a blatant violation of the concept of free speech required some justification, and that is where the Whitewash Commission, previously mentioned, came in. This commission in the short space of three days issued a report which completely exonerated the Physics Department for its action. In the best Harvard tradition of inquiry, the commission consulted only with members of the Physics Department, never questioning any of those actively involved in the downstairs meeting—including the individual named five times in the Com-

mission's report as an agitator and instigator. Not surprisingly then, the Commission's conclusions were based on all sorts of false premises. The report hysterically denounced those who "use the tactics of fear in order to silence their opposition." (This reference is to the protestors of Polaroid's policies, not to the faculty.) But the Whitewash Commission was yet to outdo itself. When informed of the factual errors and fabrications which appeared in its report, it issued a supplemental report. The supplement asserted that the original conclusions of the Commission still held, independent of any of the facts of the case.

Still more was to come. The Whitewash Report had merely set the stage for the ultimate farce. One of the Physics Department informants who had attended the downstairs meeting filed charges against the graduate student agitator named in the Commission's report. These charges, brought before Harvard's Committee on Reaction and Repression (CRR), accused the student of criminal conspiracy on the basis of his having "chaired a meeting with the intent of having that meeting decide to disrupt Land's address." Furthermore, he was accused of having made "no attempt whatever to rule out of order those suggestions that involved clear attempts to violate the Resolution on Fights and Responsibilities (which guarantees freedom of speech)." The CRR, impressed with the seriousness of the charge, and worried about the safety of the defendant, conducted its hearing behind locked doors and uniformed guards.

The trial was a theatrical masterpiece. The defendant, in keeping with his villainous character, was portrayed by a tall, gaunt, mustachioed graduate student. As for the informant, he was marked by the pallid complexion, flabby physique, and servile demeanor expected of a student who, at the behest of his advisor, would attend a meeting to bring charges against a fellow student. The dramatic triumph came in the heat of the trial, when eyes ablaze, back erect, and head cocked in self-righteous indignation, the informant denounced those thugs who by use of terror had forced the Physics Department to deny him the God-given right to hear Ed Land speak. The faculty ate it up.

But all theatrics aside, the CRR could find no evidence whatever to support the charges, and that left the faculty in a real quandry. The charges in this case were ludicrous, but the threat of protestors to raise relevant political issues still remained. The dilemma was cleverly resolved by first acquitting the so-called agitator and then establishing brand new precedent in a six page manifesto. This document asserted 1) that it is the sole authority of chairmen, speakers, and sponsors to determine the content of a public meeting, 2) that the intention to create a public confrontation is punishable (by the CRR), and 3) that an organizer or instigator of collective disruptive activities can be held culpable (by the CRR) for

violations of the Resolution of Rights and Responsibilities. Thus in a flourish of repressive decrees, the CRR, masquerading as the guardian of free speech, affirmed the absolute right of the faculty to suppress free speech: "Expressions of opinion must be carefully weighed (by the CRR) to see whether they constitute simply valid (?) exercise of the right of free speech."

Thus the conclusion to this otherwise farcical plot comes with the blatant assertion by the faculty of their power to decide who is free to speak and who is not. They suppress the raising of questions by protestors by cancelling a colloquium and insist on their right to hear only that which they want to hear. All else is lumped together as an interruption, confrontation, or disruption, and therefore constitutes a violation of *their* principle of free speech.

According to the CRR, for example, the intention of the students to discuss the political aspects of Land's scientific work is "totally inconsistent with and unrelated to the nature of the event in question." How can the discussion of the political aspects of a political event be inconsistent and unrelated to that event? Only by decree. And that decree denies the legitimacy of people reaching their own political understanding. The Harvard elite, these scientists extraordinaire, have insisted that their own politics govern everyone else's behavior, and they have the power to enforce compliance with that rule. The CRR is simply an instrument of political repression.

Basic to political repression is the insistence upon ideological and intellectual conformity. For example, the Chief Justice of the CRR stated that a central issue in the Committee's deliberations would be whether it is generally permissible "to interject *extraneous* material into what purports to be a scientific meeting (emphasis mine)." That is, is it permissible to view Land's theories and Polaroid's policies as fused together to form a single reality? Their answer was no.

This suppression of intellectual freedom under the cloak of free speech is, unfortunately, not limited to Harvard. In fact the little melodrama which took place there is being acted out, with slight variations, in universities around the country. But while the script might be altered the results are the same — new repressive measures, students suspended, and faculty fired. These attempts on the part of faculties to enforce ideological conformity are of course incompatible with the stated principles of free speech and academic freedom. But for these insecure academics the only *operative* principle, the only real basis of their actions, has been the preservation of privilege — their own faculty privilege. Those of us who are opposed to elitism, special privileges for the few, and a society which encourages social and economic stratification must do more than just expose the unprincipled, reactionary character of elitist behavior. We must demonstrate unity of thought and action: our principles must be sound, our actions must be exemplary.

A.W.

WOODS HOLE

Woods Hole, Massachusetts is known for its scientific facilities—the Marine Biological Laboratories (MBL), the Woods Hole Oceanographic Institute (WHOI), and the Fisheries. Every summer these institutes play host to many young people from elementary school pupils to graduate students who study and work at the laboratories along with many well known scientists.

This summer a series of lectures on science and politics was held at MBL. A few of the young people who attended them, as well as their older colleagues, came away feeling that no real alternatives were offered. Therefore, they invited some of the Boston SESPA people to Woods Hole to meet with them. It was decided that even though the summer was drawing to a close, it might be appropriate to put out a newsletter. Hopefully, this would provide a precedent for future years and would "bring together people who have ideas to share, and the desire to put ideas into action."

SEEING THE FOREST AND THE TREES

This initial bulletin, *People and Science*, contained four articles. One was a preface explaining reasons for putting out the newsletter. Another dealt with unemployment among scientists. Of the two remaining pieces, one was by a high school student and future scientist, and the other was an interview with a secretary and a technician. Since these latter two represent refreshing view-points not often seen in *Science for the People*, we decided to reprint them in their entirety.

The interview below was conducted by one of us with two staff members from institutions in Woods Hole. At the request of those interviewed we have used fictitious names and have avoided specific institutional references. One, Carol, is in her late twenties and the other, John, is in his early twenties. Both have worked in the Woods Hole community a little over a year. Carol has worked as a secretary, and John as a lab technician. We asked them to discuss their view of

how science was practiced, particularly as it affected the structure of scientific institutions and labs, hiring practices, job efficiency, etc.

Carol: When I came to Woods Hole, I started applying at WHOI, MBL, and the Fisheries. I was told the starting salary of a secretary full-time was about \$3700 annually. I said I could not live on that, you know that is ridiculous. Another person in the drafting department at WHOI said the same thing, and was told that part of the pay compensation was the distinction of living in Woods Hole and being able to work at a prestigious institution....

John: What bullshit!

Carol: There seems to be a sharp distinction between personnel and the scientific set where I work. At WHOI I've been told this also happens.... In terms of the scientific set it all comes down to a lack of communication between people who have become so specialized they forget what's going on elsewhere. There is a definite need for more communication between scientists and non-scientists if just to show that these people are interested in other things than their own 'big' projects. But that all involves time.

John: There is a more basic problem of too much competition between research teams. Half the time one team will not tell another the results they are getting so they can publish it first, which is against the whole idea of science. Or, one simply goes to a seminar to try to cut the speaker with any little bullshit question, whether it is pertinent or not, to try to make the speaker look bad, and therefore himself look good. If all the scientists would decide to have some ethics this would stop.

We then asked Carol and John about the differences in treatment of staff and scientists.

Carol: I think it is [also] a matter of personal liberation. For instance, I, a secretary, was hired to type, and that's all I'm allowed to do. I was confined to that completely. If I went off to try and learn about plankton in the lab, I was called and told I should be sitting at my desk even if I had nothing to type. Many times we made ourselves look busy rearranging files in a difficult order, just to make ourselves important, so that no one else could possibly find anything in those files. I've been through that before. And retyping something three or four times simply because I was supposed to be looking busy when there was nothing else to do. Why shouldn't I be learning something on this job?

John: Now as a technician, not necessarily with any more education than the secretaries, I can wander around the lab and pop in on people and find out what they are doing.

Carol: I was not allowed to go to lectures and I was docked in pay if I went; nor was I allowed to take any time off without being docked. So, if I wanted to go to a lecture, I would say, "I'm going out, and I will have to take a 'leave'."

A friend of Carol's from Boston, named Doug, was also present and challenged the point that scientists should take time to teach technicians and secretaries technical aspects of their work. He said it would be disturbing if secretaries came in all the time and demanded, "I want to know. It's my job to know."

John: It's also the researcher's job to teach. If a researcher is there just to learn it himself and pass it on to a few other specialists, then I don't think he should be there. What use is the guy if he is only going to talk to other Ph.Ds? He is not living up to his potential, because the role of the scientist doing research is to find out and then spread the information. I think it's better if all the people, including secretaries and janitors have some idea of what is going on. If nothing else it gives them pride in the organization. It makes a big difference; instead of being impersonal, typing on a machine, or pushing a broom down the hall, they can come in and ask what is going on.

J.V.

Martha was the star of every science class she was ever in, including seven summers at the Childrens' School of Science in Woods Hole. She was doing well as a botany major at a woman's college, when suddenly she dropped out. Now Martha shares her knowledge of botany with other members of an organic farm in Vermont.

Elroy had worked at the MBL for the last few summers, first as a dishwasher and eventually as a lab assistant and technician. He had planned since childhood on becoming a neurosurgeon. However, shocked by the competitiveness of the pre-med program at his college, and disgusted with the pressures put upon him by the draft, he fled to Canada, where he lives doing odd jobs.

Sound familiar? In the last few years there have been many young people from the Woods Hole summer community who appeared to be thriving on an intellectual background only to be suddenly turned off by

science and in some cases by society as a whole. The reasons these kids drop out of intellectual environments are complicated and differ somewhat from person to person. Because of my own background, I have been able to see something of what science is all about and what has made many of my friends, and perhaps even myself, think about seeking other types of work. I have spent eight summers in Woods Hole, six of them at the Science School and the last two as a worker at the MBL. In September I will enter the University of Pennsylvania as a freshman. At times I am very excited about scientific research or medicine. But I am also very scared of what I see as the inborn weaknesses in those careers. I can't accept that it's all up to me to conform to what science demands. The scientific world can and must change not only to attract young people into it, but also to serve people in a socially useful way. What is it about science as it is now practiced that has turned so many people off?

One does not have to be a private detective or a psychoanalyst to see that many scientists seem to care and think more about their work than about people or political issues. That is not to say that scientists don't espouse radical or liberal ideologies. Woods Hole, in the summer of 1968 was "McCarthy Country" and from the number of bumper stickers one would have thought that the nomination was assured. (Apparently it wasn't.) Yet, how many of you scientists continued to work on political issues at home or nationally much beyond that time? How many of you have continued to espouse an 'interest' in ending the Vietnam war, but have not had time to work against it? Scientists, like all people, should be an important political force in their country. They haven't come near their potential even in issues, like pollution, where they might have some special expertise!

Another problem which I see is the lack of concern which many scientists seem to display for people. Even in the informal atmosphere of Woods Hole silly and formal guidelines shape the relationships of people in the laboratory or the classroom. The usual professor-student-technician relationship does not represent a give-and-take situation. How many professors run out to buy their secretaries or technicians coffee?

Still another problem I would like to point out is the common observation of many of my friends that there simply is not enough time for most people to do a science curriculum and still have time left to spend on other broadening experiences. Yet isn't it too bad people cannot do both? Perhaps spending time on personal education, including political action should be considered as much a part of becoming a good person, as spending time in the lab is considered a part of becoming a good scientist.

One serious problem with science is its elitism. Scientists do have special technical knowledge; but instead of using that knowledge to work together with other people in other fields, they seem to use it as a screen from the people at large. They seem to allow that special knowledge to give them a sense of special privilege with respect to others. Scientists have lots to learn from others, too. Isn't it time for people to start breaking down these barriers which isolate them?

One of the worst aspects of science that scares a lot of young people is its competitiveness. In high schools, chemistry, physics, and calculus are destructively used as dividing instruments to separate the 'smart' from the 'dumb'. How could these subjects avoid losing their inherent interest in that context? In some Universities over 50% of the freshman classes start out as pre-meds, only to find that only about a third of them will be admitted to medical school. Exposure to this kind of atmosphere for a period of years leaves its personality effects on students. Some science instructors claim they can pick out the pre-med students in their classes simply by their obnoxious behavior. One has to wonder what kind of doctors they will become.

You may not like or agree with the sentiments I have expressed here. You may feel that much of what I have said is one-sided or simplistic. You may be right. I'm still new at this. But dammit, you'd better care about the original question of why so many young people are turning away from science and the rest of society. Not only are you losing the services of some people who might have made significant contributions but their disenchantment might indicate that there is something seriously wrong with both. A.R.



In May of this year, Science for Vietnam conferences were held in Berkeley, Madison, Chicago and Boston. These meetings laid the foundation of projects to technically assist Third-World countries.

During the summer, the Chicago group published a Science for Vietnam Newsletter and accepted the responsibility for coordinating information. In Boston, people put together a list of books in specific areas

that would be useful to the Vietnamese [see insert]. Various other groups agreed to coordinate work on the following topics: cell and molecular biology, mathematical biology, population biology, entomology, herbicides, warfare damage, forestry, computer and information science, and collecting physics equipment.

A number of people who attended the Chicago meeting from other universities have begun work on the following additional subjects: Berkeley and Washington University on small-scale farming and biological control, Stonybrook and Northwestern on fish culture, and University of Montana and Chicago on bomb-crater ecology.

The Chicago group is also putting together eight series of informational packets. Each series will form a coherent unit that can be used in university courses, seminars, and study groups. Each unit contains bibliographies and a collection of reprints representative of work being done in that field;

Series 1 - Collections of works of scientists interested in an exchange of ideas with Vietnamese. The first contributions to this series have already been sent to Vietnam.

Series 2 - Introduction to population biology.

(a) Competition and species packing, (b) Calculation of diversity and niche breadth, (c) Predator/prey systems, (d) Island biogeography, (e) General diversity problems, (f) Population growth, (g) Artificial selection, (h) Polymorphism.

Series 3 - Mathematical biology. (a) random networks in ecology, development and neurobiology, (b) Complex dynamical, chemical and biochemical systems, (c) Spatial heterogeneity in living systems.

Series 4 - Ecological chemistry. (a) Ecology of medicinal plants and insect/plant relations, (b) Insect communication.

Series 5 - Integrated control of pests of agriculture and man. (a) The use of ants in pest control, (b) The introduction of insect predators, (c) Mosquito biology, (d) Genetics in pest control.

Series 6 - Rice

Series 7 - Computer Science

Series 8 - Tropical vegetation formation. (a) The rain forest, (b) Problems of reforestation.

People having reprints, bibliographies or additional ideas related to any of these fields should contact the Chicago group.

There is a great deal of work to be done in organizing Science for Vietnam projects and collecting material. Since the Chicago group is acting as the clearinghouse, those interested in starting projects and collections should notify the Chicago group (Science for Vietnam, Biology Dept., University of Chicago, Chicago, Illinois 60637). H.B.

The following books are being collected by the Boston group. Books and funds should be sent to *Science for the People*, 9 Walden St., Jamaica Plain, Mass. 02130.

Watson, *Molecular Biology of the Gene*, 2nd edition.

A.C. Lehninger, *Biochemistry*, Worth Publishers.

Bonner and Varner, *Plant Biochemistry*, Academic Press.

D. Skoog and D. West, *Fundamentals of Analytical Chemistry*, Holt, Rinehart, and Winston, 1969.

A.S. Romer, *The Vertebrate Body*, Saunders, 1970.

Wm. Shillman, ed., *Papers in Plant Physiology*, Holt, Rinehart, and Winston.

Strickberger, *Genetics*, Macmillan Co., Macmillan Canada Ltd., Toronto.

Medicines needed:

Methotrexate - an antineoplastic agent. Manufacturer: Lederle Co., Pearl River, New York.

Vinblastin - an antitumor alkaloid, isolated from *Vinca rosea*, Linn., *Apocynaceae*, Manufacturer: Eli Lilly Co., Indianapolis, Indiana.

Isoniazid - most frequently used as an antituberculosis agent. Manufacturer: Lilly or Squibb, New York.

Streptomycin - Manufacturer: Pfizer, New York (among others).

A general request is also needed for antibiotics. If individuals or groups start collection projects please notify the Chicago group.



The following abstract has been brought to our attention as being indicative of the kind of work which has stimulated an increased emphasis on social science research in the government. Note the clear implications of this Air Force study for both military and scientific purposes.

UNCLASSIFIED

DDC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. /ZONC2

AD-630 793 5/10 5/11
BUREAU OF SOCIAL SCIENCE RESEARCH INC WASHINGTON D C
WORSHIP AND THE DANGEROUS LIFE: A STUDY OF CHURCH
ATTENDANCE AMONG SPORT PARACHUTISTS. (U)
DESCRIPTIVE NOTE: TECHNICAL REPT. , 1963-1965,
DEC 65 55P KLAUSNER SAMUEL Z. :
CONTRACT: AF 49(638)-1510,
PROJ: AF-9779,
TASK: 977901,
MONITOR: AFOSR , 66-0124

UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE:

DESCRIPTORS: (RELIGION, PSYCHOLOGY), (PARACHUTE
JUMPING, RELIGION), RECREATION, EMOTIONS, FEAR,
MOTIVATION, BEHAVIOR, ANXIETY, ATTITUDES,
PERSONALITY, PROJECTIVE TECHNIQUES,
REACTION(PSYCHOLOGY), ANALYSIS OF VARIANCE,
STATISTICAL ANALYSIS, SOCIAL SCIENCES (U)

THE DATA FOR THIS STUDY WERE DRAWN FROM 825
QUESTIONNAIRES RETURNED BY MEMBERS OF AMERICAN
SPORT PARACHUTING CLUBS. AMONG PROTESTANT
PARACHUTISTS, THE EMOTIONALLY VOLATILE ARE MORE
FREQUENT CHURCH ATTENDERS THAN THE RELATIVELY CALM.
AMONG CATHOLICS THE REVERSE IS TRUE: THE CALMER
TYPES GO TO CHURCH WHILE THE MORE VOLATILE TEND TO
STAY AWAY. SKYDIVERS WHO AVOID THINKING ABOUT
THEIR FEAR OF JUMPING ARE, ESPECIALLY AMONG PROTESTANTS,
MORE FREQUENT CHURCH ATTENDERS THAN THOSE
SKYDIVERS WHO EXPRESS THEIR FEAR. CATHOLICS
WHO EXPRESS THE FEELING OF FREE FALL IN SENSORY AND
ESTHETIC TERMS ARE MORE FREQUENT CHURCH ATTENDERS
THAN THE CATHOLICS WHO CONFRONT THIS EXPERIENCE IN
A SIMPLE, DESCRIPTIVE, MATTER OF FACT WAY.
PROTESTANTS WHO GRASP THE FREE FALL EXPERIENCE IN A
MATTER OF FACT WAY WERE MORE FREQUENT WORSHIPPERS IN
THEIR CHURCHES THAN THOSE PROTESTANTS FOR WHOM FREE
FALL IS AN ESTHETIC OR SENSORY EXPERIENCE.
PROTESTANTS WHO FELT THAT HARM BEFALLING A SKYDIVER
WAS DUE TO FATE—THAT IS, PREDESTINED OR DETERMINED,
RATHER THAN A RESULT OF THE JUMPER'S IRRESPONSIBLE
BEHAVIOR, ARE MORE FREQUENT CHURCH ATTENDERS.
CATHOLICS FOR WHOM SKYDIVER INJURY IS DUE TO HIS
OWN RESPONSIBILITY ARE MORE LIKELY THAN FATALIST!
CATHOLICS TO BE FREQUENT ATTENDERS AT MASS.

(AUTHOR)

(U)

UNCLASSIFIED

/ZONC2

CHAPTER REPORTS

St. Louis, Missouri

Although several contacts on the campus have been helping to distribute *Science for the People*, we have not had any formally organized SESPA group here previously. However, some of us in the various science departments are working on a couple of little projects, not enough to form a complete organization around, but which need to be done. One is sending technical books to Cuba; the other is getting together a packet of information for Dick Levin's "Science for Vietnam" project. Another group here has been working on a film about McDonnell-Douglas Corporation, including interviews with a number of laid-off workers. The film is expected for completion sometime this fall, though there are some technical problems to be solved.

We think that a regularly functioning SESPA chapter is a real possibility here. The way we are generally going to proceed is to try to build out of some of the groups already in operation. My experience is that the most effective and permanent organizations arise from people who are working together on something specific; out of their initial collaboration, a more permanent group can form. We're going to see if that approach is successful here. Since McDonnell determines a lot about the economics of the city, and since it employs many people in the engineering and science areas, it is a good target for beginning some kind of SESPA organizing. But it may be a while before we can honestly report that anything viable is in operation.

G.A.

Venice, California

We began organizing at the beginning of 1971 as a chapter of the Computer People for Peace. At that time, we intended to emphasize organizing among aerospace workers because aerospace employs so many technical workers in L.A. and because of the industry's obvious complicity in the Vietnam war. During 1970 we had public meetings once a month which attracted as many as 40 or 50 persons; films were shown and we had invited speakers from other movement groups including a representative from TASC in the Palo Alto area.

However, during that time we did not make significant progress as a group because of lack of focus

and the failure to develop a core of committed persons. We also underestimated the difficulties of organizing in aerospace (we hoped to have a group within each major company) which seemed to be primarily due to fears of losing security clearances as well as the more general problem of unemployment. We did start a newsletter (*Aerospaced*) of which only one issue has been published and initiated a leafletting campaign of aerospace companies. Leafletting became a major hassle because of the physical arrangement of most of the companies and because of the quick response of security guards. Several people working with us who have security clearances have been subjected to special investigations as a result of their activities. More about that later.

The group fell apart at the beginning of 1971 because the few people who were doing most of the work were unavailable for a few months. Since then we have started again but with a small group which meets weekly with the intent of spending enough time together to get to know each other and to have activities develop more slowly but (we hope) more solidly. There are about 6 people involved. The individuals range from persons employed in aerospace, laid-off aerospace workers and persons employed in commercial firms, to full-time movement people. We need to develop closer links with the universities and other non-industry oriented groups.

A major recent activity was assisting the Peace Action Council (a coordinating council of movement groups in L.A.) in computerizing their mailing list. In the process we helped train persons in keypunching and in understanding aspects of computer systems. We hope to continue this kind of work in showing how the movement can use technology and to help develop small scale technologies appropriate for people's problems. We are publishing a pamphlet on one's rights in security investigations and are planning another which discusses the position of a person who has and wants to keep a security clearance and who is also working for the movement. We are also planning activities in support of Ellsberg which should be a critical issue for organizing. Another activity which we have discussed is sponsorship of a workshop on science teaching which would focus on the ways in which current science teaching limits the ways we look at the universe, our culture, and ourselves.

Four of the people associated with our activities have been called in for special security hearings by DOD agents. The situation is too complex to summarize here but the important consequence from an organizing context is that an atmosphere of fear has been created which makes it difficult to even talk to fellow workers, let alone involve them in activities. We are planning countermoves to this harassment and can use any information that can be supplied by you or your readers as to similar experiences. We will be glad to supply information on the situation in L.A. in return.

We have only seen two copies of *Science for the People* but the reaction has been generally positive. We will get together a more detailed critique of the magazine in the next few weeks. Finally, we are beginning to feel that Computer People for Peace is too narrow a name for the L.A. area and that a name indicating a broader group would be better. In the interim we are calling ourselves the Technology Working Group; however, we have discussed organizing a SESPA chapter and would like to get your comments on that.

K.Z., D.M.

STATISTICS FOR THE PEOPLE

Did you know that:

.....one \$500,000,000 aircraft carrier equals 340 elementary schools.

.....one soldier on the front in Vietnam costs \$90,000. That equals eleven teachers' annual salaries.

.....fuel for one jet for one hour equals two and a half months of food for a family of four.

.....the \$28 billion spent annually on the Indo-China war equals 1,120,550 houses (at \$25,000 each).

.....Health Education & Welfare's Facilities Design budget for 1970 is about \$9,000,000. This equals 3 hours of the Indo-China war.

.....it costs the U.S. about \$500,000 to kill each Viet Cong soldier. This equals the funds the federal government provides for the support of every 3,400 people in our schools and universities.

.....federal funding for environmental systems research, design, and development on air pollution, water pollution, thermal pollution, etc. is roughly \$200,000,000. This equals 3 days of the Indo-China war.

.....high speed ground inter-urban transportation systems research, design, and development funding for fiscal 1970 is estimated at \$13,000,000. This equals about 4 hours of the war.

.....funding for intra-urban systems is estimated at \$60,000,000 for fiscal year 1970. This equals less than one day's fighting in the war.

Statistics courtesy of Loc. 1990, AFT

LETTERS

Dear SESPA:

The article "Birth Control in Amerika" in your December issue has only just come to my attention, and, initially, I thought that this gem was a clever spoof. On more careful reflection however, I have come to the conclusion that it was actually written by three men who were rather clumsily pretending to take the oppressed women's side. Nothing is more likely to keep the women of Puerto Rico and Haiti — two countries of apparent concern to R.A., C.H., and C.K. — in their present status than to follow the ticky-tacky advice of the three authors, to wit: Don't trust a doctor, but be sure that the man uses a condom.

Are R.A., C.H. and C.K. seventy year old celibates, or have they just graduated from a monastery?

Carl Djerassi
Professor of Chemistry
Stanford University

The following is a response from one of the authors:

Dear Mr. Djerassi:

In regard to your surprise about our article in the *Science for the People* magazine, it will be of interest to you to learn that many women share the views expressed in that article. They feel that, indeed, the whole burden of reproduction control has been unjustly put on their shoulders and that it is about time that men be faced with their responsibilities. Industry and research carry their sex bias in the type of contraceptives they develop and produce so much so that the term "birth control" automatically has come to mean control of the female reproductive organs.

We are not nuns, nor males in disguise, as you sarcastically suggest in your letter. Quite the contrary, we are young women, with full reproductive capacity, and we have had first hand experience with the birth control methods that are being advocated for us by the male scientific elite and are being used in experiments on the poor women of Puerto Rico, Haiti, Thailand, etc.

Sincerely yours,
Rita Arditti

Dear Miss Arditti:

Thank you for your rather belated reply of September 11 to my letter of April 14 and my follow-up note of August 4.

You are quite incorrect to state in your letter that I was surprised about your article. None of my letters refer to any surprise, but simply to a request that my letter of April 14 be published in the "Letters to the Editors" column.

I am rather amused at your sensitivity to my letter which was quite brief as compared to the *viscious diatribe (emphasis ours)* that you and your co-workers produced in the December issue of "Birth Control in Amerika." You know nothing about me nor of my activities or motivations in science in general and birth control research in particular. Nevertheless, you apparently considered it perfectly reasonable to publish a paper in which among other compliments you refer to me as a "ticky-tacky professor," as "Djerassi the bandit," etc. Yet when I use the comparatively mild term "seventy year old celibate" to describe you and your collaborators you become quite upset. This is rather typical of the total lack of perspective, total lack of sense of humor, and extreme supersensitivity on the part of strident radicals.

I would, therefore, simply like to repeat my question of August 4. Will "Science for the People" publish my letter of April 14 in their Letter to the Editor Column or are you, the editors, too terrified to see it in print?

Yours sincerely,
Carl Djerassi
Professor of Chemistry

Note: *A double-blind study concerning the side effects of the Pill was recently conducted by Dr. Joseph Goldzieber of the Southwest Foundation for Research and Education in San Antonio, Texas.*

The experiment was conducted, for the most part, on poor, multiparous Mexican-American women, none of whom were informed of their role in this study. Although all the women came to procure information and assistance for the purpose of preventing further pregnancies, seventy-six of the women received dummy pills, while another group was given various hormone contraceptives. Ten of the seventy-six women given placebos became pregnant.

This study was funded by Syntex Laboratories and the Agency for International Development. Mr. Djerassi is president of Syntex Research and has been a member of the board of directors of Syntex Corporation since 1960. Syntex Laboratories is the administrative unit of Syntex Research and is a subsidiary of Syntex Corporation. (Description of experiment taken from Hastings Center Report, June 1971, of the Institute of Society, Ethics, and the Life Sciences.)

Dear *SESPA* People:

I would like to describe very briefly my experiences during a recent visit to the Charles Pfizer & Co. headquarters in Groton, Conn. where I was invited to give a seminar for the research workers of that company. After discussing my scientific work, I spent some time outlining the problem of the exploitation of scientific and technological knowledge as applied to the pharmaceutical company. I pointed out that the overriding concern of the pharmaceutical as well as of other companies is to maximize profits by any means possible and that this concern resulted inevitably in a conflict between the desires of the company and the public health needs of the people; the resolution of this conflict in favor of the former constitute a misuse of the fruits of scientific research.

I pointed out that the results of my research, as well as the results of theirs, were likely to be thus missused, but that they were in a better position to do something about it than I was on my own, and so I felt it important to discuss this situation in the hope of beginning to deal with it in a collective way.

I suggested that the beginning of a positive approach was put forward by Ralph Nader who recently urged that the industrial workers at all levels organize to protect against retribution those of their number who detect immoral or illegal practices by their company and have the courage to expose them. I said, however, that although this was a constructive beginning, it did not go far enough. I suggested that in addition, the workers at Pfizer organize a committee to evaluate the projected pharmaceutical developments of the company on grounds other than potential profitability, and to exercise control over company practices in this respect. I noted that such a committee would have to have the support of the majority of the working force in order to be effective.

I admitted that it was unreasonable to expect Pfizer workers to undertake such action in a vacuum but voiced the hope that they might constitute a vanguard in this respect, and that workers in other pharmaceutical companies and other industries would follow suit.

Although this part of my seminar was received with something less than a standing ovation, it did provoke a lively discussion that I found instructive. Only a small minority of the Pfizer research workers in attendance were sympathetic to the position I put forward. Most of the comments contained, in essence, the sentiment that the company was primarily concerned with the health needs of the people, that it always evaluated potential developments on the basis of real medical needs and, moreover, they were in no

position to judge whether or not the company was making exorbitant profits.

When I mentioned the frequent practice of introducing a minor chemical modification into an existing drug in order to get around another company's patent, they produced the standard defense of this practice, namely that it created competition and that it generates revenue for the company which would be turned back into research on important medical needs.

I found it very difficult to get them to see the inconsistencies in this position, but ended up with the feeling that I could have done better had I been armed with a great deal more factual material on company practices.

I think, in conclusion, that it is worthwhile to provoke discussions of this kind and to attempt to find a common ground between industrial scientists and ivory tower scientists for the development of a cooperative approach to the exploitation of science and technology by the corporate state.

I suggest that anyone who speaks before an industrial group be very well armed with specific facts that bear on the arguments that will inevitably be raised. This requires discussions in advance so as to anticipate effectively the kinds of response that will be generated.

Richard Novick
New York, N.Y.

Dear Dick,

Nothing pleases us more than to get a letter that deals with actual experience about trying to get people to organize at the workplace — nothing, that is, except to get such a letter in which there is also a \$100 check. Thanks, brother — on all counts.

The editorial committee asked me to consider writing some comments because they felt that your letter raised some questions on how best to stimulate workplace organizing — an activity in which I have some experience. To provide specific, concrete advice or criticism on the experience at Pfizer, I would need more information than provided in your letter, so I shall use this excuse to write about some generalities concerning workers like those at Pfizer and the problems of stimulating them to organize themselves.

Let me get a little "picky" about certain statements in your letter; it helps to motivate my discussion. In the first paragraph where you wrote of the "desires of the company," and later where you wrote of "immoral or illegal practices," and in other places you provide by implication a *voluntarist* interpretation of economic practices. By this is meant that the practices are the consequence of certain willful beha-

viour, and that thus, there are alternative patterns of willful behaviour which would be beneficial.

You were addressing fairly sophisticated workers — workers who probably know more about the business operations and motivations of their employer than you or I do. They can imagine themselves in the bosses position and perceive, thereby, that they would probably make most of the same decisions that their bosses made. Such a perception does not necessarily lead to defeatism; on the contrary, a most oppressive aspect of capitalism for many privileged workers is that very inexorable, dominating, machine-like, nonhuman property of the institutions in which they are compelled to work. The laws of the market, the requirement that the firm survive and prosper so that their jobs remain — these determine the restricted range of choices for the management, *whoever the management may be*. In short, capitalists are dehumanized instruments of capital, and workers who accept the premises of capitalism, the legitimacy of the capitalist superstructure, are no more than the instruments of the productive process, which in turn is only the instrument for the reproduction of capital. That is why any position short of a total critique (liberalism) has no chance among the Pfizer workers or any other workers. The most perceptive among them immediately realize the unreality of the liberal position.

How then, you may say. Well, to begin with, you recognized that you could not appeal to their self interest in the usual sense of material self interest. So you appealed to their moral sensibility. Again to be "picky" I find your phrase, "misuse of the fruits of scientific research," (end of 1st paragraph) suggestive of why you did not find a larger conception of their self interest to which to appeal. For the "scientific research" is not an object that exists apart from them. It is the product, the very substance, of their labor. Thus, the misuse of science not only hurts other people; it is a direct, alienating offense to us — to the scientific worker himself. Pfizer's managers know that only a few, the most cynical, can be gratified by the material compensation that the company allots them. Even then, managers don't usually want such consciously alienated employees; that is why they try to warp the workers minds to capitalist ideology. But, like all workers (regardless how much they are paid) the men and women of Pfizer seek pride in their work; they want to be useful and productive. They are aware that their human needs cannot be distorted into desires for material things, and it is our task as politically conscious scientific workers to help them come to realize that the only way they can be gratified

as useful, creative, contributing, human workers is by changing the political economy in a social revolution.

One can appeal to the most oppressed segments of the working class on the basis of their material deprivation. They can readily be organized to fight for bettering their conditions. Many will see the need for revolutionary change, but as long as capitalism remains adaptable, viable, many of these struggles can be won without revolution. But for workers like the Pfizer workers, no solution short of total radical change can alleviate the frustration of meaningless lives and constrained, unacceptable choices. It is thus our task to bring them to disquietude, to bring them out of their trance of commodity fetishism and self delusion.

In practice we should proceed from our fellow workers' description of their everyday work experience and attitudes to the more general systematic analysis. We should also start first with those issues on which the workers are already in conscious antagonism to their bosses. Then they are less likely to defensively take the owners' position when their own role in the drug industry's disgusting operations is discussed. After all, we don't want them to feel guilty or responsible for their past complicity; they must become angry at the system and the class that has put them in that role.

Finally, let me take issue with your suggestion that we "be armed with specific facts." Such an emphasis can create some problems. Scientists and engineers are wont to comfortably immerse themselves in games of fact and counterfact, and, in the process, avoid dealing with themselves, their feelings, their attitudes, and their social, economic and political role, and the context in which the facts are put forward. Of course, we all know that that is not science — fact mongering without analysis. *Real science is what is needed.* For, as Marx wrote, ". . . if the form in which things appeared and their reality exactly coincided, there would be no need for science." The form that appears, of happy, well-paid, creative scientists providing wonder drugs for the world's sick, administered by generous doctors and produced under the benevolence of freely competing drug manufacturers, does not coincide with the ugly reality of sickness unattended, ineffective and misrepresented medication, costs that prevent the poor from benefitting, use of women as guinea pigs and the general waste and misdirection of human talent.

SCIENCE FOR THE PEOPLE!

Herb

Dear SESPA:

I thought that the last issue of *Science for the People* [July/Aug, Ed.] was very interesting. I'm glad to see someone doing something about NSTA. Could I get a copy of the *Critique of Science Teaching*? I have used non-traditional methods and content in my own teaching for a number of years, I feel with good results. Unfortunately, the effect on other teachers of my stirring up students to really think has been quite negative and between this, the local attitude towards women in science, and the current recession, I seem to be unemployable, oh well . . .

I am in whole hearted agreement with the critique of the New York SESPA Newsletter. It's nice to be a purist, but it's a luxury. I'd rather see the capitalists making their profits from fighting pollution than from making better ways to kill people. Until the society we live in is restructured we can't afford to wait; the surface of the earth can be made uninhabitable by other means than radiation.

Sincerely yours,

Selina Bendix

Berkeley, California

Dear Bill,

I've read the *Science for the People* issues I got at the convention and find them very interesting.

I am becoming convinced that we can now begin to engage the discussion of the twenties (or at least similar to that discussion) in Europe on the relationship of the intellectual to a revolutionary movement. Until now, the best that we have been able to do is to adopt what I call the critical attitude. The task we have—and it is a huge task—is to go beyond criticism and begin to develop a new style of work.

The fascinating thing about reading *Science for the People* is that it is still very much an ambiguous movement. There is a lot of moral outrage, which is the beginning of a movement, but doesn't carry us very far. The germ of the project is correct—we must figure out some way to be of service to the movement, even when the movement may be hard to find in an organizational way. If we get hung up on being the critic who stands above the struggle and condemns all sides, we have failed. We need to engage, now, in a struggle against many of the critics of the sciences and develop a theoretical perspective.

One of the tasks of *Science for the People*, might be to try to bring together a discussion of various people around the problem of how we go

beyond criticism. In particular, we need to begin to develop a theoretical perspective that sets us apart from the moral outragers. Out of such discussions, there ought to come some understanding of what people are doing and where we will be using our skills, whatever they are, within the next year or two. The movement must begin soon to try to allocate projects and to keep people in regular communication or else we will continue to move from one fad to another.

I would like to know from you and other people involved in the project what theoretical work might be going on. In addition, some contacts with social scientist types would be most helpful.

Ken

Dear Mario:

You ask about conditions at BTL [*Bell Telephone Laboratories*]. I would describe it as an **IVORY TOWER**, . . . pure science proceeds relatively unobstructed by the need for searching for finding etc, and only occasionally by the need to justify to MA the relevance of the work. That applies only to the area of the lab I am most familiar with, however, the large (huge) area of scientific research; the bulk of the lab is working on "Bell System" type work; also, there are approximately 1,300 employees at Whippany doing military work on Gov't contract. This is being reduced (by an internal policy decision) to a projected permanent staff of maybe 600 people 6 years from now. The internal transfer from Gov't to Bell system work is absorbing most of the funds normally allocated to new hiring. Consequently there is somewhat of a feeling of economic squeeze and a concomitant increase in the pressure for relevance-to-Bell-system in the research. This is a fairly minor perturbation, but unusual in a company operating with a fixed profit margin.

Bell Labs is notorious in the academic world for being "high pressure," a criticism I can verify. The crack in the ivory tower is a steady leak of research personnel into applied (Bell-System or Military) research. Sometimes this inducement is a promotion. More often it occurs slowly thru a series of transfers which tend to move the older or possibly the less productive researcher out through successive steps. The pressure is particularly high on the new employee who is likely to be labelled "temporary" and offered something less than his expectations when the temporary term is up unless he really produces.

As for political consciousness here, there is a fairly well organized group of ecologically minded liberals in the pure research area. These people are of

course mostly operating well within the capacity of the fairly rigid Bell system to adapt, although they did once really rock the boat when ABM was being debated. There is no doubt that within BTL, consciousness has expanded slightly in the years since then, but we are still quite backward.

There is of course a number of somewhat more disaffected people who have no organization and no hope that the COMPANY can adapt to accomodate their life styles or their less rigid attitudes toward science. My own place in the spectrum is not well defined - I really don't quite know how to relate to BTL and now that my temporary term is up I am leaving rather than trying to scrape up a job somewhere inside BTL.

My own worst criticism of BTL has always been the rigid class structure which separates scientists from the technicians working with them, and both groups from secretaries, and so on. For me, this makes the human environment quite unpleasant. I suspect it is an intentional procedure on the part of the lab administration to discourage trends which would break down some of these barriers, and I can cite one excellent example. Black employees are quite a distinct minority relative to the general population of the area. (The lab is located just north of the hills which separate the white ghetto to the north from the racially mixed areas to the south.) Blacks at BTL have always felt oppressed; promotions were rare and racially insensitive peers and supervisors are the rule. It is only within the last year, however, that the Blacks have gotten together and realized they were all in the same boat - PhD's, MBA's, BA's, secretaries and caretakers all had common grievances, but hadn't been able to break down class distinctions and get organized. A year ago, organization finally began, so quietly that the administration was totally taken by surprise, and forced to negotiate. This movement was accomplished so quietly and skillfully that most people here, outside the Blacks and higher level administrators, are unaware that a revolution of sorts actually took place.

A deeper analysis of BTL and its internal and external roles is obviously needed, but I am not all that fond or good at political theory, so I will close. Maybe sometime we could get together and talk, if you would like further rambling from a former inmate of the asylum.

Yours in Community,
Phil Allen
Stony Brook, New York

ETHNIC WEAPONS

continued from p.5

During the first half of that year, several laboratories reported factors engaged in passing over the genetic message from DNA, the primary command post, to RNA which relays the chemical signal. The enzymatic process for RNA production has been known for some years, but now the factors have been revealed which regulate the initiation and specificity of enzyme production. Not only the factors have been found, but their inhibitors. **Thus, the functions of life lie bare to attack.**" 2

Although this article appeared in *Military Review*, the author is no military man, but a scientist. Carl Larson is a licensed physician and head of the department of Human Genetics at the University of Lund in Sweden. A coworker of his made the following statement about Larson: "I have been his working companion here at the laboratory for more than 20 years and can guarantee that he is an unusually fine person, who is fighting with all possible means against racism, war propaganda and all kinds of oppression."

Larson offered the following in defense of his article: "I, Larson, think military action as a substitute for rational negotiation extremely unsound. Chemical warfare is by international law, criminal. I do not recommend crime, major or minor. There are people giving intimate details about virus provoking cellular changes conducive to neoplasm, their motive seems to be that their conclusions, right or wrong, tentative or advanced, should be observed among people qualified to take action (against viruses). They don't publish in general magazines telling people they don't like virus and are against cancer.... This is a chilly reality. It is a reality the *Military Review* thinks worthwhile discussing openly. There was, to my knowledge, no other way to bring this threatening development out into the open in such a way that civilian and military authorities can say No, we won't have chemical weapons, selective or otherwise, they are simply suicidal."

It seems rather cynical to offer as a defense the notion that such weapons would be suicidal. Throughout the article he reports and elaborates researches and tactics (which are not even in the strict domain of research) to be used against non-Caucasians. The wording simply cannot be construed to be a subtle warning to the military. Not only has he failed to make clear any reasons why the methods he describes are morally or militarily undesirable but the tone of the article is that of exploitation of scientific facts for clearly destructive purposes.

As an example of how well Larson's "warning" was understood by an army man, here is an excerpt from a letter received by *Military Review* in response

to the article. "...the lead article "Ethnic Weapons" is one of the most thought provoking to appear anywhere in some time. The military implications of the research upon which Dr. C. A. Larson reported are doubtless greater than any of us realize at this point. I would hope that the article might stimulate further discussion of this matter." Col. O. W. Martin, Jr. USA.

We can assume that Larson is aware of his contribution to the development of chemical weapons, or that he is very naive. That is not the point. The much more important question remains of how many other scientists are unknowingly implicated in such projects. At one point in his article, Larson refers to a grid consisting of a plot of genes necessary for enzyme production versus substances which turn off and on the making of active enzymes. In making this type of grid, Army researchers could easily peruse basic research journals and collect pertinent data on genetic and enzymatic research and epidemiological studies. If the Army cannot dredge up all the data it needs, it will hire the rest done.

We already know that the U.S. Public Health Service funds research on inheritance of susceptibility to disease. They have supported work not only on diseases affecting North Americans, but also those affecting foreign populations—Brazilian, French, Canadian, Japanese, African, Chinese, Thai, and Peruvian—to mention a few. This is not to say that the Public Health Service is the henchman of ominous military research, but that their surveys may well be used for purposes other than those originally intended. In fact, as the letter below shows, a well-intended effort to end discrimination may pose a dilemma for a scientist in our society:



SOUTH AMERICAN BLASTOMYCOSIS

2 Emphasis added by the authors

"Recently, as part of a study of the genetic control of antibody specificity, I tried to collect blood samples from Negroes who had produced certain antibodies. I wrote to many blood banks in many states requesting that they send me as many Negro-derived antibody-containing specimens as they could. The responses have been that if a Negro individual is being investigated at this very moment, then a specimen can be sent to me. Blood bank personnel cannot screen their name files of individuals possessing antibodies to determine what the racial origin of these persons might be because the information does not exist. I find the situation deplorable, for a whole line of productive research may be closed to me or, if not actually closed, I will find that entirely unnecessary obstacles have been placed in its way."³

In our present exploitative society, the use to which basic research is put is not under the control of the people. The anti-human uses of science can only be prevented across the board in a society whose first priority is the fulfillment of human needs. The pressure for the creation of such a society cannot come from scientists alone, but they should do their part to demystify scientific developments for the public, which in turn should be alert to misuses of science.

Right now, for example, struggle is taking place in San Francisco which shows how scientists can work with other groups to fight the misuse of science. The Army is building a \$28 million research facility (Western Medical Institute of Research - WMIR) at the Presidio. Despite official efforts to hush up or distort the real purpose of the WMIR, there is much evidence that the institute is going to be a chemical and biological warfare research facility specializing in ethnic weapons.

The townspeople of Frederick, Maryland did not know that Fort Detrick was a germ warfare research station until several years after it had been built, but people in the San Francisco area are aware of the objectives of the WMIR and have mounted a protest campaign. They have formed a broad Coalition Opposed to Medical and Biological Attack (C.O.M.B.A.T., for short) which is composed of G.I. groups, a women's group, several groups of Asian background, and scientists' groups, of which SESPA is one.

The Army cannot seem to agree on the purpose to which the WMIR is going to be put. It has been variously described by officials as a place for team research on "exotic diseases in remote areas of the world where American troops may be stationed" (Army Surgeon General, March 16, 1971), as an institute "to study jungle rot and to develop new mosquito repellents" (Public Relations Officer, Letterman, July, 1971) or as a facility whose primary "work will be in tropical

skin diseases and how these diseases affect the troops in the field" (General Taylor, director of the U.S. Army Medical Research and Development Command, July 1, 1971). In addition to the Letterman Army Institute of Research there are going to be at least three other similar institutes involved in the formation of WMIR: the tropical medicine division of the Infectious Disease Department of Walter Reed Army Institute of Research, the Medical and Metabolic Research sections of the Research and Nutrition Laboratory in Denver, Colo. and the Psychophysiology, Biophysics and Laser sections of the Army Research Lab at Fort Knox, Louisville, Ky. The research facility will have equipment similar to that used at Fort Detrick, Md., a major CBW installation now being phased out, complete with "Biological seals, sterilized air locks, and ultraviolet barriers - devices for closing off building areas against lethal biological agents."⁴ Also security clearance will be required for people who work there.

If we accept for a moment the government's statement that WMIR is a medical research facility, then the question remains, why do we need a research facility for the study of tropical diseases that might affect American soldiers when the President is supposedly disentangling himself from involvement in tropical warfare and about to usher in a millennium of peace?

Since, however, everything suggests that biological warfare research continues to be done despite Nixon's pledge against use of lethal or incapacitating biological weapons, we must address ourselves to a number of different problems. Why is WMIR being built for \$28 million when Fort Detrick has all the facilities needed? This may indeed mean that the phasing out of Fort Detrick is merely a step taken to pacify and divert the public or is Fort Detrick being dismantled because they now have found better (ethnic) weapons? Is it a coincidence that WMIR is being built in the area of the highest concentration of people of Asian descent in the country? This last question is particularly important to pursue because of its possible direct implications for the people in the area. After all, the research for ethnic weapons will require a lot of background data on specific populations. Also, it will not be done solely at WMIR, but will require the basic research done at the universities, consultants from the universities, and scientists in general who may or may not know to what uses their work will be put. (The importance of this personnel is evident from the rather evasive and illogical answer given by the authorities to the question of local residents, why the institute is being built in a major earthquake zone. Answer, "San Francisco was an optimum area to recruit the kind of mobile scientific talent" re-

3 *Science*, April 30, 1971, p. 427

4 "Presidio Papers" in *Combat Ethnic Weapons*, Vol. I, No. 1, July 1971, p. 11

quired.)⁵

COMBAT held meetings this summer and distributed a newsletter, *COMBAT Ethnic Weapons*, describing the nature of ethnic weapons and actions centering on WMIR. Because the initial newsletter was rather long and perhaps somewhat difficult for non-scientists to read, shorter leaflets were subsequently used and organizing efforts are now concentrated in several community groups to reach more people more effectively.

COMBAT put forth three demands:

1. That *all* U.S. stockpiles of CBW weapons in Asia and in the rest of the world be destroyed.
2. That the U.S. sign the Geneva Accords concerning the use and development of CBW weapons (as interpreted by the U.N.), which it has repeatedly refused to do. Also that the U.S. end all research on CBW.
3. That further planning and construction of the \$28 million WMIR building cease immediately until a CITIZEN'S REVIEW COMMITTEE, made up of representatives from Third World Communities, is formally recognized by the project's administration and empowered to initiate at any time an on-the-spot examination of the research being done at the center. Also that the military turn over administrative control of all research to civilians.

Although a very important point has been raised in the third demand, namely that of the people's control over scientific work that affects their lives and the lives of others like them, we disagree with this demand as it stands. By asking for the Citizen's Review Committee to be formally recognized by the project's administration" the administration and its actions are actually considered legitimate by the Committee. As such the demand also contradicts the last sentence of the second demand.

Be this as it may, popular control is the intended goal and we wholeheartedly support it. Complete control by the people over WMIR — including the decision over whether it should be built — is a truly revolutionary demand because it represents a genuine need of the people around which they are determined to struggle and to which the system cannot respond with reform measures. To let the people decide would interfere with military priorities; it would also upset the routines of the scientists, in fact it is wholly incompatible with the way decisions are made by "experts" in our democracy.

Nonetheless, or rather because of this situation, actions should center on the demand for people's control. But this can only be fruitful if people on the inside of WMIR or future inmates such as scientists are involved in the struggle. This means that scientists and

non-scientists have to learn to communicate, that scientists have to listen to the needs of the people and make every effort to demystify their work and question their roles. Only through such actions and dialogue can we get closer to Science for the People.

B.F. and C.M.

CBW Readings

Books:

CBW: America's Hidden Arsenal by Seymour Hersch, Doubleday Paperback, 1969. A very readable account of the development and use of chemical and biological weapons. Attacks the claim that the research is defensive in nature, pointing to the heavy preponderance of work on delivery mechanisms. Written by a journalist.

The Ultimate Folly by Congressman R.D. McCarthy, Alfred Knopf, 1969

Tomorrow's Weapons by J.H. Rothschild, McGraw Hill, 1964. This is considered by military men to be a classic exposition on CBW.

Articles:

Elinor Langer "Chemical and Biological Warfare (I) The Research Program, (II) The Weapons and Polices" *Science* 155:174-9, 300-304, January 13 and 20, 1967.

Victor Sidel and R. Goldwyn "CBW—A Primer" *New England Journal of Medicine* 274:21-27, January 6, 1966.

T. Rosebury "Medical Ethics and Biological Warfare" *Perspectives in Biology and Medicine* 6:512, 1963.

J.T. Edsall, J. Mayer, A.W. Galston, R. Romero, M. Leitenburg, V. Sidel et al Chemical and Biological Warfare (A special Issue) *Scientist and Citizen* 9: 113, 1967 (aug.-sept.)



5 *Ibid.*

LIBERATION IN THE LIBERATION

Reprinted from Sechuba, a South African liberation magazine.

It was Shirley Chisholm, the black American Congresswoman, who said recently that she had faced discrimination all her life—but that she had suffered more as a woman, than as a Black.

Under the regime of Apartheid, it would not be possible for any black South African woman to say the same; in this society, colour oppression is overwhelmingly predominant. Nevertheless, it would be possible to say that discrimination bears even more heavily on African women than on African men.

Because of apartheid's assault on family life, it tends to be the woman who bears the major family responsibility, the major burden of daily anxiety.

Despite this, women have played a magnificent role in the political struggle in our country. In resistance, in protest, in political commitment, they have been uncrushable. Rightly, at the massive women's demonstration against the Pass Laws, held in Pretoria, did women sing "Strike a woman—and you strike a rock."

Women have a vital role to play in every area of the struggle. Our movement can never be one of those in which 'revolutionary' men see woman's political role as that of a "hewer of wood and drawer of water"—or to put it more precisely, a "typer of letters and maker of coffee." Our movement cannot be one where the mention of Women's Liberation is greeted by jokes about the burning of brassieres. (This inane laughter is a sure sign of that classic petit-bourgeois attitude: male chauvinism.)

Let us constantly check up, and ensure that our woman are playing a full and equal part.

1. Let us ensure that women are represented on the leading decision-making and executive bodies of our Movement.
2. Our Movement, from time to time, sends people overseas from South Africa, to represent it in various countries, and to organize solidarity work. Let us ensure that a good proportion of these representatives are women.
3. Women have played a full military role in liberation struggles in, for instance, Cuba and Vietnam. Let us ensure that there are many women amongst our freedom fighters, and amongst those who are receiving military training.

4. In many areas of solidarity work, women can be more effective than men. For instance, women's groups, church groups, and most humanitarian organizations are likely to be more impressed by a concrete account of life under apartheid given by a woman who has had to bring up a family in this situation, than by a lecture from, say, a young male student. When our Movement is asked to send speakers to meetings, let us ensure that these are often women.

5. Youth and Discussion groups within our Movement often hold seminars and prepare political papers. We must encourage women to participate in these activities. I say 'encourage', because as a result of their conditioning and, in many cases, their inferior education, women are tentative about volunteering their opinions.

6. When our Movement holds public or internal meetings, let us ensure that women frequently speak, and are present on the platform.

It would be unrealistic, in view of woman's history of subjugation and of man's history of dominance, to expect women, immediately, to play an equal part, in terms of numbers and of contributions. But this is the position towards which we should be thinking and working, in order that we can ensure, both in our fight today and in our freedom tomorrow, that all people are giving all of which they are capable.

The Third World Cinema Group was formed in 1970 by a small number of committed Third World people to contribute to the understanding of the social, economic, political and cultural situation of the Third World; to expose the nature of the involvement and the extent of the responsibility of the U.S. in that situation and to support the continuing struggle for national liberation being waged there.

Films are available individually or at a discount festival rate. All films have subtitles or English narration. Also available with most films are: program notes, reviews, posters, photographs, study guides, articles published on the subject, manifestos by the filmmakers or related organizations, and further documentation on the issues involved.

For further information contact:

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BUT WHAT ABOUT THOSE LAMB CHOPS?

The following item also appears in the July, 1971 issue of Freedom News.

Once again the profit seekers are proceeding without regard for chemical pollution and the health of man. The chemical that is being proposed to make it cheap to get the fleece off of sheep is supposed to be safe: "So far there is no evidence that the chemical hurts the meat of the animal if it is to be slaughtered," says an AP dispatch in the June 19, 1971, *San Francisco Chronicle*.

This "harmless" chemical is cyclophosphamide, a potent drug that is used to treat leukemia because it destroys lymphatic and blood forming tissues in the body. Common side effects of therapy with cyclophosphamide are: loss of hair, vomiting and anemia. The drug belongs to a family of drugs, called alkylating agents, which are known to cause mutations. Wouldn't you like some cyclophosphamide in your lamb chops so that your wool coat can be more profitable for someone else?

S. B.

Is a popular revolution possible in an advanced capitalist democracy?

Is any particular sector of the proletariat the key to a revolutionary strategy?

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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.

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