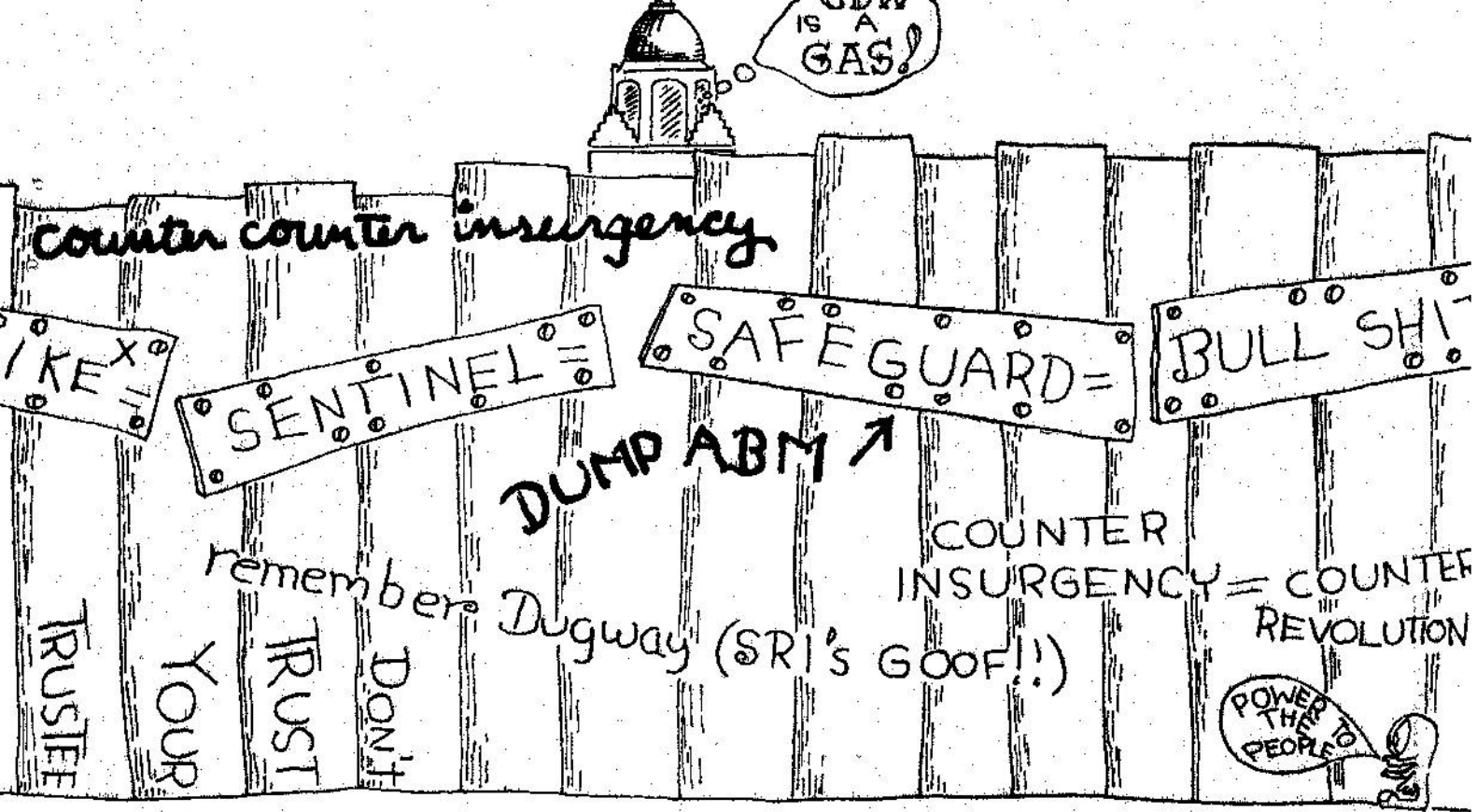


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PRODUCED BY MEMBERS OF THE APRIL 3RD MOVEMENT



STANFORD and SRI: An Introduction

Prior to the escalation in Viet Nam, it was uncommon for people in the Stanford-Palo Alto area to question the university's role in the servicing of the military establishment. Research into the machinery and weapons of war seemed justified during World War II: we were fighting Nazi fascism then. When the "Cold War" was at its zenith, and during the Korean War, few opposed military research, as they operated under the assumption of monolithic communist aggression.

In recent years, however, the US military effort in Southeast Asia has come to encourage cries of opposition. Television, films, and newspapers communicated to Americans at home the atrocities of war: burnt Vietnamese children, thousands of people killed and maimed, entire villages levelled--a nation racked by decades of brutal war and seemingly needless destruction. Indeed, we thought of the war as some kind of aberration, a terrifying and senseless mistake.

But we could not justify our country's interference in Viet Nam on the basis of protection for the free world for democracy when the succession of South Vietnamese governments supported by the US proved to be so clearly undemocratic. The arguments of "monolithic communism" seemed inapplicable in this case of an indigenous nationalist movement.

To voice our opposition, we wrote our Congressmen, joined peace marches; some demonstrated at the Oakland Induction Center, while vigils and sympathy fasts were held. Others turned in draft cards and refused to fight a senseless and brutal war.

For four years the anti-war movement has protested US involvement...the war continues, and our pleading has gone unheeded. Instead, it often seems that the institutions of this country have turned against us: At the Democratic National Convention last year, the presidential platform turned from "Stop the War" to "Law and Order."

COUNTERINSURGENCY and ECONOMICS

When it became clear that the government was not prepared to withdraw from Viet Nam, we began to look for rational explanations for US involvement in the War. In doing so, we examined US foreign policy in other areas: we then discovered the 1954 rightist coup in Guatemala, supported by the United States government. We found the US supporting the Branco dictatorship in Brazil in 1964. We found that the US supported Suharto's military junta in Indonesia, despite the brutality and slaughter under his regime. We saw the US intervene in the Dominican Republic, apparently disregarding the embarrassing experience of the Bay of Pigs invasion. Today, we watch a continuing effort to strangle the development of Cuba on the grounds that it is a Soviet satellite, although Castro turned to Moscow only after it became clear that the blockade would continue, and that the US would refuse assistance in any form.

We then began to envision connections between counterinsurgency operations, right-

ist coups, and US foreign investments and needs for foreign resources. One example was clear: If United Fruit Company has major stockholders and directors in the US State Department, then US support for an overthrow of a Guatemalan government which instituted land reform measures (including the expropriation of land from United Fruit) was an obvious outgrowth. This is in fact what occurred, despite the fact that the government was popularly constituted and land reform was a necessary prerequisite to economic development.

As we came to recognize a pattern and a consistency in US foreign policy, the war in Viet Nam no longer appeared as senseless as we had originally imagined it to have been, and the struggle in Southeast Asia fell into the same pattern: it was not so much communism which the US government feared, but rather any form of economic organization which should endanger American investment. We saw that American industry had three principal needs: first, sources of strategic raw materials which could be obtained at a favorable price; secondly, there was a need for markets for surplus goods; and thirdly, industry needs outlets for surplus investment capital generated domestically. This pamphlet has been developed in part to explain these three needs in a context of the University and SRI, but briefly these needs result in a foreign policy which seems to serve to protect American interests-- often at the expense of the freedom and economic well-being of others.

THE ABM and the US MILITARY ECONOMY

In the course of our investigations, we have been obliged to question our government's credibility in other areas as well: the recent and heated debate over the ABM (Sentinel Anti-Ballistic Missile System) is a case in point. While scientists like H. Cory, UC Berkeley, W. Panofsky, SLAC, J. Wiesner, MIT, have testified against the system on numerous grounds-- it is allegedly mechanically non-functional, and will be obsolete by

the time it is installed, etc.-- President Nixon has nonetheless taken to the bidding of what the late President Eisenhower came to call the military-industrial complex; he has done so, too, even in the face of overwhelmingly pressing domestic needs.

As with the case of Viet Nam, it is difficult to accept the apparent irrationality of this governmental decision. As with Viet Nam, it seems imperative that we seek out reasons underlying the ABM decision, as well as Stanford and SRI's roles in that decision.

Before looking more specifically into the ABM per se, it is important to place it in a certain political and economic context, in which the ABM decision appears somewhat more rational. It has been pointed out in this introduction and elsewhere that the idea of monolithic communism, and the accompanying anti-communist rhetoric, often serve well to camouflage American interests in what is recognized as the Third World. The ABM--indeed the whole arms race-- seem entirely justified in many minds by irrational fears of Russian and Chinese aggression. These irrational fears, when played upon by the government, legitimize the continuing defense of complex foreign involvements in what are clearly crude ideological terms.

As the latest escalation of the arms race, the ABM decision must be set in a domestic economic context. Even a cursory analysis of the US economy indicates a dependence on massive government expenditures, in order to maintain effective and adequate demand and growthrate. Concretely, this means that some 20% of the workforce in 1965 was either directly or indirectly involved

in defense-related employment.

Looking back to World War II, it was only the mobilization of human, productive and natural resources to meet needs of the military that pulled the economy out of ten years of stagnation. Post-war recessions are minimized by a number of factors: a high level of demand for consumer goods and investment outlet after wartime rationing and investment controls; large foreign expenditures in the form of aid to Japan and Europe for reconstruction--again, after World War Two-- a war in Korea, and extensive Cold War military spending.

Since economic health is measured in part by the level of spending, almost with no regard for the goods which are bought, the defense and space complex presents an especially attractive area for investment. Weapons systems generally become obsolete very rapidly, as the ABM system indicates, with the incredible expansion of scientific knowledge and expertise; so the scope of space technology can be continually broadened: "Today Sputnik; tomorrow, the universe..."

THE MID-PENINSULA and DEFENSE

In the area surrounding Stanford, the economic dependence on military spending is even greater. Fully 60% of all manufacturing wage and salary workers in Santa Clara County are employed in the aerospace industry-- 70,000 people. A recent survey indicated that if Santa Clara County were considered as an independent nation, it would rank 44th in the world in GNP, while California would rank fifth. A large contributor to this wealth is, of course, defense spending. In the last two years there has been a 40% increase in aerospace employment, in contrast to a 5% loss for the two previous years...before the escalation in Viet Nam.

Another important characteristic of the Mid-peninsula economy is its emphasis on defense research and development. Over 10% of all of the Defense Departments' (DOD) R and D contracts are performed in the area between San Francisco and San Jose. The now-famous efforts of the Stanford Trustees and scientists to establish a "community of technical scholars" helps explain the area's emphasis on the "brains" end of the defense-industrial complex. A number of local defense-based firms, especially many of the residents of the Stanford Industrial Park, are "spin-offs" from Stanford labs, a phenomenon which has been repeated at Harvard and elsewhere. Stanford science graduate students are another source of highly-skilled labor, and the University's science faculty constitutes a pool of consultants for local industry.

More specifically, the Stanford Research Institute is an important source of research for local electronics and aerospace firms. Founded in 1946 to serve Pacific Coast industry, SRI has grown and moved into defense contracting along with the others. Executives of many local firms sit on the SRI Board, and the Stanford Trustees, many of whom are anchored in local companies which make use of SRI, both own SRI and appoint its directors.

In 1968, \$29.7 million, or 46.7% of SRI's work was out of the DOD. \$6.2 million is seen as directly related to Southeast Asia, and \$404,000 was directly related to Chemical-Biological Warfare (CBW). The extent of SRI's dependence on military contracts makes it imperative, we think, to ask whether the Institute is attempting to attain its stated objective:

"...to serve the public through performance of research to improve the standard of living and the peace and prosperity of mankind."

From the preceding facts and perspective, gathered in the attempt to understand the underpinnings of US foreign policy, SRI, and indeed Stanford, stand at the center of an industrial complex, which, much like the economy of the US in general, is highly dependent upon, and strongly oriented to, heavy military spending. To be sure, this is a regional complex, but one which is part of the larger political economy based largely on military spending.

While we have not, in this introduction, looked thoroughly into the implications and ramifications of many of the assertions set forth, the discussions which follow will seek to do so. But we can now see that the original question--"How do we end the war?"-- can be countered with no simplistic answer. Our moral outrage over a brutal and inhumane war remains, but it is imperative for those so outraged to interpret this indignation into a clearer understanding of the larger questions of the role and power of the military, the subtleties of US foreign policy, and the role of the university-- and particularly Stanford and SRI-- in this complex set of relationships and ties.

QUESTIONS

The following are some moral and political questions which must be raised:

*Does the US have the right to interfere in the political and economic development of other countries?

*Should the US oblige other countries to contribute to US prosperity at the expense of the welfare of their people?

*Is an economy helathy if it is so dependent on military spending that world peace might be a threat to stability?

*How can the transition from a war-time to a peace-time economy be best achieved?

*What are the privileges and rights of the researcher when his research affects countries other than his own?

*Does anyone have the right to develop or produce CBW, or its distributional agents, or to produce lethal nerve gas?

*Do people have a moral obligation to oppose destructive acts on the part of other individuals or institutions within the country?

*Is Stanford an "ivory tower;" if not, should it become one?

*Should the university's resources be used to service military needs, either domestically or externally?

*Should the university be a place where the problems of society are examined and where constructive solutions to these problems are sought?

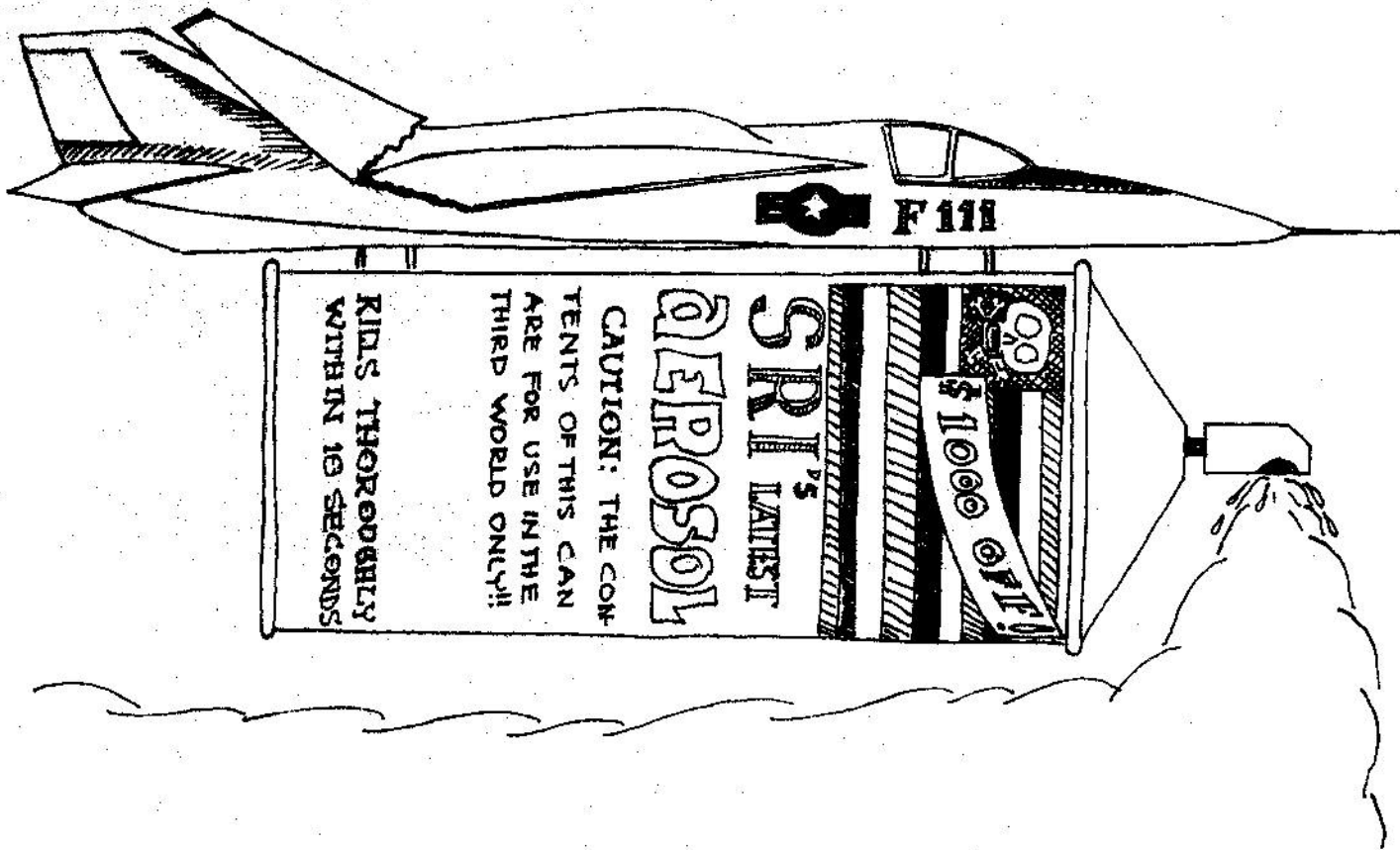
*Should Stanford make its resources available to all, regardless of political persuasion?

*Should 23 people with clear and strong vested interests in the existing order be legally entrusted with the management and policy-making authority in the university?

*Can the Stanford and Mid-peninsula community make reasoned judgements about research at Stanford and SRI, when that research is classified?

*Should there be classified research? If so, what should be classified?





CBW AT STANFORD

Background

After the Second World War, the United States embarked upon an expanded program to develop its strength in chemical and biological warfare. (CBW) CBW is considered to be a step beyond conventional artillery and weaponry; it would be used either as an intermediate stage of escalation toward the use of nuclear arms and/or in conjunction with nuclear warfare.

The U.S. chemical arsenal presently contains seven agents which are standardized for use in army munitions. Included are two lethal nerve gases which work by inhibiting a key enzyme needed to control muscle movements. Death can come in less than one minute. The nerve agents are available for tactical field use in a broad array of cannons, shells, and projectiles. Another chemical agent available for use is HD or distilled mustard, a blistering agent which is more toxic than

the original mustard gas used in World War I. Upon contact with the skin, the gas causes burns which heal slowly and are highly vulnerable to infection. At certain exposures, it can be lethal. Other standardized agents are an incapacitating agent known only as BZ and three riot control gases, CN, CS, and DM, which are seeing heavy use in Vietnam. In addition, the Chemical Warfare Service has developed many different types of smoke and incendiary devices, including napalm and white phosphorus, which are also being used in Vietnam.

Biological warfare (or germ warfare) is defined as the intentional employment of living organisms or their toxic products to cause death, disability, or disease in man, animals, plants, or food supplies. Research in biological warfare possibilities, along with chemical research has been conducted on an expanded basis since the Kennedy administration earmarked an initial increase of thirty per cent in the 1962 CBW budget. Work in biological warfare has been called by one scientist

"disease control in reverse." It consists, in part, for example, of efforts to breed into pathogenic organisms precisely the characteristics--such as resistance to antibiotics--that medical workers would like to see eradicated. A study of the research of the past five years shows that the top germ warfare agents probably include four bacterial diseases (including plague and anthrax), at least three viral diseases, and two rickettsial diseases.

Also coming under the category of CBW is the ongoing program of anti-crop research, which has contributed to the heavy use of defoliants and herbicides in Vietnam. A Japanese study in 1967 claimed that U.S. anti-crop attacks have ruined more than 3.8 million acres of arable land in South Vietnam and resulted in the deaths of nearly one thousand peasants and more than thirteen thousand livestock. While discounting the Japanese report, the Pentagon announced in the same year the purchase of sixty million dollars worth of defoliants and herbicides, enough to blanket 3.6 million acres of cropland, equivalent to about half the food-producing area of South Vietnam. With regard to the success of the anti-crop offensive, it has been noted that as in any form of food blockade, children and the elderly are the most likely to suffer starvation, while the bands of men who form the National Liberation Front are less likely to be affected by food scarcity. Furthermore, there have been reports of at least three "accidental" sprayings of strategic hamlets (camps set up for the inhabitants of South Vietnam), and the ecological imbalances created by the defoliation program are likely to have devastating long-range effects.

Contracts at Stanford and SRI

According to Elinor Langer in Science "the current CBW program is the product of decisions and steps taken during the late 1950's and early 1960's."

Stanford and SRI have been in the forefront of the development of this program. In its 1957 "Limited War" study, SRI researchers remarked that "Numerous military authorities believe that we should never again restrict our freedom of selection of weapons as we did in Korea." During the Korean War, CBW agents were prohibited. The study continued, "It is detrimental to the military situation to positively assure an aggressor that a particular weapon will not be used." And so, Stanford and SRI have become important CBW research centers.

From before November of 1959 until some time after June of 1961, Professor Phillip Leighton and Dr. William Perkins conducted research into "Meteorological Aspects of CBR (Chem-Bio-Radiological Warfare)." The project was divided between Stanford and the U.S. Army Chemical Corps Proving Ground at Dugway, Utah, which is the army's principal station for field-testing chemical and biological munitions. Dugway was recently in the news when a flock of sheep mysteriously laid down and died due to an overdose of nerve gas. According to CBW expert Seymour Hersh, in his book Chemical and Biological Warfare, an SRI designed nozzle on the test plane malfunctioned, releasing a full tank of lethal nerve gas on the Proving Ground. A strong wind began to blow the gas towards Salt Lake City, but a timely rainstorm saved the city from an emergency evacuation.

Dr. Leighton was a professor of chemistry from 1937 to 1962 and is now an emeritus professor. In 1960, Perkins was Associate Director of the Stanford Aerosol Lab, run by the Department of Chemical Engineering, and was also a member of the advisory council for the Army Chemical Corps. In government task reports, he figures sometimes as a Dugway investigator and at other times as a Stanford investigator. Elinor Langer notes that their work was to "improve the knowledge of the effects of meteorological conditions on the behavior of particules in downwind travel from all source types, for

all climate and vegetation and terrain situations." By June, 1961, their research had progressed to the point where "trials were being conducted in a mountain valley complex...a contract (was to be) let on tropical rain forest canopy penetration."

Further research into gas and aerosol dispersal problems continued until at least two years ago. According to Seymour Hersh, in 1965 the Army signed a two-year contract with S.R.I. for a project which "was directed to the use of a rocket motor for dissemination of chemical agents using the energy from a solid fuel rocket motor exhaust for dispersion...Heat and turbulence of the exhaust serve to break up and distribute the agent over a very wide area." A special report on "Micro-encapsulation Research" was printed at S.R.I. in July, 1967. Under the heading labeled "Representative Encapsulation Applications" was a section dealing with "Powders that reach the ground rapidly after being dropped from an airplane."

The significance of this research becomes clear when one discovers that five of the seven chemical agents described earlier and listed currently in the Army field manual, "Employment of Chemical and Biological Agents" (1966) are disseminated as aerosols, while the other two are "airborne." And as Miss Langer points out, "the idea of disseminating infectious (BW) agents by aerosols seems to be displacing earlier notions about how to transmit disease." The success of the defoliation and massive crop destruction now practiced in Vietnam may well be the result of Stanford's research.

While Stanford and S.R.I. scientists were discovering for the Chemical Corps how to disperse aerosols, other S.R.I. researchers were learning how to make them. In 1959, Wilfred Skinner, senior organic chemist at S.R.I. and Richard Cadle, S.R.I.'s manager of atmospheric chemistry, were involved in the Chemical Corps

program, particularly obtaining "fundamental information on the formation of encapsulated aerosols for possible application to the solution of the problems on the dissemination of chemical agents." That work led, through similar contracts in 1960-61, to a three-year contract in 1963 "for investigations of incapacitating chemical materials" (1.1 million dollars), and in 1964 to a still-continuing contract for the "dissemination of chemical solid and liquid materials." (\$2.5 million) The June, 1967 issue of the S.R.I. Journal reported that "Aerosols (dispersions of small particles or droplets in air) have been encapsulated by a completely different technique developed at S.R.I."

What all this entails is clear from a memorandum drawn up by S.R.I. in 1966; "Every effort is being made to coordinate the program at S.R.I. with the requirements of the Edgewood Arsenal so that information derived from this program can be utilized most effectively by the U.S. Army chemical weapons research and development program."

S.R.I. has also worked with CS tear gas. In use in Vietnam, according to the Army, it is employed to "flush out unmasked enemy troops from concealed or protected positions." This gas has also been used to "flush out" people from shelters dug beneath their homes. For the old, the sick, and in a closed space, the gas can kill.

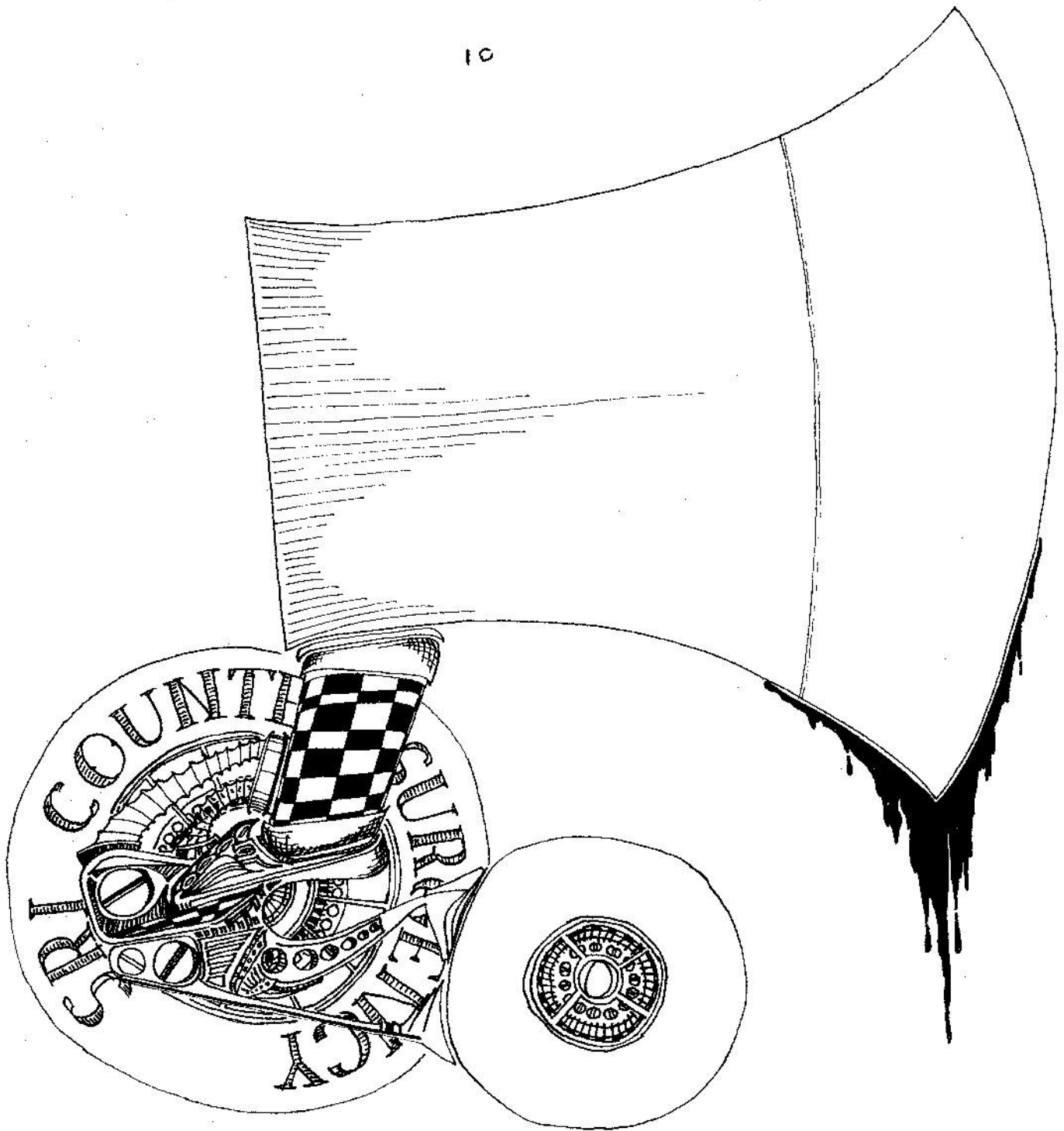
At present, SRI has \$404,000 in chemical warfare contracts and won't say anything more about them. In addition, it has two CW contracts pending worth \$96,000. This is probably the low point in SRI's chemical and biological warfare work, but there is no telling when the Pentagon will turn to SRI for more assistance in conducting its "war without death program." Seymour Hersh has noted that "Some

of SRI's Board of Directors also serve as trustees of the University; they include men who help direct such defense oriented industries as General Dynamics Co., Northrup Corp., Douglas Aircraft Corp., McDonnell Aircraft Corp., and the Food, Machinery, and Chemical Corp. Similarly, all of these firms have many ties with the nation's CBW program." More CBW contracts are likely to be coming SRI's way, unless the Stanford community is prepared to act to prevent this.

Controlling CBW

Defining precisely what constitutes CBW research is not an easy task. Clearly, research on the production and dispersal of chemical and biological agents need not be used for military purposes. Aerosols are useful for producing spray deodorants and paints, and research on the dissemination of aerosols from planes is important, for instance, in the development of effective agricultural insecticides. But the Vietnamese have no difficulty defining the nature of CBW agents, and so it is incumbent upon us to set up some criteria for acceptable research in this area.

In looking at the work done at SRI, we must consider the source of the funds and hence the likely use to which the results of this research will be put. Our first demand, then, must be for the declassification of all research concerning the production and dissemination of biological and chemical materials. Only when this step has been taken will the community be able to intelligently decide which projects are acceptable and which are not. If SRI officials refuse to declassify this research, or eliminate it if such declassification conflicts with government requirements, then we are justified in opposing any classified contracts in this area. We are also justified in opposing any such contracts found to be supported by the U.S. Army Chemical Corps or any other branch of the Defense Department. This research, while of possible non-military application, is being supported precisely because it is of military value, and at the present time, this means hunger, suffering and death for many Vietnamese. Researchers do not have the right to produce chemical and biological agents for use against the people of Southeast Asia who are struggling to work out their own destinies free from foreign interference.



STANFORD GIVES THE AXE TO THAILAND...

COUNTERINSURGENCY RESEARCH

In its 1946 charter, SRI stated that its aim is to "apply scientific research in furtherance of social, economic- and industrial development and toward the strengthening of the security of the free world." The phrase "free world" here should be placed in an economic rather than a political context. Historically, the United States has supported

countries with political systems which cannot be defined as free or democratic; Thailand, Brazil, Indonesia, South Vietnam, and South Africa are among the military and civilian dictatorships that the US has officially recognized and aided. Despite differences in political systems, the countries of the "free world" share a common characteristic; they operate under highly stra-

tified economic systems which encourage U.S. trade, investment, and often military protection.

One of the greatest threats to the "security of the free world", according to this definition, is a nationalist social revolution which would have to reduce American economic and military influence in order to redistribute wealth and power internally, and achieve significant economic and social development.

Counterinsurgency refers to military operations and social science techniques directed toward suppressing nationalist revolutionary movements. Counterinsurgency also includes "economic development" projects and investment surveys that have a high probability of leading to military counterinsurgency or that exist alongside military operations. And, in keeping with its stated objective, SRI research has contributed to the development of highly sophisticated counterinsurgency weapons and techniques. In 1968, SRI did \$6,246,000 (ten per cent of its funding) in counterinsurgency work for the Pentagon in South East Asia.

Since the early 50's, SRI policy makers have been aware of the economic interests underpinning U.S. foreign policy as well as the direct threat which nationalist revolutionary movements pose to those economic interests. Jesse Hobson, SRI's first president, told the American Institute of Engineers in 1951 that "this nation occupies 6% of the land area of the world, has 7% of the world's population, but it now produces 50% of the world's goods and possesses 67% of the world's wealth. ...Research must be the heart, the foundation, the life blood of our present defense economy if we are to maintain this position." Ed Robinson, Vice President of SRI International, told a gathering of Stanford alumni in 1957, that "the free world must not lose Southeast Asia...as it has already lost China."

That same year, SRI researchers were preparing a study for McDonnell Aircraft entitled "Environmental Condi-

tions in Selected Areas of Potential Limited Warfare." After reviewing "the basic conditions which would affect the conduct of small wars in various peripheral areas of Asia," the study predicted that the U.S. would be inclined to "counter aggression" wherever it occurs, although "for indigenous participants, limited warfare is likely to appear as civil war." Dealing with "minor aggression and limited overt Communist intervention...within or without the framework of the United Nations...may be the most serious strategic problem facing the United States for some time." The study foresaw "the development of instantly ready, mobile task forces, characterized by very great firepower in relation to manpower commitment...off-the-road surface vehicles and radically new aircraft and theater transport systems."

SRI: Vietnam

Moving from the theory to the practice of counterinsurgency, SRI concerned itself with the socio-political development of Dien's South Vietnam in the early 1960's. SRI economist and Stanford education professor Eugene Staley headed a special government mission there in 1961 to bring back suggestions for meeting the Dien regime's "most pressing financial, military, and political needs." After six weeks, spent mainly in Saigon, Staley recommended large increases in military and economic aid, "measures which could restore security within 18 months." (NY Times) Staley is also credited with recommending the "strategic hamlet program"—"an intensified population-control measure to enable (the Dien regime) to tighten its hold on rural Vietnamese by grouping them physically into manageable units." (Douglas Pike of the US Information Agency in Viet Cong)

Working with Staley in 1961 was William Bredo, another SRI economist. Bredo flew to Vietnam in 1966 and 1967 to perform a study for the Agency for International Development (AID) entitled "Development of Cam Ranh Bay: Evaluation and Strategy." Over the last several years, the US has turned

Can Ranh Bay into one of the major military ports in Asia.

In 1967, Bredo also worked on a plan for land tenure reform which AID has tried to press upon the Saigon regime. In its project proposal to AID, SRI laid great stress on its understanding that the program "is considered most important at this time to...produce political results that will contribute to winning the war." Other universities had previously turned down this contract on the grounds that it was expressly designed to prevent meaningful land reform.

SRI has directly assisted the military effort in Vietnam. In 1963-64, SRI performed two hurry-up ("two months") contracts for the Army Electronic Material Agency "directed toward improvement of tropic military communications." Though SRI won't discuss this work, it is probably continuing now. Also in 1963, the Army awarded SRI a \$583,000 contract to do a study of "airborne position location techniques: mapping, surveillance, and reconnaissance systems." This became a \$2.2 million contract in 1966, and available evidence indicates that it is continuing at present. As recently as six months ago, an SRI employee said that the Institute was performing "cost analysis studies of alternative reconnaissance routes (read: bombing routes) over North Vietnam." Judging from the recent statements of the Nixon-Laird team, it is possible that SRI's work would assist renewed bombing of North Vietnam.

SRI has also been studying "the vulnerability of helicopters to groundfire" at Ford Ord, where it has a weapons development and testing center. At SRI's Naval Warfare Center, researchers are making helicopter armor more resistant to groundfire. An SRI engineer who considered his work to be "defensive" said that this contract was initiated "because of helicopter losses in Vietnam."

Finally, Lloyd Smith, Vice President of SRI's Physical Sciences Division, disclosed that the Institute is presently "designing electronic equipment for in-

trusion detection in Vietnam," i.e., perfecting plans for an electronic "axinot Line across the DMZ to retard infiltration from the North.

Almost all of these Vietnam contracts are classified and are extremely difficult to track down. (In fact, SRI President Charles Anderson recently said that SRI has a number of contracts that it cannot admit exist.) Until SRI comes from behind its veil of secrecy with full disclosure, our information on SRI's operations in Vietnam will be sketchy. But it is important to remember that SRI has over \$6 million in Southeast Asia contracts with the Pentagon, a considerable number of which center in Thailand.

SRI: Thailand

In 1962, SRI began working in Thailand for Project Agile, the Pentagon's worldwide counterinsurgency research program. Initially, SRI's Thai projects focused on the development and testing of weapons for Vietnam. But with the increase of guerilla activity in Thailand in 1966, the program began to build counterinsurgency capabilities for the Thai oligarchy which would place the US in a "knowledgeable position" should "large-scale intervention in Thailand be called for."

That intervention has been well underway for several years now. Over 50,000 US servicemen are divided between manning the six B-52 bases, the huge Sattahip naval base, and training Thai counterinsurgency forces. There is no need to dwell on what 50,000 American GI's do to a traditional nation's society, but the American presence can only accelerate the Thai social revolution.

It is important to note that Thailand is a military dictatorship, though SRI's Ed Robinson considers it to be "another Asian bastion of strength for the free world." Despite strong bureaucratic control and the absence of a Western colonial heritage, rapidly growing insurgency movements in the Northeast, the North, and the South, largely due to frustration over neglect and exploi-

tation by the Bangkok-based elite and its foreign business friends. Ethnic and racial prejudice on the part of the urban-based valley Thais has intensified economic underdevelopment and political exclusion. The result is that the guerilla strength is now estimated conservatively at 7,000. For years the ethnic Lao and Vietnamese in the Northeast, where one third of the population lives, and the Thai-Malays and Chinese in the South have resisted Bangkok control. And recently, the Northern tribesmen, who are considered to be "animals" by the lowlanders (according to the State Department official in charge of the Thai desk), have begun to join the guerillas, especially since the central government has moved to cut off their teak and opium trade. The military government has responded to tribal resistance by napalming villages and systematically herding tribesmen into lowlying "detention camps."

Leaving aside the question of the Thai investments of Stanford trustees and SRI directors for the moment, we find that various agencies of the US government have turned to SRI to help "stabilize" the Thai situation. In 1964, William Platt, SRI's Director of Manpower and Educational Research, concluded a study commissioned by AID to "make recommendations as to the appropriate and require machinery in the Thai government of the integration of human resources and educational planning with the planning for overall economic and social development." The growing social upheaval in Thailand demonstrates that US-style development, run by a well-entrenched native oligarchy, has serious problems. The Thai military government, the US, and SRI have therefore been turning to a predominantly military solution.

SRI presently has forty-three permanent staff members working alongside Michigan, Cornell, and RAID teams at the Thai-US Military Research and Development Center in Bangkok. The Institute has its Southeast Asia regional office in the Bangkok Bank Building. In addition to social science studies

of the Thai Patriotic Front, SRI has concentrated since 1966 on "Counter-insurgency communications requirements for Thailand." The institute has worked on a number of contracts such as "Atmospheric radio noise data, Bangkok Thailand"(1967) that has enabled the Defense Department to set up a direct Pentagon-Bangkok radio linkage. A large number of contracts in the area of "support for tropical communications"(1966) enables Thai Army forces, U.S. Special Forces "advisers", and USIA officials to move into the underdeveloped parts of Thailand with guns and films. And, a 1966 contract analysing military communications requirements to repress "medium level insurgency in the Northeast" provides data for future U.S. intervention.

SRI's social science work involves writing ethnographies of "unstable areas" and a 1968 contract entitled "Communist Terrorist Logistics in Southern Thailand." The Bangkok office has also been testing devices which "can literally sniff an enemy's presence by the very odors of his body, food, or clothing." (Time, Oct. 7, 1966)

In 1967-68, SRI's Russell F. Rhyne was testing a magnetometer developed by Varian Associates (a Stanford Industrial Park resident) as "a method of detecting quantities of iron of a size comparable to insurgent weapons." A McNamara line for the Mekong seems to be in the works.

Finally, SRI renewed over \$1,800,000 in Thai contracts this winter, in the face of requests from the Stanford student body and President not to renew its counterinsurgency contracts while a student-faculty committee studies the Institute's operations and ties to the University.

SRI: Multinational Corporations

One of SRI's major work concentrations is in the area of international business. Judging from Hobson and Robinson's earlier statements about U.S. interests in the Third World, we might expect SRI to actively encourage U.S. corporations to move into Southeast Asia. Along with numerous long-range studies of Southeast Asian investment opportunities for U.S. corporations, SRI has sponsored free world business conferences recently in Sydney, Jakarta, and Singapore.

A number of SRI directors and Stanford trustees have important corporate investments in Southeast Asia. Tenneco, whose president is trustee Gardiner Symonds, moved into the Indonesian oil business after the right-wing military coup and massacre of 300,000 Indonesia and Chinese leftists in 1965. A large number of corporations represented on the Stanford and SRI boards have set up in Thailand, where the return on investment averages 25%. Both the U.S. and Thai governments guarantee investments against losses due to "war or insurrection," and labor unions are illegal in Thailand.

Union Oil, which is presently drilling off the coast of Thailand, and Shell, which manages the largest oil refinery in Southeast Asia, are represented on the Stanford board by Union director Arthur Stewart and Shell president Richard McCurdy. The presidents of Kaiser (Thai aluminum) and Castle and Cooke (steel pipe) both sit on the SRI board. And Stanford trustee Edmund Littlefield is president of Utah Construction, which has helped build the Air Force's B-52 bases in Thailand. Trustee Ernest Arbuckle and Stanford Vice-President for Business Affairs Alf Brandin are both Utah directors.

According to a March 25, 1968 article in Business Week, SRI International's president, Weldon Gibson, sees "great potential for SRI in the Pacific Basin because of the rapidly developing triangle trade among the U.S., Japan,

and Australia." Former U.S. ambassador to Japan Edwin Reishauer has emphasized that Japan's present status in the free world can only be maintained by keeping Southeast Asia open to Japanese trade and investment, thereby shunting Japan away from China and North Vietnam.

SRI and Stanford: Peru

Both SRI and the Stanford Business School moved into Peru under the auspices of the U.S. government in 1963. SRI received a five-year AID contract in 1963 worth \$1.3 million to aid "in a program of industrial development and promotion and regional development" in Peru. In Southern Peru, where there has been a great deal of peasant unrest and guerilla activity, SRI helped establish industrial parks for small and medium-sized industries to service the operations of large foreign corporations. SRI's "development" efforts have not satisfied the peasants since the Peruvian military, supplied with American bombers and napalm, was called in 1965 to wipe out the guerilla movement arising from Southern Peruvian peasant villages.

The link between economic development work and counterinsurgency research becomes clearer when we find that SRI's Robert Davenport, who had worked on the AID project earlier, did a "SECRET" report for the Department of Defense in 1966 entitled COIN (counterinsurgency) Peru. The description is as follows: "This report considers the advantages and disadvantages of providing U.S. operational assistance to the armed forces of the Government of Peru engaged in counterinsurgency operations, as well as alternative courses of action to the provision of operational assistance which would enable the U.S. to favorably influence the outcome of such operations." SRI's John Hitzel did a similar report entitled COIN Honduras for the Pentagon in 1966.

In 1963 the Stanford Business School set up ESAN, a graduate school of business administration in Lima, under a \$1.1 million AID contract. Professor Gail Oxley, former Vice-President of W.R. Grace's South American Operations (investments in sugar and shipping) directed the preliminary feasibility study; then Dean of the Business School Ernest Arbuckle was also a Grace executive before he came to Stanford. In its first years of operation, a large number of ESAN graduates found jobs at W.R. Grace and Marcona Mining, an iron firm (controlled by Utah Construction.) And, while the Business School has been training native Peruvian managers for foreign-owned corporations, it has also taken on a Peace Corps contract to send MBA's to Peru to give "technical advice" to "indigenous small industry." A number of Stanford's Peace Corps MBA's have been assigned to development corporations in Southern Peru set up by SRI.

As in Thailand, a small Peruvian upper class benefits from foreign investment and military aid. At the bottom of the pyramid, extremely unbalanced urbanization has created makeshift barriadas surrounding Lima. And depopulation and underdevelopment in the countryside has caused per capita food production to decline 8% in the past ten years. Rich in natural resources, Peru has the potential to become a strong industrial nation. Yet American corporations, with investments totalling over \$400 million, seem intent on keeping Peru primarily as a source of strategically important raw materials. SRI and the Stanford Business School are not challenging that plan for "economic development."

Military Electronics: Systems Techniques Lab (STL) and Systems Theory Lab

Military counterinsurgency work is not performed solely at SRI. The Systems Techniques Laboratory (STL) and the Systems Theory Lab of Stanford's Elec-

trical Engineering Department do a considerable amount of applied research in the field of military communications and electronic warfare.

Work done at STL in the late 1950's contributed directly to the present generation of highly sophisticated electronic equipment now being used on the ground and over the skies of Vietnam. William Rambo, director of the EE Department's research program, has stated that "if the electronic warfare research hadn't had some military impact over the past 16 years, it would not have been refunded." Work being done now in the electronics labs will certainly add to the U.S. military's electronic capabilities for waging counterinsurgency operations in the 1970's.

The Systems Techniques Lab (STL) is alone handling over \$1 million in contracts from the Department of Defense this year. Six of the eight current Department of Defense contracts are classified, which means that one or more investigators need security clearances, and approximately 30% of the quarterly reports sent to the Pentagon are classified. STL also has a \$125,000 contract from the National Institute of Health to develop systems for controlling an artificial heart, but its main thrust is in the field of military electronics.

An EE Department publication explains that STL is "an on-campus research program whose objective is to offer a close and immediate coupling between the results of academic research programs and the most advanced needs of military electronics in such areas as countermeasures...in contrast to the purely academic programs (STL) employs a number of permanent research associates (26) ...in addition to several regular faculty members (6). Some of this work is classified, and only a portion of it leads to academic output in the form of dissertations or theses, again in contrast to the regular academic programs."

In Pentagonese, electronic warfare protects U.S. electronics from the incursions of the enemy and attempts to deny the enemy his electronic capability. In layman's terms, EW operations jam Radio Moscow, monitor guerilla communications, and (until recently and possibly soon again) foil SAMs (Surface-to-Air) and radar-directed anti-aircraft fire over North Vietnam. In a recent speech, Air Force Lt. Gen. Jack Catton stated that "It turns out that not everybody is crawling around the jungle in black pajamas...EW is being employed more extensively today in Southeast Asia than in any previous conflict."

Of the six major contracts in the electronics labs which generate classified publications for the Pentagon, Professor Rambo's "Research in Electromagnetic Techniques" appears to be the one with the most direct military applications. The contract description reads: "such techniques may be utilized to deny an opposing military force the employment of the electromagnetic spectrum to control sophisticated weapons eg. radar-guided missiles." This contract could also generate techniques of use to the Federal Communications Commission, but the basic nature of the contract becomes clear when we observe that a Mr. Turner has been working under Rambo on "Laboratory Consulting on Air Force Electronic Systems and Electronic Techniques Problems."

Professor Rambo explains that the roots of Stanford's military electronics program were laid during World War II. At research centers such as MIT's Radiation Lab and Harvard's Radio Research Laboratories, scientists from all over the country worked on the military's knottiest problems. At Harvard, Rambo and former Dean of Engineering Frederick Terman worked on electronic warfare. Terman returned to Stanford to set up a new electronics program, and Rambo had a hand in setting up STL in 1952.

Rambo relates that "STL was organized to translate basic research into a form that can be assimilated by the outside community." A typical dissertation in ele-

tronics is of little immediate use to the military or to the RCC. In looking for a framework to bridge this gap between basic and applied research, Rambo and his associates' World War II backgrounds in electronic warfare led them to center STL in this field, since sophisticated EW techniques require fundamental research desired by university scientists.

Stanford Professors: Industrial Park and Washington, D.C.

Since World War II, a number of entrepreneurial Stanford faculty members have moved from the Stanford electronics labs to the Industrial Park just beyond College Terrace, where their companies have prospered from military orders for electronic equipment. Stanford trustee Dean Watkins and the Varian brothers exemplify this diffusion process. Several Stanford Professors sit both on the boards (or advisory committees) of companies that specialize in manufacturing EW equipment and on the Defense Department's EW advisory committees. A couple of examples should suffice.

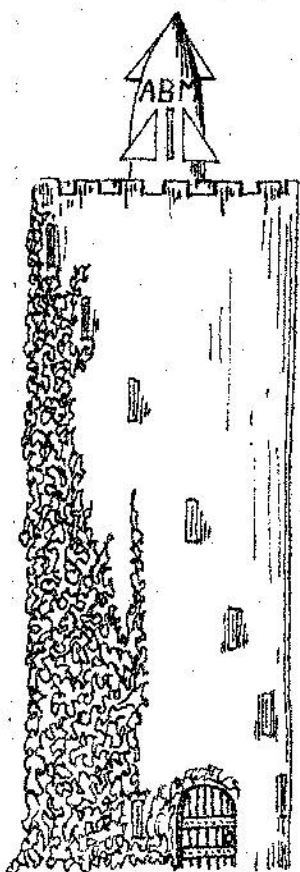
Rambo consults for Applied Technology Inc. (recently absorbed by Itel) which resides in the Industrial Park. According to ATI's 1967 prospectus, "most of the company's products are used to gather information concerning an adversary's electronic capabilities or to impair the operational effectiveness of certain enemy weapons. A major portion of ATI's business is classified." ATI's president and vice-president each spent 6 years in Stanford's Applied Electronics Program. Rambo is also on the Defense Department Advisory Group on Electronic Warfare and the Army Electronics Command. James Angell, another EE professor, joins him on the latter.

Professor Allen Peterson of the EE Department is also Assistant Director of the SRI Electronics and Radio Science Division, as well as a director of Industrial Park resident Granger Associates. Granger makes electronics equipment for U.S. reconnaissance planes that continue to fly over North Vietnam. Depending on the year, Peterson can be found consulting

for the Institute for Defense Analysis, the Advanced Research Projects Agency, or the USAF Scientific Advisory Board.

In rough outline, Stanford does basic research in electronics; Stanford and SRI do applied research for electronic warfare; and companies found in the Industrial Park and the whole Midpeninsula area produce electronics equipment for the United States military. Faced with fine coordination between Stanford labs, SRI, and Midpeninsula aerospace-electronics corporations, it might be instructive to note that Stanford's Medical School uses explicitly moral criteria in reviewing research contracts. The Med School also does not allow professors to consult outside the university for profit.

The Nixon administration has offered a succession of reasons for pushing the ABM system. First, the American people were told that the original Sentinel system was designed to protect U.S. cities from a possible Chinese nuclear attack, if and when China should develop the capability to launch such an attack. This system was to have cost six billion dollars, but as the reasons for deployment changed, so did the proposed costs of construction. American defense strategists began to see the system in terms of the protection it would afford against a deliberate or accidental Soviet attack. Such a system would require a much greater expenditure, estimated at perhaps \$50 billion.



STANFORD, SRI, AND THE ABM

IN

the United States today, the controversy surrounding President Nixon's proposed Anti-Ballistic (ABM) System has yet to run its course. The system has encountered significant political opposition as well as almost unanimous opposition on the part of the scientific community. What are the reasons being given to justify such a system, and why have scientists joined together in such unprecedented unity to condemn it?

What are the reasons given by those opposed to any ABM system? Let's hear from no less an authority than ex-Secretary of Defense Robert McNamara: "Every ABM system that is now feasible involves firing defensive missiles at incoming offensive warheads to destroy them. But what many commentators on this issue overlook is that any such system can rather obviously be defeated by an enemy simply sending more offensive warheads than there are defensive missiles capable of disposing of them. And this is the whole crux of the nuclear action-reaction phenomenon." In other words, deployment

Intensified opposition to the Sentinel system resulted in Nixon's modified proposal for the Safeguard system, to be used to protect our offensive weapons, thus moving the ABM sites away from the cities and quieting some of the furor. The Safeguard system will initially cost \$1.5 billion more than the original city-based Sentinel plan, even though the Safeguard system will consist of possibly half a dozen fewer complexes. Secretary of Defense Melvin Laird stated that the Safeguard system was "largely designed by his chief deputy David Packard," a Stanford trustee until his recent elevation to the Defense Department.

of the ABM system is likely to spur the Soviet Union to build more offensive weapons, thus dampening any hopes for a slow-down in the arms race.

It is also extremely doubtful that Safeguard rockets would operate successfully during a large-scale attack, since the first nuclear explosion could easily render the complicated radar and electronic gear useless. There is additional danger that the rockets could themselves blow up on the ground.

In the event of a nuclear attack, it seems unlikely that Nixon would delay the launching of our own offensive missiles until the arrival of the incoming missiles. Under these conditions, the ABM system would be useless. Finally, the system will be obsolete even before it is operational.

In spite of all these considerations, the Nixon administration has continued to push the ABM system, widening the credibility gap still further. Not only do we doubt the ability of our government to make rational decisions concerning effective defense systems, but we must also begin to doubt its very intentions with regard to the long-range goal of disarmament. Why do our leaders continue to needlessly jeopardize our nation's security?

The answer lies partly in the significance of defense expenditures to the health of the nation's economy (see the Introduction) and to the financial success of some of America's largest corporations. Many of this country's biggest and most influential firms are almost completely dependent on the lucrative cost-plus research and development contracts awarded by the Defense Department. These corporations maintain powerful lobbies in Washington and have undoubtedly played an important part in the decision to deploy the ABMs. Some of these firms are located here on the Mid-Peninsula.

Lockheed is already working on a \$16.3 million R and D contract to develop "modified Polaris missiles to serve as dummy practice targets for an ABM system....Lockheed also completed last year two studies on ballistic missile intercept systems." (Palo Alto Times, March 14, 1969) The Sylvania Lab in Mountain View has also held substantial contracts in missile detection. Varian associates, located in the Stanford Industrial Park, has also done work on the ABM system.

SRI has been extensively involved in the development of the ABM and has been in contact with other similarly-involved defense contractors in this area. Speaking to a group of Bay-area businessmen in 1964, Weldon H. Gibson, executive vice-president of SRI, remarked: "Although there seems to be little doubt that we have seen the end of the era of growth in these industries (defense-oriented industries on the Peninsula), there are indications that short-term losses over the next few years may be recouped later in the decade with new developments in anti-missile missiles or a new generation of strategic missiles." When questioned by a Palo Alto Times reporter regarding SRI's work related to the ABM system, "Rudy Brunsvold, vice-president for plans and coordination, said that SRI has been involved for some time in the field of anti-ballistic missile defense, mostly for the Department of the Army. The Institute would probably continue to be involved in such research, he indicated."

SRI's involvement in the development of the ABM system dates from 1961, when the Defense Department set up a Technical Advisory Group composed of "representatives from the labs involved in ballistic missile defense research under Advanced Research Projects Agency (ARPA) contracts. The purpose of the group was to provide advice and recommendations on the various aspects of ARPA's Project Defender." The groups involved included SRI, MIT's Lincoln

Labs, Cornell's Aeronautical Labs, and Michigan's Willow Row Labs. The two representatives from SRI were R. L. Leadabrand and A.R. Tobey.

"Project Defender is ARPA's advanced research program to discover adequate means to counter operational ballistic missiles in the future. Defender involves the study of missile behavior and the environments in which they operate through a program of upper atmosphere research and range measurements. It also includes research to define, develop, and devise advanced methods of detecting the missile at the time of the launch, identifying and tracking the missile throughout the flight, discriminating between the warhead and possible decoys, and intercepting and destroying the warhead."

Research departments at SRI have worked on numerous projects related to Air defense systems. For example, in 1961 a study was done on the "measurement of effectiveness for a barrier type of surface-to-air defense." In 1966, a study was done on the effects of high altitude nuclear explosions in the ionosphere above 150 kilometers, which is directly related to the problems an ABM system might encounter with regard to its radar and other electronic equipment in the event of a nuclear attack. In 1967, SRI conducted discrimination studies related to the Nike-X ABM system involving radar problems in separating the real warhead from decoys.

In addition, SRI has done studies on the "effects of heating on simulation, structural response and ABM warhead selection," "a methodology for National Deployment of Local Ballistic Missile Defense Batteries," "Civil Defense Interactions with Ballistic Missile Defense," "Tactical Ballistic Missile Threat Allocation Analysis," and "Postulation of Credible Soviet Ballistic Missile Defenses."

Stanford University itself has done work related to the ABM system. The Stanford Electronics Lab has done extensive research on over-the-horizon radar which is essential to a sophis-

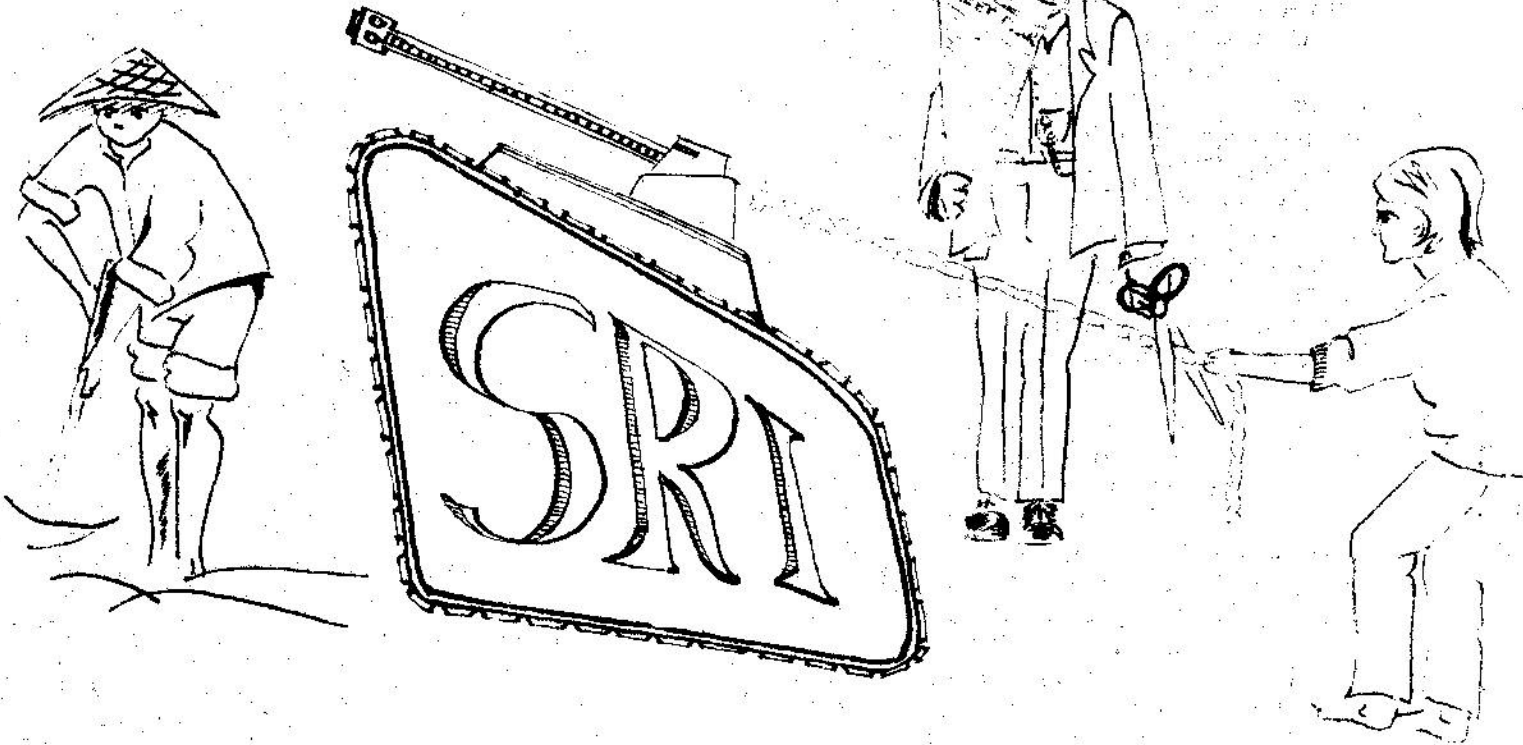
ticated ABM system. In a letter to Wallace Sterling in 1964, Professor O.G. Villard of Radioscience wrote, "I think it is fair to say that Stanford's influence on this program (over-the-horizon radar) has been very strong. It was our aim in all this to operate in the spirit and tradition of the University. The scientific work has virtually all been carried out by the students."

Professor Villard is currently engaged in an \$800,000 project dealing with "Ionospheric Dynamics." Parts of this research are classified, so it is impossible to know whether Villard's work is being used to develop a more effective radar system for the ABM. Declassification of this project would certainly be helpful.

SRI currently has a total of \$29.7 million worth of Defense Department contracts, many of which are classified. A large part of this sum is being used to develop various types of weapons systems other than the ABM. Work has been done on anti-aircraft guns and other artillery weapons. The Engineering Research Programs include contracts for the development of "Penetration Aids", used to assure the successful delivery of our offensive missiles and "Electronic Warfare", which involves jamming radar and radio signals. The Management and Systems Sciences Research Programs include projects on "Reconnaissance, Surveillance, and Intelligence," used in some cases to pinpoint enemy bombing targets, and "Weapons Systems Analysis." SRI's Naval Warfare Research Department, set up in 1958, has devised "newer advanced techniques for application in naval warfare," and has done studies to "determine the feasibility of advanced naval weapon and support system concepts." Representative projects include research on "acoustic countermeasures", used by submarines to jam surface-ship sonar, and an "analysis of the feasibility of advanced target attack systems." SRI also maintains a staff of fifty-three researchers at the U.S. Army Missile Testing Range in Huntsville, Alabama and has a weapons testing center at Fort Ord.

In the letter quoted above, Professor O. G. Villard wrote that "According to an opinion currently held in the Defense Department, United States universities are not contributing as much as they should to defense technology, because professors tend to confine their efforts to publishing papers on fascinating but inconsequential aspects of important problems. In view of the record of the Stanford Electronics Labs in many areas, it is doubtful that this charge can be leveled against Stanford."

Villard's self-congratulation can be expanded upon, for both Stanford and SRI have made significant contributions to the development of various types of military weaponry. In the particular case of the ABM, SRI's work may prove to be indispensable to the construction of a system that could conceivably bring the world to the brink of nuclear warfare. In this light, the distinction that Professor Villard claims for Stanford is a dubious one, indeed.



WHO WILL DETERMINE SRI'S FUTURE?

STANFORD, SRI, AND THE MIDPENINSULA:
FROM WAR RESEARCH TO PEACE RESEARCH

Toward a New Research Orientation

Stanford and SRI have all of the resources necessary to enable them to make significant contributions to the solutions of today's crucial social problems. The facilities and brain-power available are first-rate. A major shift in priorities away from war-related research would allow Stanford and SRI to become important centers of social progress.

A great deal more research could be done on living conditions in the domestic colonies, and on programs to eliminate the poverty and misery that afflicts a large segment of our population. Research into possibilities for governmental decentralization and the setting up of cooperative stores and enterprises would go a long way toward enabling inner city dwellers to play major roles in making the decisions that vitally affect their lives. To date, the most significant research in this whole area done at SRI has been on the use of firearms in ghetto revolts.

Much research needs to be done in the field of environmental studies. Investigations need to be conducted into imbalances in the ecology, especially man-made ones, that will affect the health and prosperity of future generations. There is plenty of work to be done on such topics as soil conservation and pollution controls. SRI's work on air pollution, however, has actually hindered the development of effective smog control.

SRI's Environmental Research Department is headed by Elmer Robinson, a meteorologist who is also chairman of the Bay Area Air Pollution Control District, an organization originally designed to control smog in the Bay Area. The most important contract undertaken recently by this department was a massive, world-wide study

sponsored by the American Petroleum Institute. A report on this project entitled "Where Does It All Go?" (the smog, that is) was printed in the December, 1968 issue of the SRI Journal. This report is noteworthy for its lack of emphasis on industrial pollution. Automobiles, power plants, and home furnaces are mentioned as sources of smog, but big industry and especially the huge oil refineries are largely ignored. The report talks in some detail about natural sources of air pollution. "Even oceans and vegetation generate air pollutants...in large amounts." The report notes that the main source of hydrocarbons, the major components of smog, are such natural entities as swamps and trees. The great clouds of smoke billowing over the Standard Oil Refinery in Richmond don't seem to count for much.

The report claims that industrially-produced air pollution accounts for just five per cent of the total. As in other instances, the use of statistics is misleading here, for in the United States, seventy per cent of the population is concentrated in the major cities, on one per cent of the land. This is where the bulk of the industrially-produced smog is also concentrated. Naturally-produced smog over swamps, oceans, and mountains is of relatively little importance. It would seem that the report's conclusion that the significance of industrial pollution is slight serves the needs of the giant oil companies who financed this study and not the needs of the people who have to live in and breathe the polluted air. While some good work on air pollution has been done, most of it serves to rationalize the destructive and dangerous practices of the major smog producers, many of whose directors sit on SRI's board.

Were SRI to be creatively used to tackle social problems, valuable research could be done in the area of air pollution, and in other fields such as population control and food production. A reorientation of in-

ternational research might result in the utilization of SRI's resources to devise meaningful land reform programs and models of property ownership and capital accumulation appropriate to the particular problems of development now being faced by the emerging nations. Granted that funds are not readily available for such work at present. But the first step toward the realization of this goal must be to end Stanford and SRI's involvement in CBW, counterinsurgency, and other war-related research. Only then will Stanford and SRI researchers be free to do positive and socially useful work.

The Academic Freedom Argument

Many members of the university community defend war research done today at American universities and affiliated research institutes with an academic-individual freedom argument. The individual scientist's right to do the research of his choosing is the primary value here. It must be admitted that there is a moral tension in restricting the freedom of an individual in order to guarantee the freedom of others. Yet this argument has a hollow and uncomfortable ring to it when the right of a Stanford or SRI scientist to do chemical-biological warfare or counterinsurgency research is placed against the fundamental right of several million Vietnamese, Hais, and Peruvians both to determine their own destinies and to life itself.

Fundamental to any definition of democracy is the principle that decisions must be made either directly or by elected representatives of the people to be affected by these decisions. Today, American government officials and corporate leaders are making life-and-death decisions for the people all over the world. Stanford and SRI scientists who work directly to make American economic and military domination in the Third World possible must bear a large part of the responsibility for the increasingly visible, inhuman results.

Some members of the university community emphasize to dissenters that they are understanding the extent of academic freedom and disinterested inquiry in the university. This is in part a hangover from the McCarthy principle. But now the demands of the government and foundation marketplace increasingly circumscribe academic freedom to do research on important ecological and socio-economic problems.

Some scientists working on applied, or mission-oriented, research disclaim any responsibility for the uses to which their work is put. In some cases, they deny any knowledge of the affects of their work. Any project that is intrinsically interesting from a narrowly scientific point of view is fair game for them to tackle. And while beneficial civilian applications that sometime spin off Defense Department-funded projects are frequently cited, it should be clear that the Pentagon is supporting applied research precisely because it is of military value. Any applied research in the military field at Stanford (STL) and SRI should be scrutinized very closely. If the research is classified, we must oppose it until we know what results it may have on other human beings.

DoD-funded basic research that is not of immediate military value is a much more difficult problem to resolve. Many scientists say that they prefer not to do their basic research under military contracts but have no choice, since the Defense Department is the only institution with the resources to finance research in their particular areas of specialization.

The only short and medium-term solution is for all scientists to organize themselves in order to control the uses to which their work is being put by other institutions. Though it will certainly be difficult to make the following judgments, basic research results that have a strong possibility of leading to a whole new generation should also push collectively to take the funding and administration of their projects out of the hands of the Defense Department. This would not

only begin to dam up the direct channeling of research to the Pentagon, but would also serve to reduce the power of our \$80 million military establishment and its rubber-stamping congressional committees.

In the long-run, not until all research, both basic and applied, is used to advance the welfare of society instead of to produce better weapons will the concept of academic freedom regain its true meaning.

Classified Research: Stanford and SRI

The only way for members of the Stanford-Midpeninsula community to resolve the academic-freedom-social responsibility question fully is to examine questionable research contracts and trace the effects of the research on Americans and people of the Third World.

Yet a substantial part of Stanford and SRI's military work is classified, so that the community cannot make decisions on the basis of the actual content of the research. Classification undermines the basic democratic decision-making process. But more importantly, classified research often is found in areas where the basic right of other countries to self-determination should not depend on any decision-making process, be it secret or open, at Stanford.

According to the Institute's officers, SRI has "143 projects valued at approximately \$85 million in which the research reports and some of the documents may be classified. Included with the 143 projects are 57 (valued at approximately \$44 million) in which the contract documents and most of the research results are classified." If SRI's references to "public responsibility" are to be more than public-relations rhetoric, it must be willing to open these contracts to community review.

At the Stanford Electronics Labs, there is over \$2.2 million in classified military work. Typically, "security clearance is necessary because classified background data is received from the sponsor and a part of the research results applicable to problems of the sponsor may be classified". The bulk of the classified work is contained in four contracts worth \$1.2 million in the Systems Techniques Laboratory. Three other classified contracts (one of these is part of an STL contract) are found in the Radioscience and Systems Theory Labs. This classified work is described in the Counterinsurgency and ABM sections above.

In addition to the moral considerations mentioned above, there are strong academic arguments against classified research. Classified research is directly opposed to the free flow of scientific information. Classified inputs into research make it impossible for everyone to replicate work, a procedure essential to scientific inquiry.

University scientists often attempt to justify contracts requiring security clearances since they feel they must keep up with "the state of the art". The issuance of classified research reports to the Defense Department is completely unjustifiable. A newly studentized faculty committee has been reviewing all classified contracts at Stanford, yet has accepted these 6 classified contracts at Stanford. It may now be appropriate for the Stanford community to review the University Committee on Classified Research's work.

In conclusion, demands for immediate declassification should clearly be part of any movement opposed to CBW, military counterinsurgency research, economic development or investment studies done alongside counterinsurgency operations, ABM and electronic warfare work, and other war-related research.

Specifically, this would involve the termination and refusal of all Stanford and SRI contracts that involve classified publications or classified communications of any sort (exceptions might be made in particular cases through an appeal-hearings process); termination and refusal of projects requiring security clearances needed to obtain access to classified information; and termination and refusal of all contracts funded by sources whose identification is not available. Additionally, central public files should be created containing all communications concerning research in progress at Stanford and SRI.

To institutionalize community supervision of research at Stanford and SRI, a Review Board should be set up to which each research proposal will be submitted for evaluation. This Board, composed of elected representatives of the community, will judge the acceptability of the research in open meetings, and have the power to veto any proposal which it feels does not meet the intent of the research guidelines which must be put into operation (See the Research Guidelines Committee's report).

Controlling SRI: Oppose Severance or Sale

The first response of many people in the university community to the problems by SRI's war research has been "Sell it. Not only do we feel uneasy about the moral implications of SRI's work, but the Institute's work is second-rate. The university should have nothing to do with SRI."

Sale of SRI would leave Stanford without legal responsibility for the Institute's work, yet would not remove the university's moral responsibility for creating SRI, for accepting SRI's research over the years, and for allowing SRI to continue this research. Stanford would be purifying itself at the expense of Vietnamese, Thais, and Peruvians who don't care what Stanford's legal relationship is to the CBW and counterinsurgency research which helps destroy their families and crops.

It has been suggested that Stanford sell SRI under a restrictive covenant which might bar CBW and counterinsurgency work from the Institute (no mention has been made of covenants to restrict classified research). One plan would be to sell SRI to its employees for around \$20 million, which the University would receive in mortgage payments over a 20-year period. During its 20 years as creditor, the University could bring suit against the Institute if the research guidelines established by the covenant were broken. The trustees or even a student-faculty committee might be entrusted with enforcing the covenant and going to court if necessary.

This plan is very attractive on the surface, since it allows us to take a moral stand and at the same time wash our hands of the "SRI problem." Passing over moral and political arguments for the time being, the sale-restrictive covenant plan has major legal difficulties. There appear to be no clear legal precedents for enforcing this type of morally-grounded covenant in the courts. The courts generally only enforce covenants protecting a creditor's investment or profit margin in a corporate enterprise. SRI could well argue in court that CBW, counterinsurgency, and classified government contracts enhance its profit margin--an argument that might prove to be acceptable to the generally conservative California judiciary.

We might also be skeptical of the Stanford trustees actively prosecuting SRI. But even if the trustees were to distribute their responsibility for bringing suit against SRI for breach of contract to a student-faculty board (which has dubious legal basis itself), the fact would remain that litigation in the courts would be a very drawn-out process. SRI's war-related research might go on for years while suits, appeals, and more appeals were handled in the courts. SRI would meanwhile be quietly be transferring its war-related work to other research institutes and corporations in the Midpeninsular. The time lag and court litigation would also

make it extremely difficult to maintain any effective community pressure on SRI.

A further consideration would be the great expense of fighting SRI in court. Monies spent on long court cases might be better placed--for example, in scholarship funds for blacks, chicanos, and working-class whites. Closer University-community control over SRI would save Stanford legal expenditures of scarce funds. It would also guarantee that the guidelines would be enforced, which must be our primary goal.

Yet there is a final important reason for bringing SRI under closer University-community control. Severance would reduce the "mental visibility" of SRI and the whole Mid-peninsular defense complex to the Stanford community. SRI, the Stanford Electronics Labs (where classified research into electronic warfare techniques now being used in Vietnam goes on), and the Industrial Park will remain in their present locations for some time to come. The important question is whether the members of the Stanford-Mid-peninsula community treat their opposition to Stanford and SRI's war research as a strictly one-shot affair or as a first step toward re-orienting the Mid-peninsula's finely coordinated research and industrial apparatus toward socially constructive work.

If SRI is brought under closer control by the university, closer, more certain surveillance will result than through the courts. The possibility of modifying guidelines over the years will be left open. Stanford students and faculty will have to confront much more directly their moral and social responsibility to stop war research at its local roots. And very importantly, Stanford resources might be able to chshion socially constructive work at SRI from the batterings of the government marketplace. SRI would remain a research institution, but might slowly turn into a center for research into crucial social problems.

SRI work, and some Stanford faculty will not want to grant any of their prestige and privileges to "second-rate researchers." Yet the silence of the Stanford community has facilitated SRI's growth, and the university will have to accept the inconvenience that normally follows moral responsibility in the United States today.

From all available indications, the trustees of Stanford University will not want to bring SRI under closer control by a morally-concerned university community. They will certainly not be happy with setting up moral and political controls over SRI or the Systems Techniques Lab's research. They would prefer to retain the informally close relationships that exist between Stanford and SRI now (53 faculty consult at SRI), but if they begin to feel community pressure mounting, it is likely that the trustees will decide to sell SRI. Another possibility is that they will set up a board of trustees for SRI under a new non-profit charter. This would legally constitute giving SRI away, the height of moral and fiscal irresponsibility.

But most likely, the trustees will simply try to stall this spring in the face of a growing political storm. As a possible model, we have the example of the Cornell handling of the Cornell Aeronautical Lab (CAL), like SRI, a wholly-owned subsidiary of its parent university. The trustees set up a committee in summer 1967 to look into CAL's relationship with Cornell, approved severance at its January, 1968 meeting, and finally accepted a letter of intent to buy from EDP Technology, a computer software company, in June 1968.

Obviously, Stanford administrators will not be happy with the added burden of

Conclusion (As of April 12, 1969)

The April 3rd Movement has demanded that work at Stanford and SRI in the following areas be stopped immediately:

1. Chemical-Biological Warfare research
2. Counterinsurgency research
3. Classified research
4. Research related to the wars being fought by the US against the peoples of Vietnam, Laos, Thailand, and Cambodia.

In addition, we demanded an open decision-making meeting with the Board of Trustees to be held during the week of April 21 to decide the University's future relations with SRI.

The trustees have responded by calling a moratorium on all pending and future CBW contracts until a decision has been reached concerning SRI. They have also agreed to hearings during the week of April 21 at which students of their choosing would be present. The meeting might be broadcast to the rest of the community via closed-circuit TV, and the results of the meeting might be published. The trustees have completely ignored the issues of counterinsurgency research, classified research, and research related to the wars in Southeast Asia.

The Academic Senate, while expressing its moral concern over the relevant issues, has failed to accept its responsibility for on-campus war research by calling for an end to the types of research specified by the April 3rd Movement. The absence of any significant response on the part of the trustees and the Academic Senate to the issues raised by the April 3rd Movement leaves us with only one choice---to continue our sit-in in the Applied Electronics Laboratory.

Granted, that precise definitions of CBW, counterinsurgency, and war-related projects are not easy to formulate. But this is no excuse for the trustees' and faculty's failure to condemn as a matter of principle research in these general areas pending more precise definitions in the very near future. (See the Research Guidelines Committee's report) Until such statements of moral principle have been issued, there can be no serious thought given to ending the sit-in. We will continue to stop the war research being done in the Applied Electronics Lab until we are satisfied that the trustees and faculty have agreed to steps that will permanently bring an end to all death work at Stanford and SRI. It would be a serious error to underestimate the strength of our commitment to the realization of our goals, for we know that ultimately, we must answer for our actions not only to ourselves and the rest of the University community, but most importantly, to the Vietnamese people.

THE RESEARCH MUST STOP

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STANFORD ELECTRONICS LABORATORIES

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