CHEMICAL AND BIOLOGICAL WARFARE (CBW) --The SRI Coalition

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 artillary 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; the body, in effect, strangles in its own vital organs when affected by the agent. 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; in addition, chemical warheads are being developed for the Army's new Lance guided missile system which will also deliver nuclear warheads, biological warheads, and high explosives.

Another chemical agent available for use is HD or distilled mustard, a blister agent which is more toxic than the original mustard gas used in World War I. (Note: The Geneva Protocol of 1925, which prohibited the use in war of asphyxiating and poisonous gas and liquids, was "framed to meet the horrors of poison-gas warfare in W.W. I" and to reduce suffering by prohibiting the use of gases such as mustard gas and phosgene.) Army manuals currently list HD as a non-lethal blister agent (ie. it 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, CS, CN, 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 phosphorous, 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 into biological warfare possibilities, along with chemical research, has been conducted on an expanded basis since the Kennedy Administration earmarked an initial increase of 30% in the 1962 CBW budget; during the Thousand Days CBW spending increased three-fold, to nearly $300 million a year with as much as 30% of the budget devoted to the manufacture of delivery systems. (Clearly the research being done is designed for application and is not "pure" or basic research.)

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 resistence 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 anticrop research, which has contributed to the heavy use of defoliants and herbicides in Vietnam. A Japanese study in 1967 claimed that U.S. anticrop attacks have ruined more than 3.8 million acres of arable land in South Vietnam and resulted in the deaths of nearly 1000 peasants and more than 13,000 livestock. While discounting the Japanese report, the Pentagon announced in the same year the purchase of $60 million worth of defoliants and herbicides, enough to theoretically blanket 3.6 million acres of crop-land (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 Viet Cong 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 civilian inhabitants of South Vietnam), and the ecological imbalances created by the defoliation program are likely to have devastating long-range effects.

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Of relevance to those of us at Stanford, the herbicides and biological agents are being developed for use primarily as aerosol sprays; two scientists at Stanford worked from 1959 to 1961 to "improve the knowledge of the effects of meteorological conditions on the behavior of aerosols and particulates." (Elinor Langer, Science)

In 1965 the Army signed a two-year contract with the Stanford Research Institute for a secret project which "was directed to the use of a rocket motor for dissemination of chemical agents using the energy from a solid rocket motor exhaust for dispersion. . . . Heat and turbulence of the exhaust serve to break up and distribute the agent over a very wide area. Demonstrations of the devices were made." (Seymour Hersh, Chemical and Biological Warfare) Hersh states further that this kind of research indicates that many of the more traditional delivery problems that once plagued CBW researchers have been solved. Simply getting gases to go where they are intended and in the right concentration is no longer a major obstacle to the employment of the lethal, incapacitating, and mutilating agents. The significance of this research can be observed in the fact that five of the seven chemical agents currently listed in the Army field manual are disseminated as aerosols while the other two are "airborne." Stanford research, then, helped to perfect the feasibility of the use of these aerosol agents.

Meanwhile, scientists at SRI have been learning how to make the aerosols. In 1959 two SRI researchers were involved in the Chemical Corps program, particularly to obtain "fundamental information on the formation of encapsulated aerosols for possible application to the solution of the problems of 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), and in 1964 to a still-continuing contract for "the dissemination of chemical solid and liquid materials" ($2.5 million). SRI researchers have also worked with CS riot control gas. At present SRI has $404,000 in chemical warfare contracts, with two new contract proposals valued at $96,000 pending.

As an added note, Hersh cites the fact that "Some members of SRI's Board of Directors also serve as trustees of the University; they include men who help to direct such defense-oriented industries as General Dynamics Co., Northrup Corp., Douglas Aircraft Corp., McDonnell Aircraft Corp., and the Food Machinery and Chemical Corp. /FMC/. Similarly, all of these firms have many ties with the nation's CBW program."

The SRI COALITION is a group composed of faculty, students, and members of the Stanford community who are opposed to the research being conducted at SRI in chemical and biological warfare and counterinsurgency. We consider research of this nature to be antithetical to the stated objective of SRI, to "serve the public interest through performance of research to improve the standard of living and the peace and prosperity of mankind." We further challenge the fact that "There is no institutional policy which provides for rejecting research projects from legally established public bodies, including the Department of Defense, on the basis of moral judgments concerning the nature of the work or the client's function." We recommend that measures be taken to bring SRI under closer regulation by the University and that no contracts in CBW or counterinsurgency be accepted or renewed.

A petition stating the above position whill be circulated. We urge you to express your concern by signing. If you wish further information or would like to work with the SRI Coalition, please contact:

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