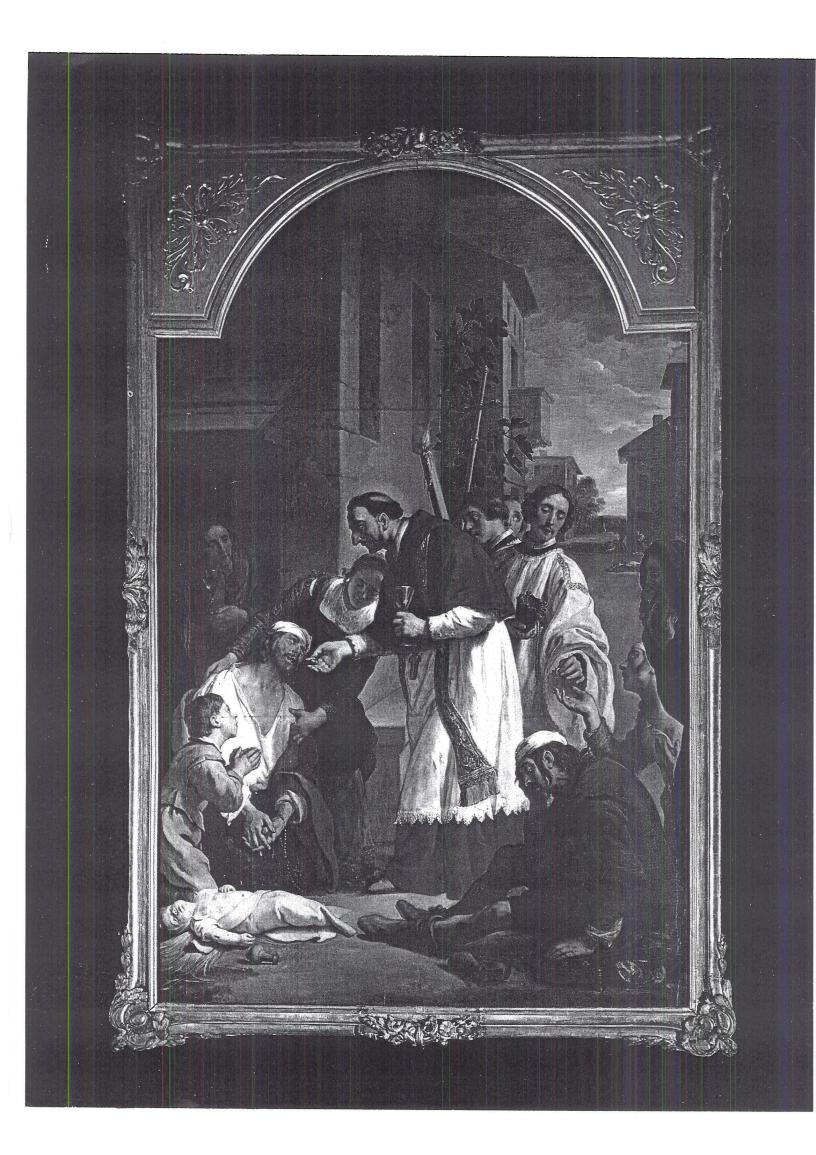


#### A document of the New America.

"People up there were saying 'Boy, that's the second James Joyce,' and 'Jack Kerouac again,' and 'Homer Revisited'—they were all just talking through their heads." Dylan speaks frankly in his first major interview after three years of retreat. The entire, unedited interview is in the special second anniversary issue of Rolling Stone, the bi-weekly journal of rock and roll music and the new culture. The Dylan Interview is part of our continuing series of the documents of the New America. Bob Dylan, Rolling Stone—don't miss them now, the chance may not come again.

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# Germ Warfare: for Alma Mater, God and Country

It is profoundly unnatural to use medicine to kill—for men to assist the primordial enemies of human life that every instinct moves us to abhor and combat. Yet we have in America a thriving biological warfare establishment, developing and preparing for use virulent agents more deadly than were ever contrived by nature itself.

This lethal machinery is not directed and operated by some band of hellish necromancers — some inhuman magicians of death. It is run as part of the ordinary business of society, involving in its operations not only huge military bases and the highest political institutions, but also several universities and even a pacifist church. And while the idea of a germ warfare arsenal is terrifying in itself, perhaps more terrifying is the society's capacity to fit CBW development so smoothly into its ordinary way of life.

We would like to think it impossible for normal men to involve themselves with biological warfare in any way. Yet a look at such involvement within various social spheres reveals some common patterns that help explain how easily it can happen and why.

—The Editors

[PART I]

### For God

"when . . . an old friend mentioned that he had just returned from duty [as a conscientious objector doing "non-combatant service"] at Fort Detrick, Maryland. While assigned there, he stated, he had been a subject, a human guinea pig, for experiments with diseases. . . . So it was with a little knowledge of the situation that I volunteered [also as a C.O.] for Operation Whitecoat in March of 1962. . . . One of the unusual aspects of being a volunteer was that during the times scheduled [in basic training] for injections to keep up our immunity to diseases of one type or another, the volunteers were excused and thus our built-up immunity was purposely allowed to disintegrate, allowing disease to get a head start on us. . . . During the 18 months that I was assigned to Fort Detrick as a human guinea pig volunteer, many projects were carried out. . . .

"I volunteered for the next project... One man... rejected the experiment, as he had gotten married and could take no chances with his health or his life. He was pressured but did not waiver in his stand... We were told the project would last a minimum of 21 days and that we would receive \$25 per pint of blood that would be drawn during the project... At the beginning, we had been examined by the director of the project, a medical doctor devoted to his chosen profession. Each of us queried him as to the value of this particular project; however, we learned exactly what he wanted us to know and that was nothing....

"There was some apprehension among the project members, as it was made known this was D-Day. Much blood had been drawn previously, and therefore another needle stick or two didn't bother us. What we were to learn this morning was that we would be injected with endotoxin [a poison obtained from dead bacteria]. This time both a nurse and Lt. Col. Biesel of the Army Medical Corps were present at the injection. He injected the needle deep into my vein and told me that shortly I should have some reaction. Pain medication in the form of pink and gray Darvon capsules were left on my bedside table. We were told to lie in bed until whatever happened was over. Within an hour, the top of my head felt like all the gremlins in Hades were inside trying to emerge by hitting the underside of my skull with sledge hammers. A dozen or a hundred, I couldn't have felt any worse if I had been hit by a speeding automobile. This type of endotoxin would surely slow down an enemy soldier who had been infected. The Darvon was there to use if the pain became severe enough, but an idiosyncrasy of mine is being unable to swallow capsules; thus I chose to bear the pain until it quit, which was some 31/2 or 4 hours later. The balance of the three-week period was used to recuperate."

—Letter, dated July 1969, from a Seventh-day Adventist who had served as a volunteer in Project Whitecoat, conducted by the Army with the assistance of the Adventist Church.

HE SEVENTH-DAY ADVENTIST CHURCH believes the one great hope of mankind is the second coming of Christ. When He comes, all of the sins of mankind will be washed out—along with mankind. While awaiting this apocalyptic rendezvous, church members—who do not smoke, drink, dance or go to movies—are urged to

by Seymour Hersh

The victims of the Plague in Milan consoled by a Priest Painting by Caspar de Crayer / The Bettman Archive

avoid the social issues of war and peace, and to concentrate on doing their utmost, individually, to live in strict adherence to the Ten Commandments.

God said, "Thou Shalt Not Kill," and accordingly the church forbids its men to engage in military combat. Yet nothing in the church's literal reading of divine intent has prevented it from embracing a unique paramilitary mission—enthusiastically training its men from high school on to become battlefield medics, and willingly supplying 1500 youths for experiments connected with the Army's biological warfare program at Fort Detrick, Maryland.

This pacifist church, which has no qualms about supplying men to help America fight a war in Viet-Nam or conduct biological warfare, has no problem gaining conscientious objector status for its young men. A church publication makes clear why: "The 'O' in the classification stands for 'objector,' but Adventists, who neither burn draft cards nor join the lines of bearded protesters, consider themselves 'cooperators.'"

Control of the rich (\$1 billion in assets around the world), 1,500,000-member church is tightly held by the officers at the top. And, as one young Adventist, Martin Turner of Weedsport, New York, puts it, the church leaders' "attitude toward war is that they don't have an attitude toward it . . . as long as we get our Saturdays [Sabbath] off and don't have to shoot anyone, it's all right." The church has boasted that "Not only does the Adventist consider himself a 'conscientious cooperator' in military service, but [the Church] has done something no other has done thus far-established on the denomination's high school and college campuses throughout the world an organization called the Medical Cadet Corps to train young men in military courtesy, drilling, first aid, and battlefield duties of the medic so that they will be better prepared for military duty." An estimated 30,000 young Adventists have gone through this training in the United States and Canada since 1960.

The Adventists' ties with biological warfare date back to 1954, when Major-General George E. Armstrong, Army Surgeon General, wrote a letter to the church requesting its participation in Project Whitecoat at Fort Detrick. Armstrong reassured church leaders that "The program has the full concurrence of our highest military and governmental officers," and he received a quick, affirmative reply. "We feel," it said, "that if anyone should recognize a debt of loyalty and service for the many courtesies and considerations received from the Department of Defense, we as Adventists are in a position to feel a debt of gratitude for these kind considerations."

S FAR AS CHURCH OFFICIALS ARE CONCERNED, Project Whitecoat was set up to enable Adventists to "take part in studies aimed at developing medical protective measures against disease-producing organisms which might be disseminated by an enemy in the event biological warfare is ever used against this country." (Excerpt from a church booklet.)

In fact, however, many Adventist volunteers have been used in tests to determine the number of organisms of a particular disease required to infect a man—a study critical to the Army's ability to carry out *offensive* biological warfare. But even if the youths had been enlisted only in developing vaccines and other defensive measures, church officials never considered the possibility that, as Elinor Langer once wrote in Science Magazine,

"In the context of biological warfare even life-saving techniques such as immunization take on a strange aspect: immunity among one's own population and troops is a prerequisite to the initiation of disease by our own forces, as well as a precaution against the initiation of others. Some diseases are currently excluded from active consideration as BW agents simply because no vaccines against them have yet been developed."

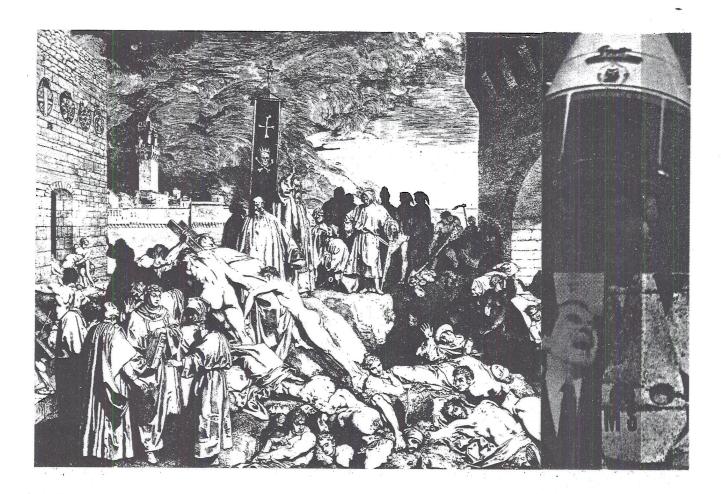
The first project to which Adventists were assigned involved Q fever, one of the first diseases to be tested as a biological weapon by the United States. Soon the men were helping to develop vaccines for anthrax, tularemia, psittacosis, and Venezuelan equine encephalitis—all highly infectious diseases that have been selected for military use in case the decision is made to initiate biological warfare.

But developing vaccines for the U.S. biological warfare arsenal was not the only job of the Adventists. By the mid-1960's, volunteers were being exposed to heavy doses of airborne diseases in order to determine how quickly various strains could infect men. A paper published in Bacteriological Reviews, September, 1966, by four doctors at Fort Detrick reported on the deliberate infection with tularemia of more than 20 Adventists. Some were immediately cured with antibiotics; others suffered a relapse. All of the subjects had been infected with an altered strain of tularemia, one that was bred to be resistant to streptomycin, a standard medical cure for the disease. And all were made very sick. "Volunteers exposed to [tularemia] became acutely ill after a mean incubation period of three days," said the paper. All recovered eventually, according to the doctors, and with no apparent complications. But the Army Training Manual 3-216, Military Biology and Biological Agents, reports that such temporary infections with tularemia can eventually lead to "a chronic condition that may be accompanied by enlargement of the regional lymph glands."

Given this background, a church statement commending Project Whitecoat, supplied to the Army upon request in the mid-1950's, seems—at best—wonderfully naive. "Seventh-day Adventists are well aware of the exploits of Pasteur, Gorgas, Reed and their associates by which many of the dangerous and epidemic diseases have been robbed of their terror. . . . It is the attitude of Seventh-day Adventists that any service rendered voluntarily by whomsoever in the useful, necessary research into the cause and the treatment of disabling disease is a legitimate and laudable contribution to the success of our nation and to the health and comfort of our fellow men."

By the late 1950's the Army was having its troubles with Project Whitecoat, which at that time included non-Adventist volunteers. Enlisted men formerly connected with the biological warfare program have told me that Fort Detrick's guinea pigs once staged a sit-down strike over lack of full information about the test program. In the early 1960's the Army, apparently taking advantage of the docility encouraged by the church, converted the project into an all-Adventist operation.

The Adventist leadership has elevated service in Project Whitecoat almost to an act of faith. Twice a year, a key official of the church accompanies Army doctors on Whitecoat recruiting trips, and a church pamphlet explaining the program in fawning terms is issued to prospective volunteers. It notes that the church official's mission in accompanying the Army men



"is not to recruit, but to reassure the men of our denominational approval of this type of service." Potential Whitecoats are also told that "there are no special compensations offered for those who volunteer to serve in Whitecoat. It is commendable for a man to be willing to face risk in order to render a special service, but he should look for no special favors in return." The pamphlet was written by an Adventist pastor.

HEN A FEW YOUNG CHURCH MEMBERS began writing in protest of Whitecoat and asking for more information, church officials brushed their complaints aside. Leading the attack was 23-year-old Martin Turner, who was having difficulty getting church endorsement for his draft exemption because, being morally opposed to the Viet-Nam War, he refused to take non-combatant service. Turner sent a round of letters to church leaders last spring asking them to spell out the nature of the project. The letters brought uniform responses.

Reverend William Loveless, pastor of the Adventists' largest congregation (Tacoma Park, Maryland) said: "The Operation Whitecoat is classified. This means that you won't get much of an answer from the Army and it also means that I don't know, nor does anybody know, a great deal about Operation Whitecoat, nor are the men in the Operation permitted to discuss it in any detail. I do know that there have been projects, all of them classified, which deal in the area of biological warfare. In what way they deal with this and to what ends I do not know."

"I do not know what official statement I could get from the

Department of Army concerning this project inasmuch as it is classified and therefore all statements would have to be cleared before release," wrote Clark Smith, director of the church's National Service Organization.

In a second letter sent to Turner two weeks later, Smith reversed field altogether, following a conversation with Colonel Daniel Crozier, commanding officer of the Army Medical Unit at Fort Detrick—the unit responsible for Whitecoat. Smith quoted Colonel Crozier as saying that "any research work which results in anything worth printing is immediately put into print widely throughout the world in professional medical journals." Less than one per cent of the Whitecoat work is classified, Smith wrote, and the only reason so much remains unpublished is that it is not complete. Smith relayed Crozier's assurance "that he could state this about the project—that it is strictly medicinal in nature and that it has nothing to do with offensive warfare."

This would be almost laughable—except that the entire hierarchy of the Adventist Church believes it. In response to continued criticisms from Turner and others, the church set up a small investigating board which went out to Detrick, received a series of briefings and concluded that all was in order. "It's an open base," one church official told me. "Anyone who can get access to Fort Detrick can go through the whole place; that's how open it is." "We've had no problem getting in," he added heatedly. Dr. Winton C. Beaven, president of one of the church colleges, told me, "We have no evidence of any connection between the medical research center and the biological warfare operation at Fort Detrick."

R. BEAVEN AND HIS PEERS at the Adventist Church headquarters should take a look at the February, 1963, issue of *Military Medicine*, an official publication of the Association of Military Surgeons of the United States. The issue is devoted to biological warfare, and the lead article, "The Threat of Biological Weapons Attack," is written by Colonel Crozier, the head of the Detrick medical center. And Dr. Beaven and the others should certainly read "Status of the Medical Research Effort," by Crozier's predecessor at Fort Detrick, Colonel W. D. Tigertt. Tigertt writes:

"[It] is not surprising that attention is also given to the possibility of deliberately inducing infections in man in such a manner as to facilitate the attainment of [military] objectives. What is surprising is that many physicians have refused to deal with the problem. They explain their apathy by stating that ethics prohibit their participation in any endeavor the derivatives of which might be used to produce suffering or cause loss of life. Yet our profession admits that to be prepared to deal with such a threat we must have an understanding of the methodology. This writer once heard a solemn proposal to provide a medical education for certain men, but to deny them the Hippocratic Oath, so that they might participate in the study of biological weapons, thereby obtaining the necessary medical information but keeping the medical profession free from blemish."

Colonel Tigertt is too candid to conceal the ultimately destructive ends of the kind of "medical" work he oversaw at Detrick. The guardians of the Adventist Church would most likely sympathize with the "solemn proposal" that he scorns, since they seek in a similar way to keep their "profession free from blemish." They too are content with a morality of form without substance, one in which the arts of disease can be presented as the healing arts, and in which germ warfare can be embraced in pious obedience to a divine injunction against death.

[PART II]

### For Alma Mater

he crew of researchers normally were quartered at Fort Greeley or Fort Wainwright [in Alaska]. I was employed as a field biologist and I resigned in September, 1965, due to:

"I) My having learned beyond all reasonable doubt that I was employed to contribute to the progress of studies connected with biological warfare. The above had not been made known to me prior to my employment. My inquiries as to the full nature of my work . . . were not answered by my employers at the University of Oklahoma. The University of Oklahoma, the president [of the school], and Dr. Hopla [the project director] refused to allow me to see a copy of the terms of my employment. . . . I was informed the project was classified.

"2) At Fort Greeley I was instructed to make a survey of the vegetation in a plot about 100 acres large and surrounded by a seven-foot fence. This was only one of a number of plots. The Army was looking for significant changes in the composition of the ground cover since a previous survey. I was dressed in a

protective suit, high rubber boots, and rubber gloves. I was instructed to touch nothing but the vegetation and even then to avoid doing this as much as possible. Inside this enclosure there were no signs of recent animal life, such as droppings or runways. However, I noticed the carcasses of foxes, squirrels, rabbits, mice, weasels, owls, ravens, jays and small songbirds. . . . All that used to inhabit the enclosure was dead.

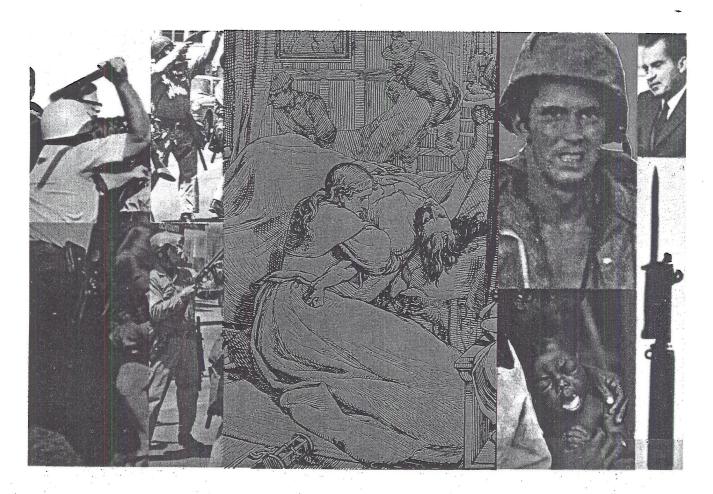
"3) An officer of the U.S. Chemical Corps, which was very strongly represented at Fort Greeley and at the field site, once asked me if I felt that minute particles of some substances might be transported to Siberia on the feet of migrating geese. A U.S. Army M.D., in response to my inquiries . . . as to why my project was involved with mice and collecting blood from mice, informed me that the people at Greeley and Dugway were very interested in bubonic plague. The samples of the blood and tissue that we collected in the field were sent away, I do not know where, for analysis by other persons."

-Letter, dated December, 1967, from a biologist who had participated in a University of Oklahoma research project in Alaska.

T SOME TIME IN THE EARLY 1960's, the men who run the military's biological warfare program decided to stage an outdoor field test in Alaska using a virulent strain of tularemia. Much was known scientifically about the disease; it had been tested on human volunteers in laboratories, spread along the test areas at the Dugway Proving Grounds in Utah and in the Southwest Pacific, and experimented with over and over again at the biological laboratories at Fort Detrick. Tularemia, more commonly known as rabbit fever, was one of the first diseases to be selected as an offensive biological warfare agent. In near total secrecy an elaborate biological weapons assembly line, capable of mass production of tularemia and other biological agents, had been constructed at the Pine Bluff, Arkansas, Arsenal at a cost of more than \$150 million.

But how, the military men wanted to know, would tularemia spread in a cold climate such as Russia's? To find out, plans were made for field tests in Alaska. As a first step, the Army followed the pattern that had been successfully—and quietly—established at the Dugway Proving Grounds, where scientists from the University of Utah had been assigned the initial task of determining those diseases which were endemic to the area. Theoretically, the Army would not think of testing a biological agent outdoors in an area unless it was known to be already present in the environment. Although the military is still reluctant to acknowledge that outdoor field testing with biological agents goes on at all, those officials who are more candid point with pride to the University of Utah contract as an example of the meticulous care the military takes before beginning a test program.

A former researcher on that project describes its function more cynically. The University of Utah's preliminary study was needed, says Dr. Joel S. Trupin, now a professor of microbiology at St. Louis University, "so in case some rancher or farmer would complain of infections to his livestock, the Army could bring in evidence that Dugway hadn't been responsible." "Of course," Dr. Trupin adds, "it probably would have been." Trupin, one of the few former Dugway researchers to speak out publicly, recalls that during the late 1950's—when he was there—at least three workers accidentally



caught tularemia during experiments at Dugway. The Army insists that there have been no deaths or serious injuries since the biological test programs began. Nevertheless, many former Dugway employees have told me about incidents involving careless exposure to biologicals during tests.

At any rate, for the job of tracing tularemia in the projected test area around Fort Greeley, Alaska, the Army picked the Zoology Department of the University of Oklahoma. The University received its initial grant in 1965 and by 1966 the Army was funding the project at a cost of \$514,000. The contract, issued by Dugway in November, 1966, called for the University to conduct "r & d [research and development] of ecology and epidemiology research survey in a specified area." For Dr. Cluff Hopla, the ambitious chairman of the department, the offer was just too good to turn down. Hopla initially denied any knowledge of biological warfare connections with his work, although he confirmed that it was financed by the Dugway Proving Grounds. But when he was recently confronted with evidence made available to me that the Army had tested tularemia some time in 1967 at Fort Greeleyafter his studies had cleared the way-Hopla allowed that he was "not really too surprised. It's simply one of those things." Did he think his work in monitoring the area for tularemia was vital to the test? "I'd suppose so," Hopla said. "This, of course, is kind of reading between the lines.'

Nonetheless, Hopla insists on the pristine scientific detachment of his work from any of the sinister military applications that may flow from it. "We [he and the men from Dugway] have had no direct connection. I've had no need to know. . . .

My interests are in a particular line; the Army is interested in something else."

Hopla explained how he first got involved in the Fort Greeley study. "When they came to me, I told them what I wanted to do and they could take it or leave it. Initially I told them it wasn't biologically interesting enough. . . . They agreed to let me proceed with a full-scale study of the ecology of tularemia [in the area]." These scientific negotiations were conducted in stringent secrecy; the fact that the tests in Alaska were even conducted is still classified as "Secret" information by the U.S. Army.

The biologist who wrote the letter above about his work in the Fort Greeley open-air enclosure, had been brought into the project early in 1965 by Hopla and had quickly run into trouble. To begin with, he complained when he was asked to fill out security clearance papers before his employment was confirmed. Hopla wrote to him saying that such paper work would not be necessary. "I don't think there is anything about our project that needs any type of clearance," Hopla added. "Of course, on the other hand, I must admit that I do not know what use the Department of Defense will make of the data once it is analyzed and turned in, and therein lies the problem."

The new man's basic problem was that he lacked the kind of scientific detachment that makes the possible uses of one's work by one's employer an uninteresting subject. Within a few weeks on the job, he found that the project raised many doubts in his mind. When Hopla refused to let him see the terms of his employment contract, he objected and was

abruptly fired. "I believe that Hopla was scared of what I might say about his project once he discovered my feelings about it," the biologist subsequently wrote me, adding that "Hopla's description of the job when he was trying to hire me was whitewash and wishful thinking."

The biologist was fired by Hopla on July 19, 1965. Over the next two days Hopla sent out four letters to other prospective employers in Alaska, in which he opened with various pleasantries and then mentioned his ex-employee in terms the biologist describes as "a character assassination—presumably to discredit me in case I 'spilled the beans' regarding the project." "Hopla's action in this respect made it all but impossible for me to obtain work at that time," he says.

Hopla himself is still plugging away at his research, for which the Army has paid \$125,000 so far this year. In a recent interview Hopla conceded that he was sure the Army could safely test a strain of tularemia in Alaska if it wanted to. "Winter is the best time to test," he said. "They'd probably test on the military reservation [at Fort Greeley]." "There's all sorts of things going on at Greeley," he observed.

He was alluding to the secret open-air testing of nerve gases at the Fort in mid-1965. It was apparently the aftermath of one of those tests which involved the biologist in the grisly chore of collecting vegetation from the test plot mentioned in his letter. According to classified Army reports, the first outdoor test with a biological agent in Alaska was the 1967 tularemia test.

Asked if there could have been a spread of tularemia after the test was conducted, Hopla countered that "All of the strains that I have picked up are all ones that I consider endemic to the area."

T MAY ONLY BE PURE CHANCE, then, that a strain similar to the one found by Hopla in Alaska is believed to be responsible for a recent and unusual outbreak of tularemia in parts of the United States where it is not endemic at all. According to a paper published on June 5 of this year in the New England Journal of Medicine, an epidemic of 47 cases was reported in the spring of 1968 in Vermont, the only state in the U.S. where tularemia had previously never been found. The researchers, all of them connected with the National Communicable Disease Center (NCDC) in Atlanta, discovered that the cases were linked to contact with muskrats during the spring trapping season. The paper went on to report that "None of the findings of epidemiologic investigation give any clue to why tularemia suddenly occurred in an area where cases had never been recognized before. Interestingly enough, during the first six months of 1968 small outbreaks of muskratassociated tularemia were reported in New York and Ontario, and Ouebec reported rabbit-associated tularemia for the first time in 35 years. In the ten years before the Vermont outbreak, Massachusetts was the only state in New England to report cases of tularemia. . . ."

The researchers—although they were unaware of the Army's open-air tularemia test in Alaska—speculated that birds might have been responsible for bringing the disease in and passing it on to the muskrats, thus leading to its eventual outbreak among human beings. "That tularemia affects birds has been well-documented, and transmission studies have shown that organisms may be carried and excreted in feces by some species of migratory birds," the paper said.

A number of ornithologists who were contacted said that some species of birds are known to migrate from Alaska and northern Canada to the east coast of America and then down into the Caribbean and South America. When I spoke to Dr. W. Earl Godfrey of the National Museum of Canada in Ottawa, he told me, "Just yesterday I examined a mew gull which occurs in Alaska [but] which was taken in New Brunswick. The literature is full of that kind of thing." Among the birds that specifically travel from the northwest to New England and then south, he said, are the Black-Pall Warbler and the Red-Eyed Vireo.

While birds could carry tularemia, Godfrey—like every other scientist contacted—considered the chances that the outbreak was attributable to these migrations remote at best. But he could not rule out the possibility. Neither could Dr. Lowell S. Young, the principal author of the New England Journal of Medicine paper, who told me her team "found nothing which would suggest human intervention. It's possible, but not very likely."

A technician at the Rocky Mountain laboratories in Hamilton, Montana, analyzed both the strains isolated by Hopla in Alaska and the strain discovered in Vermont and found them very similar. He described both as moderately virulent.

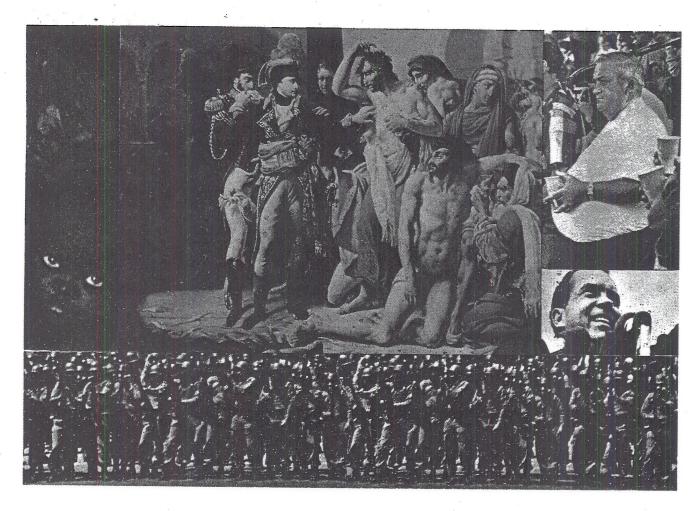
And Hopla, in an unclassified report of his work dated June 2, 1969, reported that from 1964 to 1968 he isolated 21 cases of tularemia in animals in Alaska. Eight of the disease findings occurred in 1968. "It is interesting to note," he wrote, "that nearly half of the isolates were made in 1968"—the year after the tularemia test.

It would be interesting to know what the NCDC team's research would have turned up if they had known beforehand that the Army was tampering with nature and disease in Alaska. They might, for instance, have given more attention to the Canadian outbreaks of tularemia, which seem to suggest a pattern of disease spreading from west to east.

The possibility of migratory birds sparking an epidemic with virulent disease agents released by the Army is taken very seriously by the Army itself. Fort Detrick has paid more than \$3 million to Washington, D.C.'s prestigious Smithsonian Institute for extensive studies of disease transmission by migratory birds, carried out chiefly on islands located in the Southwest Pacific. One aim of this project was to find areas which had few or no migratory birds—at least during certain seasons of the year. This was in any case a precaution after the fact since the Army had already tested biological agents in the Southwest Pacific in the early 1960's.

Assuming that last year's sudden outbreaks of tularemia were not attributable to their experiments, the Army's luck seems to have held out so far. Indeed, even if they did cause that epidemic, we would have to count ourselves lucky that it was tularemia that struck, for that is one of the milder of the diseases the Army has unleashed over the years in open-air tests.

Since the first of these tests in 1951—conducted at Dugway Proving Grounds with psittacosis (parrot fever)—outdoor tests with highly infectious deadly biologicals have occurred regularly. Among the diseases released have been a strain of bubonic plague, anthrax (another dread scourge of the Middle Ages, which can kill up to 100 per cent of those infected), and a form of botulism (a deadly poison which causes immediate casualties).



[PART III]

## For Country

ONSIDERING THE NATURAL AND UNIVERSAL revulsion against chemical and biological warfare, there is something palpably bizarre about the churchman who ascribes piety and virtue to involvement in CBW, and about the scientist who just "doesn't know" what use his work is put to and doesn't care to imagine what that use might be. It is as if some transcendent hypocrisy encroached upon the sanity of those implicated in CBW. These cases reveal a complex mixture of deception and self-deception, cynicism and horror, concealment and voluntary blindness. This pattern is an important part of what makes CBW so dangerous and so resistant to opposition and control. The reality of CBW is, after all, a guilty secret, but the ignorant are exempt from responsibility, while those who know are exempt from judgment. And the consequences of this paradox extend not only to the CBW functionaries in the Adventist Church and the universities, but also up to the highest levels of national policy.

CBW is, by all accounts, over-classified. The aim of this policy has not been to keep information away from the Soviet Union or any other potential adversary, but to keep information away from the American people. At one point in the early 1960's, the Army sought—vainly—to have the CBW program classified on the same scale as the "Manhattan Project" for the development of the atomic bomb during World War II. Even the former director of Army CBW research, Brigadier General Jacquard H. Rothschild, complained in a letter to the New York Times in 1968 that "The restraints established are not based on security requirements, but rather on administration policy."

Administration policy has often been to use secrecy as a means of fending off criticism, along with an astonishing carte-blanche on CBW developments. In interviews with past Kennedy and Johnson Administration officials—high-ranking civilians in the Pentagon as well as White House personnel concerned with defense-I have found that most had had little or no knowledge of CBW policies and what doubts they had, they kept to themselves. Many explained that they had never been able to understand why the U.S. was proceeding with such large programs. And they had not been aware of the kind of policies that allowed biological agents (up to three gallons by Army regulations) to be routinely transported across the United States by commercial airlines without military escorts. One former high Pentagon official said that despite his position he had never been told of the huge stockpiles of nerve gas weapons overseas. "I just didn't know

anything about it," he explained. "Nobody on the OSD [Office of the Secretary of Defense] staff really knew about it. None of the Army's annual reports included specific data, just accounting reports that shielded the information." He added that the full extent of the stockpiling wasn't discovered until 1967 or 1968, after an analysis by then Assistant Secretary of Defense Alain Enthoven. Congress was naturally even more in the dark.

There is immense irony in the fact that CBW information, so sparsely distributed among U.S. policy-makers, was at the same time being doled out with extraordinary generosity to minor military figures of foreign countries. This was a result of the secret Data Exchange Agreement (DEA), approved by President Eisenhower in the mid-1950's, under which U.S. military officials were given authority to make agreements with their foreign colleagues for the free exchange of classified information. The agreements, which often were made on a colonel-to-colonel basis, required no approval either from the White House, Secretary of State, or Secretary of Defense. Between 400 and 600 were consummated by 1967, about a dozen of them relating to the exchange of CBW information, according to a former Pentagon official. This amazing military pen-pal setup did not even require the foreign officer to inform his superiors.

"I used to fight this," said one former Chemical Corps officer. "It was a one-way street. We just told them everything, but never got anything back in return. I always figured everything we sent them they passed on to Moscow." But most of his associates took delight in sharing secrets with their friends in uniform. CBW information was exchanged under agreements between the United States and the following countries: Spain, West Germany, England, Canada, Australia, Nationalist China, France, Israel, the Philippines and South Korea. Many exchanges involved relatively insignificant materials, but others included full disclosure of CBW research and production techniques in the U.S. Many foreign officers were flown to this country and given top-secret tours and briefings at all Army CBW facilities. The net effect of this unmonitored DEA program (which finally was brought under some State Department control in 1967) has been to spawn an arms race in CBW now involving at least 15 nations, thus further multiplying the danger that these weapons will actually be unleashed in war.

R. MATTHEW S. MESELSON, prize-winning Harvard biologist and CBW expert for the U.S. Arms Control and Disarmament Agency, expressed the view of many prominent scientists when he told the Senate Foreign Relations Committee last April that "... the field testing of live biological weapons, and especially the outbreak of actual biological warfare, would constitute a menace to the entire human species."

The Army tends to chalk up such strong sentiments to a kind of irrational, queasy emotionalism about CBW. The military is constantly frustrated by otherwise sensible people whose minds are closed on this subject; they just won't give nerve gas and germ warfare a chance. In 1959, the Army Chemical Corps, determined that ignorant prejudice should not stand in the way of progress, hired an outside public relations firm and launched "Operation Blue Skies," a program designed to get their side of the CBW story before the Amer-

ican people. Dozens of articles were published in that year, emphasizing either the advances made by Russia or the notion of CBW as a "humane" method of warfare ("War Without Death" was the title of one Army-inspired article). The aim was not to raise a groundswell of popularity for bubonic plague, but merely to dull the edge of perfidy so that CBW would no longer be unthinkable. The effort paid off: within the next four years, as the Kennedy Administration moved away from reliance on nuclear weapons to a "flexible military response," CBW spending increased by 300 per cent.

Of course the Army has always defined its CBW operations as purely defensive in nature. Even the development of substantial offensive capabilities is explained as being basically defensive, since it is intended to deter enemy attack. The military repeatedly cites President Roosevelt's World War II pledge that "We shall under no circumstances resort to the use of such weapons unless they are first used by our enemies," and indicates that it is our policy today. The truth is, however, that current U.S. policy as outlined by a secret National Security Council directive, provides for the use of CBW agents as an offensive first-strike weapon.

Precisely such a possibility has been proposed in various strategic contexts over the years. In 1962, according to a number of former high Kennedy Administration officials, the Cuban Division of the CIA, then headed by John Hart, seriously considered a covert attack on Cuba with an anti-crop biological agent as part of its plan of economic harassment against the regime. Only one plane would have been needed to initiate an epidemic among the sugar beets, thereby seriously hampering the Cuban economy. The plan was killed, but not before word of it reached many officials in the State Department and Pentagon. Similarly, in 1965, during contingency planning by the Joint Chiefs of Staff for an invasion of North Viet-Nam, a number of CBW experts in the Army and Air Force sought to include the use of tularemia as a means of softening up the North before a land invasion. Their argument, according to one source involved, was that the use of a notalways-fatal biological agent would be preferable to the kind of mass bombing attack that would otherwise be put into effect. The proposal did not receive serious attention, but it was seriously offered.

This proposal for North Viet-Nam was defined as humane, very much as the actual use of toxic gases in the South has been (these were also defended as being kinder than bullets, though in fact they are used to force people out from their shelter into the bombs and napalm). Had the germ attack plan been carried out, one can well imagine its being announced as a "defensive" move, being aimed chiefly at preventing the enemy from killing American men. It is characteristic that with CBW, familiar meanings elude us. Just as when they speak of "sanitizing" an area in Viet-Nam, a benevolent abstraction is substituted for a crime that cannot be grasped. Even blunt, hard-bitten generals must retreat to euphemism when they propose the unspeakable.

The author wishes to thank the Fund for Investigative Research which subsidized part of the research for this story. Seymour Hersh is the author of Chemical and Biological Warfare: America's Hidden Arsenal (Bobbs-Merrill, 1968). He is now working on a book on the Pentagon.