by American Bank Note Company of New York and $125 million in food stamp printing contracts awarded to the same company are being investigated by a federal grand jury in Washington.

The grand jury was convened by the Department of Justice to look into allegations of "possible criminal violations" at the Bureau of Engraving and Printing.

The documents, obtained by *The Sun* through a Freedom of Information request, show that from 1975 through the early part of 1977, currency printed on the American Bank Note presses cost 41 per cent more to produce than the currency printed on other Bureau of Engraving and Printing equipment acquired at the same time.

Late in 1977, nearly two years after the first of the American Bank Note presses were delivered to the bureau, a "position paper" was prepared by top operating officials at the bureau regarding the problems related to the presses. The "position paper" made these points:

Although the contract for purchase of the presses specified that they were to be capable of producing 40,000 sheets of printed currency during a normal 6½-hour work shift, the American Bank Note presses had an average production rate of only 26,000 sheets.

The presses "consistently had the poorest quality record of all bureau currency presses in operation."

American Bank Note was without sufficient organizational resources to install modifications needed to make the presses meet production standards called for in the contract.

According to a company source, the only printing presses ever produced and sold by American Bank Note were those purchased by the bureau. The presses were actually manufactured for American Bank Note under a subcontract awarded to American Can Company of Geneva, N.Y.

Despite a multitude of mechanical problems with the American Bank Note presses, the top management of the Bureau of Engraving and Printing decided late in 1977 to terminate a lease-purchase agreement with American Bank Note and buy the presses outright for $5,424,000.

According to the documents released yesterday by the Treasury Department, this decision was made because the bureau needed the production capacity of the presses to meet the Federal Reserve System's demand for newly printed currency. The Federal Reserve requested 3.6 billion bills of various denominations last year and more than 4 billion in the current fiscal year.

The documents released by the Treasury Department contradict a statement released February 9 by Salvatore F D'Amato, president of American Bank Note, contending that the presses his firm sold to the Bureau of Engraving and Printing have performed well and in accordance with the agreed upon specifications.

Numerous internal documents prepared by various officials at the bureau express the view that the presses acquired from American Bank Note "are not satisfactory from a production standpoint" and have "major operational deficiencies."

The grand jury investigation, as yet not acknowledged by the Department of Justice, centers on the relationship of James A. Conlon, former director of the Bureau of Engraving and Printing, and the management of American Bank Note.

Mr. Conlon, who retired from the bureau in 1977 after 10 years as director, was hired upon his retirement by American Bank Note and named president of a newly created business development subsidiary known as ABN Development Company.

Last July, the General Accounting Office criticized the Bureau of Engraving and Printing for entering into "lease-purchase" agreements to acquire $13.6 million in printing equipment, including the $5 million in presses purchased from American Bank Note.

The GAO noted that the agreements came shortly after Congress had considered—and turned down—a bureau request for additional funds to buy more printing equipment. By turning to the least-purchase arrangement, the bureau was able to get the equipment it wanted but was required to pay the equivalent of 11.6 per cent annual interest to finance the deal over five years.

In its report, the GAO urged Congress to consider legislation that would allow the bureau to borrow from the treasury when buying expensive new equipment rather than paying a high premium to a private firm under lease-purchase arrangements. The investigation into management practices and possible conflict of interest at the Bureau of Engraving and Printing was initiated last spring by the staff of the Senate Permanent Subcommittee on Investigations.

Later the inspector general's office at the Department of Treasury began an investigation and early this year referred its findings to the Department of Justice for review.

Although Justice Department officials refused to comment on the status of their investigations, a number of present and former officials with the printing bureau have confirmed that they have testified before the grand jury.

ENGRAVING PANEL CALLED SLOPPY IN FOOD STAMP, CURRENCY WORK

(By Curt Matthews)

WASHINGTON—The Bureau of Engraving and Printing has been sloppy in record-keeping and security procedures in the production of printed currency and food stamps, according to documents presented to a Senate subcommittee.

The most serious failures of security revealed to the Senate's permanent subcommittee on investigations occurred at the American Bank Note Company in New York, which produces about 80 per cent of the $6 billion in food stamps distributed annually by the Department of Agriculture.

According to an internal Treasury Department investigation, the office of security within the Bureau of Engraving and Printing failed to conduct regular audits of food stamp production and did not properly supervise the destruction of spoiled or damaged stamps.

"The warehouses were severely overstocked and the inventory was out of balance when compared with levels of demand for various books" of food stamps, the Treasury report says of the stamps at the American Bank Note Company.

Food stamps can be converted to cash easily, according to officials at the Department of Agriculture, which administers the program.

Andrew Hornsby, a spokesman for the department's Food and Nutrition Service, said there are more than 265,000 retail food outlets throughout the United States that accept food stamps, and that the Agriculture Department investigates about 4,500 cases each year of merchants who abuse the program by exchanging the stamps for cash rather than food.

Last year about 2.3 billion food stamps were distributed to needy families for use in place of cash to purchase food.

According to the Treasury report, the Bureau of Engraving and Printing is responsible for quarterly audits of the two companies that produce food stamps under contracts awarded by the bureau.

However such audits were done irregularly, and sometimes as infrequently as 10 "raised the level of concern" at the bureau, and touched off an intensive audit and inspection effort in February.

That probe revealed that 2 million books of food stamps that had been rejected as spoiled or misprinted were being held in storage at the American Bank Note Company, but not marked for destruction.

In addition, the investigators found "large amounts of materials" (food stamps) awaiting destruction, and inadequate company facilities to deal with the flow of rejected food stamps.

According to the Treasury report, at least some of the oversupply of food stamps in storage was caused early this year when the Department of Agriculture miscalculated the demand for the stamps.

However, the Treasury report notes elsewhere that the Bureau of Engraving and Printing's records on the food stamp printing contracts awarded to the American Bank Note Company from 1971 to 1978 are in "disarray" and difficult to reconstruct.

Philip R. Manuel, a staff investigator with the Senate subcommittee, said Tuesday in a statement opening three days of hearings into the operation of the bureau, that the agency's record keeping on the food stamp contracts was so bad it was impossible to verify details on the contracts.

Treasury documents presented to the subcommittee during the hearings indicate that bureau personnel also were lax in accounting for the distinctive and tightly controlled paper that the bureau uses to print currency.

Early in 1977, a quantity of the paper was sent to American Bank Note by the former director, James A. Conlon, to help the firm develop an anti-counterfeiting device. However, it was not until early this year, as investigators descended on the bureau, that an effort was made to account for the paper, and not until late in April that all of it was accounted for.

The paper is a key element in protecting the security of United States currency. According to officials at the bureau, every sheet is supposed to be accounted for rigidly from initial production through final printing and delivery to the Federal Reserve System as currency.

Although Mr. Conlon sent some of the paper to American Bank Note in 1977—the only time in recent years that a private firm has had access to the paper outside the bureau—investigators can find no documentation establishing that Mr. Conlon or anyone else actually ordered the paper sent to the company.

Mr. Conlon, who in July of 1977 retired and accepted an $85,000-a-year job with American Bank Note, currently is under investigation by a federal grand jury in Washington for possible violation of conflict-of-interest laws.

PERCY CALLS FOR FULL INVESTIGATION OF AGENT ORANGE

Mr. PERCY. Mr. President, as we all know, we honored our Vietnam veterans last week. Yet it is not enough to devote 1 week a year to speeches, parades, and picture-taking; we must meet our full 365-day a year commitment to those men who served our country. We cannot permit them to become mired in a morass of benign neglect. We must work to insure that they are not forgotten by the American people or the American Government.

One area of neglect which particularly concerns me is the "Agent Orange" controversy.

Agent Orange was a defoliant used by

ing in Vietnam, Agent Orange was contaminated by a chemical known as dioxin—one of the most deadly chemicals known to man. Dioxin is so dangerous that in laboratory tests it has been shown to cause cancer in concentrations as low as five parts per trillion.

Today, thousands of Vietnam veterans who claim that they were exposed to Agent Orange while in Vietnam are reporting serious and strikingly similar medical problems.

These health problems include recurring dermatological disorders, a suspiciously high rate of genetically defective and still-born children, impotency, various forms of cancer, neurological disfunctions, and a host of psychological abnormalities.

Mr. President, this is a serious problem. Veterans have contacted me and my staff complaining that the Government has failed to address their needs. On April 9 of this year, I wrote to Max Cleland, the Administrator of the Veterans' Administration, expressing my concern about Agent Orange and inquiring about the program his agency had instituted to explore the correlation between Agent Orange and these reported health problems. On May 21, Mr. Cleland responded to my letter and delineated his agency's response.

I must emphasize that I am not impressed by the steps the VA has implemented. While the system set up to monitor patient examination and diagnosis seems adequate, the research efforts of the VA are minimal at best.

However, I was gratified to learn last week that the Air Force plans to conduct a major epidemiological study on the Vietnam veterans most likely to have been exposed to Agent Orange. This study, which is precisely the type of study that I have advocated, promises to lay to rest some of the most perplexing aspects of the Agent Orange dilemma.

I fully support this type of study; in order to make certain this study moves forward expeditiously, I plan to monitor its progress very closely. This report is already long overdue—it would be inexcusable to permit bureaucratic procrastination to delay it any further. However, this study in and of itself will not answer all the outstanding questions.

Last fall, the Deputy Surgeon General of the Air Force testified at a House hearing that only 499 participants from the herbicide sprayings could be identified. Last week, the Air Force claimed that it now knows of 1,200 men who served in Operation Ranch Hand—the code name for the herbicide missions. Yet there is no guarantee that even this most recent figure accurately represents the full count.

We still do not even know how many men were actually exposed to Agent Orange while in Vietnam. Thus, I have asked the General Accounting Office to study the procedures involved in the herbicide spraying in order to help determine the scope of this problem. Rumors abound that American ground troops were inadvertently sprayed with the potentially lethal herbicide—we must find out whether there is any truth to these allegations.

Mr. President, I would like to stress my personal conviction that this controversial matter demands an immediate response from the Federal Government. I do not call for Federal action lightly; however, I believe the question of the health effects of Agent Orange on our Vietnam veterans is of such magnitude and such complexity that it requires a prompt and complete answer from the American Government.

In addition to the research project about to be undertaken by the Air Force, we must insure that the Veterans' Administration lives up to its mandate and vigorously pursues the causes of these health problems. Inadequate or insensitive medical treatment for our veterans is something we cannot tolerate.

Finally, Mr. President, I would like to commend Richard Severo of the New York Times for his recent three-part series on Agent Orange. In addition I would like to commend Bill Kurtis, of WBBM-TV in Chicago, who has spent long hours researching this problem. Recently Mr. Kurtis aired an hour-long documentary on the health effects of Agent Orange and the problems that Vietnam veterans face when trying to discover the causes of their symptoms.

If the problems associated with Agent Orange are to be resolved, it is imperative that it receive nationwide press attention. For many veterans, the only way that they even suspected that their health problems might be related to their Vietnam experience was a result of the media—the Veterans' Administration has no outreach program designed to warn those who might have been exposed.

Mr. President, I ask unanimous consent to have printed in the RECORD copies of my correspondence with the Veterans' Administration as well as my letter to Comptroller General Elmer Staats. In addition, Mr. Severo's series entitled "Agent Orange: A Legacy of Suspicion" and a transcript of Mr. Kurtis' documentary entitled "Agent Orange: The Human Harvest."

There being no objection, the material was ordered to be printed in the RECORD, as follows:

U.S. SENATE,
Washington, D.C., April 9, 1979.

Hon. MAX CLELAND
Administrator,
Veterans Administration,
Washington, D.C.

DEAR MR. CLELAND: I know that you share my feeling that the American government has a clear moral and legal obligation to care for those men who have been injured while serving in the United States Armed Forces. Indeed, I believe that Abraham Lincoln's description of this obligation—"To care for him who shall have borne the battle, and for his widow and his orphan"—captures this sentiment better than any I know.

Today, as warfare has become increasingly more sophisticated and deadly, the problems of the veteran have grown in number and complexity far beyond what they were in Lincoln's day. Historically, the Veterans Administration has eagerly assisted those veterans whose afflictions stemmed from their participation in the service. Understandably, the Veterans Administration did not apply the label 'service-connected' capriciously, but did so when the situation warranted. But today, as a result of changes in the style of warfare and particularly in the increasingly insidious types of weapons in use, the parameters of 'service connection' seem more difficult than ever to define precisely.

I am seriously concerned about the long-term health problems of those men that served in Vietnam. As we all know, the psychological problems that confronted these men when they returned to the United States were immense. However, what particularly troubles me at this time are the long-term health problems of those men who participated in, or were affected by, the Army's defoliation program. I understand that the VA has studied what was commonly known in Vietnam as "Agent Orange." However, I must stress to you that I am troubled by what I perceive to be the VA response to date.

For example, according to an undated VA memo entitled "Biological Action of Herbicides Used During the Vietnam War," (supplied to me by a VA Congressional liaison officer), your agency makes the following assertion:

Every veteran who presents a claim that he has some form of illness which he believes may have its origin in an exposure to herbicides will receive careful and sympathetic consideration, and full documentation will be established of all facts.

Unfortunately, from personal accounts related to my office, it does not appear that "every veteran" who suspects he may have been exposed to Agent Orange has received "careful and sympathetic consideration." In fact, such consideration would seem to be the exception. Veterans from all over the country have claimed that the examinations they actually received were frequently hasty and superficial.

Let me reemphasize my belief that you and I share the desire to help these men in any manner that would be appropriate. In an attempt to more fully understand the policy and actual practice of the VA regarding this problem, I would like to address the following questions to you:

(1) What type of monitoring exists to ensure that the local hospitals follow the overall VA policy on Agent Orange? What steps have been taken, by the VA and by you personally, to ensure implementation of the model medical examination for VA circular 10-78-219?

(2) What research has the VA undertaken on the long-term effects of dioxin poisoning? Are further research steps planned, and if so what are they?

(3) What type of 'outreach program' has the VA established to contact Vietnam veterans who might have been unwittingly exposed to Agent Orange?

(4) What impact has the Environmental Protection Agency's recent ban on the domestic use of 2,4,5-T had on the VA's policy on Agent Orange? Does the VA still contend that there is no proof that this type of herbicide has ever been shown to have an adverse long-term health impact?

Let me underscore to you my personal conviction that the U.S. government has a special obligation to these men. If five or ten years after their service in Vietnam, a suspicious and strikingly similar pattern of symptoms emerges, the Veterans Administration has a clear obligation to take the lead in actively investigating and seeking prompt answers to the troublesome concerns of a large number of veterans.

I look forward to hearing from you at your earliest convenience on this matter. Should any questions arise in this regard, please have

your staff contact Jeffrey Stone of my staff at 224-2172.

Sincerely,

CHARLES H. PERCY,
Ranking Minority Member.

VETERANS ADMINISTRATION,
Washington, D.C., May 21, 1979.

Hon. CHARLES. H. PERCY,
Ranking Minority Member, Committee on Governmental Affairs, U.S. Senate, Washington, D.C.

DEAR SENATOR PERCY: Thank you for your recent letter concerning the long-term health problems of veterans who served in Vietnam. Let me first respond to the four specific questions you posed.

Complete and constant monitoring of the professional work of physicians is indeed difficult at times, especially in a large health care delivery system such as the Veterans Administration. However, we believe we do have a measure of control over the examinations of veterans for possible health-related effects of herbicides. Medical reports prepared at VA medical centers on these cases are sent to VA Central Office where they are reviewed by a committee of specialists in medicine, surgery, psychiatry, neurology, pathology, and administration. Any incomplete reports are returned to the examining physician, through the Center Director, for completion. This arrangement has greatly improved the quality of the reports over the past six months and appears effective and satisfactory. A copy of our revised administrative Circular 10-79-83 pertaining to medical examinations for herbicide exposure is enclosed.

With respect to research, our first endeavor is to review our existing treatment files for evidence of cancer increases in the veterans who served in Vietnam as compared with other veterans who served elsewhere or in former wars. Cancer has been mentioned as one of the possible after effects of exposure to herbicides. The VA admits approximately one million veterans to its 172 hospitals each year. The diagnoses resulting from these admissions are recorded on computer tapes from which information, such as cancer statistics, can be retrieved. Secondly, we are reviewing the tapes on chloracne, which is another condition linked to exposure to some of the herbicides. The third avenue of research is a study of the dioxin levels in fatty tissue of Vietnam veterans as compared with the veterans of the same age group who did not serve in Vietnam. We have also requested the Department of Health, Education, and Welfare to review past industrial accidents involving dioxin, such as the incident at Nitro, West Virginia.

While the VA has not conducted an "outreach program" of the kind suggested in your third question, the possible health-related effects of herbicides have received attention in the media and among veterans' organizations. The current VA program evaluates veterans who claim exposure to herbicides in Vietnam, comparing them with other VA patients. This broad program should provide the medical information required to evaluate any health-related disease that may have resulted from servicemen's exposure to herbicides in Vietnam. Should a distinct clinical pattern be established, then an "outreach program" would be justified.

While we have carefully studied the EPA's three-month ban on the use of 2-4-5-T in forested areas of the United States, this EPA action will have no immediate effect on the VA policy. We will continue the evaluation of Vietnam veterans exposed to herbicides in an effort to establish any health-related effects. To date, such a relationship has not been established. There is a difference between the type of exposure utilized in animal studies or experienced in industrial accidents and the lesser exposure experienced by most Vietnam veterans. The VA staff is knowledgeable regarding the medical literature on the subject and will consider all facets when recommending a policy in this matter.

The VA policy on service-connected disability resulting from exposure to herbicides is the same as our policy pertaining to the toxic effects of any other wartime chemicals to which veterans may have been exposed. There appears to be some misunderstanding among veterans and their representatives on this matter. Ample authority exists under the law to grant compensation for disabilities incurred in Vietnam as a result of herbicide exposure. I have asked my staff to interpret these provisions of the law in the most generous manner and to search for all other indications of war-incurred disability, whether these are due to herbicides or not. It must be emphasized that if a veteran has a disability adjudicated as service-connected, regardless of the etiology, that veteran will receive appropriate compensation and treatment.

You refer to veterans who believe that they were not properly examined by VA staff. I would appreciate receiving the names of these veterans so that we can evaluate their medical records for completeness. If any pertinent details are missing, the hospital will be required to supplement the examinations. There is a need for understanding in the matter of laboratory studies, however. When a veteran requests examinations which are not clinically indicated, he may feel that he has been provided incomplete care whereas this would not be the case. Professional judgment must play a part in any health care delivery system. In the case of dioxin, there is at this time no routine laboratory test to determine presence of, or damage from, this chemical. As I mentioned earlier, research is underway to evaluate dioxin levels in fat tissue in an effort to resolve this issue.

We share your conviction regarding the U.S. government's obligation to the veteran. The medical staff of the VA is highly professional and possesses a strong sense of intellectual curiosity. New patterns of disease are constantly under evaluation. The current VA program directed toward identifying any long range health-related effects of exposure to herbicides, as experienced by a Vietnam veteran, is based on a scientific effort to resolve this issue.

Your interest in veterans, and particularly Vietnam veterans, is deeply appreciated.

Sincerely,

MAX CLELAND,
Administrator.

U.S. SENATE,
Washington, D.C., May 21, 1979.

Hon. ELMER B. STAATS,
Comptroller General of the United States, General Accounting Office, Washington, D.C.

DEAR MR. STAATS: I would like to commend you on the fine report prepared by the General Accounting Office entitled "Health Effects Of Exposure To Herbicide Orange In South Vietnam Should Be Resolved." As usual, the GAO has addressed a very difficult problem and, in my opinion, the proposals advanced in the report are very reasonable.

Further, I welcome GAO's recommendation that the Department of Defense "should commence a survey of any long-term medical effects on military personnel who were likely to have been exposed to herbicides in South Vietnam." A major epidemiological study is long overdue. Form everything I have been able to learn, scientific literature currently available is wholly unsatisfactory since it does not definitively answer the questions that many Vietnam veterans are now raising. As a result, these veterans are confused and uncertain, living their own peace-time hell for want of reliable data. It is my hope that a properly conducted epidemiological study may finally resolve some of the complex aspects of this issue.

It is clear that the scientific research and study to date has failed to address the problem of dioxin poisoning. Many of the studies of long-term health effects discussed in the literature are based upon industrial accidents. As you suggest in your report, this industrially-based data may not be applicable to men unwittingly exposed to harmful chemicals in Vietnam. There is a need scientifically to study the clinical problems (ranging from nervous disorders to suspected tumors) that many Vietnam veterans are now reporting and linking to their suspected exposure to Herbicide Orange. Vietnam veterans have cited a long litany of serious medical problems to me and to my staff. These men have complained of suspected tumors, birth defects in offspring, skin problems, loss of sensation in their extremities, loss of libido, insomnia, and a host of related problems. Perhaps the most frightening aspect of their medical symptomatology is that these men and their examining physicians do not know what is causing their problems. Clearly, in order to provide some constructive assistance to these men, further research must be conducted.

The proposal for an objective epidemiological study may encounter some criticism on the grounds that the Department of Defense has only identified 500 men who served as herbicide handlers in Vietnam. But it is not at all clear that these are the only men who could have been exposed to Herbicide Orange.

In fact, research conducted by my own staff indicates that servicemen who were not herbicide handlers could have been exposed to Herbicide Orange. Infantrymen who believe they were sprayed while on patrol, soldiers who guarded the defoliated perimeters of base camps, and members of the Corps of Engineers who were sent into recently defoliated areas to build new camps and landing zones all appear to be involved, also.

Thus, there is the distinct possibility that the adverse effects of Herbicide Orange may be present in soldiers as yet unidentified by the Department of Defense. Consequently, I ask the GAO to continue its study of Herbicide Orange, addressing the following questions:

What precautions did DOD take to protect herbicide handlers from exposure to Herbicide Orange?

What steps did DOD take to protect U.S. ground troops, Corps of Engineers personnel and others who may have been exposed, from inadvertent exposure to Herbicide Orange?

Were such U.S. ground troops or others exposed to Herbicide Orange? If so, in what degree and manner, and how many?

What were the military guidelines concerning the entry of U.S. troops and personnel into defoliated areas? What was the standard operating procedure concerning reentry? If guidelines existed, how did the military monitor their implementation, and what reports are available?

Finally, what steps has the Department of Defense taken to comply with the recommendations made in the initial GAO study? Has an effort to initiate an epidemiological report begun?

I believe that this is an important area and one which deserves further study. It will be of significant assistance in understanding long-term ramifications of this problem. If you should need further assistance, please feel free to have your staff contact Jeffrey Stone of my staff (224-2172).

Sincerely,

CHARLES H. PERCY,
Ranking Minority Member.

[From the New York Times, May 27, 1979]

TWO CRIPPLED LIVES MIRROR DISPUTES ON HERBICIDES

(By Richard Severo)

Julio Martinez is a former Marine Corps machine gunner in Vietnam; Bob Ralston is a former cattle rancher in the foothills of the Ozarks. The two men live 500 miles from each other. They have never met, never heard of each other, are a generation apart; they come from different backgrounds, different worlds. All they have in common, they say, is their poison.

They say it is a poison that fell from the sky, a herbicide that was supposed to kill only unwanted plants. Instead, they insist, it has made them sick and changed their lives, and even though many years have passed since their exposure to it, they fear it still. They fear it has started processes within them that will make them sick again and perhaps even kill them.

LACK OF PROOF ON BOTH SIDES

Their charges are by no means accepted by everyone; in fact, the chemical makers dispute them hotly. Scientists say that as yet there is no way to tell whether herbicides do anything other than fulfill the claims that chemical companies make for them.

Herbicides are blamed for strange and ugly symptoms. But medical studies that would either prove or refute those charges to the satisfaction of all parties have never been done. So the accusations and the denials continue, with each side accusing the other of not having the science to prove its point.

The herbicides now the object of fear were once the building blocks of the so-called Green Revolution. They increased crop yields on marginal farms in the Southwest and chased dandelions and clover from suburban lawns in New England.

But now, more than three decades after their widespread introduction, there are questions about them that elude easy answers, and the Green Revolution shows signs of giving way to another kind of revolution, one that could set legal precedents and make both the Government and the chemical industry vulnerable to massive claims for damages done to animals and people, as well as to crops sprayed by accident.

There are thousands of frightened people like Julio Martinez and Bob Ralston, telling of an eerie spectrum of evidence of their asserted poisoning: cancer, deformed children, stillbirths, miscarriages, loss of sex drive, low sperm counts, strange aches and weaknesses all over the body, lumps and festering sores that doctors sometimes cannot identify and sometimes classify as "precancerous"; weird, abrupt, almost Jekyll-and-Hyde changes in personality.

It is a mystery in two parts: one for the men like Mr. Martinez, who fought in Vietnam; the other for civilians like the Ralstons, who have lived near agricultural areas that have been sprayed by airplanes and wondered what the gentle mist might be doing to them.

The soldiers call their mystery Agent Orange, for that was the code name of the herbicide used most extensively by the Air Force over Vietnam a decade ago. There were others: Agent White, Agent Blue, Agent Purple, Agent Pink, Agent Green—concoctions sprayed on thick jungles so that snipers would have fewer places to hide, and on crops, so that the enemy would have less to eat.

Civilians use the terminology of chemistry books—2,4-D and 2,4,5-T, two phenoxy herbicides, the components of Agent Orange.

WIDE USES FOR SUBSTANCES

In softwood commerce, in rangelands to give cattle more grass, and in rice fields to kill a weed called curly indigo.

But after so many years of controversy, there still is no agreement on what the herbicides really do.

"The chemical weed killers are a bright new toy," Rachel Carson wrote in "Silent Spring" 17 years ago. "They work in a spectacular way; they give a giddy sense of power over nature to those who wield them, and as for the long-range and less-obvious effects—these are easily brushed aside as the baseless imaginings of pessimists."

Miss Carson reported that 2,4-D "has been shown experimentally to disturb the toxic physiological processes of respiration in the cell and to imitate X-rays in damaging the chromosomes." The toxicity of 2,4,5-T, she said, was "a matter of controversy." And she said questioned the prudence of a world that was being urged "to beat its plowshares into spray guns."

SUBJECT OF INTENSE DEBATE

Neither science for jurisprudence can decide, even now, if her warnings were all justified, although, according to the Dow Chemical Company, 30,000 to 40,000 scientific papers have been written about 2,4,5-T alone.

But 2,4,5-T remains highly suspect because it contains varying amounts of a contaminant that is created in the manufacturing process. That contaminant is 2,3,7,8-Tetrachlorodibenzo-p-dioxin, commonly called TCDD, or simply dioxin.

Dr. James Allen, a professor in the department of pathology at the University of Wisconsin Medical School and an internationally known researcher in the properties of dioxin, began his research in this area 20 years ago.

He says there is no question about the cancer-causing properties of dioxin. "It produces tumors in rats down to levels of as little as five parts per trillion," he says, and is "at least a million times more toxic than PCB's."

PCB's, or polychlorinated biphenyls, are man-made, cancer-causing compounds that have been discharged by industry into the environment for many years. They have been found in a variety of foods, most notably fish, and are of great concern to the Food and Drug Administration.

But dioxins make PCB's look almost mild, say the leading researchers.

TOXICITY CALLED INARGUABLE

Dr. Matthew Meselson, a professor of biochemistry at Harvard University, calls dioxin "the most powerful small molecule known and it is now beginning to appear that it is the most powerful carcinogen known. Nobody argues about the toxicity of this poison."

But there is great argument over how much dioxin may be contained in 2,4,5-T; how much, if any, has gotten into the food chain, and whether people can rightfully say it is a source of various health problems.

In the midst of this argument, the people who believe they are the victims of herbicides say the circumstantial evidence already at hand clearly indicates the chemicals are a menace.

A DREAM SNATCHED AWAY

One such person is Bob Ralston. Twenty-two years ago, he left his native Dodge City, Kan., because he had found acme good land in the foothills of the Ozarks where, he thought, he could realize his dream of becoming a cattle rancher.

Land was cheaper in Arkansas than it had been in Kansas, so Mr. Ralston bought 218 acres, nine miles east of Greenbrier and 11 Mr. Ralston's Angus bulls was designated grand champion of the state.

When Bob Ralston had his checks printed the printer was asked to include the legend "Good Cattle Is No Accident." His son, Bob Jr., became president of the Arkansas Junior Angus Association. His daughter, Ruth became secretary. They built up their herd to more than 100 head, and they were happy in the hills of rich pastures and of sweetgum, oak, silver maple and persimmon where the spring wind was always sweet. At least, it was until the spring of 1969.

On May 18 and 19, a small plane flew over the Ralston ranch. Its pilot was supposed to spray 2,4,5-T on an adjacent 40-acre plot owned by a man who did not live there. On the 18th, there was a brisk wind in the hills and, Mr. Ralston said, the cloud of herbicide drifted over his land. On the 19th, the pilot apparently made a navigation error and directly sprayed the Ralston ranch.

BIZARRE EFFECTS BEGIN

Within a day after spraying, the people and animals on the Ralston property acted like they had sore throats. "Bulls and hogs couldn't swallow and neither could we," Mr. Ralston said.

The most seriously ill in those first days was Tim Ralston, then only 6, who was outside playing when the plane sprayed on the second day. He developed a high fever and nausea. Within a week, the Ralstons began to feel better. But then the world around them began to die.

"The cattle began to chew at their hoofs," Mr. Ralston said. "They would stand in water for hours, their bellies as hard as concrete, and sometimes they would walk backwards. Their joints stiffened and pained them. The meadows and pastures began to wither."

Veterinarians kept referring him to other veterinarians. The trees turned yellow, not the vivid yellow of autumn but the tepid yellow of death. No heifer went into heat after May 19, according to Mr. Ralston's records. Calves conceived before but born after May 19 were born sickly, deformed or dead. The family dog became vicious and had to be destroyed. The cat withered and died. Wrens, pigeons and crows fell dead from their perches. Frogs, catfish, bass and perch floated to the tops of little ponds. Next door, Ted Johnson and his family also got sick and the Johnsons' stock of dairy cattle began to show the same symptoms as the Ralston stock.

DETAILS OF THE IMPACT

Mr. Ralston's wife, Merrell, began to keep a diary. Sometime in July, she made this entry about a big bull:

"I watched him take water into his mouth. At the same time he pulled the water in, it ran out the side of his mouth. I would like to tell you how it hurt. I cried as I have not much this month. You probably think that was foolish. He used to be so nice and good natured."

In August, she wrote: "You have to raise an Angus to know what a beautiful little black baby Angus curled up near his mama means. Surely God will see to it for the Ralston family to have our Angus again."

Soon thereafter, Mrs. Ralston could no longer write in her diary. She went blind. The woman remembered as "full of fire and vinegar," who never got depressed at anything, suddenly became hostile, suspicious. She began to see a psychiatrist. It did no good.

Bob Ralston, a burly, vigorous man, saw her change and found there were changes in him, too. He lost his sex drive. Seven years later, in 1976, Merrell Ralston was dead of cancer at the age of 41.

has miscarried twins. Two other children are normal. Mr. Ralston occasionally gets bumps on his hands.

The dairy farm owned by Ted Johnson has been sold three times since 1969, changing hands because cows graze on what seems to be perfectly good pasture and die. Mr. Johnson now has a condition he calls "arthritis all over the body." One of his daughters has developed a skin condition, of unknown cause, that her doctor has described as "precancerous."

VETERAN'S FRUSTRATIONS AND ANGER

The Johnsons and their successors have never gone to court because they are not sure what has caused their bad luck. The Ralstons are trying to sue and have a lawyer, their second. The case—which was against the adjacent landowner, the sprayer and the manufacturer—has never been heard in court. Neither the Ralston nor their lawyer can say why.

Far north of the Ozarks, in a modest apartment in Wheeling, Ill., a suburb of Chicago, Julio Martinez shares many of the feelings, as well as the symptoms, of the Ralstons.

As a boy growing up in Chicago, all he ever really wanted to do was play left field for the Cubs. He could hit the long ball, he could throw well and he could run very fast.

He served in Vietnam, as a lance corporal in the Marine Corps, in 1970 and 1971, and now has problems that are uncommon for a man only 26 years old.

He looks in fear and disgust at the little breasts that seem to be emerging from what was once the chest of a strong, active man, and at the small, fatty tumors on his hands.

He is ashamed that his emotional state makes it impossible for him to hold a job, ashamed at the weakness he feels in his wrists and hands and legs, ashamed that it is profoundly difficult for him to have sexual relations with his wife, Marta.

"I have not made love to her for three weeks," he said recently. "I tell her I love her but I just don't feel like it. If we make love, I feel as though I have run five miles."

MULTIPLE PHYSICAL EFFECTS

He wonders about his once-strong arms, now weak; about his hair that falls out in huge clumps in the shower; about the anger that overwhelms him unexpectedly; about the four children who were born dead or deformed, or lived but became emotionally disturbed.

He lied about his age to enlist, he said, and he picked the Marines because he felt they were the very best and their pride became his pride.

He remembers being sprayed with something but he does not know what it was. "They told us to cover our mouth and watch for the enemy," he said.

After being sprayed, he got a skin rash on his back, a tumor on his leg and his feet became swollen. But most of the problems started a year or so after he left the service.

The Marines gave him an honorable discharge and the Veterans Administration gave him partial disability status, which entitles him to $154 a month for a condition diagnosed as a rheumatic heart and adjudged "a service-connected disability."

But the Veterans Administration has told him it can find no service connection in his other symptoms. Indeed, nobody can offer him any explanation for them.

"I wanted to be a baseball star with a car and money," said Mr. Martinez. "Now I have to ask for charity. I yell at my wife and I love her. I yell at my kids and I love them." And so the young man who wanted to be the pride of the Marines has become something of a shadow, going to churches outside his neighborhood and asking priests if he can do odd jobs for $5 or $10.

"I thought the Marines would take care of me," he said. "But I guess [illegible] interested. If I had only known this would happen I would have been a draft-dodger. I would have gone to Canada with the rest of them."

[From the New York Times, May 28, 1979]

U.S., DESPITE CLAIMS OF VETERANS, SAYS NONE ARE HERBICIDE VICTIMS

(By Richard Severo)

At various times since 1967, physicians trying to diagnose a single, persistent illness have told Kenneth Pullen that he has possible jungle rot, possible trench foot, possible gangrene, possible vasculitis of the lower extremities, possible vein thrombosis, possible Buerger's disease, possible arthritis, possible thrombophlebitis and probable cutaneous polyarteritis nodosa.

His doctors, most of them employees of the Veterans Administration, still cannot agree on the diagnosis and the former Marine lance corporal, now 32 years old, has been largely confined to his home in Marrero, La., in the nearly 11 years since his honorable discharge. He has known intense pain.

His feet are frequently swollen and covered with painful red sores. On May 9, he had surgery on his toes to remove rot-like scabs. He has had sympathetic nerves severed to increase the flow of blood to his feet. His doctors have suggested amputation of his feet, but Mr. Pullen has refused because he is a barber by trade and he still wants to work.

Kenneth Pullen is one of thousands of veterans who suspect that a strange variety of illnesses, diagnosable and otherwie, have been caused by their direct or indirect exposure to Agent Orange or one of the other herbicides used by Americans in Vietnam.

Other veterans' complaints include changes in skin color, sensitivity to light, paranoia, loss of hair, hyperactivity, fatty tumors, reduced ability to have sexual intercourse, a lack of tolerance for alcoholic beverages and pain in the ankles, wrists, elbows and shoulders.

But of the approximately 500 veterans who have filed claims citing Agent Orange with the Veterans Administration, none has been classified as a herbicide victim, because officially, Agent Orange poisoning does not exist.

The Government says there is no scientific evidence that Agent Orange ever did anything but kill plants. The veterans counter by saying that the scientific evidence does not exonerate Agent Orange, either, and they are growing more vocal. Medical studies that would prove or refute their charges to the satisfaction of all parties have never been conducted.

However, White House and Veterans Administration officials said yesterday that Max Cleland, the V.A. Administrator, would disclose today that a large-scale Government investigation would be undertaken shortly, probably under the auspices of the Air Force, into the effects of exposure to Agent Orange and other herbicides used in Vietnam.

It was unclear last night what the study would entail. A month ago, the Air Force indicated that all it expected to do this year was to draw up scientific parameters to determine if a study was possible.

And a Veterans Administration spokesman said recently that widespread testing had been ruled out for the present because it might needlessly "alarm people."

12 MILLION GALLONS USED

The Air Force sprayed around 12 million gallons of Agent Orange, the most widely used of the various herbicides, on five million acres of Vietnamese countryside. The spraying program was halted in 1970, largely because of widespread reports in South Vietstrongly suspected of causing stillbirths and birth defects.

The veterans like Ken Pullen are the children of the 60's who did not stay behind to protest the war but who went out to fight it. Now they have become protesters and they are central to a massive struggle for recognition. They contend that they are the victims of an uncaring bureaucracy that has violated the very tenet of the V.A., the words of Abraham Lincoln: "To care for him who shall have borne the battle, and for his widow and his orphan."

In Mr. Pullen's case, the time the V.A. came closest to making a diagnosis of Agent Orange poisoning was on Oct. 16, when a doctor reported finding vasculitis (a general term that describes inflammation of blood vessels) of the legs and feet, contracted during a tour of duty in Vietnam, "possibly related to defoliants." No V.A. doctor has made the connection since.

PROBLEMS BEGAN IN MARINES

Mr. Pullen has a partial Government disability because his ailments are said to be "service-related," but no official documents ascribe them to herbicides. The documents say only that his problems started while he was in the Marines.

In Washington, there would appear to be a division between branches of Government over what the herbicides may do to people.

Last Feb. 28, the Environmental Protection Agency issues a partial ban on the use of 2,4,5–T, a herbicide widely used in the United States and one of the two components of Agent Orange. The E.P.A. believes that 2,4,5–T, which is contaminated with cancer-causing dioxin in the manufacturing process, may be hazardous to humans. The agency acted because of widespread report of stillbirths in Alsea, Oreg., the scene of much spraying.

But officials at the Veterans Administration have indicated in circulars and in interviews that the furor over Agent Orange may be due to the publicity it has received. At present, there is no formal program within the V.A. that sends questionnaires to all Vietnam veterans, alerting them to the possibility that Agent Orange poisoning may be a latent reality and asking them to come in for special checkups. The V.A. has instructed its regional hospitals to take seriously those claimants who come in on their own, however.

ADMINISTRATOR EXPRESSES CONCERN

The V.A. administrator, Mr. Cleland, said recently that he was "vitally concerned" about the Agent Orange claims and that he had given the "highest priority" to a directive asking V.A. officials to find out what it was all about.

But the officials' probing so far has not entailed efforts to reach out to veterans who may have some symptoms. A Veterans Administration spokesman said that the kind of widespread testing of veterans being demanded by activist veterans organizations had been ruled out for now because "it would only alarm people, perhaps needlessly."

In a recent check of dozens of agencies and individuals, The New York Times was unable to find any in Washington who did not want to get to the bottom of the Agent Orange mystery. The hesitation seemed to be over precisely which arm of the Government would undertake the studies that are necessary to obtain the data and resolve the problem.

One V.A. official said he thought the E.P.A. should do it; a spokesman for the agency said he thought the Department of Health, Education and Welfare should do it; the General Accounting Office has recommended that the Department of Defense do it; Victor Yannacone, a Long Island lawyer representing a group of veterans in a class action against six chemical companies who made the Agent

pay for it but that the study should be done by an impartial scientific panel; a scientist at Dow Chemical said he would be pleased if the V.A. did it; the Air Force Surgeon General's Office said he was trying to figure out what the protocol for such a study might be but would not know anything before the end of the year; and nobody in the Army, Navy or Marines is volunteering for anything.

LINK TO VIETNAM SYNDROME SEEN

Meanwhile, Dr. Gilbert Bogen, who formerly worked for a Veterans Administration hospital in Chicago and now is setting up a veterans' hotline, said he believed that much of the so-called Vietnam veterans' syndrome—characterized by withdrawal, hostility and paranoia—may be attributable to direct or indirect exposure to Agent Orange.

Dr. Bogen also said that the V.A. had already ordered the destruction of irreplaceable records indicating instances of cancer among soldiers who served in both Korea and Vietnam. He said he believed that the V.A. was trying to cover up the evidence of what may be a medical tragedy of gigantic proportions, a tragedy that could cost the Government hundreds of millions of dollars in claims.

"That is nonsense," said Dr. Paul A. L. Haber, Assistant Chief Medical Director for Professional Services at the V.A. "We have no desire at all to cover up or hide behind bureaucracy to negate any possible relationship between illness and Agent Orange." But Dr. Haber said the issue had been clouded by "a swirl of emotions."

"This problem of Agent Orange," he said, "is the focus of a lot of disparate interests. There are people who want to help the Vietnam veterans, there are people interested in the environment and there are people interested in the deprivations we made on the Vietnamese people, people who want the U.S. Government to take a hand in making a better world. There are prodigious forces..."

REBUTTALS BY OPPONENTS

The people who compose those forces do not see themselves as quite the formidable opponents described by Dr. Haber.

Activist veterans groups such as Agent Orange Victims International, Citizen Soldier and the Vietnam Veterans of America discount the V.A.'s suggestion that complaints have been encouraged largely by the press. They charged that the V.A. was not doing enough to determine if the claims had medical or scientific validity.

"If all of these problems are not the result of exposure to Agent Orange, then the Government has the responsibility to tell us just what the cause is," said Frank McCarthy, president of Agent Orange Victims International. "These strange symptoms are very real and it is unconscionable for the Government to say, in effect, 'That's too bad and one of these days we'll have to find out what it's all about.'"

Lewis Milford, deputy director of the National Veterans Law Center in Washington, D.C., said: "The most serious problem is the failure of the Veterans Administration to conduct any outreach. All they are really doing is waiting for people to present themselves at V.A. hospitals." The law center is a joint project of the Public Interest Law Clinic at American University and the American Civil Liberties Union and has the funding to represent a few veterans who wish to press their claims against the V.A.

RECORDS SOUGHT FOR STUDY

Moreover, the center has used the Freedom of Information Act in an effort to compel the V.A. to disclose the records of all servicemen in the New York-New Jersey-Connecticut area so that the two research groups can try to acquire a data base for a random sampling of veterans, rather than just those who have already filed complaints or made inquiries about Agent Orange.

The two groups are the Center for Biol-

versity in St. Louis; and the American Health Foundation in New York City.

The American Health Foundation has already begun an effort to evaluate the health of Vietnam veterans, using 1,500 names supplied by Citizen Soldier, a New York-based outgrowth of the antiwar movement, which has been trying to publicize the Agent Orange issue and encourage research.

Dr. Steven Stellman, who is chief of the division of computing and biostatistics, and his wife, Dr. Jean M. Stellman, who is chief of the division of occupational health and toxicology, created a questionnaire to mail to veterans who contacted Citizen Soldier.

RARE KIDNEY CANCER FOUND

Their results have not been made public but among the first group of 536 questionnaires analyzed, there were 35 cases of cancer, including three cases of kidney cancer, which is very rare for men in their late 20's or early 30's.

In addition, the initial survey found testicular cancer cases, other cancers of the lymphatic system and the Vietnam veterans participating had fathered 77 children born with defects. Those problems included missing or deformed fingers, heart defects and unusual skin disorders.

In a letter sent to participants, the Stellmans reported, "One of the most unexpected findings was the large number of veterans who complained of changes in skin color and sensitivity to light, as well as nervous system difficulties."

The Stellmans have no illusions that their study will end the debate over the safety of herbicides. As they pointed out in their letter, all the veterans who filled out questionnaires were "self-selected." In studies more acceptable to most scientific researchers, participants are selected at random.

SCIENTIFIC PROOF NEEDED

It is clear that, without nationally accepted scientific proof, the V.A. will continue to assert that it cannot compensate former servicemen who say their problems were caused by Agent Orange.

Data available as of late March indicated that of the first 434 decisions made on Agent Orange claims, only one man was awarded anything that might be considered linked to illness caused by herbicides. He received a 10 percent disability—$44 a month—because he was adjudged to have chlorance while in Vietnam. These skin lesions are associated by experts with exposure to herbicides.

J. Charles Peckarsky, the V.A.'s Director of Compensation and Pension Service, said that Veterans Administration officials were not sure that the claimant really had chlor-acne," but when in doubt, we favor the veteran."

Another 12 Agent Orange claimants got disability ratings not because of Agent Orange but because their symptoms were declared to be "service-related." Nine of them had skin conditions, one suffered from hypertension and three had cancer.

Mr. Peckarsky explained that the cancer victims received disability payments because "of evidence that the blood was changing while in service."

He said that everyone in the Veterans Administration wanted to resolve the Agent Orange mystery but that the agency should not pay for illnesses that might not have been incurred during military service.

Of the veterans who say they were harmed by Agent Orange, he said, "It is natural for them to look for something to hang their ailments on."

[From the New York Times, May 29, 1979]

HERBICIDES POSE A BITTER MYSTERY IN U.S. DECADES AFTER DISCOVERY

(By Richard Severo)

Forty years after the concept of "select

tific journals, herbicide use remains the subject of bitter debate and of lawsuits involving potentially hundreds of millions of dollars, and the center of a great mystery.

It is a mystery in which both the accusers and the accused say they have answered the question of what herbicides do to and for people—but they do not agree on what those answers are.

For the chemical industry, it is a controversy that challenges the traditional manner of testing chemical compounds before they are marketed, and thus the very profit structure of the industry.

For scientists striving to retain their objectivity, the question of herbicides easily rivals nuclear energy as an issue that threatens to divide and polarize them.

For the veterans of the Vietnam War and the civilians who suspect they have been made sick by herbicides, it is pain and suffering gone unacknowledged, unexplained, uncompensated, unalleviated.

And for the Federal Government, it is a source of public embarrassment, with various public agencies arriving at different conclusions or none at all.

Now, the Government is trying again to pin down answers. Max Cleland, head of the Veterans Administration, said yesterday that the Air Force, the Department of Health, Education and Welfare and the V.A. itself would be carrying out separate studies on the possible effects of herbicides.

At what point, scientists have asked, can questions be raised about the safety of chemicals and what should the rules be about how much evidence is required before a chemical is declared hazardous?

"The nice democratic idea is that one is innocent until proven guilty," said Dr. Charles F. Wurster, visiting scientist at the National Cancer Institute in Washington, D.C.

"The fallacy in the argument is that these are chemicals, not humans," he said. "Chemicals are not innocent until proven guilty, because if you consider the chemical innocent until proven guilty, then the people are going to have to get tumors to prove it guilty—and they, thereby, lose their rights. In other words, if you confer human rights on chemicals, you can only do so by taking them away from humans."

At the heart of the dispute are the phenoxy herbicides, most specifically a substance called 2,4,5–T. For more than 30 years, it has had a wide variety of uses because when applied, it will kill certain plants and allow others to live. Its natural victims are broad leafed plants.

But critics insist that it has caused still births, birth deformities, cancer and a host of other maladies in humans and animals. It was a major component of Agent Orange, herbicide widely used by the United States during the Vietnam War, but withdrawn when South Vietnamese newspapers began to report medical problems attributed to the herbicides. Currently there is a partial ban on the use of 2,4,5–T in the United States.

The Dow Chemical Company, the largest single maker, said that thousands of scientific studies of 2,4,5–T so far had not produced a single documented case of human injury. Dow spokesmen said they were unaware of even a complaint about the phenoxy herbicides prior to the Vietnam War and regard the current controversy as fueled "largely by Vietuamese propagandists."

Some officials of the Veterans Administration agree at least in part wtih Dow. Dr. Paul A. L. Haber, assistant chief medical director for professional services at the V.A., said that "there is no clearly defined body of symptoms that anybody can ascribe to Agent Orange" and added that he wanted to establish whether there is or is not a casual relationship between Agent Orange and the complaints of veterans.

At present, the only illness that both sid

is chloracne, a temporary skin condition that closely resembles ordinary acne. Chloracne can be caused by other industrial chemicals, too.

Until the partial ban announced last Feb. 28 by the Environmental Protection Agency, the United States was using about seven million pounds of 2,4,5-T each year, of which Dow made between 50 and 60 percent. Dow estimated that sales of 2,4,5-T had yielded $12 million, only two-tenths of 1 percent of the company's annual gross sales of $6 billion.

A Dow spokesman said that the money was not important to the company, but rather that environmentalists, veterans and public health advocates were attempting to restrict a product on the basis of scientific assertions that were either untrue or imprudent. But Dow's critics countered by saying that the company's own science was faulty.

POINTS AT ISSUE

Among the points in conflict are the following:

At the Veterans Administration, Dr. Haber said he discussed charges from veterans that they had suffered damage through their reproductive systems from Agent Orange and that, as a result, they were having deformed children. Dr. Haber said there was no evidence that males could actually suffer such damage through the productive systems and thus produce deformed children.

Dr. Jeanne M. Stellman, a physical chemist on the medical faculty at the University of Pennsylvania and chief of the division of toxicology at the American Health Foundation, disagreed with Dr. Haber. She said there was good evidence that males and females alike could be so damaged. Males, she said, can transmit this damage when they father children. She cited the work of Dr. Cecilia Lutwak-Mann of Cambridge University in England, who reported in the British Medical Journal that harmful effects of Thalidomide were transmitted through the semen of male rabbits so that the offspring suffered skeletal malformations.

John Davidson, technical adviser with Dow Chemical since 1936, said that although the type of dioxin found in 2,4,5-T "has been demonstrated to be quite a toxic chemical . . . there are safe levels" that present no hazard to people.

But Dr. James Allen, professor of pathology at the University of Wisconsin Medical School who has spent 20 years researching dioxins, said he had been unable to determine what a "safe level" might be in his experiments with monkeys and rats.

Patricia Bragg, special assistant for information at the United States Air Force Surgeon General's Office, said that of the 1,000 men who originally served in Operation Ranchhand, the group that sprayed Agent Orange, more than 100 remain on active duty. She added that of the original group, only one person made a claim asserting damage from Agent Orange—a claim that was declared invalid. As far as she knew, Mrs. Bragg said, everybody else who served in Operation Ranchhand is in good health.

But spokesmen for Agent Orange Victims International and Citizen Soldier in New York, and the National Veterans Law Center in Washington, D.C., said that between them, they know of two to three dozen men who served in Operation Ranchhand who now say they are sick.

Dr. Haber of the Veterans Administration said he could not yet accept the idea that dioxin, which was a contaminant in Agent Orange and is a contaminant in current batches of 2,4,5-T has been harmful to humans because the research has thus far been done only on laboratory animals. "All the studies you can read concern rats, mice, baboons, but nothing about men," Dr. Haber said.

Dr. Wurster of the National Cancer Institute said: "Unless we can establish in law and in practice that the capacity of a chemical to cause cancer in animals is presumptive evidence of the human situation, we can never win. We can only prevent human exposure to chemicals that cause cancer in laboratory animals. If we do it, we can protect ourselves to some significant degree. If we don't do it, the incidence of cancer will go up and we won't be able to pin down where it comes from."

Dr. Haber also said there was no proof, as yet, that people exposed to dioxin in herbicides could manifest symptoms five years later, thereby suggesting that dioxin might be stored in body tissue and released at some subsequent time.

Harvard's Dr. Matthew Meselson agreed that data were lacking to make a definitive statement but added that there was evidence "that makes us think very seriously about delayed and cumulative action as a possibility." He said that monkeys given tiny doses of dioxin in their food—doses measured in parts per trillion—begin to develop tumors and show other symptoms after long periods of time.

Dr. Meselson emphasized that he was not a partisan in the debate but he was upset that "the extremists have taken over and have interfered with finding out if there is a hazard. It should have been done years ago."

But at the Dow Chemical Company, there is doubt that more scientific research will accomplish anything.

"How much proof do you think it's going to take to take the heat off 2,4,5-T?" asked Gary G. Jones, public affairs manager for Dow at Midland, Mich. "There are 40,000 technical reports. We know more about 2,4,5-T than we know about aspirin. How long do you want the chemical industry to continue to prove that nothing has happened?"

AGENT ORANGE: THE HUMAN HARVEST

BILL KURTIS. Between 1962 and 1969, the United States sprayed 10 million gallons of Agent Orange over the jungles of Vietnam. They used it as a weapon of war, to reduce cover for the enemy. It was a combination of two chemical herbicides that had been used by farmers in the United States for years . . . 24D and 245T.

But the military use was in far greater concentration than ever before. The spraying was restricted after a contaminant in 245T called dioxin, was found to cause birth defects in laboratory animals.

That was 1970. It became an emotional issue of the war . . . but in the controversial climate of charges the defoliant had caused birth defects among the Vietnamese . . . No one thought about the effect it might be having on our own veterans, who also were being exposed.

On March 23, 1978, we broadcast an hour long report about 40 cases that had been filed with the Chicago office of the Veterans' Administration.

Veterans complaining of cancer . . . nervous, and respiratory problems . . . diminished sex drive . . . changed personality and birth defects. They didn't know for sure but they thought maybe the problems were caused by our own chemical warfare . . . exposure to Agent Orange.

This report is about what has happened in the year that has followed that documentary . . . of thousands of veterans complaining of similar problems. Within the last year, the controversy of 245T and its use in the United States has become the hottest environmental issue in the country—the veterans are part of that . . . for both environmentalists and veterans are looking for the direct link between herbicides and humans.

A year ago we were searching for that link too . . . in this report, we have found it. Links between our own chemical defoliation and what appears to be an epidemic among our veterans.

In our effort to find the human [illegible] trees in Vietnam, we have reaped a terrible human harvest.

Mike Belcher is one of thousands of veterans who have reported symptoms since our documentary of a year ago . . . symptoms the Veterans Administration is categorizing under the heading—Agent Orange.

1st VA CLERK—to Mike Belcher. "Have you ever come in contact with the chemical defoliant?"

BELCHER. "Yes."

CLERK (1). "And you want to go through the procedure for Agent Orange?"

BELCHER. "Yes."

2nd VA CLERK. "How many times do you think you've been exposed to these chemicals? Like when you were in the jungle and a helicopter came over . . ."

BELCHER. "I would say, 30. At least."

KURTIS. He is twenty-nine . . . working for a social welfare agency in Chicago. He is nervous, his legs go numb periodically . . . tumors have been removed from his feet and breast—non-malignant, so far. But, at this moment, during the examination, doctors discovered more lumps in the area of his left breast.

DOCTOR. "Does the pain feel like it's inside?"

BELCHER. "Yeah, it's inside."

DOCTOR. "Does it hurt when you take a deep breath or anything?"

BELCHER. "Yeah, I thought it was my heart but it's not."

DOCTOR. "O.K. It's like it's inside?"

BELCHER. "Yeah."

DOCTOR. "Would you describe it as an ache . . . or is it sharp? Does it come and go?"

BELCHER. "It's sharp . . . it comes and goes."

DOCTOR. "How long does it last when it comes?"

BELCHER. "It can last a couple of hours."

KURTIS. Mike Belcher will return to the hospital for further examinations. It is not good news. He supervised Vietnamese prisoners of war as they sprayed the perimeter of their camp with herbicides to clear a field of fire.

Peter Kirk was a perimeter guard in 1969. He watched the defoliant sprayed around his area and developed a rash about his neck. Seven years later, a malignancy developed right under that rash.

KIRK. "Having cancer was such a shock to me that, at first, I just couldn't believe it.

"I was treated for Hodgkins disease . . . had major surgery twice. Had 26 radiation treatments . . . lost all the hair on the back of my head. Was out of work for well over a year. I was in the hospital for close to six months, returning as an outpatient for three or four months . . . everyday for radiation treatments. And subsequently I've been returning to the hospital ever since on a regular basis."

KURTIS. Did Agent Orange cause his problems? Realistically he may never find out for sure. Scientists have found no way to look at a malignant tumor and figure out which carcinogen caused it 10 to 20 years before. So they reason from animal studies primarily, that if a chemical causes tumors and cancer in a laboratory animal, it must be carcinogenic to humans as well. There are other tests, but animal studies are accepted as the best evidence.

Since our last report there have been new studies which indicate that dioxin is carcinogenic at microscopically low levels . . . almost incomprehensible. Preliminary data from a National Cancer Institute experiment with several hundred rats and mice indicates a significant increase of tumors at levels as low as 5 parts per trillion dioxin rubbed on the skin. It might be easier to imagine the extremely small size of 5 parts per trillion by converting it to time. 5 parts per trillion would be the equivalent of one second every 6,342 years.

slides and 20,000 tissue samples already. The Institute is asking other members of its team to compare their findings before a final report is issued. They realize the importance of this study, that it may be regarded as the definitive word of the cancer-causing potential of dioxin.

Five parts per trillion to produce cancer in laboratory animals compares with concentrations of dioxin in Vietnam's agent orange as high as 50 parts per million—10 million times greater. In a soon-to-be-published study for Sweden, Dr. Lennart Hardell reports a finding of cancer among workers who had been sprayed by 245T from tractors clearing brush along rights of way.

It's the kind of study Harold Carlton hoped would give him an answer about his rare skin cancer that appeared after he returned from Vietnam.

KURTIS. "What kind of cancer do you think you have?"

CARLTON. "Well they're not really sure. They call it A-melanonic melanoma . . . they're calling a undifferentiated carcinoma, also because they are not sure. But it tends to be A-melanonic melanoma.

KURTIS. The Chicago veteran told us of his symptoms a year ago. He died in May, 1978. He was 27. Was his cancer and that of the other veterans caused by Agent Orange? From the cancer data we see that it's potent enough. But only a full scale survey of the veterans exposed to it will provide the answer. No government agency is making the kind of search and evaluation necessary to find out. Veterans have had to go elsewhere.

MAUDE DE VICTOR. "You have melanoma—which is a skin cancer. O.K., sir, when were you in Vietnam?"

KURTIS. During the past year thousands of veterans have asked if their symptoms were caused by Agent Orange. Some went to the Veterans Administration, others went to local veterans' groups that have sprung up in reaction to the Agent Orange issue.

RON DE YOUNG. "One of the ways that we've tried to deal with this is through some national publicity and through some specific suggestions of program—but we're getting stone-walled."

KURTIS. A seminar at the college of Du Page, west of Chicago, where a veterans group known as Caveat has brought scientists together with the veterans to help them understand whether Agent Orange could have caused their symptoms.

DE YOUNG. "Those people who know what I'm talking about, and think they already have this problem . . . let me let you take this for a minute. What kind of things are we talking about? What are your medical problems?"

VETERAN. "Rashes, stomach problems, respiratory problems, joint problems."

KURTIS. The scientists in the group learned there were no easy answers. But they thought if they studied the effect of 245T sprayed on animals and humans in the United States they might find a link between Agent Orange and veterans sprayed in Vietnam. So they went to Wisconsin and the scene of a 245T accident.

KURTIS. In 1971 a helicopter was spraying 245T just at that row of trees . . . the wind was blowing about 8 to 15 mph in this direction . . . toward the farm of Harold Freedlund. Clumps of the spray drifted onto this farm . . . animals were sick . . . Freedland and his family became ill . . . and for years he complained of animal deformities . . . illness that seemed never to go away.

HAROLD FREEDLUND. We've had pigs born with no legs . . . extra legs . . . no anal openings. Calves born with their hearts on the outside and their legs all twisted out of shape. It seems that both the pigs and calves necks are kind of twisted.

NETTIE FREELUND. This is the dog that was born dead

KURTIS. Harold and Nettie Freedlund knew the importance of what was happening. And tried to keep as many of the sick and deformed animals as they could in a basement freezer.

NETTIE FREEDLUND. This is Chester's tail. I just was showing him a pig that was grossly deformed. And this is his right foot . . .

KURTIS. So normal is just two of these.

NETTIE FREEDLUND. . . . just two of these. But his spine was deformed and his tail was deformed and then of course the feet were deformed.

KURTIS. The same . . .?

NETTIE FREEDLUND. This is of the same hog—yes.

KURTIS. The freezer contained still-born dogs and cats . . . a calf . . . even the liver of a cow that died. An analysis of the animals' blood showed the presence of 245T.

Most isolated cases like this prove little, if chemical exposure can be established, it usually has done its damage and vanished by the time reliable scientific data can be gathered. But the Freedland case may be different.

Eight years ago the spraying affected a group of chickens . . . caused their toes to curl inward and they died. Dr. John Bederka of the University of Illinois medical laboratories wanted to test complaints there were still chemical problems on the farm. So he put 150 chickens on the property, 50 others in a control group. In a matter of weeks, the toes began to curl inward and distort.

Dr. BEDERKA. We found defects in the legs, paralysis of the birds . . . and deaths . . . an unexplained number of deaths . . . and no obvious diseases.

KURTIS. Something was causing problems. Was it dioxin? Professor Bederka called in veterinary pathologist Dr. Ward Richter of the University of Chicago, who began to study the tissues of the birds.

Dr. RICHTER. "It's very difficult to prove in a case like this that there is a chemical involved in the disease process and the most valuable thing that we can offer in this situation is to demonstrate that no other diseases are involved. The things that we've been doing is to rule out these other causes. At least this far we haven't discovered any natural or spontaneous diseases of chickens that are causing this."

KURTIS. But in the course of his study, Dr. Richter made a significant find . . . lesions in the liver of the deformed chickens compatible with lesions he had seen in laboratory rats fed dioxin in their diet.

It is the closest any pathologist could come to establishing dioxin as the cause of the symptoms. It could mean dioxin stays in the soil and can be transmitted with terrible effects to living things . . . perhaps even combat soldiers. While Bederka and Richter have been looking for the effects of dioxin . . . other scientists think they have found them among the veterans. We'll have that in a moment.

KURTIS. Among the veterans who have responded to the agent orange issue during the last year are those who are most directly involved . . . those who loaded it and sprayed it. They provide a clearer picture of how it was used in Vietnam.

James Wilcox was given a medal for his spraying missions. In 1967 the Army's 184th chemical platoon was working in the Bong Son plain and Northern Province areas.

WILCOX. "See I was under the impression we were flying these missions to kill the enemy's rice paddies, you know? Not necessarily just to kill ground cover. We were told that we were wiping out their means of survival by—you know—the way they ate. They were eating rice—and we were killing it before they could harvest. So it was, I guess, a biological means of winning the war, more or less. Starve them to death!"

headaches and he has been admitted to a Veterans Administration hospital three times for emotional problems.

KURTIS. Roland Correa was a door gunner on a helicopter that sprayed herbicides. Since returning from Vietnam he has had health problems.

CORREA. "You know it's funny, I never had acne after a certain age and when I went in the service I had very, very clear skin. I never had any sort of acne at all and now I'm 28 years old and all of a sudden after all these years I've been getting acne and skin problems and soforth.

KURTIS. But what bothers the former athlete most is his right breast. It secretes fluid and sometimes blood. A VA physician has said it was normal . . . but other doctors indicate it could be a pre-cancerous condition.

Correa asks—was it caused by Agent Orange? Scientists have said it could be, but there has been no definite link . . . no magic bullet to trace the course of dioxin from use as a herbicide to a human body.

KURTIS. We've seen the response of one group of veterans to find that direct link. Another group was also watching our report . . . citizen solder in New York City. They set up an outreach program, providing information for veterans with questions . . . and the veterans responded—bringing in their symptoms from cancer to skin rashes for inspection.

They also asked a highly reputable medical research organization to conduct a study of the veterans to see if they did have more than their share of symptoms.

600 veterans sent back questionnaires about their exposure to agent orange and symptoms they are feeling even 10 years after their war experience.

The questionnaires provided some dramatic answers.

The doctors found what appeared to be a significant increase in soft tissue cancers and an increase of birth defects among the veterans.

It is not to be offered as an epidemiological study . . . but the doctors feel there is enough information to conclude the veterans are showing these special problems.

KURTIS. The definite link between dioxin and the Vietnam veterans is corroborated by Dr. Barry Commoner of Washington University here in St. Louis. After studying the latest data issued by the Italian Parliament . . . the final report on the accidental dioxin explosion in Seveso, Italy.

COMMONER. "It just hits you right in the eye—that of 38 malformations reported in 1977, 13 are defects in the extremities, toes and fingers, and 8 are heart defects. That is exactly a pattern that has been reported, at least so far, in the survey done of the veterans in the United States."

KURTIS. We also travelled to Seveso, Italy because it's become a key subject of debate in the Dioxin arguments. Each side has used it to support views for and against the effects of dioxin.

The yellow fence has become symbolic of what dioxin has done to one suburb in the world. The man-made chemical has created a no man's land . . . A modern ghost town where homes have been abandoned and no human being is allowed to set foot.

A cloud had been released from a manufacturing plant and drifted over a suburb of Milan. Birds and animals died. Children were affected by chloracne.

Italian authorities were caught up in studies that were questioned at every turn because of competing political interests and the painful job of moving families out of their homes to protect them.

In most cases, it was too early for any accurate report on health problems caused by the dioxin exposure.

But the new data connecting defects

from politics and emotion as any report out of Seveso. And the figures are dramatic.

COMMONER. "You could use this frequency of appearance of missing toes and fingers and heart defects as a kind of a finger print of the way in which dioxin affects birth defects. Now, with that information at hand, you then look at the results of the Citizen Soldier's survey on the American Veterans, and see that same unusual predominance of two kinds of birth defects. I think that's pretty strong evidence that what the Citizen Soldier's survey is reporting, is the effect of dioxin."

KURTIS. If Dr. Commoner has established a connection between dioxin and birth defects . . . Marcy Jean Smith could become a unique exhibit.

She was born 18 months after her father returned from Vietnam. There were multiple deformities at birth: a deformed spine; a cleft palate; she had a deformed and blind right eye; no right ear; the right side of her face was paralyzed; she was born with a deformed jaw; a heart murmur; and club foot.

Her parents began years of tedious medical examinations and a search for the reason why.

RONALD SMITH. "About a year after Marcy was born, I took Marcy to the Naval Hospital in Philadelphia and I was told by a Dr. Miller there at the hospital, he was a plastic surgeon, and also an internist . . . and he told me that he had other children that had been born by military wives, and the children were born deformed . . . and a lot of them lived just a short while, maybe a few hours after they were born and then they'd die because they were so deformed. Other women . . . he told us of seven women that had had miscarriages. And all of these women had conceived after their husbands had returned from Vietnam.

Mrs. SMITH. "It's an awful shame that these children had to be afflicted—unnecessarily. You know, it's just a shame. It hurts the children, it hurts the parents, it hurts society. We love the children, we want them but if they're damaged unnecessarily, it hurts all the more.

KURTIS. Marcy's parents have lived with her problems since 1967. It was as far back as 1968 when Ronald Smith was told by Dr. Miller that agent orange might have caused her deformities. We have been unable to locate the doctor.

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KURTIS. Among the men working to link Dioxin with problems like Marcy Jean's is her lawyer . . . New York environmental lawyer—Victor Yannacone. He fought the legal battle against DDT. And now he's fighting against Dioxin.

YANNACONE. "We're going to establish first, that the compound itself—dioxin—is one of the most toxic substances known to man. We'll then proceed to move from the laboratory studies to specific examples of human beings who have manifested symptoms very similar to those found in laboratory animals who were, in fact, exposed to dioxin contaminated herbicides—generally in Vietnam."

KURTIS. Yannacone is also asking that damages totaling a 4½ billion dollars be paid by the firms that manufactured herbicides for agent orange . . . into a welfare fund to benefit all the veterans who suffer problems caused by agent orange.

But the veterans' story of complaints has grown into a much larger issue . . . concerning the current use of agent orange ingredients in the United States today. They are separate cases because agent orange was a much more powerful concentration of the herbicide than anything in use today. But their effects on humans could be related. That part of the story, in a moment.

veterans' problems, the use of 245T in the United Sttaes has developed into the most controversial environmental issue in the country.

Agent Orange was, of course, more potent than anything being used by farmers and foresters in this country today.

Dioxin was applied to a Vietnam acre in amounts 30,000 times greater than current use. But environmentalists and spray victims argue their symptoms are similar to those of the veterans. And, they say, Dioxin is so toxic . . . so powerful . . . even at the low levels found in commercial 245T . . . it should be banned!

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KURTIS. In the heavy timber country of Allegheny, Oregon, near the coast, forest companies have been using 24D and 245T for 20 years—and more.

They spray it on the young Douglas fir to kill broadleaf plants that would hinder early growth

But the people who live in the timber country have become concerned that the herbicides, with Dioxin, have been sprayed so heavily . . . it drifts onto the valleys or runs off the steep hills into the rivers.

They drink right out of the streams and rivers and a group against spraying has collected cases of cancer and other problems it is trying to connect with the spraying.

Among the stories we heard was a woman who saw a helicopter spray over her farm. She became ill . . . her farm animals were stricken.

A young calf, born with hair loss on its face, looked very much like the subject of a Dioxin experiment at the University of Wisconsin Medical School . . . also with facial hair loss.

Eight Rhesus monkeys died after being fed diets with Dioxin as low as 500 parts per trillion.

Dr. James Allen found problems affecting their immunological system . . . spontaneous abortions . . . and a rare blood disease called panacytopenia.

It reduces the ability of the blood to clot. The monkey bled to death.

This strange sounding disease in a far away medical experiment may become an important link between Dioxin and human problems.

For this young girl, who lives with her mother, along the Allegheny River had 245T in her blood and she was diagnosed with the same form of blood disease that was found in Dr. Allen's monkey.

ALLEN. "The panacytopenia; the decrease in red blood cells; the decrease in white blood cells; the decrease in blood platelets . . . is one of the more classical examples of DCDD intoxication. Dioxin intoxication . . . in non-human primates. This is why they die. In fact, in many instances, these animals bleed to death because their blood cannot clot. They have a decreased realstance because there are no white blood cells. They are anemic, they can't . . . there's not enough red blood cells to carry oxygen to the body."

KURTIS. Each case in which dioxin plays a role seems to eventually become controversial. Angie Lee is no exception.

Doctors differ on what caused the disease. Industrial toxins or viruses?

But it could be one step closer to the link between dioxin and human problems.

The moneys in Wisconsin were studied because their systems are closer to a human being's than any other. And there were other disturping results.

At 500 parts per trillion dioxin in the diet . . . most of the moneys died before they could breed.

But, at doses one tenth as strong . . . 2 of the 8 monkeys couldn't got pregnant . . . 3 suffered abortions. There were two live births

It is important when seen against the EPA's recent action in Alsea, Oregon. Spray victims there complained or miscarriages immediately following a period of 245T spraying. The EPA agreed that after a study and confirmation of the miscarriage pattern, temporarily banned the spraying of 245T during the spring season.

BARBARA BLUM. "This really alarming correlation comes at a time when 7 million pounds of 245T are to be used across the Nation, to control weeds on power line right-of-ways; to manage forests; and to control weeds in pastures. The emergency suspension action that we're taking today will protect the nearly 4 million people who may be unknowingly and involuntarily exposed."

KURTIS. The EPA invoked its emergency powers for only the second time in its history in the Alsea case, and it set the stage for a key battle in the herbicide controversy.

A Federal court hearing between the EPA and Dow Chemical Company, one of the manufacturers of 245T.

We'll hear their side of the story in a moment.

KURTIS. Ten years ago, Dow Chemical was the target of emotional anti-war protests . . . Because it manufactured the ingredients of Agent Orange—herbicides 24D and 245T.

It is facing challenges to those products again on two fronts:

From veterans in class action suits charging the makers should have known the danger of dioxin and warned of it. And from those who are battling against the current use of 245T.

After the EPA invoked the temporary ban as a result of the Alsea, Oregon, study of miscarriages, Dow leveled its biggest guns, saying the EPA was guilty of bad science . . . prejudice . . . and a kangaroo court.

Dow president, David L. Rooke, was asked about the veterans complaints.

ROOKE. This product has been used for 30 years. It has yet to have one single case of confirmed documented health incident in the agricultural use and if you can have an emergency suspension . . . a unique first action they've taken on a product that has this much proven fatal and wipe it off the market place, it's time to take the stand.

KURTIS. He was asked about veterans complaints.

ROOKE. Well, of course, we are confronted with a number of lawsuits these days, so we are actively involved in that issue. There has been so much work done on 245T, it probably has been studied scientifically more than any chemical in agriculture. We believe now, and we have believed for many years, that this is not a hazard and it is this reason we are making this much of an issue out of it. This is not a chemical that can be capriciously wiped off the market just because some people have made allegations and charges.

KURTIS. Dow Chemical has become the most visible of the manufacturers of 24D and 245T and has locked horns with the EPA in the battle over dioxin.

It's had years to prepare its case to meet objections from local communities around the country.

With the other chemical companies, it argues they made agent orange to the specifications of the U.S. government for use as a weapon in the Vietnam war and liability should not extend to them.

As for the current use, the companies can show 30 years of studies and reports which claim the herbicides are harmless to humans. And, while Dow's own animal studies show it causes cancer in laboratory animals at levels as low as 200 parts per trillion, it maintains current products have so little dioxin in them, humans would never get enough to cause problems.

That's also the position of the forest industry

in forestry has been all good. We have not had any experience of accidents that acquires human health problems during the normal application. Yes, there are some spills once in a while and people get into it and maybe get a little hysterical but that is not the normal situation and this application exposure study has borne that out. We are very concerned about human health because it's our own people that are underneath the spray.

KURTIS. 10 million pounds of 24D and 245T are spread over 3.8 million acres in the United States every year. They use it in forestry, in grazing lands, over rice and rights-of-way.

In the State of Oregon alone, if 245T were not available, it's estimated the forestry industry would lose 1.1 billion dollars in the next 50 years . . . along with 20,000 jobs.

The stakes of this controversy are high.

The Veterans Administration is not involved with current use . . . just with the symptoms of veterans.

After our report last year, it alerted all V.A. hospitals to treat symptoms and file cases connected with Agent Orange into a central computer bank for a larger study.

JOHN GILL. They look at the sores on me and they give me a complete examination all over. The doctor told me he never seen anyone like this before. He had no cure for it. He told me it was Orange Agent.

KURTIS. The V.A. doctor identified John Gill from a central file. It doesn't mean a connection has officially been recognized—only that symptoms can't be explained otherwise. He has skin problems, cancer of the bone and a low sperm count.

The file will be used later, presumably to study the veterans, but the V.A. has been criticized for taking to long to set up a scientific study committee which will give direction for handling the veterans. There also has been no effort to track down known cases of exposure in a full scale study. For the men at the other end of the bureaucracy, time is running out.

Among the men who have come to the V.A. with Agent Orange symptoms is Mike Toppel. He is 29. He has consented to become the first Vietnam veteran to undergo a fat biopsy, part of a new test of Agent Orange victims to determine if the chemical dioxin could be stored in the fatty tissues of the veterans.

It's early in the morning, March 23 at Hines Veterans Hospital outside Chicago. For Mike Toppel, this is very minor surgery . . . he's already had a malignant brain tumor removed and must get radiation treatment for the cancer.

With those problems, why would he want a fat biopsy?

TOPPEL. "Because I wanted to find out what caused my cancer. I don't know if Agent Orange caused it, but I want to find out, and there's no other way I know than this to find out."

KURTIS. Other veterans will be tested at V.A. hospitals around the country. If dioxin is found in the tissue of even one man, it would be a clear link between Agent Orange and those men exposed to it in Vietnam.

If no dioxin is found, it doesn't necessarily prove the opposite. A chemical could have done its damage and left the body in the eight to ten years since the men were in Vietnam.

Dr. Herbert Greenlee, chief of surgery at Hines, has taken a strip of fatty tissue from Toppel's stomach area.

GREENLEE. "They're going to divide that into three pieces and test the first piece and have another one for backup and save the third one in case there are any other questions."

KURTIS. The tests will be able to detect dioxin as low as five parts per trillion.

His first examination at Hines Veterans Hospital, outside Chicago, turned up a suspicious lump in his breast. This would be his second visit. After routine analysis of blood, some X-rays, two physicans made another examination.

SURGEON. "You have what we call a node in the axillary area here that both Dr. Cummings and I can feel, and you can feel it yourself. Depending on what was done here, we can either watch that or recommend you have that node out to find out what's there. And that's basically what we think."

KURTIS. The exam is inconclusive. The doctors will need to see records from a previous operation which removed his left breast. Then perhaps a biopsy will be taken if the lump can't be explained. This time the physician is more reassuring. It's not an all-clear, but the nodule could be something else. Mike Belcher can calm down a bit and get back to work. He is a child care worker in Chicago's uptown. The health problems he faces are similar to what many, many veterans are going through.

BELCHER. "What they were saying to me was, don't worry about it. It happens to anybody. I can't believe that. I'm worried now. It can happen to anybody. I'm going to be worried, but I'm going to go on to school, and I'm going to try to keep working, but I don't know. Right now, the work: I don't know. The tests they want me to go through and the operation, I don't know how I can work and do them. But I'll try.

"Just the scare of having cancer. You don't know how long you'll have to go on. Will I have five years, will I have ten years, will I have a full life to raise my children? I don't know. I want to leave something for them. I guess a father, his time is worth more than anything, money, anything. I'm scared."

KURTIS. Some final thoughts, in a moment.

* * * * *

KURTIS. We've seen new evidence of dioxin's affect on humans, scientists linking it to the Vietnam veterans. There is one other link to talk about. The symptoms.

Veterans weren't the first to complain about the effects of herbicide spraying. There have been isolated cases on record for years, always seemingly surrounded by controversy and questions. But one thing stood out. The symptoms.

In compiling these two reports, we were in the unique position to see many cases, totally separate, thousands of miles apart, and we were struck by the similarity of complaints.

Horses that died from dioxin poisoning in Missouri, showed the same kind of skin reaction we found in laboratory monkeys that fed dioxin in their diet. We saw animal defects. Ducks born with twisted wings in Arizona. Chickens with twisted feet in Wisconsin. A cat born with loss of hair on its face . . . its legs weak . . . looking so much like similar affects on a monkey fed dioxin in Wisconsin.

Dr. ALLEN. "What it means is that low level exposure to these compounds, extremely low level, levels below what the majority of the laboratories can detect, causes toxic manifestations. These may not be severe symptoms or signs. They may be very subtle effects, such as reprodutive abnormalities. Inability to conceive. Inability to maintain pregnancy. High instance of early abortions. These are some of the complications that may not be tied in directly unless you are really conscious of dioxin exposure."

KURTIS. Dr. Allen's monkeys also came down with a blood disease, almost identical to one found in the little girl in Oregon with 245T in her blood. There were complaints from victims of known Dioxin exposure so similar to complaints from the veterans. Together they present a disturbing picture.

ROLAND CORREA. "When I went in the service, I had very clear skin. I never had any sort of acne. In fact. Even now I'm 28 years old.

PETER KIRK. "The three malignant lymph nodes that were initially removed from my neck were removed right here where I had the worst of that rash."

JOHN GILL. "I figured that I was set somewhere like on death row, just to die."

KURTIS. There are some things that still should be done. There should be an outreach program to identify and compensate men who must carry the chemical legacy of Vietnam for the rest of their lives . . . and for the children also affected.

There should be an international exchange of information with Vietnam to find out how the defoliant affected people there. As for the current use, we feel there should be severe restrictions of the use of all chemicals containing Dioxin.

Its human harvest must be stopped, now.

CHICAGO AIRLINE ACCIDENT

Mr. PERCY. Mr. President, I wish t commend the Federal Aviation Admin istration and Mr. Elwood T. Driver, vic chairman of the National Transporta tion Safety Board, for their conduct fo lowing the tragic airline accident th occurred near O'Hare Airport on May 2

In addition I wish to commend Amer can Airlines, which cooperated fully every aspect of the investigation. T Chicago Police Department, local fire d partments, and citizenry should be cor mended for the way in which they r sponded to the accident.

Tragedy always comes closer when has struck those one knows, admires, a respects. Such was my case with the l of Henry Regnery, a highly respec publisher, and Sheldon and Judy Wa gifted couple. I felt the tragedy e more closely because Wilmette, Ill., hometown, lost an entire family; St Sutton, age 38, his wife Carolyn, their sons, Colin, 9, and Christopher.

I ask unanimous consent to h printed at this point in the RECORD t articles from the Chicago Sun-Ti and one from the New York Times depict the heroism of many of those volved, including the clergy led Cardinal Cody.

There being no objection, the art were ordered to be printed in the RE as follows:

[From the Chicago Sun-Times, May 27,

A WILMETTE FAMILY'S DOG WAITED AT H IN VAIN

(By Peggy Constantine)

Stephen Sutton, 38, of Wilmette, pl a long time ago to take his wife, Carol 38, and their sons, Colin, 9, and Chris 7, to Los Angeles over the Memori weekend for business and a family re

He was a senior editor for Rand-Mc adult-nonfiction books. He had edited nie Morris' book, "A Short Season," Bears running back Brian Piccolo.

Sutton never had been to an Am Booksellers Assn. convention before. N year, his wife's parents were in Cal visiting her brother. Mrs. Sutton had t from her job as secretary at the F Congregational Church of Winnetk sons had Monday off from school.

Neighbors near the Suttons' home Forest knew the family was going on t They talked about it.

"They were quite excited about th said Judith Wilmer. "They were har ing, beautiful people. They were activ community. The boys were just gorgec family left about 1:15 or 1:30 p.m.