
Item ID Number 01368

Author

Corporate Author

Report/Article Title Typescript: selection of clippings from newspapers and other publications, photocopied together and sent to Alvin Young by Dave Bergh

Journal/Book Title

Year 0000

Month/Day

Color

Number of Images 10

Description Notes Bergh created several pages of various clippings to support his viewpoint that AIDS is related to dioxin exposure

NOVA

From Science 232, 1589 (1986) and Science 233, 282-3 (1986) :

" Mounting evidence indicates that it is no longer appropriate to speak in terms of high-risk groups for AIDS....(A)ccording to Anthony Fauci of (NIAID/NIH) 'The risk is not being a homosexual man or being a member of any group.' " / "Data from surveys in the US, including a military study, and on the massive spread of the disease in Africa, indicate that AIDS is passed as easily from women to men as from men to their sexual partners."

" ... (S)ays Bila Kapita of Mama Yeno Hospital in Kinshasa, Zaire... 'We wonder, if in Africa, there are certain environmental factors that promote the disease.' "...Doctors Robert Redfield and Donald Burke of Walter Reed Army Medical Center "find that if one partner in a married couple is infected with the AIDS virus, there is a 40% to 50% chance that the spouse will also become infected...whether the husband or the wife is the first to have the virus."

Produced for PBS by

WGBH
125 Western Ave
Boston, Massachu.
02134
617.492.2777

Perhaps 70 pesticides are contaminated with dioxins. I support priority investigation of the hazards under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). -db

September 13, 1983

From the Minneapolis Star-Tribune; 6/27/86, p5B :

"The Boise Cascade paper mill at International Falls is the first of five mills to be tested to determine the source of...dioxin....Dioxin has been found in sludge...from Boise's paper mill and from paper mills in other parts of the country that use the bleached kraft process..."

There are at least 12 additional dioxin sites in MN. (Trib.; 10/31/85, p 1B)

Mr. David Bergh
356 South 3rd Avenue
St. Cloud, Minnesota 56301

Dear Mr. Bergh:

We have forwarded your letter and the packet of information to Dr. Samuel Epstein, as you requested, to the only known address we have for him which follows:

From the Minneapolis Star-Tribune; 6/30/86, p3A :

"Heterosexual intercourse is now the predominant route for the spread of AIDS in Haiti...In 1985...71% of the cases in Haiti were from the groups that have suffered most in the U.S....Now, however, those groups account for only 11% of the victims in Haiti; 72% of the cases of AIDS or...AIDS-related complex, are among heterosexuals who say they do not fall into any of the high-risk categories..."

Dr. Samuel Epstein
University of Illinois
Chicago Center
School of Public Health
2121 West Taylor
Chicago, Illinois 60153

Yours sincerely,

John Mansfield
Executive Producer
NOVA

St. Paul Dispatch-PP; 7/28/86, p 3A

With clusters of AIDS showing up in Florida that do not match the pattern elsewhere, the federal Centers for Disease Control is preparing to put Haitians back into a special risk classification. They will become the first group listed as high by heterosexual transmission, said CDC officials Atlanta Sunday. They said a number of Haitians appear to have contracted acquired immune deficiency syndrome through heterosexual contacts.

(a). NCI's Dr. Harry Haverkos, " a leader in the study of the role of co-factors in Kaposi's sarcoma and AIDS...called on scientists to do more experiments on animals to determine what substances may contribute to the development of Kaposi's sarcoma. "; (b). " Male rats fed...TCDD...showed...skin angiomas... "; (c). KAPOSI'S SARCOMA - a multifocal, acantholytic, malignant reticulosis with angiomas-like features, involving chiefly the skin.../(a). Wpls. Star-Trib.; 6/12/86, p6D/(b). NIOSH CTB # 40 p5/(c). Enc. & Dic. of Med., Nurs. & Allied Hlth. (3rd ed.) p614.

A PLAGUE ON OUR CHILDREN

Many products of petroleum distillation, such as Dioxins and PCBs, are toxic and not biodegradable. Widespread use of herbicides and poisonous petrochemicals is blamed for gross birth defects, miscarriages, cancer and other illness. The permanent and total banning of these chemicals is hampered by the chemical industry's lobbyists and lawyers.

PART I, DIOXINS

Dioxin defoliants, such as Sylver sprayed on Oregon forests or Agent Orange dropped on Vietnam, have caused almost epidemic miscarriages, cancers and disease. Dioxin manufacturers deny any harm in their products. But independent studies show these herbicides cause serious health problems and theorize that the Dioxin molecules fit into the basic DNA structure, altering it and causing mutations. Though banned from some uses, Dioxins are sprayed today on rangeland and rice fields. After handling Agent Orange, thousands of Vietnam vets complain of symptoms ranging from irregular heartbeats to birth defects in their postwar children—problems the VA is loath to investigate.

57 min./color
Sale: 16mm \$89.95/ \$250/4" \$250
Rental: \$85

PART II, PCBs

Banning toxic chemicals doesn't solve their problems. Over 90% of all toxic wastes are dumped unsafely, illegally and secretly. In Love Canal, NY, the Hooker Chemical and Plastic Company knew toxic chemicals were leaching out of drums they had buried on land they had sold for a school playground. Several hundred families were forced to evacuate permanently. An extraordinarily high incidence of birth defects is blamed on dumped Hooker chemicals. No solution has been found to clean up these chemical dumps nor to break down PCBs' non-biodegradable structure. Measurable amounts of PCBs are found in every living cell today.

Lovers: Secondary, College, Adult
Produced by: WGBH
57 min./color
Sale: 16mm \$89.95/ \$250/4" \$250
Rental: \$85

.....
"A Plague On Our Children" is a PBS ("NOVA") production. Part 2, at approximately 35 minutes into the tape, documents immune deficiency in children born and reared near the dioxin and PCB-contaminated Love Canal in NY state. (Time-Life Video; Time & Life Building; NYC, NY 10020 / As was the case in the state office building in Binghamton, NY, PCBs (from electrical equipment such as transformers) when burned, produce TCDD. (AP, 3/16/81) / (a). Immune Deficiency and susceptibility to cancer are clearly symptomatic of TCDD exposure; (b). Burning vegetation containing chlorinated hydrocarbon residues from pesticides can multiply TCDD levels by 100,000 times; (c). Dioxins (as well as PCBs) may now exist in every living cell. (CBS IFC244d "DIOXIN" pgs. 3 & 12)
.....

AIDS: A SERVICE-CONNECTED DISABILITY



National Institutes of Health
National Cancer Institute
Bethesda, Maryland 20208

Building 37, Room 6A09
(301) 496-6007

July 5, 1984

Public Health Risks of the Dioxin details immune deficiency, cancers (including soft tissue sarcoma), "the wasting syndrome", etc., resulting from exposure to halogenated aromatic (chlorinated) hydrocarbons. WARNING: PCB contaminants called furans, chlorinated acrybenzenes, chlorinated naphthalenes, etc., "appear to be at least as toxic to animals as the dioxins..." (p 5).

Mr. David Bergh
356 S. 3rd. Ave
St. Cloud, Minn

Dear Mr. Bergh:

Thank you for your letter of June 21 and the information on dioxin. I am convinced beyond a doubt that HTLV-III causes AIDS. We have seen many cases where there are no other risk factors. However, not everyone that is exposed to the virus develops the disease. There could exist another agent or chemical that predisposes towards the actual development of AIDS.

In its report on Seveso, Hoffmann-LaRoche said, "...dioxin could have both inhibiting and stimulating effects on the immune system..." (NY Times; 7/14/86, p A10) "...[I]n the TCDD-contaminated area of Seveso, Italy...lymphoproliferative response to T- and B-cell mitogens were not depressed, but were significantly enhanced in children exhibiting chloracne." (Public Health Risks of the Dioxin; p 287) "...[M]ight lymphocyte stimulation, before the introduction of the retrovirus into an organism, favor the virus's 'infectivity', by placing the T4-cells in a phase of the cellular cycle propitious to the virus's penetration?" (A Strange Virus of Unknown Origin; p 143).

Mon., April 8, 1985/ Daily Times, St. Cloud Minn./ 7C

Expert: 1 million may have AIDS

WASHINGTON (AP) — More than 1 million Americans are infected with the virus suspected of causing Acquired Immune Deficiency Syndrome and as many as 20 percent could contract AIDS or some other disease, a federal scientist says.

"Whether all will die is unclear," said Dr. Robert C. Gallo, chief of the tumor cell biology laboratory at the National Cancer Institute. "Some might simply have an enlargement of the lymph nodes and go no further."

Gallo, who helped discover the suspected cause of AIDS, made the comments in an interview Saturday that summarized his recent presentation to the Imperial Cancer Research Fund Laboratories in London.

He said his "best estimate" is that more than 1 million Americans already have the suspected virus and that from 10 percent to 20 percent could contract AIDS or another disease.

U.S. health researchers say that as of March 18, AIDS was fatal in 4,300 of the 8,863 cases reported in the United States.

Gallo said his estimate was conservative and "just a guess" based on limited data, including estimates of the number of the most susceptible people in this country and the percentage believed to have sought medical treatment.

He also predicted that AIDS could reach epidemic proportions in Europe in a couple of years and that a second epidemic, involving a related virus transmitted in the same ways as the AIDS virus, may be imminent.

Gallo said the related virus, discovered in 1979, causes forms of leukemia and already is established in the Caribbean, Sicily and Japan.

"It is my strong suspicion that something like that may happen," he said. "It is not a cause for alarm, but it is a cause for watching."

Sincerely yours,

Robert C. Gallo, M.D.
Chief, Laboratory of
Tumor Cell Biology

I want Agent Orange legislation amended to include presumptive causality for AIDS. -db Aug., '86-

From Science 231, 919 (2/28/86) :
"Participants* in the Martinique meeting unanimously stressed that the HUMAN CANCER VIRUSES DO NOT CAUSE THE CANCERS BY THEMSELVES. Other factors, such as environmental carcinogens...and the status of the individual's immune system, also contribute." *included NCI

Farmers exposed to pesticides and viruses are at increased risk for leukemia, lymphoma and (possibly) soft tissue sarcoma. CONTACT: Dr. Aaron Blair, Env. Epid. Br. / NCI

Infection and Immunity (Vol. 12, no. 6, pp1319-24, 12/75) said TCDD dioxin, a contaminant of chlorinated phenois or herbicides, "has been shown to cause thymic atrophy and to suppress cell-mediated immunity in laboratory animals." SUBCLINICAL levels of TCDD, followed by salmonella infection, "resulted in significant increases in mortality and decreases in the time from infection to death." Accordingly: "The most important finding in this study is that extremely low levels of TCDD which do not produce clinical or pathological change, still have the capacity to affect host defense." Pathological observations included TCDD dose-dependent lesions in the liver and thymus -- and that the mice exposed to TCDD had smaller than normal thymuses. The authors state: "Microscopic examination revealed cortical atrophy due to loss of small lymphocytes." DELAYED HYPERSENSITIVITY is discussed and literature cited regarding human exposure to dioxins (and laboratory testing of the effects of PCBs).





From Mpls. Star-Tribune; 6/20/86 p 2A: "...[s]aid Dr. Harold Jaffe, an AIDS specialist with the CDC... men who have had sexual contact with another man since 1977 (the advent of AIDS) must not donate blood. ... More than 21,000 AIDS cases have been reported in this country, dating back to 1977."

Centers for Disease Control Atlanta GA 30333

JUL 12 1984

"... (E)pidemiological evidence has suggested that immunotoxic chemicals or factors may act as pre-disposing agents in patients who develop... (AIDS)... includ(ing)... polyhalogenated aromatic hydrocarbons, ... hexachlorobenzene, pentachlorophenol..." - National Toxicology Program (HHS) Annual Plan for FY 1984, p. 157 -

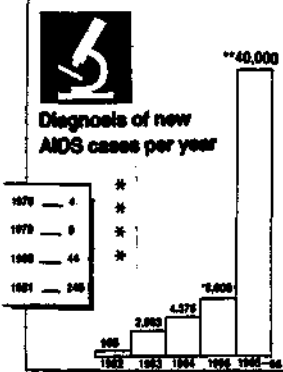
Mr. Dave Bergh
356 South 3rd Avenue
St. Cloud, Minnesota 56301

Dear Mr. Bergh:

Congressman Arlan Stangeland has requested that we send you information on the acquired immunodeficiency syndrome (AIDS). We are enclosing reprints of all the MMWR articles that we have published since it was discovered in 1981.

AIDS has been found to be caused by a newly discovered virus variously termed human T-cell lymphotropic virus-type III (HTLV-III) or lymphadenopathy associated virus (LAV). The virus is transmitted sexually and through blood and blood products. Epidemiologic evidence does not implicate exposure to dioxin or any other environmental chemical as being linked to AIDS.

I understand that you have corresponded with several CDC scientists about AIDS, and I hope that this additional information is helpful to you.



* Estimated by Centers for Disease Control
** Estimated by National Institute of Allergy and Infectious Diseases
Gannett News Service graphic

From the Washington Post; 6/7/86 p A5: "...17 of 1,129 stored blood samples taken... in 1971 and 1972 tested positively for the AIDS virus - an indication that the deadly virus may have been present in the US far longer than researchers had believed."

Sincerely yours,

James O. Mason
James O. Mason, M.D., Dr.P.H.
Assistant Surgeon General
Director

Enclosures

180

MMWR

April 6, 1984

Styrene, Dioxin, and 1,3-Butadiene - Continued

Order Document No. PB-84-148295 from the National Technical Information Service, Springfield, Virginia 22161. Cost: \$22.00 paper, \$4.50 microfiche.

Dioxin: On January 23, 1984, NIOSH released Current Intelligence Bulletin #40: 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD, "Dioxin"). TCDD occurs as a contaminant in such materials as 2,4,5-trichlorophenol (TCP), 2,4,5-trichlorophenoxyacetic acid (2,4,5-T), and 2-(2,4,5-trichlorophenoxy) propionic acid (silvex). Occupational exposure may occur through contact with these materials or from past contamination of worksites. Currently, no occupational standard exists for exposure to TCDD.

NIOSH recommends that TCDD be regarded as a potential occupational carcinogen, that occupational exposure to TCDD be controlled to the fullest extent feasible, and that decontamination measures be used for TCDD-contaminated work environments. These recommendations are based on studies that demonstrate the carcinogenicity of TCDD in rats and mice. In other animal studies over a wide range of exposure concentrations, TCDD caused teratogenesis, immunologic dysfunction, and effects on hematologic function. Studies of humans exposed to TCDD-contaminated materials indicate that TCDD may be the cause of chloracne, metabolic disorders (porphyria), and other systemic problems and that TCDD may have a potential to cause cancer.

Copies are available without charge from NIOSH Publications, 4676 Columbia Parkway, Cincinnati, Ohio 45226.

† NIOSH issues Current Intelligence Bulletins (CIB) to disseminate new scientific information about occupational hazards. A CIB may draw attention to a hazard previously unrecognized or may report new data suggesting that a known hazard is either more or less dangerous than was previously thought.

Minneapolis Star and Tribune
Fri., Oct. 8, 1984

5A

Elmo Zumwalt III, whose father ordered the increased use of Agent Orange along riverbanks in Vietnam, said in New York that he doesn't blame the admiral's decision for his own terminal cancer. The son of Adm. Elmo Zumwalt Jr. said there is no proof that his cancer, diagnosed more than a decade after his service in Vietnam, was caused by the defoliant. He also said he and the men he commanded on a Navy patrol boat were happy to see big stretches of riverbank chemically stripped of foliage. "When patrolling the rivers we constantly lived in fear of being ambushed." The 38-year-old lawyer, who served in Vietnam in 1969-70, was diagnosed as having advanced lymphoma in January 1983. His father, former chief of naval operations, commanded U.S. naval forces in Vietnam in 1968.

Dave Bergh
356 Third Ave. So.
St. Cloud, MN 56301

Mr. Gilbert Gude, Director
Congressional Research Service
Library of Congress
10 First Street S.E.
Washington, DC 20540

June 30, 1984

I refer to 2,4-D and 2,4,5-T (Agent Orange) as "chlorinated hydrocarbons", but they may be classified as CARBOXYLIC aromatic herbicides. Interestingly, a new mutant AIDS virus study (Science 233, 655 - abstract) speculates: "...that the CARBOXYL terminus of the envelope gene of HTLV-III has a direct role in T-cell killing by this virus". The study argues that "virus replication and cytotoxicity are not intrinsically coupled", and that "trans-activation per se is not responsible for T-cell killing by HTLV-III". -db, 8/8/86-

Dear Mr. Gude:

Congressman Bill Frenzel recently provided me with CRS information packets 0004 (Agent Orange), 0244D (Dioxin) and 0261A (Acquired Immune Deficiency Syndrome) to review. I had previously written to him expressing my concern that AIDS may be caused by environmental contamination of dioxins and related chemicals.

I have come to see the above issues as being one. Agent Orange enters the picture because I suspect that its stepped-up production for the Vietnam War effort resulted in massive environmental pollution of dioxins in the United States.

I am enclosing material that I have prepared which links the three issues. I found information in IP 0244D which appears to support my contentions and have incorporated pages 3 and 12 into my work.

There are two major points I want to emphasize to you:

- (1). I believe Dow Chemical is right when they say that dioxins are "ubiquitous".
- (2). I believe that dioxins (etc.) have caused "the AIDS virus" (HTLV - III) to mutate.

Point 1 seems to have been overlooked by the agencies that I have been in contact with- all of them- but particularly HHS's CDC and NCI. Dr. Barry Commoner ought to be consulted on this, but Dow's claim that TCDD dioxin -- a synthetic -- is caused by a natural process -- fire -- seems patently absurd. Dioxins may indeed be found in every living thing today, but man - not nature - is responsible.

Point 2 remains conjecture. However, the epidemiological evidence is clear to me: On a world-wide scale, where we are likely to find dioxins (etc.) in the environment in heavy concentrations and where there is high population density, we find high incidence of AIDS. In my accompanying packet entitled "Dioxin, Agent Orange and AIDS" I outline a 100% correlation of these factors in the U.S.

The green packet contains a "Newsweek" article that in Zaire (the origin of HTLV - III), most AIDS victims are neither homosexual nor drug abusers and many are women. They also speculate that "a minor genetic shift altered the virus's properties to make it a deadly germ". Also in the green packet is "The NIH Record" which says of HTLV - III : "(T)heir ability to kill T-cells clearly separates these viruses from other members of the HTLV family." I suspect that chemical "dumping" in Zaire has come back to haunt us.

I suspect that the hemophiliac "high risk" group for AIDS may actually be suffering from leukemia that looks like hemophilia or from porphyria cutanea tarda-which is exacerbated by drugs. In any case, the reported incidence of AIDS is just that -- reported cases. I believe that time will show that we all are at risk.

I hope you find the material useful.

In the US, evidently, HTLV/LAV antibodies are not always present in AIDS, but dioxin is. / NY, NJ, PA, FL, IL, TX, CA are among the 19 states known to have had chlorophenol plants. (Hpls. Trib.; 4/23/83, p 18) / "Both CMV and HI have been perturbed by exposure of rodents to dibenzodioxins." (Public Health Risks of the Dioxins, p 276) / I suspect that dioxins affect T-cell growth factors (IL2) in AIDS. / ACUTE PROMYELOCYTIC LEUKEMIA - presenting as a severe bleeding disorder... (Stedman's Medical Dictionary; 24th Ed., 1982) -db 8/86-

Sincerely yours,


Dave Bergh

From the House Agriculture Committee news release of 6/19/86, re: HR 2482 (FIFRA): "EPA would also be required to analyze samples of mothers' milk for residues of dioxins and dibenzofurans."

New York Times; 4/11/86 (front page, national edition; p A17, otherwise)

Justice Dept. to Ask for Inquiry Into E.P.A. Action

By PHILIP SHENON
Special to The New York Times

WASHINGTON, April 10 — The Justice Department will recommend that an independent counsel investigate purported wrongdoing by department lawyers who withheld Environmental Protection Agency documents from Congress, law-enforcement officials said today.

The appointment of a counsel had been requested by the House Judiciary Committee, which found that the lawyers may have lied to Congress and the White House in their handling of the environmental agency's material in 1982 and 1983.

It could not be determined whether the department would recommend that the counsel look at the full range of charges contained in a 1,200-page report issued by the Judiciary Committee last year.

Inquiry by Department Team

Nor was it clear how many former or present Justice Department and White House officials might come under scrutiny by the counsel, who would serve, in effect, as a special prosecutor. Officials named in the committee report have vehemently denied wrongdoing.

A panel of Federal judges in Washington will name the counsel. It was unclear when the Justice Department would make a formal request for the appointment.

A Justice Department team led by William F. Weid, the United States Attorney in Boston, is completing a preliminary investigation into the charges contained in the Judiciary Committee report, department officials said.

Mr. Weid was chosen for the assignment after other department prosecutors removed themselves from the in-

vestigation to avoid charges of possible conflict of interest. Those prosecutors had worked at the department at the time of the incidents involving the environmental agency.

Appointment of an independent counsel would come after a bitter, three-year dispute between Congressional leaders and the Reagan Administration.

Lawmakers have charged that the Administration needlessly touched off a constitutional confrontation with Congress by invoking the executive's privilege to withhold certain documents.

The documents involved the special toxic waste cleanup program; investigators were trying to determine if the program had been improperly manipulated.

The special counsel would be the fifth

Continued on Page 9, Column 4

The Science excerpt at the bottom of the page pertains to a former Agent Orange chemical plant in Newark, NJ.



In 1971, sludge wastes contaminated with 2,3,7,8-tetrachlorodibenzo-p-dioxin were mixed with waste oil and sprayed on a dirt road at the Quail Run Mobile Home Park in Gray Summit, Mo. We performed a comprehensive examination of 154 exposed and 155 unexposed persons in the area. There were no consistent differences between the two groups on medical history, physical examination, serum and urinary chemistry studies, and neurologic tests. Results of liver function tests suggested possible subclinical effects. The exposed group had an increased frequency of energy (11.8% vs 1.1%) and relative energy (35.3% vs 11.8%). The exposed group also had non-statistically significant increased frequencies of abnormal T-cell subset test results (10.4% vs 6.8%), a T4/T8 ratio of less than 1.0 (8.1% vs 6.4%), and an abnormality in the functional T-cell test results (12.6% vs 8.5%). These findings suggest that long-term exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin is associated with depressed cell-mediated immunity, although the effects have not resulted in an excess of clinical illness in the exposed group. Further studies are indicated to elucidate the pathophysiology and clinical significance of these immunologic findings.
(JAMA 1988;258:2031-2038)

Justice Dept. to Seek Inquiry into E.P.A. Move

Continued From Page 1

named under the Ethics in Government Act of 1978, adopted to prevent abuses by Government officials. Under the law, a panel of judges selects the counsel and defines the jurisdiction for possible prosecution.

The last independent counsel was appointed in 1984 to conduct a broad investigation of Mr. Meese, then President Reagan's nominee for Attorney General. That counsel, Jacob A. Stein, a Washington lawyer, found no basis for prosecution.

The Justice Department had no comment on today's reports. Patrick Korten, a spokesman, said the department was prohibited from discussing cases under investigation.

Lawyers' Actions Questioned

The Judiciary Committee report, issued after a two-year investigation, found that senior Administration lawyers falsely certified that the documents sought by Congress did not contain evidence of wrongdoing by E.P.A. officials.

In fact, the report said, some of the materials improperly contained references to politics, and one document indicated that the financing of the cleanup of a waste site in California had been delayed because of the 1982 elections.

The report also found that Justice Department officials decided to seek the right to claim the privilege to withhold documents on behalf of the environmental agency's administrator, Anne Burford, without consulting her. Mrs. Burford, who was cited for contempt of Congress in withholding the material, has charged that she was misled and then abandoned by the department.

"The Department of Justice recommended that executive privilege be claimed and continued to press for its assertion despite the objections of E.P.A. and innumerable signs that there were substantive and political problems with the claim," the Judiciary Committee said in its December report.

Among others officials criticized in the Judiciary Committee report were these:

Richard A. Hauser, deputy White

House counsel. The report said that Mr. Hauser certified to a House subcommittee in 1982 that he had reviewed all of the environmental agency's documents being withheld from a Congressional subcommittee. In fact, the report said, Mr. Hauser had not even received much of the material.

Carol E. Dinkins, former Assistant Attorney General in the Lands Division. According to the report, Mrs. Dinkins participated in efforts to withhold the documents from Congress even though she was aware of political references in the materials.

Theodore B. Olson, former Assistant Attorney General for Legal Policy. Mr. Olson, the report said, gave misleading testimony to a House panel involving the documents. The report also charged that Mr. Olson, in a letter to President Reagan, falsely claimed that the documents contained no evidence of wrongdoing.

In the past, the three officials and others named in the report have denied wrongdoing.

After the Judiciary Committee released its report, Justice Department spokesmen immediately criticized the investigation as unfair.

Dioxin/AIDS

Science 232, 497 (1986)

DIOXIN (2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN, TCDD) is one of the most toxic man-made compounds known. The effects of an acute dose vary with species and include liver and kidney damage, chloracne, reduction in weight, wasting, thymic atrophy, immunotoxicity, and death (TCDD syndrome). TCDD promotes liver tumors in rats and skin tumors in HRS/J hairless mice (1), and it is also an anti-initiator of benzo[a]pyrene skin tumor carcinogenesis in Sencar mice (2).

Researcher: Dioxin in breast milk potential hazard

Associated Press

New York, N.Y. — In one year, many breast-fed infants in the United States may consume 18 times more of the toxic chemical dioxin than federal scientists recommended for a lifetime, a researcher estimated Wednesday.

That projection for breast milk is calculated from an average level of dioxin found in human fat in the United States and Canada. Studies of breast milk may begin this year, said Dr. Arnold Schechter, professor of preventive medicine at the Upstate Medical Center of the State University of New York.

"We've got something that's a potential human health problem," Schechter said in an interview. "I say 'potential' because we don't know if there's a threshold" below which no harm occurs, or if the projected amount is above or below such a threshold, he said.

Schechter's projection focused on

dioxin's most-hazardous form, called 2,3,7,8-TCDD. Its effect on humans is being debated by scientists, but it has been associated in industrial studies with liver damage, a serious skin disease called chloracne and other problems. Animal studies suggest a link to cancer. Schechter spoke at a meeting of the American Chemical Society.

Minneapolis Star-Tribune; 4/17/86; p 12B

Do AIDS viruses utilize TCDD receptors in T-cell replication?

Should the A be deleted from AIDS: Is predisposition to infection inherited?

From Chlorinated Dioxins and Dibenzofurans in the Total Environment; pp 397-404:

" Tetra-CDF is closely related to tetra-CDD in structure and acute toxicity...
Progressive weight loss and thymic atrophy are common findings... (T)etra-CDD is a potent inhibitor of humoral and cell-mediated responses, even depressing pluripotent bone marrow stem cells... (M)ice... more resistant to tetra-CDD induction of... AHH enzymes are also more resistant to the immunosuppressive effects... (T)he tetra-CDD receptor... was shown to be present not only in the liver, but also in other organs; the highest concentration being in the thymus, the organ most affected by tetra-CDD in all species investigated."



From Human and Environmental Risks of Chlorinated Dioxins and Related Compounds; p 544:

" (T)he Ah locus appears to be the structural gene for the cytosol receptor... If the toxicity of TCDD (and congeners) is mediated through the receptor, then one would expect that mice with a high affinity receptor, which are sensitive to the induction of AHH activity, would be sensitive to toxicity by TCDD... This has been found to be the case. Thymic involution, cleft palate formation in the fetus, and hepatic porphyria produced by TCDD have all been found to segregate with the Ah locus..."

From Human and Environmental Risks of Chlorinated Dioxins and Related Compounds; p 441:

" The principal genetic defect among certain inbred mouse strains involves a cytosolic receptor for TCDD. The level of receptor has been shown in mice and perhaps in man to reflect individual differences in risk of certain chemically induced cancers, mutations, drug toxicities, and birth defects. With one of the structural genes (cytochrome P₁-450) of the Ah locus, recently cloned in this laboratory,* we hope to understand the genetic regulation of P-450 induction and the evolution of this enzyme system... " *NICHD/NIH

From Halogenated Biphenyls, Terphenyls, Naphthalenes, Dibenzodioxins And Related Products; pp 160 & 164:

10B/Daily Times, St. Cloud, Minn./ Wed., Feb. 5, 1986

Contamination feared in tower despite cleanup

BINGHAMTON, N.Y. (AP)— In the five years since a chemical fire spread deadly dioxins through a landmark 18-story office tower here, the poisoned building has become a virtual laboratory for toxic cleanups. But now that its reopening is nearing, some workers wonder if it will be safe.

Crews are now putting the finishing touches on the top 17 floors, where protective clothing is no longer required, and are swabbing down the first floor, basement and sub-basement, which are still toxic.

Some say they'll never re-enter the State Office Building which has been unoccupied, except by cleanup workers in protective suits, since shortly after the Feb. 5, 1981, blaze.

Cleanup supervisor David Rings, of the state Office of General Services, said drapes and other furnishings would be installed in an interior cleaner than street air. The cost of the cleanup, though double the building's original \$17 million pricetag, is half the cost of rebuilding, he said.

"I know management people who are worried, but they don't know where to turn," says Patricia Zemanek, a former Broome County employee who chairs a reopening protest group.

In the first days following the fire, no one was aware of the danger.

State officials insist that they're removing the last contaminants and that a final scrubbing of the building is going ahead. If the \$35 million job stays on schedule, the state will move in about 750 workers from 33 bureaus on Dec. 1.

Office managers were allowed inside the building in street clothes to pick up papers. Some cleanup workers tracked soot from the State Office Building into downtown businesses.

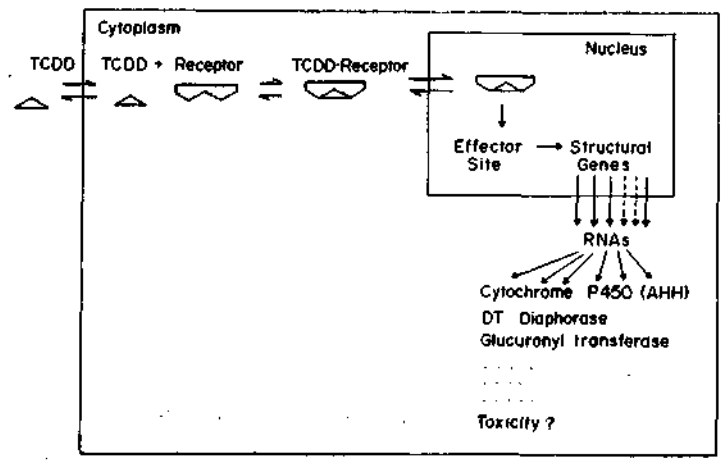
The State Office Building was the first U.S. structure of its size to be polluted by dioxin — used in Vietnam as a component of the herbicide Agent Orange — and other toxic byproducts of polychlorinated biphenyls, or PCBs.

County Health Commissioner Arnold Schachter called it "a nightmare of industrial hygiene" before he was fired for being too outspoken.

No one knows how the fire began, but it involved an electrical panel and a transformer containing 1,100 gallons of oil laced with PCBs, an omnipresent coolant before 1979, when the federal government outlawed it as cancer-causing.

Only after 20 days did the state Health Department announce that the fire had produced deadly chemicals. The building was sealed, but then Gov. Hugh Carey scoffed at the hazard, offering to "swallow an entire glass of PCBs."

The state took more than a year to analyze blood samples of people exposed to the soot. Some cleanup workers complained of recurrent headaches, chest pains and vomiting blood. However, the blood tests concluded that no one



6.2.5.6. Segregation of toxicity with the Ah locus. There is a marked similarity between the structure-activity relationships for induction and those for toxicity. Inducibility has been shown to segregate with the Ah locus in the mouse. If an interaction between TCDD and a single receptor protein results in both induction of AHH and toxicity, one would expect that toxicity would also segregate with the Ah locus. Several strains of responsive mice are indeed also more sensitive to the effects of TCDD on the thymus than nonresponsive mice, and hybrid mice are intermediate (Poland et al., 1979). Moreover, when the hybrid offspring were bred and their offspring phenotyped as 'responsive' or 'nonresponsive', susceptibility to the thymic effects of TCDD segregated with the Ah locus. 3-MC, a compound believed to interact with the same receptor as TCDD, also decreased the weight of the thymus. 3-MC responsive strains were also more susceptible to the teratogenic effects of TCDD than nonresponsive strains (cleft palate formation). These studies indicate that the 'receptor' or 'binding site' which initiates toxicity is identical to the one which initiates induction.

received enough exposure to the toxins to have been harmed.

Institute of Comparative and Environmental Toxicology.

But will there be a danger of exposure when the building reopens?

"This question is a problem that we're going to face again and again... We have the capability to take care of amazingly small levels of chemicals... but is that clean enough?"

"You've got to bear in mind that you can never remove every last molecule of a chemical," said Dr. Christopher Wilkinson, director of Cornell University's



THE
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(202) 676-4206 or 4213

29 July 1983

Current Address / Phone

Dr. Hyman J. Zimmerman, Distinguished Physician
Veterans Administration Medical Center (151L)
50 Irving Street NW, Room GE 229
Washington, DC 20422 / (202) 745-8541

Dave Bergh
356 S. 3 Av.
St. Cloud, MN 56301

Dear Mr. Bergh:

I received your letter and the voluminous material on AIDS you have accumulated and carefully reviewed the possible relevance to it of exposure to toxic chemicals. To respond to your hypothesis, let me say first, it is quite clear that AIDS is not chronic lymphocytic leukemia. That it might in the long run be associated with some form of virus-induced leukemia or lymphoma is certainly possible but it is unequivocally not chronic lymphocytic leukemia in any of the pertinent manifestations. Secondly, the suggestion that exposure to a toxic, immunosuppressive chemical has a bearing on the etiology of the condition is an interesting hypothesis. One trouble with that hypothesis is that it would by no means explain the striking disproportionate occurrence in male homosexuals since other individuals in the same areas where the exposure that you allege occurs should be at the same risk. The hypothesis you offer simply does not explain the clear epidemiology of the condition. Thank you for inviting my opinion.

Sincerely,



Hyman J. Zimmerman, M.D.
Professor of Medicine
Director, Division of Gastroenterology

Table 7. Sources of HTLV-III isolates

● Mononuclear cells	● Breast milk
● Plasma	● CSF
● Semen	● Lymph node
● Saliva	● Brain
● Urine	● Bone marrow
● Tears	● Cervical/Vaginal secretions

From "The Etiology and Epidemiology of HTLV-III Related Disease", a monograph by Dr. Robert Redfield, Department of Virus Disease, Walter Reed Army Institute of Research, Washington, DC 20307.

Table 4. Malignancies associated with AIDS¹⁷

Kaposi's sarcoma (epidemic form)
Burkitt's lymphoma
Non-Hodgkin's lymphomas
Hodgkin's disease
Chronic lymphocytic leukemia
Carcinoma of the oropharynx
Hepatocellular carcinoma
Adenosquamous carcinoma of the lung

Table 8. Established methods of HTLV-III transmission

<u>Bidirectional sexual transmission</u>
● Male-to-male
● Male-to-female
● Female-to-male
<u>Parenteral transmission</u>
● Blood and blood products
● Sharing blood-contaminated drug paraphernalia
<u>Perinatal transmission</u>
● Transplacental transmission
● Breast milk

Table 6. Model of the natural history of HTLV-III infection*

Infection (seronegative viremic state)
Acute lymphoproliferative syndrome
Seroconversion
Chronic lymphadenopathy
Gradual depletion of the target cell—the T-helper cell
Gradual development of clinical T-cell deficiency
● clinical defects in delayed hypersensitivity
● opportunistic mucous membrane disease
Progressive defects in the immune system
● severe T-cell deficiency
● severe B-cell failure
● defects in monocyte function
● defects in granulocyte function
Recurrent opportunistic infections and neoplastic processes
● <u>involution of the reticuloendothelial system</u>
● <u>bone marrow failure</u>
Death

*No data exists currently to indicate that all individuals infected with HTLV-III will progress to ARC or AIDS. The above model illustrates the course followed by those individuals who have progressed to the later stages of disease.



The Commonwealth of Massachusetts

Executive Office of Human Services

Office of Commissioner of Veterans' Services

Leverett Saltonstall Building, Government Center

100 Cambridge Street, Boston 02202

MICHAEL S. DUKAKIS
GOVERNOR

JOHN HALACHIS
COMMISSIONER

AIDS: A SERVICE-CONNECTED DISABILITY

February 11, 1986

Mr. Dave Bergh
356 Third Avenue South
St. Cloud, MN 56301

From the St. Cloud Daily Times; 8/17/84, p 7B:
A government Agent Orange study was published today in CDC's MMWR and JAMA. "The study did find an apparently higher risk for children of vets exposed to Agent Orange to have... specific defects, including spina bifida... cleft lip and several kinds of tumors."

From the Mpls. Star-Tribune; 8/17/86, p 16A:
"Federal health officials are expected to expand their definition of acquired immune deficiency syndrome to include diseases of the central nervous system... Four main kinds of neurological disorders are linked to AIDS... Those include peripheral neuropathy... spinal cord infection... aseptic meningitis and dementia."

Dear Mr. Bergh:

Thank you for your recent package on the "Aidsgate Papers". I have watched you over the years charge up the hill of ignorance and coverup, concerning Agent Orange, Aids and their possible connections.

As you requested, enclosed please find a copy of "Mortality Among Massachusetts Vietnam Veterans, 1972 - 1983". I also took the liberty of enclosing, "West Virginia Vietnam Era Veterans Mortality Study", recently released, a study which corroborates our findings. I found it somewhat amusing that in the "Domestic Policy Council Agent Orange Working Group-Status Report - Oct, 1985", in a staff memo dated 5-15-85, from the Office of Technology Assessment, under the direction of John H. Gibbons, the memo states:

"Staff Memorandum Review to Committees of Ranch Hand Mortality Update and a Report of Mortality Among Vietnam Veterans Living in Massachusetts agreed that there are no discernible differences in mortality between Ranch Hands and comparisons. The excess of soft tissue sarcoma deaths among Vietnam veterans in Massachusetts was out of context of other soft tissue sarcoma studies, completed and ongoing. No Action was suggested because of number of studies to be completed soon. 10 pages".

Please call me at (617) 727-5942 at the Massachusetts Agent Orange Program. I would like to discuss with you the incidence of Kaposi's sarcoma in Massachusetts among Vietnam veterans. Keep up the good fight.

Sincerely,

Joseph V. Bangert
Acting Director
Agent Orange Program

JVB/lew

Mpls. Star-Tribune; 8/1/86, p 3A

Incomplete records jeopardize Agent Orange study, official says

A study of the effects of Agent Orange on Vietnam veterans, delayed more than six years, is in jeopardy because of incomplete military records, a top federal health official said Thursday.

exposure soldiers received while in Vietnam.

He said records reveal where ground troops were during the spraying of Agent Orange, but they do not give a precise location of individual soldiers, which is needed to determine the degree of exposure and to make the study scientifically valid.

Dr. James Mason, director of the Centers for Disease Control, told a House Veterans Affairs subcommittee that serious questions about the scientific credibility of the study have been raised because of incomplete information about how much

Congress ordered the \$28 million study in 1978.

KAPOSI'S SARCOMA- a malignant, metastasizing, malignant reticulosis... involving chiefly the skin. **RETICULOSIS**- an abnormal increase in cells derived from or related to the reticulo-endothelial cells. **LEUKEMIC RETICULOENDOTHELIOSIS**... called also hairy-cell leukemia. **RETICULOMA**- histiocytic malignant lymphoma. (Ency. & Dict. of Med., Nurs. & Allied Hlth.)

Re: Mpls. Star-Tribune 12/29/85 p4B.

The School of Aerospace Medicine at Brooks Air Force Base reported that Vietnam vets exposed to Agent Orange (level of exposure not disclosed) "do not appear to be dying at any increased rates or of unusual causes" compared to the general population. However: "Earlier comparisons based on physical exams had shown that servicemen in the same test group had higher incidences of skin cancer than those of a comparative group who had not been exposed. The new statistics mark the third time researchers compared the test group and the unexposed group. The first two comparisons had similar results."

From the Minnesota Department of Health "Disease Control Newsletter" of September, 1983:
"The U.S. Air Force has recently published the results of... personnel who were involved in 'Project Ranch Hand'... In conclusion, investigators stated: 'This report can in no way be considered conclusive because this small, young, and relatively healthy cohort of people may not have yet reached the latency period wherein attributable fatal disease might be expected and detected within the limited power boundaries of this study.'"

In the context that AIDS may be associated with chemical exposure, this passage from Herbicides in War (pgs. 125-6) ought to set off alarm bells throughout the world:

(Studies of the human health effects following) factory explosions during the production of trichlorophenol that resulted in the concomitant synthesis and release of dioxin (reported symptoms which) are highly suggestive of neurotoxicity... (Many of the investigators focused only on those workers who developed chloracne, in the MISTAKE BELIEF THAT THIS WAS AN OBLIGATE MARKER OF DIOXIN EXPOSURE. Zaak & Suskind (1980) have carried out a follow-up study of 121 cases resulting from one of the above-noted factory accidents. On the basis of analysis of the 32 subsequent deaths they reported that there was no excess mortality. However, re-analysis of these data by one of the present authors (Dr. Samuel Epstein, U of IL Med. Ctr.) suggests that they do not support this conclusion; it appears that THERE WAS, INDEED, EXCESS MORTALITY FROM MALIGNANT LYMPHOMA (cancer of the lymphatic system) AND LEUKEMIA.... The most convincing evidence of a causal link between phenox herbicide exposure and increased malignancy in humans is that of Hardell (Sweden) and colleagues... These authors discovered that workers... exposed to these compounds suffer from a markedly elevated incidence of SOFT-TISSUE SARCOMAS AND MALIGNANT LYMPHOMAS. (Emphases are mine; Dave Bergh / Sept., 1984.)

Mr. Robert J. White.
Editorial Editor
Mpls. Star-Tribune

Dear Mr. White:

I was distressed to read that some residents of Cedar Rapids and Iowa Gov. Terry Branstad had been exposed to a toxic cloud of smoke from a chemical fire. I am particularly concerned about this statement in the story: "The material that burned at the sewage plant is made of polyvinyl chloride."

Christoffer Rappe, Prof. of Organic Chemistry at the Univ. of Umea, Sweden is an expert on the formation and identification of dioxins (PCDDs) and their closely related PCB contaminants called furans (PCDFs). Dr. Rappe has identified PCDDs and PCDFs in such products as: both 2,4-D and 2,4,5-T (Agent Orange) herbicides, wood preservatives such as pentachlorophenol and the germ killer hexachlorophene. He has discovered that when these compounds are burned in forest fires, incinerators or power plants, their dioxin levels may be multiplied by 100,000 times.

This spring, Dr. Rappe presented a paper to an American Chemical Society symposium in Miami in which he said: "At the present time it cannot be excluded that incineration of various wastes or chlorinated products (PVC, VCM-tar, hexachlorothane and chlorinated solvents) might contribute to the background levels of PCDDs and PCDFs found in the environment and in the general population. A one year moratorium for new municipal incinerators was recently issued in Sweden. Other sources of PCDDs and PCDFs recently identified are copper smelters using recycled copper (PVC coated wires) and electrical furnaces in the steel industry."

These compounds can now be found in virtually all living things and can be almost unspeakably toxic. Dr. Samuel Epstein, a Centers for Disease Control (CDC) toxicologist, called TCDD dioxin "the most potent synthetic toxic agent known to mankind...the most potent known chemical carcinogen (and) the most potent known agent producing reproductive toxicity." Univ. of MN research has established that the TCDD level needed to kill 100% of chick embryos is 3 parts per trillion of their body weight. This is equivalent to 3 pin heads of dioxin on a road from New York to California.

I contend that dioxins and related compounds are cofactors with viruses (predisposing agents) in AIDS. CDC's Morbidity and Mortality Weekly Report of April 6, 1984 said: "NIOSH recommends that TCDD be regarded as a potential occupational carcinogen...TCDD caused teratogenesis, immunologic dysfunction, and effects on hematologic function" in laboratory animals. The National Toxicology Program (NTP), in its Annual Plan for FY 1984 said: "...(E)pidemiological evidence has suggested that immunotoxic chemicals or factors may act as pre-disposing agents in patients who develop Acquired Immunodeficiency Syndrome (AIDS) ...including asbestos, polyhalogenated aromatic hydrocarbons, gallic acid, diethylstilbestrol, benzo(a)pyrene, hexachlorobenzene, pentachlorophenol and certain organo and heavy metals."

I have received word that Dr. Rappe's associate, Lennart Hardell, MD, an expert on human health effects of dioxin exposure, will soon publish a "study-report on dioxins and AIDS". It will document AIDS among U.S. Vietnam veterans exposed to Agent Orange and will link AIDS to pesticide exposure in the general population.

Sincerely yours,

Trib.; 11/23/85, p 12C: "Some Indians living in...Venezuela are infected with the AIDS virus, or a similar virus...(I)t's possible that the Indians brought the virus with them when they migrated from Asia 25,000 to 50,000 years ago."

Dave Bergh
356 S. Third Ave.
St. Cloud, MN 56301

AIDS may be tied to chemicals

By DAVE BERGH
St. Cloud

To many, the Acquired Immune Deficiency Syndrome (AIDS) is a new and frightening phenomenon, but to me, it is a necessary and predictable outgrowth of the controversies surrounding dioxins and Agent Orange.

Considerable evidence suggests that AIDS may be an epidemic of leukemia/lymphoma associated with exposure to chlorinated hydrocarbons and their dioxin contaminants. The chlorinated hydrocarbons include the herbicides 2,4-D and 2,4,5-T (Agent Orange) as well as polychlorinated biphenyls (PCBs).

It is a virtual certainty that the Human T-cell Leukemia Virus (HTLV) is involved in AIDS. HTLV primarily affects T-cells in the blood. Studies on laboratory animals have demonstrated that dioxin (TCDD) acts specifically on T-cells and the thymus causing immune deficiency. Dioxins have caused immune deficiency in exposed chemical plant workers. While it was recently reported that B-cells are also affected in AIDS, it was also reported that T-cells regulate B-cell function.

From Science 231, 450: "The scope of the viruses that cause AIDS and certain leukemias and lymphomas is broadening in terms of number of people affected and range of clinical syndromes." From Clinical Oncology (American Cancer Society, 1978), pp 234 & 246: "There is an increase in lymphomas in other immune deficiency syndromes...Recent theories of lymphomas include loss of immune suppressor cell function or activation of oncogenic viruses in disorders of immune stimulation...Abnormalities between immune alterations in relatives of leukemia patients have been reported... (3) Activation of human leukemia may involve multiple host and environmental factors... (4) Genetically induced leukemias may be mediated through activation of latent HLA virus or require other accompanying host mutants."

4A/Daily Times, St. Cloud, Minn./Fri., Sept. 30, 1983

Dave Bergh
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St. Cloud, MN. 56301

But HTLV has been with us for some time. How is it that HTLV could change character and become fiercely aggressive? The answer is through mutation. The chlorinated hydrocarbons and their dioxin contaminants (particularly TCDD) are mutagenic chemical substances. It has just been announced that mutation of oncogenes (cancer genes) is responsible, in part, for causing lung cancer in the first proven case among humans. I suspect that AIDS has been with us for some time, as well, though only for the past two to four years being identified as a syndrome.

The Agent Orange family of herbicides was developed during the World War II era for military (later commercial) use but it was not until the Vietnam War era that these substances were found to be contaminated with staggering amounts of dioxins.

Studies have demonstrated remarkably similar symptoms among chemical plant workers, users of herbicides, exposure victims of herbicide spraying, railroad workers exposed to precursors of herbicides following a train accident, residents living near chemical plants, residents living near hazardous waste sites and AIDS victims. Time after time we see reports of birth defects, (rare) soft-tissue cancer, liver damage and (often fatal) infections.

It is common for leukemia victims to die of infections. High incidence of leukemia among chemical plant workers exposed to the dioxins' parent molecule, benzene, has been documented for decades.

Australian Vietnam veterans' survivors have begun receiving service-connected compensation for lymphomas resulting from servicemen's exposure to defoliants. U.S. Vietnam veterans are experiencing lymphomas at a rate one-third higher than expected. In animal studies TCDD has been shown to impact upon the reticuloendothelial system; leukemia, lymphoma or both could result from this.

Dioxins cause the disease entity porphyria cutanea tarda (PCT), a liver/blood disorder that is potentially fatal in conjunction with drugs. Purple-red spots on the skin of AIDS victims (Kaposi's sarcoma — a soft-tissue cancer) resemble PCT and chloracne — the clinical marker of dioxin poisoning.

■ ■
Dave Bergh, a Vietnam veteran, is active in environmental issues and as an advocate for other Vietnam veterans.

AIDS is clearly not limited to one or two segments of society. Last year over 92 percent of the reported cases of AIDS were in homosexual/bisexual males, but this year the percentage has dropped to 71 percent. An activated (by dioxin) virus of the oncogenic HTLV variety could be transmitted through feces and saliva as well as through semen and blood. TCDD dioxin is a very powerful enzyme inducer. Further research into TCDD's effects on the RNA enzyme, reverse transcriptase, may demonstrate how HTLV is activated by TCDD.

AIDS is a worldwide epidemic. But in the U.S., approximately 90 percent (and possibly all) of the reported cases of AIDS occur in states having chemical plants that produce Agent Orange-type substances.

Cancer vaccines such as alpha or gamma interferon provide some hope for stopping the AIDS epidemic. But the real solution to the problem lies in preventing human exposure to the chlorinated hydrocarbons and their dioxin contaminants.

For a fuller account of dioxin, Agent Orange and AIDS, see the pamphlet files "Agent Orange" and "Herbicides" at the St. Cloud Public Library. Related audiovisual materials, available at both the Great River Regional Library and St. Cloud State University's Learning Resource Center, include "A Plague on Our Children" (Part 1, Dioxins; Part 2, PCBs) and "Agent Orange: A Story of Dignity and Doubt."

If I were writing this today, I'd make changes in the next-to-last paragraph. The interferons are not vaccines, but antiviral drugs. I'd include AZT in a multilateral therapeutic approach. Since the chemical cofactors appear to be ubiquitous, it may take decades to correct the problem. In the interim, I'd emphasize the importance of "safe sex" educational efforts to slow viral transmission. — Dave Bergh / Aug., 1984

Human Dioxin-Inducible Cytochrome P₁-450: Complementary DNA and Amino Acid Sequence

Abstract. Induction of cytochrome P₁-450 has been linked to susceptibility to certain chemically induced cancers in mouse and man. Treatment of the human cell line MCF-7 with 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) results in high levels of aryl hydrocarbon (benzo[a]pyrene) hydroxylase (P₁-450) activity. This cell line was used to isolate a human P₁-450 full-length complementary DNA (cDNA) clone. The cDNA is 2566 nucleotides in length, encodes a polyadenylated messenger RNA (2.8 kilobases in length), and has a continuous reading frame producing a protein with 512 residues (molecular weight, 58,151). The human P₁-450 cDNA and protein are 63 percent and 80 percent similar to mouse P₁-450 cDNA and protein, respectively. Whereas the mouse TCDD-inducible P-450 gene subfamily has two members (P₁-450 and P₂-450), the human TCDD-inducible gene subfamily appears to have only one gene (P₁-450).

Human T-Cell Receptor α -Chain Genes: Location on Chromosome 14

Abstract. The genes encoding the α chain of the human T-cell receptor have been mapped to chromosome 14, the chromosome on which the human immunoglobulin heavy chain locus resides. Thus, genes encoding two different classes of antigen receptor are present on the same chromosome. Furthermore, breaks involving chromosome 14 are frequently seen in tumors of T-cell origin. The potential relation of these chromosome abnormalities to α -chain genes is discussed.

Gene for α -Chain of Human T-Cell Receptor: Location on Chromosome 14 Region Involved in T-Cell Neoplasms

Abstract. A human complementary DNA clone specific for the α -chain of the T-cell receptor and a panel of rodent \times human somatic cell hybrids were used to map the α -chain gene to human chromosome 14 in a region proximal to the immunoglobulin heavy chain locus. Analysis by means of *in situ* hybridization of human metaphase chromosomes served to further localize the α -chain gene to region 14q11-q12, which is consistently involved in translocations and inversions detectable in human T-cell leukemias and lymphomas. Thus, the locus for the α -chain T-cell receptor may participate in oncogene activation in T-cell tumors.