IV. CORROBORATION OF OUR FINDINGS BY COHORT STUDIES

In my previous testimony, I noted the consistency between the association of phenoxy acid exposure and soft-tissue sarcoma which we observed and the unexpected occurrence of two soft-tissue sarcomas in two small cohorts of individuals occupationally exposed to TCDD (Zack and Suskind 1980, Exhibit 771; Cook et al. 1980, Exibit 772). Although acknowledging that the number of soft-tissue sarcoma deaths which would normally be expected in these two cohorts "would be nearly zero," Dr. Cole attempted to discount the significance of these deaths by suggesting that "any interest in them must derive from the existence of the Swedish studies." (Reference 1, at 39-40). Unlike Dr. Cole, I believe that the unexpected occurrence of these two soft-tissue sarcoma deaths provides independent corroboration of our findings. In any event, Dr. Cole's position is even less defensible now, in view of a new study of mortality among workers at the Monsanto plant in Nitro, West Virginia, which reports yet another soft-tissue sarcoma death among workers previously exposed to 2,4,5-T (Zack and Gaffey 1980, Exhibit 958).

Of 105 deaths reported in four cohorts of U.S. workers occupationally exposed to 2,4,5-T and/or TCDD (Zack and Suskind 1980, Exhibit 771; Cook et al. 1980, Exhibit 772; Ott et al. 1980, Exhibit 774; Zack and Gaffey 1980, Exhibit 958),

a total of three deaths or 2.9% were due to soft-tissue sarcoma. In comparison, in 1975 only 0.07% of all deaths among U.S. males aged 20-84 were due to soft-tissue sarcoma (personal communication from Dr. Honchar, National Institute of Occupational Safety and Health). Thus, the risk for soft-tissue sarcoma in these four cohorts was approximately 41 times greater than in the general population. An increased risk of this magnitude is possible because of the rarity of soft-tissue sarcoma. The difference between this extremely high risk and the lower values for relative risk previously observed in our case-control studies presumably reflects the intense and/or protracted nature of the exposures in the industrial cohorts studied.

V. CONCLUSION

Three separate case-control studies have demonstrated that occupational exposure to phenoxyacetic acid herbicides (primarily 2,4,5-T and 2,4-D) is associated with a significant increase in the risk for soft-tissue sarcoma and malignant lymphoma. In these studies, we employed a number of techniques to reduce bias in the ascertainment of the subject's exposure histories. Despite these precautions, Dow witness Dr. Philip Cole has testified in this proceeding that he believes our findings could be due to methodologic bias. However, additional

information is now available which both refutes Dr. Cole's testimony and corroborates our original findings.

A new epidemiologic study of the relation between exposure to phenoxy acids and the risk for colon cancer, a disease not previously linked to phenoxy acids, provides additional evidence concerning the likely magnitude of bias associated with the methodology utilized in our soft-tissue sarcoma and lymphoma studies. This study utilized the same questionnaire and interview procedure employed in our previous studies and was conducted during the time of year when adverse publicity about phenoxy acids has generally been most pronounced. Thus, if the previously observed association between phenoxy acid exposure and the risk for soft-tissue sarcoma and lymphoma was due to bias, a spurious similar association between phenoxy acids and colon cancer should have been detected. However, we found no significant association between exposure to phenoxy acids and the risk for colon cancer.

Further analysis of previous data contradicts Dr. Cole's specific hypotheses concerning introduction of bias by the interviewer and the effect of bias in the classification of occupational category on the validity of the Axelson observational bias technique. In addition, the discovery of another soft-tissue sarcoma in a group of industrial workers exposed to 2,4,5-T

enhances the significance of soft-tissue sarcomas previously reported in cohorts of workers exposed to TCDD.

In each instance, the additional information now available confirms and strengthens the previously observed association between exposure to phenoxy acids such as 2,4,5-T and the risk for soft-tissue sarcoma and lymphoma. In the aggregate, this information clearly demonstrates that our observation of an association between phenoxy acids and these cancers was not distorted by any substantial methodologic bias. Thus, our studies must be regarded as strong evidence of a relationship between occupational exposure to phenoxy herbicides and human cancer.

Lennart Hardell (tdb)

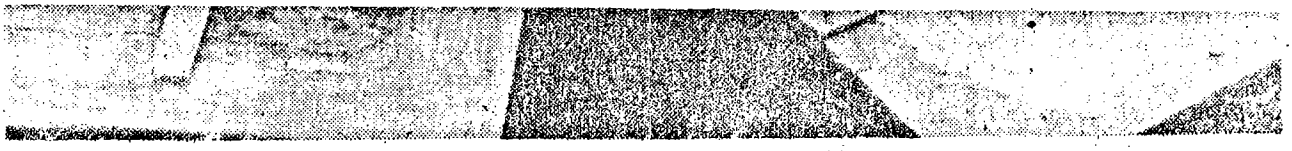
Lennart Hardell, M.D.

EXHIBITS

Exhibit No.	
957	Hardell, L. 1981. On the relation of soft-tissue sarcoma, malignant lymphoma and colon cancer to phenoxy acids, chlorophenols and other agents, Scand. J. Work Env. Health (submitted).
958	Zack, J. and W. Gaffey 1980. A mortality study of workers employed at the Monsanto Company plant in Nitro, West Virginia (Draft, August 14, 1980).

REFERENCES

Ref. No.	
1	Direct Testimony of Dr. Philip Cole (Exhibit 860).
2	Mantel, N. and W. Haenszel 1959. Statistical aspects of the analysis of data from retrospective studies of disease, J. Nat. Cancer Inst. 32: 719-748.
3	Selikoff, I. and E. Hammond 1975. Multiple risk factors in environmental cancer, in Persons at High Risk of Cancer: An Approach to Cancer Etiology and Control, Academic Press, at 467-483.
4	Direct Testimony of Dr. Michel Ibrahim (Exhibit 857).
5	Carcinogenesis Testing Program, National Cancer Institute, Bioassay of Reserpine for Possible Carcinogenicity, NCI Technical Report Series No. 193, NIH Publication No. 80-1749, August 1980.



ROYAL C..ASSROOM — Castles created by Linda Bateson's fifth grade class added a touch of royalty to Carpenter Elementary School in recent weeks. Students shown here are Katy Dolley (left) of 925 Balfour and Carolynn Socha, 1103 Holyrood. Miss Dolley's castle is in the foreground, at left, and Miss Socha's is in the foreground, at right. The large castle was built by Lisa Pierce, 1604 Carpenter. (Daily News photo by Glenn M. Roberts)

Feb. 5, '82

Dow asks VA to study bacteria as possible health problem cause

By PAUL RAU
Daily News staff writer

Dow Chemical Co. told the federal government this week that the health problems of some Vietnam veterans may be caused not by Agent Orange but by a rare Southeast Asia bacteria which has been dubbed the "Vietnamese Time Bomb" in medical literature.

Based on non-Dow medical studies, Dow said as many as 500,000 Vietnam veterans may be unknowingly carrying the bacterial disease melioidosis in their bodies.

Melioidosis is difficult to diagnose, but can progress from initial symptoms to death in a few hours or manifest itself as a chronic disease lasting many years.

A VA physician this morning played down the potential threat from melioidosis, but said the agency will get more information on the disease.

THIS WEEK, Dow officials in Washington, D.C., gave copies of existing medical literature on melioidosis to the Veteran's Administration, the American Legion, the Veterans of Foreign Wars, staff members of House and Senate veterans affairs committees and to some members of those committees, according to Phillip L. Schneider, Dow's corporate manager of media relations.

"We are not saying this is the absolute cause of all the veterans' health problems," Schneider said, "but we think it should be examined to see if it is."

Dow was the government's largest supplier of Agent Orange, a potent defoliant composed of the herbicides 2,4,5-T and 2,4-D which was used extensively in Vietnam to kill food crops and reveal enemy positions.

2,4,5-T contained the highly toxic dioxin contaminant 2,3,7,8-TCDD, a known animal carcinogen. The effects of TCDD on humans are less certain. The first clinical symptom of dioxin poisoning is a skin rash called chloracne.

VETERANS COMPLAIN that exposure to Agent Orange in Vietnam has caused a variety of health problems, from cancer to birth defects in their children. Dow and the other manufacturers of Agent Orange have been sued in a proposed class-action suit; the number of plaintiffs seeking damages has now reached 6,000.

leading medical researchers to refer to it as "the time bomb disease," Dow said.

Persons can carry the disease but not be affected. However, sudden trauma such as surgery, diabetes, burns or other diseases can weaken the body's immune system and trigger the onset of melioidosis.

Abscesses of the lung and skin are the most frequent damage, although abscesses of every body organ except the gastrointestinal tract have been reported.

DURING the Vietnam war, the disease often erupted in a septicemic (blood poisoning) form in U.S. soldiers. In those cases, melioidosis was fatal about 90 percent of the time even with "heroic drug therapy," Dow said in its summary.

U.S. soldiers were exposed to melioidosis by inhaling it, ingesting it on food or water or through a skin wound. Helicopter pilots were especially susceptible to inhaling the bacteria in dust raised by helicopter rotors, according to a medical journal reviewed by the Daily News.

The initial symptoms of melioidosis can be mistaken for respiratory ailments such as pneumonia or tuberculosis, hampering swift treatment. The disease is relatively unknown in the United States.

Dow's review of medical literature revealed that melioidosis can be transmitted from person to person through sexual relations, and that a case of neonatal melioidosis also has been reported in the child of a Vietnam veteran.

The most reliable method of detecting the bacteria is by measuring the antibodies created by the body to fight melioidosis. The antibody "titer," or level, will reveal the presence of the disease even when it cannot be isolated.

The normal titer is one; a titer of 1:40 indicates existence of the bacteria. A titer of 1:20 is not considered diagnostic, although a study found that Vietnam returnees had 1:20 titers four times as frequently as men who had not served there.

That study, published in Military Medicine in January 1973, focused on

Dapsone was originally used to treat leprosy. It is a known cancer-causing agent and also causes many of the symptoms attributed to Agent Orange, Schneider said.

"We think melioidosis is only one part of the puzzle, just as dapsone is part of the puzzle. There could be 10 more melioidosis-like things out there.

"All the government efforts have been directed only at Agent Orange, and other, more significant things might be overlooked," Schneider said.

"The problems from dapsone and melioidosis are real. There are no documented fatalities or health problems from exposure to Agent Orange, with the exception of a few cases of chloracne," he added.

Schneider said Dow brought the melioidosis issue to the government's attention because it represents a "potential confounder to veterans' health problems," and also because it hopes to influence the VA to look for the disease when the agency conducts an epidemiological study of the effect of Agent Orange on ground-based troops in Vietnam.

THE PROTOCOL for that study is now being devised by the VA.

Asked if veterans are in danger from melioidosis, the VA's Dr. Barclay Shepard, special assistant to the chief medical director in the Office of Environmental Medicine, said: "We don't think it is a major threat. Obviously, we want to get more data on it, and we will do that. It's quite a rare disease."

Shepard said the VA has not conducted wide-spread screening for melioidosis among veterans because the rarity of the bacteria and the threat posed it did not justify such a program.

Asked about the viability of Dow's theory that some of the ailments being attributed to Agent Orange might have been caused by melioidosis, Shepard said, "If you're asking me about the liklihood, I think it's relatively unlikely."

He said tests for the bacteria "might possibly be" added to the VA protocol for the epidemiological study.

Schneider said as long as doubt exists

by a rare Southeast Asia bacteria which has been dubbed the "Vietnamese Time Bomb" in medical literature.

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VETERANS COMPLAIN that exposure to Agent Orange in Vietnam has caused a variety of health problems, from cancer to birth defects in their children. Dow and the other manufacturers of Agent Orange have been sued in a proposed class-action suit; the number of plaintiffs seeking damages has now reached 6,000.

Dow, however, claims that Agent Orange, by itself, could not possibly have caused all the health problems attributed to it. Dow has not disputed that Vietnam veterans are suffering health problems, but says they probably are caused by a variety of factors, including exotic jungle diseases.

Melioidosis fall into the exotic disease category. The bacteria thrives in the soil and water of many Southeast Asian countries, including Vietnam. Literally translated from the Latin, melioidosis means "having a resemblance to the distemper of asses," according to a summary of medical literature prepared by Dow.

The longest documented period of latency for melioidosis is 26 years, system and trigger the onset of melioidosis.

Abscesses of the lung and skin are the most frequent damage, although abscesses of every body organ except the gastrointestinal tract have been reported.

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The normal titer is one; a titer of 1:40 indicates existence of the bacteria. A titer of 1:20 is not considered diagnostic, although a study found that Vietnam returnees had 1:20 titers four times as frequently as men who had not served there.

That study, published in Military Medicine in January 1973, focused on blood samples from 1,022 persons, 416 of whom had served in Vietnam. Dow used data from the study to conclude that as many as 500,000 Vietnam veterans may have the melioidosis bacteria in their bodies today. A total of 2.9 million persons served in Vietnam.

"IF I WERE a Vietnam veteran, I would seek to have a blood test conducted to determine whether or not my body might contain the melioidosis bacteria," Schneider said.

He stressed that Dow is not attributing all the Agent Orange complaints to melioidosis. But he said it could be a factor, along with dapsone, an antimalarial drug given to U.S. troops by the military.

[illegible] is only one part of the puzzle, just as dapsone is part of the puzzle. There could be 10 more melioidosis-like things out there.

"All the government efforts have been directed only at Agent Orange, and other, more significant things might be overlooked," Schneider said.

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He said tests for the bacteria "might possibly be" added to the VA protocol for the epidemiological study.

Schneider said as long as doubt exists about the contribution of melioidosis to veteran's health problems, further studies should be done.

"We certainly believe there is a potential there, and that the potential ought to be examined in greater detail than it has up to this point.

"Medical literature and medical researchers are drawing the conclusion that many veterans may be harboring this bacteria unknowingly. If they are right, it seems the medical authorities ought to be determining the impact of that conclusion on the veterans," Schneider said.

He said to Dow, Agent Orange is only a "phantom-like part of the puzzle" that surrounds the cause veterans' health problems.

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Produktionsabteilung

Ingelheim, den 11. Dezember 1964
Dr.Mz/Oe

Aktennotiz

Betr.: Übergabe unseres Verfahrens zur Herstellung von 2,4,5-Trichlorphenol an Dow Chemicals Company, Midland USA

Am 7. und 8.12.1964 fand ein Besuch einiger Fachleute der Firma Dow in Ingelheim statt, um mit uns über die Probleme der Chlorakne-Entstehung bei der Trichlorphenol-Produktion zu sprechen. Teilnehmer waren folgende Herren:

Dow Midland: Dr. Walter Trapp, Research Chemist
Mr. Albert Lueck, Chemical Engineer - Production
Mr. Lawrence Silverstein, Industrial Hygienist - Toxicology
Mr. Farnum, Attorney (zeitweise)

Dow International GmbH., Frankfurt/M.:

Herr Grote (zeitweise)
Herr Kube (zeitweise)

CELA: Herr Dir. Doll
Herr Wolf (zeitweise)

CHBS: Herr Dr. Kudszus (zeitweise)
Herr Dr. Gerner
Herr Dr. Knecht (zeitweise)
Herr Dr. Merz.

Am 24.11.1964 war uns zur Kenntnis gebracht worden, dass bei Dow, Midland, Chlorakne aufgetreten ist und Dow an einer Diskussion mit unseren Fachleuten grosses Interesse hat, da man selbst keine Möglichkeit sieht, der Schwierigkeiten Herr zu werden. CELA erklärte daraufhin die grundsätzliche Bereitschaft zu einem solchen Gespräch und stellte Übergabe der Verfahrensbeschreibung und des Apparateschemas gegen Zahlung von 35.000 US-Dollar in Aussicht.

Bevor wir in die Diskussion der Verfahrenseinzelheiten eintreten konnten, wurden die Bedingungen für die Übergabe des Verfahrens ausgehandelt. Die Formulierung einer brieflichen Vereinbarung wurde in einem Entwurf vom 8.12.1964 fixiert, und beinhaltet, dass die Zahlung nur im Falle einer Lösung des Problems (Vermeidung von Chlorakne) erfolgen soll. Die beiderseitigen Unterlagen und Kenntnisse sollen vertraulich behandelt werden.

Im Laufe der Gespräche erhielten wir von Dow folgende Informationen:

1. Seit 7.12.1964 wurde die Produktion von Trichlorphenol eingestellt, da ca. 30 Personen an leichter Chlorakne erkrankt

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sind. Darunter sind 4 Operators, andere Beschäftigte und Handwerker, die im Gebäude tätig waren, der Betriebsleiter. und

2. Die Erkrankungen traten nach Umstellung des chargenweise arbeitenden Verfahrens auf den kontinuierlichen Betrieb auf. Diese Umstellung hat vor einem Jahr begonnen und ist sukzessive durchgeführt worden.

3. Auch beim früheren Chargen-Verfahren wurden Chlorakne erregende Stoffe als Nebenprodukte erhalten. Diese konnten aber relativ gut beherrscht werden, so dass keine Erkrankungen aufgetreten sind.

4. Das Chargen-Verfahren arbeitete bei Temperaturen von 160 - 165° und gleichzeitigem Einsatz aller Komponenten (Tetrachlorbenzol, Methanol, Natronlauge). Die exotherme Reaktion wurde durch geeignete Kühl-Massnahmen gesteuert (geringe Sicherheit).

5. Der kontinuierliche Prozess arbeitet bei Temperaturen, die 60 - 70° höher liegen als die von uns als ungefährlich erkannte Höchsttemperatur. Der Wassergehalt des Reaktionsgemisches liegt etwa 2 1/2-mal so hoch wie bei uns, die Reaktionszeit beträgt nur etwa 1/20 von unserem Prozess. Beides erklärt die Notwendigkeit für die extremen Reaktionsbedingungen. Das Anisol-Gemisch macht ca. 4 % der Ausbeute aus und enthält etwa 1 % Tetrachlordibenzodioxin (gaschrom. bestimmt), also eine horrende Menge.

6. Das Ausgangsmaterial, sym. Tetrachlorbenzol, wird in trockenem Zustand eingesetzt. Die besondere Giftigkeit von Tetrachlorbenzol, die mit 0,1 ppm/m³ Luft grösser sein soll, als die aller übrigen untersuchten Chlorkohlenwasserstoffe, wurde besonders erwähnt. Man wird uns eine Ausarbeitung über die Probenahme der Luft, die UV-spektrophotometrische Bestimmung in n-Decan und die vergleichenden Toxizitätsuntersuchungen zuleiten. (Lebergift)

7. Die Anisol-Fraktion wird nicht zur Autoklavenreaktion eingesetzt, sondern in einem Verbrennungsofen mit 30 m hohem Kamin vernichtet. Da das Werk in Zentrum der Stadt Midland liegt, wiesen wir auf die ausserordentliche Gefahr hin, die durch Sublimation des toxischen Anteils gegeben ist.

8. Zur Bestimmung des Tetrachlordibenzodioxins wurde eine gaschromatographische Methode erarbeitet, die bis zu 10 ppm reicht. Da die biologische Testung am Kaninchenohr weit empfindlicher ist, wird bei Dow diese Methode angewandt.

9. Chlorakneaktiv ist die Anisol-Fraktion (Waste oil) und die Abluft der Wasserdampfdestillation des Anisols, die deshalb neuerdings zurückgeführt wird.

   Chloraknefrei ist die Phenolatlauge und das wiedergewonnene Methanol.

10. Ein Fließschema AFL 1 vom 12.8.1964 wurde uns übergeben (Anlage 1).

11. Die wesentlichen Daten vom kontinuierlichen Dow-Prozess wurden dem eigenen Verfahren gegenübergestellt (Anlage 2).

12. Nachdem Tetrachlordibenzodioxin als Ursache für Chlorakne aus der Literatur bekannt war, wurden eine Reihe von chlorsubstituierten Dibenzodioxinen synthetisiert und auf ihre Wirkung geprüft.

13. Nebenbei erfuhren wir, dass Dow über bromierte Salicylanilide arbeitet, die bessere Desinfektionsmittel als Hexachlorophen sind, milder wirken und höhere Konzentrationen als dieses erlauben. Dow arbeitet mit Procter & Gambler zusammen.

Von unserer Seite wurden Dow folgende Unterlagen übergeben:

1. Bericht Nr. 50 vom 27.11.1964 von Herrn Dr. Sorge, Exemplar 1,
   "Beschreibung und Schema des augenblicklichen Produktionsablaufs zur Gewinnung von 2,4,5-Trichlorphenolatlauge im Gebäude 74 (Stand vom November 1964),

2. Zeichnung Nr. 2192-Od vom 25.11.1964,
   Schema: 2,4,5-Trichlorphenolatlauge aus 1,2,4,5-Tetrachlorbenzol.

3. Bericht über einen Vortrag von Herrn Prof. Dr. Oettel, Ludwigshafen anläßlich der Werksärzte-Konferenz Bad Dürkheim 1955 über
   "Klinische und tierexperimentelle Erfahrungen mit hochtoxischen Chlorkohlenwasserstoffen, ein Beitrag zum Fernaproblem".

4. Publikation von Herrn Prof. Dr. Dr. Kimmig in "Die Naturwissenschaften", Heft 11 (1957) über
   "Chlorierte aromatische zyklische Äther als Ursache der sog. Chlorakne".

5. Zeitliche Übersicht über die 1. Produktionsperiode der 2,4,5-T-Herstellung vom 8.12.1964

In einer gemeinsamen Besprechung wurden alle Einzelheiten unseres Verfahrens übersetzt und ausführlich besprochen.

Weiter fand ein Besuch der Herren

Lueck und Silverstein

im Werk Hamburg statt, bei dem sie von Herrn Dr. Gerner begleitet wurden. Dort wurden alle apparativen Einrichtungen der Stufe Trichlorphenol mit den Herren Dr. Johne und Dr. Sorge ausführlich

gezeigt und unsere Erfahrungen mitgeteilt. Sämtliche 3 Verfahrensschritte (Autoklavenreaktion, Methanolaustreiben, Anisolabblasen) waren gerade im Gange.

In einer abschliessenden Diskussion über die Anwendungsmöglichkeiten unseres Verfahrens auf die jetzige Anlage von Dow wurden zwei Möglichkeiten von uns vorgeschlagen:

1. Änderung des Reaktionsgemisches in Richtung auf wasserärmeres Lösungsmittel, Herabsetzung der Temperatur unter 157°, d.h. Verlängerung der Verweilzeit (= Vergrösserung des Reaktors). Die Gefährlichkeit der hohen Temperatur, auch bei kurzer Verweilzeit, wurde besonders herausgestellt. Ansetzen von Krusten im Reaktor muss unbedingt vermieden werden.

   Kontinuierliche Methanol- und Anisolentfernung sind bei dem verwendeten Niederdruckdampf ungefährlich.

2. Sollten wegen der Handhabungsschwierigkeiten des Kochsalzes unsere sicheren Bedingungen nicht kontinuierlich angewandt werden können, bestünde die Möglichkeit, die Druckstufe wieder diskontinuierlich zu gestalten. Dies würde möglicherweise eine Lohnkostenbelastung von ca. 1 h/ 100 kg Phenol bedeuten.

   Es wurde empfohlen, die Kostengesichtspunkte der Sicherheit der Mitarbeiter unterzuordnen.

Weiter wurde empfohlen, die Verbrennung des Anisols im Hinblick auf die o.a. Gefahren unbedingt einzustellen. Wir teilten mit, dass wir Restbestände chlorakneaktiver Substanzen in Metallfässer einzementieren (d > 1,5) und zur Versenkung bringen. Für unsere heutigen Anisolabfälle ist diese Vorsichtsmassnahme nicht erforderlich, da diese keine Aktivität mehr zeigen. Trotzdem verbrennen wir nicht.

Produktionsabteilung

Verteiler:

Herrn Dr. E. Boehringer
Herrn Dr. Kudszus
Herrn Dir. Doll
Herrn Dir. Dr. Johne
Herrn Dr. Sorge
Herrn Dr. Gerner
Produktionsabteilung

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"Boehringer"

Anlage 2

	Dow (kont. Process)	CHBS
Verhältnis: Tetra : Methanol NaOH : Wasser (kg)	1,0 : 2,77 0,56 : 1,86	1,0 : 2,2 0,545 : 0,545
Anfangstemperatur		138 - 140°C
Anfangsdruck		8 atü
Reaktionstemperatur	212 - 225°C	153 - 155°C ×
Einpumpdauer	0	4 h
Reaktionsdauer	40 Min.	12 - 13 h
Enddruck	40 atü	17 - 17,5 atü
Gesamtzeit (Beginn bis Ende der Entleerung)		20 - 22 h
Eingangs-Dampfdruck beim Entfernen des Anisols	1,4 atü	5,0 atü
Dampfdruck indirekte Heizung	22 atü	5,0 atü
% Anteil Anisol	4 %	5 - 7 %
Endkonzentration der Phenolatlauge	12,6 %	35 - 40 %

× this is the important point to get not so much of the Tetra-Diolius.

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die Tageszeitung
Nr. 1324 S. 1+3

Seveso in Hamburg

Dioxin verursacht Mißbildung

'Monitor' berichtet von einer besorgniserregenden Häufung

Hamburg (taz) - Während der Hamburger Senat Ergebenheitsadressen an die Chemiefirma Boehringer liefert und ansonsten deren Dioxinproduktion verharmlost, wurde gestern in der Fernsehsendung 'Monitor' erstmals der Zusammenhang von Dioxinausstößen durch die Boehringer-Werke und durch die Hamburger Müllverbrennungsanlagen mit schweren Mißbildungen bei Neugeborenen aufgedeckt. Mit schockierenden Bildern von mißgebildeten Kindern, die unmittelbar an ähnliche Fälle in Vietnam und Seveso erinnerten, belegte das WDR-Team, daß in Hamburgs Osten „eine auffallende und besorgniserregende Häufung" einer speziellen Gehirnmißbildung auftritt. Die untersuchende Ärztin Dr. Burck: „Bei so einer Häufung kann man Luftverschmutzung als Grund nicht ausschließen."
Genau diese Luftverschmutzung sowie entsprechende Bodenverseuchungen ermittelte der Amsterdamer Dioxinspezialist Olie und bezeichnete das Gebiet in der Sendung als ähnlich hochgradig verseucht wie die Zone B in Seveso. Laut 'Monitor' zieht sich eine Windfahne von der Giftküche Boehringer und den beiden Hamburger Müllverbrennungsanlagen in Richtung Osten. In diesem Korridor wurden acht extrem seltene Mißbildungen festgestellt. Dies entspricht einem Verhältnis von einem mißgebildeten Kind auf 2.500 Geburten, während der international anerkannte Durchschnittswert laut Dr. Burck bei 1 zu 35.000 liegt.
Außerdem wurden innerhalb der Hauptwindrichtung im Hamburger Stadtteil Bergedorf zusätzlich eine aus Seveso bekannte Mißbildung, die sogenannte „spina bifida" (offener Rücken) überproportional häufig festgestellt.

Die seit Monaten von Hamburger Umweltschutzinitiativen und der GAL erhobene Forderung, zumindest die „Giftküche" Boehringer zu schließen, wurde vom Hamburger Senat bisher als industriefeindlicher Romantizismus abgetan. Trotz dieser Proteste plant Boehringer unter Duldung des Senats eine Ausdehnung der Insektizidproduktion, bei der weiterhin Dioxine freigesetzt werden.

Dioxin verursacht Mißbildungen bei Kindern

Im Osten von Hamburg finden sich die gleichen Mißbildungen wie im italienischen Seveso und in Vietnam

„Das Gift kehrt in die Metropolen zurück". Dieser taz-Titel vor geraumer Zeit erweist sich angesichts der gestrigen Monitorsendung als geradezu prophetisch. Mit Bildern von Kindern, wie sie nur aus Vietnam und Seveso bekannt waren, die jedoch in diesem Fall in Hamburg und Schleswig-Holstein zur Welt gekommen sind, fügte das 'Monitor'-Team ein weiteres Mosaiksteinchen in den inzwischen 10jährigen Kampf um die Anerkennung eines Zusammenhangs zwischen Dioxin und Mißbildungen.

Schon im Jahr 1969 drangen nach den jahrelangen Sprühaktionen der US-Army innerhalb der Operation „Ranch Land" während des Vietnamkrieges die ersten Meldungen über Mißbildungen in den betroffenen Gebieten an die Öffentlichkeit. Die Meldungen hielten sich so hartnäckig, daß eine spezielle Kommission aus den USA in das kriegsgeplagte Land entsandt werden mußte. Die Mitglieder der „American Association for the Advancement of Science" mußten im Saigoner Kinderspital einen deutlichen Anstieg von Mißbildungen an den dort gebore-

WDR -Fernschreiben

Lfd. Nr. _____

Eingetragen _____

Abgesetzt _____

VON: WDR-Pressestelle
AN: Verteiler Nr. 1

DFS - Dienstag, 29. Mai, 21.00 Uhr
"Monitor"

Dioxin - Mißbildungen in Hamburg?

Sind acht Fälle einer sehr seltenen Fehlbildung bei Neugeborenen durch Dioxine verursacht worden? Dieser Frage geht das Fernsehmagazin "Monitor" in seiner heutigen Ausgabe nach. "Monitor" hat im Osten von Hamburg eine auffällige Häufung von Holoprosenzephalie entdeckt. Acht Kinder sind dort innerhalb weniger Jahre in einem räumlich eng umgrenzten Gebiet mit charakteristischen Hirnschäden und Gesichtsfehlbildungen geboren worden. Die Kinderärztin und Humangenetikerin Dr. Uta Burck-Lehmann - sie hat diese Fehlbildungsformen über viele Jahre untersucht - spricht von einem besorgniserregenden Vorgang und schließt nicht aus, daß äußere Einflüsse, etwa Schadstoffe in der Luft, die Verursacher sind.

Alle Fehlbildungsfälle liegen im möglichen Einwirkungsbereich von drei potentiellen Dioxin-Emittenden. Es handelt sich um die Firma Boehringer und zwei Müllverbrennungsanlagen.

"Monitor" ließ die Boden- und die aktuelle Luftbelastung durch den holländischen Dioxin-Experten Dr. Kees Olie von der Universität Amsterdam untersuchen. Er fand im Boden 10 Mikrogramm pro Quadratmeter Dioxin, das ist etwa soviel wie in der Zone B von Seveso. Die Luftbelastung betrug 1,3 und 2,1 picogramm pro Kubikmeter. Alle Messungen wurden mit dem TCDD-Äquivalent berechnet.

Der Verdacht, daß die Fehlbildungen von Hamburg im Zusammenhang mit Dioxin stehen könnten, wird von der vietnamesischen Ärztin Dr. Phuong gestützt. Sie berichtet, daß dioxingeschädigte Kinder in Vietnam mit den gleichen charakteristischen Fehlbildungen geboren wurden. Der Hamburger Senat hat sich entschlossen, in einer umfangreichen Untersuchung diesen Verdachtsmomenten nachzugehen.

WDR-Pressestelle
'''

29.05.1984, 14.50 Uhr, Kostenstelle: 001520, MSO/pä

Kostenträger
(Lastkostenstelle) ☐☐☐☐☐☐

Abteilung: 19910
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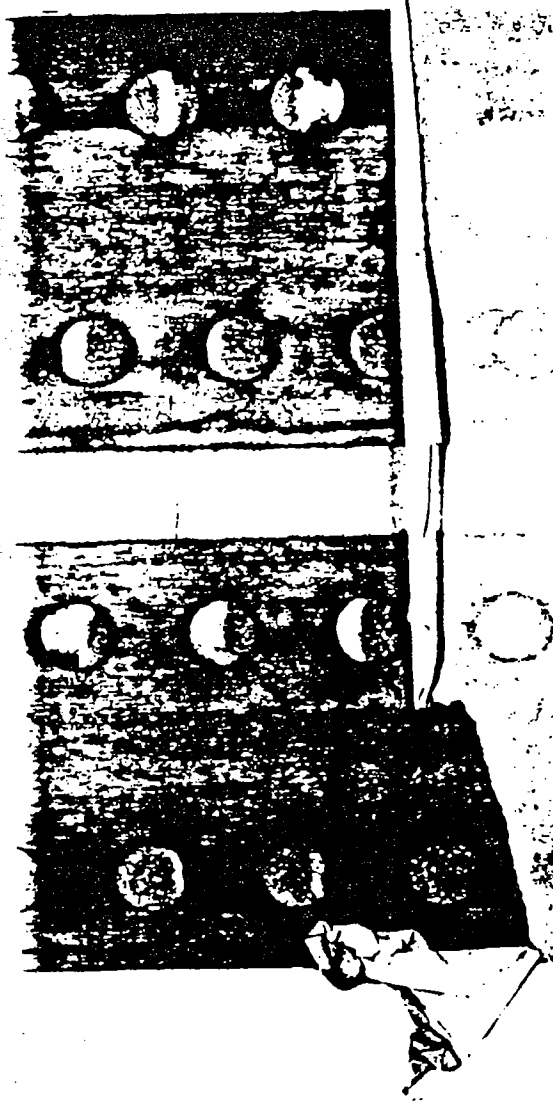

A G R E E M E N T

THIS AGREEMENT made and entered into this 30th day of October, 1947, by and between THE DOW CHEMICAL COMPANY, a Delaware corporation having its principal office in the City of Midland, Michigan, and hereinafter referred to as "Dow", and DR. HENRY TOLKMITH, whose present address is An der Grunnetweisse 2, Goslar/Harz, Germany, British Zone, hereinafter referred to as "Tolkmith";

WHEREAS, Tolkmith represents that he is possessed of certain knowledge and experience in the field of insecticides; and

WHEREAS, Dow is desirous of employing Tolkmith at its Midland, Michigan, plant for the purpose of doing work in the field of insecticides; and

WHEREAS, the United States Government, Department of Commerce, Office of Technical Services has been fully advised of the matters herein contained and has been furnished with a copy hereof.

NOW THEREFORE, it is mutually agreed between Dow and Tolkmith, the parties hereto, as follows:

(1) Dow will furnish adequate working facilities for and will employ Tolkmith to do work in the field of insecticides at its Midland, Michigan, plant for a period of one year from the date of Tolkmith's arrival at Midland, Michigan, ready to go to work and will pay Tolkmith for his services while so employed at the rate of Four Thousand ($4,000.00) Dollars per year. All taxes imposed upon Tolkmith's salary paid him by Dow are to be borne by Tolkmith.

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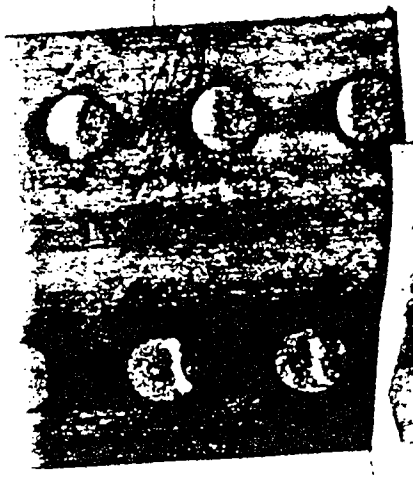

(2) Dow will bear the cost of Tolkmith's travel expense from Germany to Midland by paying to the Finance Officer of the New York Port of Embarkation upon demand of said office, for the account of Tolkmith, a sum sufficient to cover Tolkmith's normal travel expenses from his present address to Midland, Michigan.

(3) Dow will use its best efforts to make available at Midland, Michigan, living quarters for Tolkmith, and such of his immediate family as accompany him, but the cost of such are to be borne by Tolkmith.

(4) Tolkmith will, as soon as practical after arriving at Midland, Michigan, enter the employ of Dow and devote his best efforts for a period of one year (five day forty-hour week) to assist Dow in its work on insecticides and make such written reports of his work and findings as Dow shall request. So long as Tolkmith remains in the employment of Dow, he will not engage in work for others whose interests conflict with Dow's.

(5) All discoveries and inventions relating to the business of Dow, whether patentable or otherwise, made by Tolkmith during his employment hereunder shall be the sole property of Dow, and Tolkmith agrees to execute assignments thereof and such other instruments as Dow may request to carry out the provisions of this paragraph.

(6) Dow will make available to the public non-exclusive licenses, with reasonable royalties, to all United States patents obtained by it as a result of assignments by Tolkmith during the first year of his employment, as herein provided.

(7) Dow may cancel and terminate this agreement at any time by serving written notice thereof upon Tolkmith, provided Dow pays to Tolkmith the balance of the salary he would have earned had his employment continued for the full year as herein provided.

(8) Upon the expiration or termination of this agreement,

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as herein provided, Tolkmith will give Dow first option to his services at a salary to be agreed upon by the parties.

(9) Upon the termination or expiration of this agreement as herein provided, or in the event Tolkmith is denied a visa upon arrival in America or is otherwise denied entry or permission to stay in America, Dow agrees to pay Tolkmith, or at his election pay to the Finance Officer of the New York Port of Embarkation for the account of Tolkmith, the cost of his return travel expenses from Midland, Michigan, to Germany; provided, however, that if upon the termination or expiration of this agreement or any extension thereof Tolkmith does not return to Germany within a reasonable time after leaving Dow's employment but remains in this country, then Dow shall be under no obligation to pay Tolkmith his return travel expenses to Germany and will not so do unless directed by the United States Government or an agency thereof.

(10) This agreement shall be construed by the applicable laws of the State of Michigan and of the United States.

ATTEST: THE DOW CHEMICAL COMPANY

Asst Secretary

By _____ President

Witnesses:

April 16 1948

Henry Tolkmith

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WAR DEPARTMENT

DISPOSITION FORM

SECURITY CLASSIFICATION IF ANY: ~~CONFIDENTIAL~~

FILE NO. WDCSED/R 095 Tolkmith, Henry (Dr.) | SUBJECT Employment of German Scientist

TO Director of Intelligence (M) FROM RADD, WDGS DATE 28 AUG 1945 COMMENT NO. 1

Attn: Lt. Col. Cone, Special Exploitation Br. — Lt. Col. F. L. Walker, Jr/ac/3747

1. It is requested that the necessary steps be taken to facilitate the employment of a German scientist, Dr. Henry Tolkmith, by the Dow Chemical Company of Midland, Michigan. The Dow Chemical Company has initiated a request for employment of Dr. Tolkmith through the Office of Technical Services, Department of Commerce, and has agreed to pay all expenses incident to employment, including transportation to and from the United States. Dr. Tolkmith's present address in Germany is Goslar, Germany, On der Grumet Wiese 2. His permanent residence is Heidelberg-Ziegelhausen, Germany, Moselbrunnenweg 34.

2. [redacted]

3. [redacted]

4. Educational background and qualifications of the scientist are as follows:

Born: 13 February 1910.

Secondary Education: Grammar school, Berlin, completed 1929. Completed professional examinations for diploma of Engineer in the University of Berlin in 1935 with very good results. Completed Doctorate examination in Berlin University with very good results in 1935.

1935 - 1937: Employed by University of Berlin as assistant to Professor Hoffman, working in chemical research.

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1937 - 1939: Worked for the Novak Company and for I.G. Farben in Bantsen, Germany, and in Ludwigshafen on phenolic resins, other synthetic resins, and plastics.

1939 - 1945: Employed by I.G. Farben in Mitterfeld, Germany, as chief of a chemical team. Worked with phosphorus compounds developing new processes for the manufacture of phosphorus trichloride, oxychloride, sulfochloride, and pentachloride. Also worked on new compounds with biological activity and experience with insecticidal

AGO FORM 897 MAY 1945

CONFIDENTIAL

10701 G-2 201 Tolkmith, Henry

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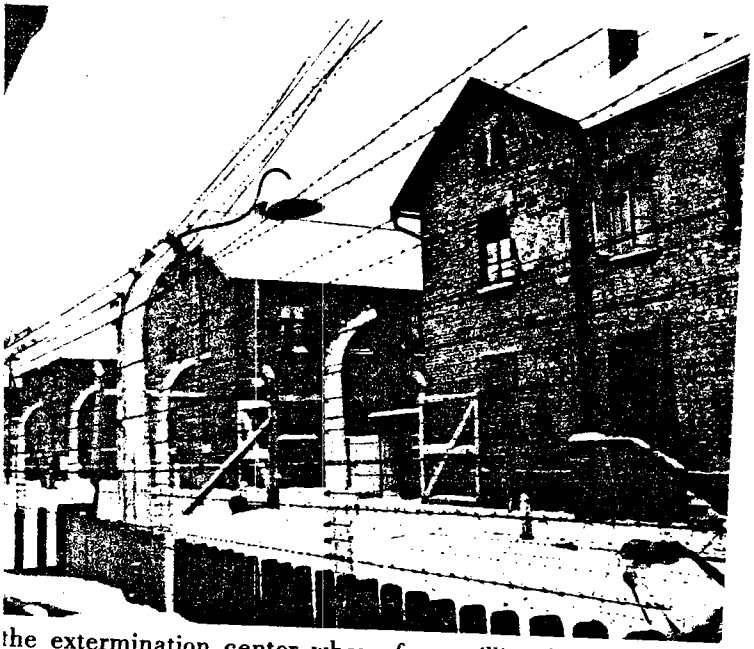
flanked by Duerrfeld and other I.G. representatives, in his March
ection of the Auschwitz plant. Courtesy of the YIVO Institute for
esearch.



the extermination center where four million human beings
ed in accordance with the "Final Solution of the Jewish Ques-
osen by I.G. as the site for the plant for its unlimited reservoir
mp laborers. Courtesy of the YIVO Institute for Jewish

Otto Ambros, expert on poison gas and synthetic rubber and member of the I.G. managing board, sentenced to imprisonment for eight years for slavery and mass murder.

Heinrich Buetefisch, chemist and member of the I.G. managing board, sentenced to imprisonment for six years for slavery and mass murder.

Joseph Borkin The Crime & Punishment of I.G. Farben.
Free Press (Macmillan) New York (1978)

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77284

Chemical Warfare
I. G. FARBENINDUSTRIE A.-G.
Office Building; Frankfurt/Main
by Irving H. Jones, U.S. Bureau of Mines

OACSI Files

Kuhn

✓ Otto Ambros
Dr. Bachem
Oberingenieur Bielfinger
Dr. Blumbach
Dr. von Boch
Helmuth Borkwardt
Dr. Danz
Paul Deucker
Gerhardt Ehlers
Walter Flotho
Gunther Gorr
Hans Hanke
Gerhardt Hartmann
Professor Hoerlein
Dr. Hoyer
Dr. Kaup
Wilhelm Kleinhans
Hans Koenig
Dr. Kranz
von der Linde
Oskar Loehr
Dr. Erich Noack
Oberingenieur Schmahl
Schnitzler
? – Gerhard Schrader – see pg 4 sect II OACSI Project 4693 Quartermaster of Foreign Countries During WW II
Dr. Stadler
Ernest A. Struss
• Dr. Tolkmitt
Dr. Ulrich
• Herr Vegel
Dr. Wurzschmidt

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AMBROS interview, Hirschkind and work with Russians

~~RESTRICTED~~

~~RESTRICTED~~

I.G. FARBENINDUSTRIE A.G.

AUSCHWITZ, UPPER SILESIA

25-31 July 1945

Reported by:

W. HIRSCHKIND...C/S - USFET

22 August 1945

CIOS ITEM - 22
MISCELLANEOUS CHEMICALS
COMBINED INTELLIGENCE OBJECTIVE
SUB-COMMITTEE
G-2 DIVISION SHAEF (REAR) APO 413

Inclosure 1

Intelligence Division Report No. 4076

FOIA request to FBI –
who forwarded request to
Army Ft Meade

List of German Scietist
in USA as of 1952
see Ludwig K Vogel +
Henry Tolksmith

UNCLASSIFIED

MLF/mab

15 April 1948

(U) G-2 201 Tolksmith, Henry

Mr. Ray L. Hicks
Office of Technical Services
Department of Commerce
Washington 25, D. C.

Dear Mr. Hicks:

Request you brief, while in New York tomorrow, the representative of the Dow Chemical Company, escorting Paperclip specialist Henry Tolksmith, on the following points:

1. The specialist is in the United States without a visa and as an exception to normal State and Justice Department clearance. Until specialist has received a visa or has been repatriated to Europe, he will remain under custody and surveillance of the Department of the Army. Specialist is on his good behavior and must abide by the rules laid down by the Department of the Army. He is subject to summary return to Germany.

2. Custody and surveillance will be administered by a representative of the Commanding General, Fifth Army, 1660 E. Hyde Park Boulevard, Chicago 15, Illinois. This representative will contact both the specialist and his employer after arrival at Midland, Michigan, and will explain in detail what is required. All correspondence with the Army should normally be addressed to this Army representative.

3. In the event specialist is to work on an armed forces project bearing a security classification, usual clearance must be obtained.

4. Presence of the specialist in the United States is not a military secret. It is, however, desirable to have as little publicity as possible regarding the specialist and his activities.

Captain Severance, Fort Hamilton, has been advised of your visit [illegible] requested to sit in to answer any questions relative to the ship- [illegible] baggage, etc.

I regret that circumstances make it impossible for me to travel [illegible] New York with you.

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Sincerely,

MARSHALL L. FALLWELL
Major, GSC
Exploitation Section, CSGID

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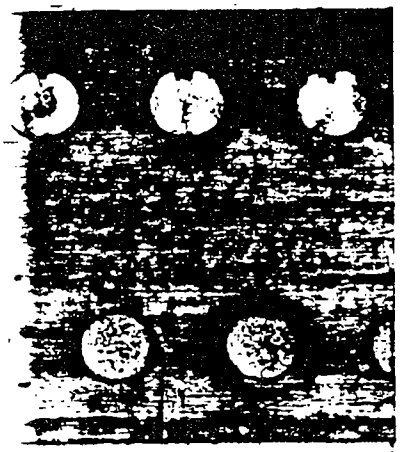
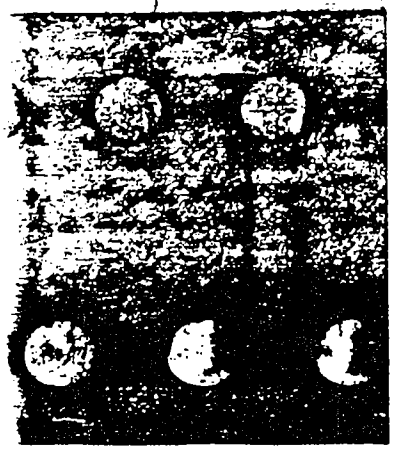
(The following should be printed on back of first sheet)

6. Report of Denazification Procedure: (Statement as to whether or not the applicant appeared or has been scheduled to appear before a denazification court in Germany. If he has, a summary of the charges, evidence, and decision, if any, is attached to the OMGUS report).

Subject has not been, nor will he be required to appear before a denazification court.





7. NSDAP Record: (Complete resume of NSDAP records as obtained from the 7771 Document Center, Berlin, or an attached statement signed by the Officer-in-Charge of the Document Center to the effect that no such record is on file. A positive statement of the fact that no records are on file is made, e.g., "A search of the NSDAP records in the 7771 German Document Center, Berlin, has been made and no record of _____ is on file in that office." Photostatic copies of NSDAP records from the Center are attached to this report if there is an indication that the applicant participated in any way in activities of the Party or its auxiliaries. When available, photostatic copies of the scientist's letter of application for membership in the NSDAP are attached to the report).

A search of the NSDAP records in the 7771 German Document Center, Berlin, has been made and no record of Dr. Henry TOLENTE is on file in that office.

8. Records of Other Nazi Organizations: (Resume of information obtained from files of the SS, SA, SD, ABWEHR, VDI, Foreign Office, Propaganda Ministry, etc. Photostatic copies of any such records pertaining to the individual are attached to the report. If no such records exist, a positive statement similar to that in "7" above is made indicating which files have been searched, and that the applicant was not found to be a member of any of the indicated organizations).

A search of the records of the Documents Unit, Foreign Office/State Department, Berlin, has been made and no record of Subject is on file in that office.

Dr. Falkmith

March 15, 1948

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My dear Mr. Dabrowski:

As to Landshut I will arrive there definitely Wednesday, March 17, at seven o'clock in the evening.

I have some trouble about my two book cases being stole in Goslar. They content all my scientific bases I need absolutely abroad. Please, Mr. Dabrowski, be so kind and order therefore that they will be picked up too. They are in our flat in Goslar, Grauhofer street 1, and the keys to our rooms are in the hands of a Mrs. Saalz, staying in the same house next upper floor.

Thanking heartily for your manifold aid

I remain

Yours very truly

Henry Falkmith

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politischen, rassischen oder religiösen Gründen entzogen oder anderen Personen enteignet wurde im Verlauf der Besetzung fremder Länder oder zwecks Förderung der Ansiedlung von Deutschen oder Volksdeutschen in von Deutschland besetzten Gebieten? NO 122. Falls ja, geben Sie Einzelheiten an, einschließlich Zeit- und Ortsangaben, sowie Namen und gegenwärtigen Aufenthalt der ursprünglichen Besitzer. —

123. Waren Sie jemals als Verwalter oder Treuhänder für jüdischen Besitz zwecks Förderung von Arisierungserlassen oder -verordnungen tätig? NO 124. Falls ja, geben Sie Einzelheiten an. —

I. TRAVEL OR RESIDENCE ABROAD / I. Reisen oder Wohnsitz im Ausland

125. List all journeys or residence outside of Germany including military campaigns
125. Zählen Sie alle Reisen oder Wohnsitze außerhalb Deutschlands auf (Feldzüge einbegriffen).

Countries Visited Land	*Dates* Datum	*Purpose of Journey* Zweck der Reise
none		

126. Was the journey made at your own expense? — 127. If not at whose expense was the journey made? — 128. Persons or organizations visited — 129. Did you ever serve in any capacity as part of the civil administration of any territory annexed to or occupied by the Reich? — 130. If so, give particulars of office held, duties performed, location and period of service. — 131. List foreign languages you speak indicating degree of fluency

126. Haben Sie die Reise auf eigene Kosten unternommen? — 127. Falls nein, auf wessen Kosten? —

128. Welche Personen oder Organisationen haben Sie besucht? —

129. Haben Sie jemals und falls ja in welcher Rolle in der Zivilverwaltung in einem der von Deutschland eingegliederten oder besetzten Gebiete gedient? none

130. Falls ja, geben Sie Einzelheiten an über Ihr Amt, Ihren Pflichtenkreis sowie Ort und Zeitdauer des Dienstes. —

131. Kenntnis fremder Sprachen und Grad der Vollkommenheit. English, French, Russian

REMARKS / Bemerkungen

The statements on this form are true and I understand that any omissions or false or incomplete statements are offenses against Military Government and will subject me to prosecution and punishment.

Die auf diesem Formular gemachten Angaben sind wahr, und ich bin mir bewußt, daß jegliche Auslassung oder falsche und unvollständige Angabe ein Vergehen gegen die Verordnungen der Militärregierung darstellt und mich der Anklage und Bestrafung aussetzt.

Dr. Henry Tolkmitt — NOV. 13 1947

Signed / Eigenhändige Unterschrift — Date / Datum

CERTIFICATION OF IMMEDIATE SUPERIOR

certify that the above is the true name and signature of the individual concerned and that, with the exceptions noted below, the answers made on this questionnaire are true to the best of my knowledge and belief and the information available to me. Exceptions (if no exceptions, write "none"):

Bescheinigung des unmittelbaren Dienstvorgesetzten

Ich bescheinige hiermit die Richtigkeit obigen Namens und obiger Unterschrift. Mit Ausnahme der nachfolgenden Punkte sind die in diesem Fragebogen gegebenen Antworten meines besten Wissens und Gewissens und im Rahmen der mir zur Verfügung stehenden Auskunftsmöglichkeiten richtig. Ausnahmen (Das Wort „keine" ist einzutragen, falls solche nicht vorhanden sind).

Signed / Eigenhändige Unterschrift — Official Position / Amtsstellung — Date / Datum

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40. Indicate on the following chart whether or not you were a member of and any offices you have held in the organizations listed below. Use lines 98 to 99 to specify any other association, society, fraternity, union, syndicate, chamber, institute, group, corporation, club or other organization of any kind, whether social, political, professional, educational, cultural, industrial, commercial or honorary, with which you have ever been connected or associated. — Column 1: Insert either "yes" or "no" on each line to indicate whether or not you have ever been a member of the organization listed. If you were a candidate, disregard the columns and write in the word "candidate" followed by the date of your application for membership. — Column 2: Insert date on which you joined. — Column 3: Insert date your membership ceased if you are no longer a member. Insert the word "Date" if you are still a member. — Column 4: Insert your membership number in the organization. — Column 5: Insert the highest office, rank or other post of authority which you have held at any time. If you have never held an office, rank or post of authority, insert the word "none" in Columns 5 and 6. — Column 6: Insert date of your appointment to the office, rank or post of authority listed in Column 5.

40. In der folgenden Liste ist anzuführen, ob Sie Mitglied einer der angeführten Organisationen waren und welche Aemter Sie darin bekleideten. Andere Gesellschaften, Handelsgesellschaften, Burschenschaften, Verbindungen, Gewerkschaften, Genossenschaften, Kammern, Institute, Gruppen, Körperschaften, Vereine, Verbände, Klubs, Logen oder andere Organisationen beliebiger Art, seien sie gesellschaftlicher, politischer, beruflicher, sportlicher, bildender, kultureller, industrieller, kommerzieller oder ehrenamtlicher Art, mit welchen Sie je in Verbindung standen oder welchen Sie angeschlossen waren, sind auf Zeile 96—98 anzugeben.

1. Spalte: „Ja" oder „nein" sind hier einzusetzen zwecks Angabe Ihrer jemaligen Mitgliedschaft in der angeführten Organisation. Falls Sie Anwärter auf Mitgliedschaft oder unterstützendes Mitglied oder im „Opferring" waren, ist, unter Nichtberücksichtigung der Spalten, das Wort „Anwärter" oder „unterstützendes Mitglied" oder „Opferring" sowie das Datum Ihrer Anmeldung oder die Dauer Ihrer Mitgliedschaft als unterstützendes Mitglied oder im Opferring einzusetzen.
2. Spalte: Eintrittsdatum.
3. Spalte: Austrittsdatum, falls nicht mehr Mitglied, anderenfalls ist das Wort „gegenwärtig" einzusetzen.
4. Spalte: Mitgliedsnummer.
5. Spalte: Höchstes Amt, höchster Rang oder eine anderweitig einflußreiche von Ihnen bekleidete Stellung. Nichtzutreffendenfalls ist das Wort „keine" in Spalte 5 und 6 einzusetzen.
6. Spalte: Antrittsdatum für Amt, Rang oder einflußreiche Stellung laut Spalte 5.

	1 Yes or no Ja oder nein	2 From von	3 To bis	4 Number Nummer	5 Highest Office or rank held Höchstes Amt oder höchster Rang	6 Date Appointed Antrittsdatum
41. NSDAP	NO					
42. Allgemeine SS	NO					
43. Waffen-SS	NO					
44. Sicherheitsdienst der SS	NO					
45. SA	NO					
46. HJ einschl. BDM	NO					
47. NSDStB	NO					
48. NSDoB	NO					
49. NS Frauenschaft	NO					
50. NSKK	NO					
51. NSFK	NO					
52. Reichsb. der deutschen Beamten	NO					
53. DAF	Yes	1939	1944		none	
54. KdF	NO					
55. NSV	Yes	1939	1943		none	
56. NS Reichsb. deutsch. Schwestern	NO					
57. NSKOV	NO					
58. NS Bund Deutscher Technik	Yes	1939	1944		none	
59. NS Aerztebund	NO					
60. NS Lehrerbund	NO					
61. NS Rechtswahrerbund	NO					
62. Deutsches Frauenwerk	NO					
63. Reichsbund deutscher Familie	NO					
64. NS Reichsb. für Leibesübungen	NO					
65. NS Altherrenbund	NO					
66. Deutsche Studentenschaft	NO					
67. Deutscher Gemeindetag	NO					
68. NS Reichskriegerbund	NO					
69. Reichsdozentenschaft	NO					
70. Reichskulturkammer	NO					
71. Reichsschrifttumskammer	NO					
72. Reichspressekammer	NO					
73. Reichsrundfunkkammer	NO					
74. Reichstheaterkammer	NO					
75. Reichsmusikkammer	NO					
76. Reichskammer d. bildend. Künste	NO					
77. Reichsfilmkammer	NO					
78. Amerika-Institut	NO					
79. Deutsche Akademie München	NO					
80. Deutsches Auslandsinstitut	NO					
81. Deutsche Christen-Bewegung	NO					

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82. Deutsche Glaubensbewegung	NO					
83. Deutscher Fichte-Bund	NO					
84. Deutsche Jägerschaft	NO					
85. Deutsches Rotes Kreuz	NO					
86. Ibero-Amerikanisches Institut	NO					
87. Institut zur Erforschung der Judenfrage	NO					
88. Kameradschaft USA	NO					
89. Osteuropäisches Institut	NO					
90. Reichsarbeitsdienst (RAD)	NO					
91. Reichskolonialbund	NO					
92. Reichsluftschutzbund	NO					
93. Staatsakademie für Rassen- und Gesundheitspflege	NO					
94. Volksbund für das Deutschtum im Ausland (VDA)	NO					
95. Werberat d. Deutschen Wirtsch.	NO					
Others (Specify) andere:						
96. Verein dtsch. Che-						
97. miker	Yes	1937	1947		none	
98. (German Chemists Society)						

99. Have you ever sworn an oath of secrecy to any organization? — 100. If so list the organizations and give particulars — 101 Have you any relatives who have held office, rank or post of authority in any of the organizations listed from 41 to 95 above? — 102. If so, give their names and addresses, their relationship to you and a description of the position and organization — 103 With the exception of minor contributions to the Winterhilfe and regular membership dues, list and give details of any contributions of money or property which you have made directly or indirectly, to the NSDAP or any of the other organizations listed above, including any contributions made by any natural or juridical person or legal entity through your solicitation or influence. — 104. Have you ever been the recipient of any titles, ranks, medals, testimonials or other honors from any of the above organizations? — 105. If so, state the nature of the honor the date conferred, and the reason and occasion for its bestowal. — 106. Were you a member of a political party before 1933? — 107. If so, which one? — 108. For what political party did you vote in the election of November 1932? — 109. In March 1933? — 110 Have you ever been a member of any anti-Nazi underground party or groups since 1933? — 111. Which one? — 112. Since when? — 113. Have you ever been a member of any trade union or professional or business organization which was dissolved or forbidden since 1933? — 114. Have you ever been dismissed from the civil service, the teaching profession or ecclesiastical positions or any other employment for active or passive resistance to the Nazis or their ideology? — 115. Have you ever been imprisoned or have restrictions of movement, residence or freedom to practice your trade or profession been imposed on you for racial or religious reasons or because of active or passive resistance to the Nazis? — 116. If you have answered yes to any of the questions from 110 to 115, give particulars and the names and addresses of two persons who can confirm the truth of your statements.

99. Sind Sie jemals zu einem Schweigegebot für eine Organisation verpflichtet worden? no 100. Falls ja, geben Sie die Organisation und Einzelheiten an —

101. Haben Sie irgendwelche Verwandte, die jemals Amt, Rang oder einflußreiche Stellungen in irgendeiner der von Nr. 41 bis 95 angeführten Organisationen haben? no 102. Falls ja, geben Sie deren Namen und Anschriften an, den Grad Ihrer Verwandtschaft sowie eine Beschreibung der Stellung und Organisation. —

103. Mit Ausnahme von kleineren Beiträgen zur Winterhilfe und ordnungsmäßigen Mitgliedsbeiträgen, geben Sie nachfolgend im Einzelnen alle von Ihnen direkt oder indirekt an die NSDAP oder irgendeine andere der oben angeführten Organisationen geleisteten Beiträge in Form von Geld oder Besitz an, einschließlich aller auf Ihr Ersuchen oder auf Grund Ihres Einflusses seitens einer natürlichen oder juristischen Person oder einer anderen rechtlichen Einheit geleisteten Beiträge

none

104. Sind Ihnen von einer der oben angeführten Organisationen irgendwelche Titel, Orden, Zeugnisse, Dienstgrade verliehen oder andere Ehren erwiesen worden? no 105. Falls ja geben Sie an, was Ihnen verliehen wurde, das Datum, den Grund und Anlaß für die Verleihung —

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106. Waren Sie Mitglied einer politischen Partei vor 1933? No 107. Falls ja, welcher? — 108. Welche politische Partei haben Sie in der Novemberwahl 1932 gewählt? Democr. Party 109. Und im März 1933? none
110. Waren Sie seit 1933 Mitglied einer verbotenen Oppositionspartei oder -gruppe? no 111. Welcher? —
112. Seit wann? — 113. Waren Sie jemals Mitglied einer nach 1933 aufgelösten oder verbotenen Gewerkschaft oder eines Berufs- oder Wirtschaftsverbandes? no 114. Sind Sie jemals aus dem Beamtenstand, dem Lehrerberuf oder aus einer kirchlichen oder irgendeiner Stellung auf Grund aktiven oder passiven Widerstandes gegen die Nazis oder Ihre Weltanschauung entlassen worden? Yes 115. Wurden Sie jemals aus rassischen oder religiösen Gründen oder weil Sie aktiv oder passiv den Nationalsozialisten Widerstand leisteten, in Haft genommen oder in Ihrer Bewegungs- oder Niederlassungsfreiheit oder sonstwie in Ihrer gewerblichen oder beruflichen Freiheit beschränkt? Yes 116. Ist die Antwort auf eine der Fragen von 110 bis 115 bejahend, so sind Einzelheiten sowie Namen und Anschriften von zwei Personen, welche dies wahrheitsgemäß bezeugen können, anzuführen. In 1937 I had to leave my post as a scientist in Berlin owing to the NS-Racial Laws. [illegible]) Lausanne, [illegible], Madrid.

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CABLE ADDRESS DOWCHEMCO
BRANCH SALES OFFICES
NEW YORK CITY
SAN FRANCISCO
PHILADELPHIA
LOS ANGELES
WASHINGTON
SAINT LOUIS
CLEVELAND
HOUSTON
CHICAGO
SEATTLE
DETROIT
BOSTON

THE DOW CHEMICAL COMPANY

MIDLAND · MICHIGAN

August 26, 1948

A. C. of S. G-2
465 Federal Building
Detroit 26, Michigan

Gentlemen:

Henry Tolkmith

Name: Henry Tolkmith
Period: July 26th to August 26th.
Employer: The Dow Chemical Company 50USC552 (b) (6) & (b) (7) (C)
Residence Address: [redacted], Midland, Mich.
Activities: No overnight absences from Midland from July 26th to August 26th except the weekends of July 31th and August 7th when he was with me at Half-Moon Lake.

AUG 27 1948

Respectfully submitted

THE DOW CHEMICAL COMPANY

Lewis K Drake

L. R. Drake
Physical Research Laboratory

dpl

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UNCLASSIFIED
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WAR DEPARTMENT
WAR DEPARTMENT GENERAL STAFF
WASHINGTON 25, D. C.

CSGID 400.112 Research
ES/230.741

26 APR 1948

SUBJECT: Custody of Paperclip Specialist Henry Tolkmith

TO: Commanding General, Fifth Army
1660 East Hyde Park Boulevard
Chicago 15, Illinois

1. Reference is made to:

a. Letter, this Division, file CSGID 400.112 Research, dated 13 April 1948, subject: "Custody of Paperclip Specialist Procured for Civil Employment."

b. AG letter, file AGAO-S 231.2 (8 Apr 47) B-M, dated 12 April 1947, subject: "Security Regulations for Project Paperclip."

2. You are hereby advised of the arrival at New York on 16 April 1948, of German specialist Henry Tolkmith, who was procured under Project Paperclip for civil employment with Dow Chemical Company of Midland, Michigan. Tolkmith was released at New York to Dr. Drake, Dow Chemical Company. Tolkmith and Drake were to depart 21 April 1948 for Midland, Michigan.

3. Request:

a. You assume responsibility for custody and surveillance of Henry Tolkmith, under provisions of paragraph 3, above reference AG letter, and

b. That this Division be informed of the effective date.

4. Security Dossier is inclosed.

FOR THE DIRECTOR OF INTELLIGENCE:

1 Incl
a/s

LAURIN L. WILLIAMS
Colonel, GSC
Executive

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PB
9703

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CLASSIFICATION CANCELLED
Authority ---
By B. Vannoy, Capt. CWS
Date 30 Jan 1946

UNCLASSIFIED

I.G. FARBENINDUSTRIE A.G.
AUSCHWITZ, UPPER SILESIA

CIOS 12-22

25-31 July 1945

Reported by:

J. HIRSCHKIND... CWS - USFET

22 August 1945

CIOS ITEM - 22
MISCELLANEOUS CHEMICALS
COMBINED INTELLIGENCE OBJECTIVES
SUB-COMMITTEE
G-2 DIVISION SHAEF (REAR) APO 413

Inclosure [illegible]
Intelligence Division Report No. 4076

03028

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FROM Army Ft. Meade DDS Walsh through FBI → ... See Army letter to me 10/17/85

Office Memorandum • UNITED STATES GOVERNMENT

TO : Director, Federal Bureau of Investigation

DATE: April [illegible], 1952

FROM : James M. McInerney, Assistant Attorney General, Criminal Division

JMM:[illegible]

SUBJECT: German Scientists Program

[illegible]-012

In accordance with established procedure, there is [illegible] herewith a list of all specialists brought to the United States as of April 1, 1952.

Enclosure No. 37255

ENCLOSURE BEHIND FILE

1 ENCL

RECORDED - 134

105-8090-423

APR [illegible] 1952

INDEXED - 134

EX-140

SECURITY INFORMATION

63 MAY 15 1952

Declassified on May 31, 1985 by Thomas E. [illegible]

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FROM FBI received [illegible] 1988

JOINT CHIEFS OF STAFF
JOINT INTELLIGENCE OBJECTIVES AGENCY
WASHINGTON 25, D. C.

SPECIALISTS BROUGHT TO THE UNITED STATES UNDER THE PAPERCLIP PROGRAM
ROSTER AS OF 1 APRIL 1952

SECTION I

SPECIALISTS WHO HAVE IMMIGRATED HAVE THE FULL STATUS OF RESIDENT ALIENS UNDER THE IMMIGRATION LAWS. THEY ARE LISTED HERE TO PROVIDE A COMPLETE RECORD OF ALL SPECIALISTS BROUGHT TO THE UNITED STATES UNDER THE PAPERCLIP PROGRAM, OTHER THAN THOSE REPATRIATED PRIOR TO IMMIGRATION; AND, IN CASES WHERE DEPENDENTS STILL IN THE U.S. HAVE NOT YET IMMIGRATED, TO PERMIT LISTING OF LOCATION AND CUSTODY OF DEPENDENTS.

	ARMY	NAVY	AIR FORCE	COMMERCE	TOTAL
Specialists Immigrated	169	84	184	52	489
Specialists not Immigrated	9	7	37	0	53
T O T A L S	178	91	221	52	542

A. Asterisks in front of names indicate specialists who have immigrated.
B. The number shown in the dependents column for each specialist indicates total number of dependents brought to the U.S. under Paperclip, other than those repatriated prior to immigration; the number of those that have immigrated are shown in parentheses in the same column.
C. Custodians listed in the cases of specialists who have immigrated are the custodians of dependents only.

NAME	DEPENDENTS IN US	SPON. DEPT.	SPON. AGENCY	EMPLOYING AGENCY	CUSTODIAN	RESIDENTIAL ADDRESS
*ALBERTS, Leonard W. F.	[redacted]	COMM		Blaw-Knox Construction Co., Pittsburgh, Pa.	RIO, Pittsburgh Regional Intell. Office, Pittsburgh, Pa.	[redacted]
ALTWICKER, Robert J.	[redacted]	AIR	AMC	AMC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
ALTER, Herbert F. J.	[redacted]	ARMY	ORD	ORDC, Redstone Arsenal, Huntsville, Ala.	Chief, ORDC	[redacted]
*AMTHOR, Walter O. E.	[redacted]	AIR	TAC	USAF SAM, Randolph AFB, Randolph Field, Texas	Commandant, USAF SAM	[redacted]
BALKE, Bruno H. A. L.	[redacted]	AIR	TAC	USAF SAM, Randolph AFB, Randolph Field, Texas	Commandant, SAM	[redacted]
*BECKERS, Albert E.	[redacted]	NAVY	BuShips	Allen B. DuMont Laboratories, Clifton, N. J.	Inspector of Naval Material, Newark, N. J.	[redacted]
BIMKO, Abraham C. A.	[redacted]	ARMY	MED	Brooks Army Medical Center, Fort Sam Houston, Texas	Director, Security and Intelligence Division, Brooks Army Medical Center	[redacted]
*BARTHOM, Carl E.	[redacted]	COMM		Pillsbury Mills, Inc., Minneapolis, Minn.	CO, Hq. 5th Army, 1660 E. Hyde Park Blvd, Chicago, Ill.	[redacted]
BRAUKMANN, Karl F.	[redacted]	AIR	AMC	AMC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[redacted]	[redacted]	AIR	AMC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
BRAUN, Richard E.	[redacted]	NAVY	Bu Aer	NADC, Johnsville, Pennsylvania	Commander, NADC	[redacted]
*BRINKMANN, August	[redacted]	AIR	AMDC	Republic Aviation, Farmingdale, L.I., N.Y.	Hq. Eastern Air Procmt. District, 655 Madison Ave., New York, N. Y.	[redacted]
BRUNDA, Bothe L. E.	[redacted]	PROJECT 63			CO, First Army, Governors Island, New York 4, N.Y.	[redacted]

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NAME	DEPEN-DENTS IN US	SPON. DEPT.	SPON. AGENCY	EMPLOYING AGENCY	CUSTODIAN	RESIDENTIAL ADDRESS
•[illegible], Wilhelm R.	[redacted]	AIR	ARDC	School of Mineral Industries, State College, Pa.	CO, ATIC	[redacted]
•[illegible], Ursula L. L.	[redacted]	AIR	TAU	USAF SAM, Randolph AFB, Randolph Field, Texas	Commandant, USAF SAM	[redacted]
CHRISTOPH, Walter F., [illegible]	[redacted]	NAVY	BuOrd	NOL, Silver Spring, Md.	Commander, NOL	[redacted]
•[illegible], Paul A.	[redacted]	AIR	TAU	SAM, Randolph AFB, Randolph Field, Texas	Commandant, SAM	[redacted]
•[illegible], Hans G.	[redacted]	AIR	TAU	SAM, Randolph AFB, Randolph Field, Texas	Commandant, SAM	[redacted]
[illegible], Kurt H.	[redacted]	ARMY	ORD	OGMC, Redstone Arsenal, Huntsville, Ala.	Chief, OGMC	[redacted]
•[illegible], Bernhard G. L. (DECEASED, Died 27 Jan 52)	[redacted]	COMM			USAF Off. in Charge, No. Amer. Avn., Inc., Municipal Airport, Los Angeles, Calif. ATTN: Col. Warner	[redacted]
•[illegible], Dietrich [illegible]	[redacted]	ARMY	SIG	SCEL, Fort Monmouth, N. J.	CO, SCEL	[redacted]
[illegible], Hans K.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[illegible], Kurt [illegible] [illegible]	[redacted]	PROJECT 63			CO, First Army, Governors Island, New York 4, N. Y.	[redacted]
•[illegible], Rudolf	[redacted]	AIR	ARDC	Ohio State University, Columbus, Ohio	Prof AM&T, OSU, Columbus, Ohio, ATTN: Capt J. W. [illegible]	[redacted]
•[illegible], Krafft A. F.	[redacted]	ARMY	ORD	OGMC, Redstone Arsenal, Huntsville, Ala.	Chief, OGMC (See Section IV for custodian of sister, Ingeborg THOMAS)	[redacted]
•[illegible], Wilhelm H. J.	[redacted]	NAVY	ONR	Bureau of Mines Electronics Lab., Norris, Tenn.	Supervising Engr., Electro-Technical Lab., Norris, Tenn.	[redacted]
•[illegible], Willi J. J.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
•[illegible], Kurt A.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
FRANK, Johann	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
FRANKE, Ernst K.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
•FRANZ, Anselm	[redacted]	AIR	ARDC	Lycoming-Spencer Division, Williamsport, Pa.	CO, ATIC	[redacted]
GANTSCHNIGG, Gottfried [illegible]	[redacted]	PROJECT 63		Glenn L. Martin Company, Baltimore, Md.	Dept. of the Navy	[redacted]
•[illegible], Horst H. E.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[illegible], Florian	[redacted]	NAVY	BuOrd	Naval Ordnance Lab., Silver Spring, Md.	Commander, NOL	[redacted]
[illegible]	[redacted]	AIR	TAU	SAM, Randolph AFB, Randolph Field, Texas	Commandant, SAM	[redacted]
•[illegible], Wilhelm A.	[redacted]	NAVY	BuOrd	Naval Ordnance Lab., Silver Spring, Md.	Commander, NOL	[redacted]
GIESECKE, Hans E.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]

Johann Frank
Ernst K. Franke

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NAME	DEPEN-DENTS IN US	SPON. DEPT.	SPON. AGENCY	EMPLOYING AGENCY	CUSTODIAN	RESIDENTIAL ADDRESS
[redacted], Walter P. F. W.	[redacted]	NAVY	Sponsor	NADC, Johnsville, Pennsylvania	Commander, NADC	[redacted]
[redacted], Karl A-8083331	[redacted]	PROJECT 63		Glenn L. Martin Company, Baltimore, Md.	Dept. of the Navy	[redacted]
[redacted], Karl E.	[redacted]	NAVY	Sponsor	Naval Ordnance Lab., Silver Spring, Md.	Commander, NOL	[redacted]
[redacted], Karl G.	[redacted]	AIR	AMSO	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[redacted], Fritz A-8207718	[redacted]	NAVY	Sponsor	NAMTC, Point Mugu, Calif.	Dept. of the Navy	[redacted]
[redacted], Frank A-8157717	[redacted]	AIR	AMSO	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[redacted], Fritz A-7388699	[redacted]	AIR	SAM	USAF SAM, Randolph AFB, Randolph Field, Texas	Commandant, SAM	[redacted]
[redacted], Alwin	[redacted]	ARMY	SIG	SCEL, Fort Monmouth, N. J.	CO, SCEL	[redacted]
[redacted], Julius	[redacted]	NAVY	Sponsor	NRDL, Panama City, Florida	CO, NRDL	[redacted]
[redacted], Friedrich	[redacted]	ARMY	MED	Army Medical Service Graduate School, Army Medical Center, Washington 12, D.C.	James R. Butler, 1st Lt., MSC, Army Medical Service Graduate School	[redacted]
[redacted], Wolfgang A-5117600	[redacted]	PROJECT 63			CO, First Army, Governors Island, New York 4, N. Y.	[redacted]
[redacted], Heinrich	[redacted]	NAVY	Sponsor	NRDL, Annapolis, Maryland	Director, NRDL	[redacted]
[redacted], Ulrich K.	[redacted]	AIR	AMSO	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[redacted], Oskar	[redacted]	AIR	AMSO	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[redacted], Heinrich M.S.C. A-5117574	[redacted]	NAVY	ONR	Municipal Univ. of Wichita, Wichita, Kansas	Dept. of Navy	[redacted]
[redacted], Ulrich K.	[redacted]	AIR	AMSO	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[redacted], Rudolf	[redacted]	AIR	AMC	University of Minnesota, Dept. of Aeronautical Engineering, Minneapolis, Minn.	CO, AMC, Wright-Patterson AFB, Dayton, Ohio	[redacted]
[redacted], Paul W.	[redacted]	AIR	AMSO	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[redacted], Hans F-8091062	[redacted]	AIR	AMSC	AF Cambridge Research Center, 230 Albany St., Cambridge, Mass.	CO, AF Cambridge Research Center	[redacted]
[redacted], Karl L.	[redacted]	COMM		Kahl Scientific Instrument Co., El Cajon, Calif.	CO, Sixth Army, Presidio of San Francisco, Calif.	[redacted]
[redacted], Bernhard A-7257-50	[redacted]	AIR	SAM	USAF SAM, Randolph AFB, Randolph Field, Texas	Commandant, SAM	[redacted]
[redacted], Helmut	[redacted]	ARMY	ORD	ORDC, Redstone Arsenal, Huntsville, Ala.	Chief, ORDC	[redacted]
[redacted], Adolf	[redacted]	COMM		North Carolina State College, Raleigh N. C.	CO, Third Army, Fort McPherson, Ga.	[redacted]
[redacted], Eugene F.	[redacted]	AIR	AMSC	Gibbs & Cox, Inc., 21 West Street, New York, N. Y.	CO, ATIC	[redacted]
[redacted], Ralf A.	[redacted]	ARMY	MED	Army Medical Research Lab., Fort Knox, Ky.	CO, Army Medical Research Lab.	[redacted]
[redacted], Siegfried E.	[redacted]	AIR	AMSC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[redacted], Kurt K.	[redacted]	COMM		Reed Research, Inc., 1048 Potomac Street, N. W., Washington, D.C.	CO, NRL, Washington, D.C.	[redacted]
[redacted], Helmut J. K.	[redacted]	ARMY	ORD	ORDC, Redstone Arsenal, Huntsville, Ala.	Chief, ORDC	[redacted]

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NAME	DEPEN-DENTS IN US	SPON. DEPT.	SPON. AGENCY	EMPLOYING AGENC[illegible]
•[illegible], Hans H.	[redacted]	NAVY	BuShips	NB & T Lab., Naval Shipyard, Philadelphia, [illegible]
•[illegible], Lothar A.	[redacted]	NAVY	BuShips	NB & T Lab., Naval Shipyard, Philadelphia, [illegible]
•[illegible], Albrecht W. F.	[redacted]	COMM		The Pennsylvani[illegible] State College, State College, [illegible]
•[illegible], Georg	[redacted]	COMM		Kahl Scientific Instrument Co., El Cajon, Calif
[illegible], Werner F. M. A-5082321	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio
•[illegible], Willibald K.H.	[redacted]	AIR	ARDC	University of Illinois, Urbana, Ill.
•[illegible], Max	[redacted]	COMM		Koppers Co., Inc Koppers Bldg., Pittsburgh, Pa.
•[illegible], Josef	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio
[illegible], Emil A. M. A-7563178	[redacted]	ARMY	[illegible]	SCEL, Fort Monmouth, N. J.
•KLAGER, Karl	[redacted]	NAVY	ONR	Aerojet Engineering Corp., Azusa, Calif.
[illegible], Fritz K. A-7177551	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio
•[illegible], Theodor W.	[redacted]	AIR	ARDC	6502 Parachute Test Air Development Gr[illegible] NAAS, El Centro, Calif.
•[illegible], Wilhelm F.H.K.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio
•[illegible], Siegfried	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio
•[illegible], Eugen	[redacted]	AIR	ARDC	Carrier Corp., Syracuse, N. Y.
[illegible], Carl L.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio
•[illegible], Axel V.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio
[illegible], Ruediger E. K.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, [illegible]

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NAME	DEPENDENTS IN US	SPON. DEPT.	SPON. AGENCY	EMPLOYING AGENCY	CUSTODIAN	RESIDENTIAL ADDRESS
• [illegible], Hans E.	[redacted]	NAVY	BuShips	NB & T Lab., Naval Shipyard, Philadelphia, Pa.	Director, NB & T Laboratory	[redacted]
• [illegible], Lothar A.	[redacted]	NAVY	BuShips	NB & T Lab., Naval Shipyard, Philadelphia, Pa.	Director, NB & T Lab.	[redacted]
• [illegible], Albrecht W. F.	[redacted]	COMM		The Pennsylvania State College, State College, Pa.	CO, ATIC	[redacted]
• [illegible], Georg	[redacted]	COMM		Kahl Scientific Instrument Co., El Cajon, Calif.	CO, Sixth Army, Presidio of San Francisco, Calif.	[redacted]
[illegible], Werner F. H. A-5082321	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
• [illegible], Willibald K.H.	[redacted]	AIR	ARDC	University of Illinois, Urbana, Ill.	Air Provost Marshall Rep., Chicago Plants Unit, 209 West Jackson Blvd., Chicago, Ill.	[redacted]
• [illegible], Max	[redacted]	COMM		Koppers Co., Inc., Koppers Bldg., Pittsburgh, Pa.	KID, Pittsburgh Regional Intell. Office, Pittsburgh, Pa.	[redacted]
• [illegible], Josef	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[illegible], Emil A. H. A-7363972	[redacted]	ARMY	SIG	SCEL, Fort Monmouth, N. J.	CO, SCEL	[redacted]
• [illegible], Karl	[redacted]	NAVY	ONR	Aerojet Engineering Corp., Azusa, Calif.	CO, ONR, Branch Office, Pasadena, California	[redacted]
[illegible], Fritz K. A-7177551	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
• [illegible], Theodor W.	[redacted]	AIR	ARDC	6502 Parachute Test Air Development Group, NAAS, El Centro, Calif.	CO, ATIC	[redacted]
• [illegible], Wilhelm F.J.L.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
• [illegible], Siegfried	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
• [illegible], Eugen	[redacted]	AIR	ARDC	Carrier Corp., Syracuse, N. Y.	CO, ATIC	[redacted]
[illegible], Carl L.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
• [illegible], Emil W.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[illegible], Ruediger E. K.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[illegible], Hermann W. A. O.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[illegible], Hermann O. A. A-4097068	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC, Wright-Patterson AFB	[redacted]
• [illegible], Robert A.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
• [illegible], Joachim P. A.	[redacted]	AIR	ARDC	AF Cambridge Research Center, 230 Albany St., Cambridge, Mass.	CO, AF Cambridge Research Center, ATTN: CRJ	[redacted]
• [illegible]	[redacted]	[illegible]	[illegible]	[illegible] Depot, Philadelphia, Pa.	CO, [illegible]	[redacted]
• [illegible], Karl W.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
• [illegible], Hermann U.	[redacted]	COMM		Aladdin Industries, Inc., 703-5 Murfreesboro Road, Nashville, Tenn.	CO, Third Army, Fort McPherson, Atlanta 3, Ga.	[redacted]
• [illegible]	[redacted]	AIR	[illegible]	SAM, Randolph AFB, Randolph Field, Texas	Commandant, SAM	[redacted]

NAME	DEPEN-DENTS IN US	SPON. DEPT.	SPON. AGENCY	EMPLOYING AGENCY	CUSTODIAN	RESIDENTIAL ADDRESS
[illegible], Helmut W. A- 8057720	[redacted]	AIR	ARDC	Perkin-Elmer Corporation, Norwalk, Conn.	CO, Eastern Air Procmt. District, 655 Madison Ave., New York, N. Y.	[redacted]
eLETTAU, Heinz H.	[redacted]	AIR	ARDC	AF Cambridge Research Center, ATTN: CRJ	CO, AF Cambridge Research Center, 230 Albany St., Cambridge, Mass.	[redacted]
[illegible], Gunther O. A-8117596	[redacted]	AIR	ARDC	AF Cambridge Research Center, 230 Albany St., Cambridge, Mass.	CO, AF Cambridge Research Center, ATTN: CRJ	[redacted]
e[illegible], [illegible]	[redacted]	ARMY	ORD	[illegible], Redstone Arsenal, Huntsville, Ala.	Chief, [illegible]	[redacted]
[illegible], Otto E.	[redacted]	AIR	AMC	AMC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
e[illegible], Hans A.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[illegible], Gustav E.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
[illegible], [illegible] A. A-7865323	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
e[illegible], Wolfgang A.	[redacted]	NAVY	BuOrd	Naval Ordnance Laboratory, Silver Spring, Md.	Commander, NOL	[redacted]
e[illegible], Hermann E.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
e[illegible], Ferdinand E. M.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
e[illegible], Kurt G.	[redacted]	NAVY	BuShips	[illegible], Annapolis, Maryland	Director, [illegible]	[redacted]
[illegible], Erwin W. W.	[redacted]	PROJECT 63			CO, First Army, New York, N. Y.	[redacted]
e[illegible], Heinz E. A-8106610	[redacted]	AIR	ARDC	Bell Aircraft Corp., Buffalo, New York	AF CMD, Bell Aircraft Corp., Buffalo, N.Y., ATTN: Charles V. Williams	[redacted]
[illegible], Ernst	[redacted]	ARMY	SIG	SCEL, Fort Monmouth, N. J.	CO, SCEL	[redacted]
e[illegible], Max E.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
eOESTRICHER, Hans	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
eOPITZ, Rudolf	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
eORTHUBER, Richard	[redacted]	AIR	ARDC	Capehart-Farnsworth Corp., Fort Wayne, Ind.	CO, ATIC	[redacted]
ePABST von OHAIN, Hans J. A-7247097	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
ePENNDORF, Rudolf	[redacted]	AIR	ARDC	AF Cambridge Research Center, 230 Albany St., Cambridge, Mass.	CO, AF Cambridge Research Center, ATTN: CRJ	[redacted]
e[illegible]	[redacted]	[illegible]	[illegible]	[illegible], Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
ePFISTER, Wolfgang	[redacted]	AIR	ARDC	AF Cambridge Research Center, 230 Albany St., Cambridge, Mass.	CO, AF Cambridge Research Center, ATTN: CRJ	[redacted]
e[illegible], Johann Nepomuk	[redacted]	AIR	ARDC	AF Cambridge Research Center, 230 Albany St., Cambridge, Mass.	CO, AF Cambridge Research Center, ATTN: CRJ	[redacted]
e[illegible], Johannes W.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]

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NAME	DEPEN-DENTS IN US	SPON. DEPT.	SPON. AGENCY	EMPLOYING AGENCY	CUSTODIAN	RESIDENTIAL ADDRESS
*RAHN, Herbert	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
*RAITHEL, Wilhelm A-7115???	[redacted]	ARMY	ORD	OCMC, Redstone Arsenal, Huntsville, Ala.	Chief, OCMC	[redacted]
*RAIWA, Theodor	[redacted]	NAVY	BuAer	NADC, Johnsville, Pennsylvania	Commander, NADC	[redacted]
*RAMBAUSKE, Werner	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
*RATH, Otto C. E.	[redacted]	COMM		Graflex, Inc., Rochester, N.Y.	CO, First Army, Governors Island, New York 4, N.Y.	[redacted]
*REICHE, Siegfried	[redacted]	AIR	ARDC	AF Cambridge Research Center, 230 Albany St., Cambridge, Mass.	CO, AF Cambridge Research Center, ATTN: CRJ	[redacted]
*RICHTER, Heinz L. A.	[redacted]	AIR	ARDC	Lear, Inc., Grand Rapids, Michigan	CO, ATIC	[redacted]
RITTER, Hans J.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
*RITTER, Arnold F.	[redacted]	AIR	ARDC	Consolidated Vultee Aircraft Corporation, San Diego, Calif.	CO, ATIC	[redacted]
RITTER, Oskar L. M.	[redacted]	AIR	SAM	USAF SAM, Randolph AFB, Randolph Field, Texas	Commandant, USAF SAM	[redacted]
*ROSENWALD, Heinrich L.	[redacted]	COMM		Kahl Scientific Instrument Co., El Cajon, Calif.	CO, Sixth Army, Presidio of San Francisco, Calif.	[redacted]
*ROSSMANN, Theodor	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
RUHNKE, Helmut A-8117597	[redacted]	PROJECT 63			CO, First Army, Governors Island, New York 4, N. Y.	[redacted]
SALMON, Emil	[redacted]	AIR	ARDC	Hq. ARDC, Tullahoma, Tenn.	OIC, Tullahoma, Tenn., ATTN: Capt. David B. Kelsher	[redacted]
*SARAFOV, Erich	[redacted]	COMM		School of Mines & Metallurgy, University of Missouri, Rolla, Mo.	CO, Fifth Army, 1660 E. Hyde Park Blvd., Chicago 15, Illinois	[redacted]
*SAUERLAND, Hans E. T.	[redacted]	AIR	ARDC	Amputee Labs. Corp., Fournier Inst. of Tech., 127th St., Archer Ave., Lemont, Ill.	CO, ATIC	[redacted]
SCHAEFER, Johannes G. A-7573039	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
*SCHAEFER, Karl-Ernst	[redacted]	NAVY	BuMed	Naval Submarine Base, New London, Conn.	CO, Naval Submarine Base, New London, Conn.	[redacted]
*SCHADE, Heinrich E.	[redacted]	NAVY	BuShips	Norfolk Naval Shipyard, Norfolk, Va.	Commander, Norfolk Naval Shipyard	[redacted]
*SCHELP, Helmut K.	[redacted]	AIR	ARDC	AiResearch Mfg. Co., Los Angeles, California	CO, ATIC	[redacted]
*SCHILHANSL, Max J.	[redacted]	AIR	ARDC	Brown University, Engineering Div., Providence, R. I.	CO, ATIC	[redacted]
*SCHLICHTING, Hermann K.	[redacted]	AIR	ARDC	OIC, ARDC, Tullahoma,	OIC, Tullahoma, Tenn., ATTN: [illegible] Kelsher	[redacted]
SCHNEIDER, Wilhelm E. A.	[redacted]	ARMY	SIG	SCEL, Fort Monmouth, N. J.	None Required	[redacted]
*SCHREIBER, Walter E.M.P.	[redacted]	AIR		Presently unemployed	Hamilton AFB, San Francisco, California	[redacted]
SCHRODER, Emil E.	[redacted]	AIR	AMC	AMC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]

Ritter, Hans J. P.
See Lt. Ritter
Ritter, O. L. M.
Walter Schreiber

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NAME	DEPEN-DENTS IN US	SPON. DEPT.	SPON. AGENCY	EMPLOYING AGENCY	CUSTODIAN	RESIDENTIAL ADDRESS
*SCHUCK, Josef	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
SCHULZ, Werner P. F.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
SCHULZE, Heinz – 8057722	[redacted]	ARMY	SIG	SCEL, Fort Monmouth, N. J.	CO, SCEL	[redacted]
*SCHWAN, Hermann	[redacted]	NAVY	BuAer	University of Pennsylvania, Philadelphia, Pa.	NAMC, Philadelphia, Pa.	[redacted]
*SCHWARZ, Hans G.	[redacted]	COMM		Crosley Division, AVCO Mfg. Corp., 1329 Arlington St., Cincinnati, Ohio	XIO, Columbus Regional Office, 109th CIC Det.	[redacted]
*[illegible], Franz K.	[redacted]	COMM		Oscar [illegible] & Co., 501 Fifth Ave., New York 17, N.Y.	CO, Hq. 1st Army, Governors Island, New York 4, N. Y.	[redacted]
[illegible], Erich E.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
*SPANNHAKE, Wilhelm E.	[redacted]	NAVY	BuShips	Armour Research Foundation of Ill. Institute of Technology, Chicago, Ill.	Inspector of Naval Material, Chicago, Ill.	[redacted]
*SPOHN, Eberhard J.	[redacted]	ARMY	ORD	ORDC, Redstone Arsenal, Huntsville, Ala.	Chief, ORDC	[redacted]
*STAIGER, Kurt	[redacted]	AIR	ARDC	Stewart-Warner Corp., South Wind Division, Indianapolis, Ind.	CO, ATIC	[redacted]
*[illegible], Gustav	[redacted]	AIR	AMC	AMC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
*STURTZER, Otmar M.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
*STUHLINGER, Ernst A-7421339	[redacted]	ARMY	ORD	ORDC, Redstone Arsenal, Huntsville, Ala.	Chief, ORDC	[redacted]
STURM, Theodor F.	[redacted]	NAVY	BuAer	NAMTC, Point Mugu, Calif.	Commander, NAMTC	[redacted]
*von SUBICH, Georg	[redacted]	ARMY	QMC	Philadelphia QM Depot, Philadelphia, Pa.	CO, PQMD	[redacted]
*[illegible], Hans	[redacted]	ARMY	SIG	SCEL, Fort Monmouth, N. J.	CO, SCEL	[redacted]
[illegible], Alfons	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
*[illegible], Johannes	[redacted]	AIR	ARDC	Lear, Inc., Grand Rapids, Michigan	CO, ATIC	[redacted]
[illegible], Karl F. – [illegible]8327	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
TRAENKLE, Carl-August	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
*TRAPP, Walter G. F.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
*TRAUB, Erich	[redacted]	NAVY	BuMed	Naval Medical Research Institute, Bethesda, Md.	Medical Officer in Command, Naval Medical Research Institute	[redacted]
*TRURNIT, Hans J.	[redacted]	ARMY	CML	Cml C Medical [illegible] Chemical Center, Maryland	Chief Cml O, [illegible] Virginia	[redacted]
TUEBBECKE, Julius K. [illegible]	[redacted]	PROJECT 63			CO, First Army, Governors Island, New York 4, N. Y.	[redacted]
UNDESSER, Karl [illegible]	[redacted]	PROJECT 63		Glenn L. Martin Company, Baltimore, Md.	Dept. of the Navy	[redacted]

Erich Traub

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NAME	DEPEND-DENTS IN US	SPON. DEPT.	SPON. AGENCY	EMPLOYING AGENCY	CUSTODIAN	RESIDENTIAL ADDRESS
eWILBIG, Friedrich A.	[redacted]	AIR	ARDC	AF Cambridge Research Center, 230 Albany St., Cambridge, Mass.	CO, AF Cambridge Research Center, ATTN: CRJ	[redacted]
eVOGT, Richard	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
eVOGT, Waldemar	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
eWAGNER, Walter G.	[redacted]	AIR	ARDC	Perkin-Elmer Corporation, Norwalk, Conn.	CO, Eastern Air Procmt. District, 655 Madison Ave., New York, N. Y.	[redacted]
WAHL, Eberhard W.	[redacted]	AIR	ARDC	AF Cambridge Research Center, 230 Albany St., Cambridge, Mass.	CO, AF Cambridge Research Center	[redacted]
eWALCHNER, Otto	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
eWASSERMANN, Helmut F.	[redacted]	ARMY	SIG	SCEL, Fort Monmouth, N. J.	CO, SCEL	[redacted]
WAZELT, Friedrich G.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
eWEBER, Berthold C.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
eWEBER, Fritz K.	[redacted]	ARMY	ORD	OCMC, Redstone Arsenal, Huntsville, Ala.	Chief, OCMC	[redacted]
eWEBER, Gottfried K.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
eWEICKMANN, Helmut K.	[redacted]	ARMY	SIG	SCEL, Fort Monmouth, N. J.	CO, SCEL	[redacted]
eWEIDAND, Heinrich J. M.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
eWEISE, Erwin K. H.	[redacted]	AIR	ARDC	University of Illinois, Urbana, Ill.	CO, ATIC	[redacted]
WENDEL, Ernst A-906L	[redacted]	PROJECT 63			CO, First Army, New York, N. Y.	[redacted]
eWENZEL, Walther H. W.	[redacted]	AIR	AMC	AMC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
WESTPHAL, Ulrich F. E.	[redacted]	ARMY	MED	Army Medical Research Lab., Fort Knox, Ky.	CO, Army Medical Research Lab.	[redacted]
WIENER, Walther H. P.	[redacted]	NAVY	BuShips	NB & T Lab., Philadelphia, Pa.	Director, NB & T Lab.	[redacted]
eWINDMUELLER, Alfred	[redacted]	AIR	ARDC	OIC, ARDC, Tullahoma, Tennessee	OIC, Tullahoma, Tenn., ATTN: Capt. David B. Kelcher	[redacted]
evon WITZMAN, Wolf-Hito E.	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]
eWOLFFRAMM, Bodo M. O.	[redacted]	AIR	ARDC	North American Aviation, Inc., Downey, Calif.	CO, ATIC	
eZECKINGT, Hans K.	[redacted]	AIR	ARDC	AF Cambridge Research Center, 230 Albany St., Cambridge, Mass.	CO, AF Cambridge Research Center, ATTN: CRJ	[redacted]
eZIMBUSCH, Wilhelm	[redacted]	AIR	ARDC	WADC, Wright-Patterson AFB, Dayton, Ohio	CO, ATIC	[redacted]

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SECTION II

SPECIALISTS BROUGHT TO THE UNITED STATES UNDER THE PAPERCLIP PROGRAM WHO HAVE ATTAINED RESIDENT ALIEN STATUS AND ALL OF WHOSE DEPENDENTS BROUGHT TO THE UNITED STATES UNDER THE PAPERCLIP PROGRAM, IF ANY, HAVE ALSO ATTAINED RESIDENT ALIEN STATUS, THUS TERMINATING MILITARY CUSTODY OF BOTH SPECIALISTS AND DEPENDENTS

NAME	SPONSOR AT THE TIME SPECIALIST ACHIEVED RESIDENT ALIEN STATUS: DEPARTMENT	AGENCY	SPECIALIST ADMITTED AS RESIDENT ALIEN	DEPENDENTS	DEPENDENT(S) ADMITTED AS RESIDENT ALIEN(S)
ADENSTEDT, Heinrich K. O.	AIR	ARDC	23 September 1949	[redacted]	13 September 1950
AICHINGER, Gerhard E.	AIR	ARDC	10 January 1949		
ALBERS, Heinrich B.	AIR	ARDC	6 December 1948		20 February 1950
ALBERS-SCHOENBERG, Ernst E.	COMM		4 October 1949		
AMMANN, Rudolph H. H. E.	AIR	ARDC	26 May 1948		26 September 1949
AMTMANN, Hans H. E.	AIR	AMC	20 January 1949		24 October 1949
ANGELE, Wilhelm	ARMY	ORD	14 March 1949		12 September 1949
ARNOLD, Gottfried E.	AIR	ARDC	19 September 1949		11 December 1951
ASCHENBRENNER, Claus M. O.	AIR	ARDC	28 September 1949		4 December 1951
von AULOCK, Wilhelm	NAVY	BuShips	8 May 1950		17 October 1951
BAARS, Ernst G. W.	ARMY	SIG	1 February 1950		30 October 1951
BAEUMKER, Adolf G. E.	AIR	ARDC	25 October 1948		28 December 1949
BALKE, Otto-Erich	AIR	AMC	17 January 1949		3 February 1950
BALL, Erich K. A.	ARMY	ORD	9 September 1949		13 July 1950
BARTH, Hans	COMM		12 July 1950		
[illegible], Hans R. A.	AIR	USAF	20 April 1949		3 July 1950
BAUER, Alfred F.	COMM		21 February 1949		23 February 1950
BAUSCHINGER, Oskar E.	ARMY	ORD	11 August 1949		13 July 1950
BEDUERFTIG, Hermann F.	ARMY	ORD	11 April 1949		13 October 1949
BECK, Gerd W. de	ARMY	ORD	15 March 1949		3 November 1949
BEER, Heinz F. A.	AIR	AMC	10 January 1949		6 October 1949
BEICHEL, Rudi	ARMY	ORD	11 August 1949		14 July 1950
BEIER, Anton	ARMY	ORD	14 September 1949		14 July 1950
[illegible], Hans E.	AIR	USAF	14 October 1948		27 August 1949
BEISCHER, Dietrich E.	NAVY	BuAer	9 May 1949		6 January 1950
BENECKE, Heinrich O.	NAVY	BuAer	17 January 1950		17 October 1951
BENZ, Emil	AIR	ARDC	28 October 1949		14 December 1950
BENZINGER, Theodor J.	NAVY	BuMed	25 October 1948		9 December 1949
BERGELER, Herbert R.	ARMY	ORD	19 April 1949		12 September 1949
[illegible], Hans G.	AIR	ARDC	21 March 1949		13 July 1950
[illegible], Rudi J.	AIR	ARDC	10 January 1949		16 January 1950
BIELITZ, Friedrich K.	AIR	ARDC	25 October 1948		29 March 1950
BIELSTEIN, Hans O.	AIR	ARDC	1 May 1950		
BOCCIUS, Walther G. C.	AIR	ARDC	4 October 1948		24 October 1949
BOCK, Otto E.	AIR	ARDC	21 March 1949		11 December 1951
BOEHM, Josef M.	ARMY	ORD	2 June 1949		13 February 1950
BORCH, Carl	NAVY	BuShips	4 April 1950		7 November 1951
BOST, Heinrich E. A.	AIR	ARDC	17 February 1950		13 February 1952
BOTH, Eberhard	ARMY	SIG	28 March 1949		18 October 1949
BOTTENHORN, Herman A.	AIR	ARDC	6 December 1948		12 September 1950
BRAUN, Magnus E.A.M. von	ARMY	ORD	28 June 1949		
von BRAUN, Wernher	ARMY	ORD	2 November 1949		[illegible]
BRAUN, Wolfgang G.	AIR	ARDC	26 October 1949		5 November 1951
BRETSCHNEIDER, Kurt E. R.	COMM		26 May 1949		24 April 1950
BRILL, Rudolph F.	COMM		17 June 1949		5 July 1950
[illegible], Walter R.	AIR	ARDC	25 April 1949		25 September 1951
BRUCKMANN, Bruno W.	AIR	AMC	21 February 1949		6 July 1950
BRUECKMANN, Helmut L.	ARMY	SIG	1 February 1950		3 December 1951

Alfred Bauer
see
Lt. Bauer + Major Bauer

Josef M. Boehm
Haupt Böhm

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NAME	SPONSOR AT THE TIME SPECIALIST ACHIEVED RESIDENT ALIEN STATUS — DEPARTMENT	AGENCY	SPECIALIST ADMITTED AS RESIDENT ALIEN	DEPENDENTS	DEPENDENT(S) ADMITTED AS RESIDENT ALIEN(S)
BUCHHOLD, Theodor A.	ARMY	ORD	14 October 1948	[redacted]	26 September 1949
BUCHMANN, Erich H.	NAVY	BuShips	10 July 1950		7 May 1951
BURCKEL?, Erwin H.	AIR	TAU	23 March 1949		
BUDGING?, Willi J.	AIR	ARDC	7 November 1949		14 January 1952
BUETTNER, Konrad J. K.	AIR	TAU	6 May 1949		14 September 1950
BUSCHE?, Walter V. B.	ARMY	ORD	15 March 1949		12 January 1950
BUSEMANN, Adolf	NAVY	Baker	25 July 1949		20 February 1950
DAHM, Werner K. M.	ARMY	ORD	9 December 1949		22 September 1950
DANIELIS?, Kurt G.	AIR	ARDC	17 January 1949		21 March 1950 20 August 1951
DANNENBERG, Konrad K.	ARMY	ORD	22 April 1949		14 September 1949 11 October 1949
DELLMEIER?, Guenther	AIR	ARDC	4 October 1948		25 September 1951
DEGM?, Friedrich (Fritz)	ARMY	ORD	2 May 1949		4 January 1950
DIEHL?, Karl L.	COMM		22 September 1949		8 May 1950
von DOBLHOFF, Friedrich L.	AIR	ARDC	26 May 1948		12 August 1949 20 February 1950
DOEHLICK?, Herbert O.	ARMY	ORD	2 May 1949		24 April 1950
von DOEPP, Philipp	AIR	ARDC	27 September 1948		10 August 1949
DONATH, Ernst E.	ARMY	QMC	25 July 1949		17 February 1950
DORNBERGER, Walter R. E.	AIR	ARDC	9 September 1949		24 September 1951
DRAEGER?, Walter W.	NAVY	BuOrd	5 December 1949		
DRAVE?, Gerhard P.	ARMY	ORD	18 July 1949		20 February 1950
DUELL, Bernhard	ARMY	QMC	24 January 1949		
DUELL, Gertrud (Mrs. Bernhard)	ARMY	QMC	24 January 1949		
DUERR, Friedrich	ARMY	ORD	14 April 1949		2 November 1949
EBER?, Gerhard H. H.	NAVY	BuOrd	20 December 1948		24 February 1950 28 March 1950
ECKERT, Ernst R. G.	AIR	AMC	26 August 1949		25 September 1951
ECKERT, Hans U.	AIR	ARDC	7 February 1949		7 January 1952
EHRENHARDT?, Otto E.	ARMY	ORD	15 March 1949		9 December 1949
FICHTNER, Hans-Joachim G.	ARMY	ORD	20 July 1949		7 December 1949
FIEBIGER?, Karl E. F.	COMM		2 November 1949		
FIEDLER, Willi A.	NAVY	Baker	1 August 1949		18 January 1950
FINKELNBURG, Wolfgang K.	ARMY	ENG	21 March 1949		10 July 1950
FINKEL?, Alfred J.	ARMY	ORD	20 May 1949		13 December 1949
FISCHEL, Eduard M.	ARMY	ORD	21 January 1949		4 November 1949
FISCHER, Heinz	AIR	ARDC	17 January 1949		24 March 1950
FISCHER, Karl A.	ARMY	QMC	7 March 1949		15 March 1950
FLECK, Horst O.	AIR	TAU	20 April 1949		8 February 1950
FLESSA, Friedrich W.	COMM		10 January 1950		
FOERSTER, Arthur F.	NAVY	Baker	1 December 1949		2 October 1951
FOERSTER, Paul G. G.	AIR	ARDC	28 March 1949		
FOLTES?, Hans P.	NAVY	BuShips	3 January 1950		7 July 1950
FORNER?, Arthur (Artur)	COMM		25 October 1949		7 June 1950
FORNOFF, Heinz	AIR	AMC	17 January 1949		21 February 1950
FRENCH?, Hans R.	NAVY	BuShips	4 April 1950		5 January 1951
FRENZ, Erich L.	COMM		20 June 1949		21 February 1950
FREYTAG, Ella W.	AIR	TAU	20 April 1949		[illegible]
FRIEDRICH, Ernst O. H.	NAVY	Baker	7 February 1949		7 September 1949
FRIEDRICH, Hans R.	ARMY	ORD	6 December 1949		4 April 1950
FUCHSEL?, Karl M.	AIR	ARDC	19 September 1949		24 September 1951
FUHRMANN, Herbert W.	ARMY	ORD	20 July 1949		12 July 1950

Ernst Donath
Dr. Donath

Heinz + Earl Fischer
see ... Fischer

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NAME	SPONSOR AT THE TIME SPECIALIST ACHIEVED RESIDENT ALIEN STATUS: DEPARTMENT	AGENCY	SPECIALIST ADMITTED AS RESIDENT ALIEN	DEPENDENTS	DEPENDENT(S) ADMITTED AS RESIDENT ALIEN(S)
[illegible], Otto H. E.	AIR	ARDC	27 February 1950	[redacted]	17 December 1951
GEISSLER, Ernst D.	ARMY	ORD	20 May 49	[redacted]	14 July 1950
GENGELBACH, Werner K.	ARMY	ORD	21 January 1949	[redacted]	8 November 1949
GERATHEWOHL, Siegfried J.	AIR	SAU	23 March 1949	[redacted]	21 September 1950
[illegible], Eduard A.	ARMY	SIG	3 January 1949	[redacted]	18 October 1949
[illegible], Erich M.	AIR	ARDC	27 September 1949	[redacted]	14 December 1950
von GIERKE, Henning	AIR	ARDC	17 February 1950	[redacted]	
GOETHERT, Bernhard H.	AIR	ARDC	25 October 1948	[redacted]	3 February 1950
GOUBAU, Georg J. E.	ARMY	SIG	3 November 1949	[redacted]	6 November 1951
[illegible], Ernst G.	COMM		7 December 1949	[redacted]	6 November 1950
GRAU, George K. D.	ARMY	ORD	13 April 1949	[redacted]	21 January 1950
[illegible], Lambert	COMM		17 May 1949	[redacted]	19 January 1950
GROSS, Reinhold	AIR	ARDC	25 April 1949	[redacted]	16 October 1951
[illegible], Erich [illegible]	AIR	ARDC	10 January 1949	[redacted]	21 February 1950
[illegible], Hans F.	ARMY	ORD	15 March 1949	[redacted]	7 December 1949
GRUENER, Heinz E. R.	COMM		11 July 1950	[redacted]	4 September 1951
[illegible], Herbert E.	ARMY	ORD	6 December 1949	[redacted]	18 July 1950
GUENTHER, Richard	ARMY	SIG	16 December 1949	[redacted]	29 October 1951
[illegible], Wilhelm K. A.	COMM		4 April 1949	[redacted]	14 July 1950
[illegible], Gunter	ARMY	SIG	26 March 1949	[redacted]	18 October 1949
				[redacted]	
HABER, Heinz	AIR	SAU	23 March 1949	[redacted]	7 July 1950
HAEUSSERMANN, Walter	ARMY	ORD	20 May 1949	[redacted]	26 July 1950
HAGER, Karl F.	ARMY	ORD	20 May 1949	[redacted]	11 July 1950
[illegible], Max A. E.	COMM		20 January 1950	[redacted]	10 December 1951
HASINGER, Siegfried E.	AIR	ARDC	17 February 1950	[redacted]	
HASS, Georg H.	ARMY	ENG	20 December 1948	[redacted]	17 January 1950
HAUKOHL, Guenther H. F.	ARMY	ORD	19 May 1949	[redacted]	6 November 1949
[illegible], Hans K.	NAVY	BuOrd	21 February 1950	[redacted]	16 November 1950
[illegible], Otto F. K.	ARMY	ORD	9 May 1949	[redacted]	20 February 1950
[illegible], Arno E.	ARMY	ORD	19 July 1949	[redacted]	13 January 1950
[illegible], Alfons [illegible]	AIR	ARDC	14 March 1949	[redacted]	28 February 1950
HEIMBURG, Karl L.	ARMY	ORD	21 July 1949	[redacted]	15 February 1950
[illegible], Helmut G. K.	AIR	ARDC	10 January 1949	[redacted]	12 July 1950
[illegible], Wilfried K.	NAVY	BuAer	2 May 1949	[redacted]	8 February 1950
HELLEBRAND, Emil A. E.	ARMY	ORD	12 April 1949	[redacted]	14 October 1949
HELLER, Gerhard	ARMY	ORD	16 March 1949	[redacted]	13 January 1950
[illegible], Bruno K.	ARMY	ORD	20 July 1949	[redacted]	6 February 1950
[illegible], Alfred E.	ARMY	ORD	21 April 1949	[redacted]	2 February 1950
[illegible], Albrecht	AIR	ARDC	14 March 1949	[redacted]	28 February 1950
[illegible], Bruno K.	ARMY	ORD	14 April 1949	[redacted]	10 November 1949
[illegible], Willi E. R.	NAVY	BuOrd	20 December 1948	[redacted]	24 February 1950
[illegible], Mathias	AIR	ARDC	21 June 1949	[redacted]	19 December 1950
[illegible], Egon A. J.	NAVY	BuOrd	20 December 1948	[redacted]	10 March 1950
[illegible], Werner B.	NAVY	BuShips	5 May 1950	[redacted]	5 December 1950
HINTZE, Guenther E. W. G.	ARMY	ORD	24 February 1949	[redacted]	15 December 1949
HIRSCHLER, Otto K.	ARMY	ORD	16 March 1949	[redacted]	9 November 1949
HOBERG, Otto A.	ARMY	ORD	12 July 1949	[redacted]	13 July 1950
HOELKER, Rudolf F. H.	ARMY	ORD	12 July 1949	[redacted]	12 January 1950
HOFFMANN, Friedrich W.	ARMY	CML	7 March 1949	[redacted]	14 November 1949
[illegible], Werner W.	NAVY	BuAer	8 February 1950	[redacted]	16 November 1950
[illegible], Bernhard A. A.	AIR	ARDC	27 September 1949	[redacted]	24 [illegible]
HOLDERER, Oscar C. F.	ARMY	ORD	12 July 1949	[redacted]	25 July 1950
HOLLMANN, Hans E.	NAVY	BuAer	10 January 1949	[redacted]	7 September 1949
[illegible], Eberhard F. F.	NAVY	ONR	21 February 1949	[redacted]	19 January 1950
[illegible], Leo	COMM		6 September 1949	[redacted]	27 July 1950
[illegible], Hans E.	ARMY	ORD	13 April 1949	[redacted]	23 August 1950

D. Ernst Geissler
Ernst (W) Geissler

Heinz E. R. Grüner
see Fl. Strausing Grüner

Friedrich W. Hoffmann
see Dr. Hoffmann

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NAME	SPONSOR AT THE TIME SPECIALIST ACHIEVED RESIDENT ALIEN STATUS		SPECIALIST ASSIGNED AS RESIDENT ALIEN	DEPENDENTS	DEPENDENT(S) ASSIGNED AS RESIDENT ALIEN(S)
	DEPARTMENT	AGENCY			
[redacted], Franz J. A.	AIR	AMCC	25 October 1949		14 January 1952
[redacted], Josef J.	NAVY	Baker	4 April 1949		14 March 1950
[redacted], Hans E.	ARMY	CIC	6 September 1949		11 January 1950
[redacted], Victor L.	ARMY	CIC	19 May 1949		6 February 1950
[redacted], Walter W.	ARMY	CIC	19 April 1949		11 October 1949
[redacted], Helge O.	AIR	AMCC	16 May 1949		20 December 1950
[redacted], Peter J. K.	ARMY	CIC	13 July 1949		26 July 1950
[redacted], Georg J. G.	AIR	[redacted]	27 October 1949		
[redacted], Hartwig L. P.	OSRD		4 April 1940		13 November 1951
[redacted], Winibald L. E.	AIR	AMCC	29 October 1948		28 February 1950
[redacted], Hans-Joachim	ARMY	CIC	1 February 1950		2 October 1951
[redacted], Peter G.	AIR	AMCC	28 October 1949		11 December 1951
[redacted], Erich K.	ARMY	CIC	9 September 1949		6 February 1950
[redacted], Rudolf R. P.	AIR	AMCC	23 September 1949		14 December 1950
[redacted], Emil K.	ARMY	CIC	18 October 1949		16 February 1950
[redacted], Horst K.	ARMY	CIC	26 July 1949		1 February 1950
[redacted], Alfred A. K.	NAVY	Bethesda	16 May 1949		13 March 1950
[redacted], Theodor	OSRD		9 August 1949		20 November 1950
[redacted], Wolfram	AIR	AMCC	3 May 1949		8 May 1951
[redacted], Charlotte	NAVY	Bethesda	12 September 1949		
[redacted], Ernst K. K.	ARMY	CIC	16 March 1949		12 July 1950
[redacted], Johann J.	ARMY	CIC	21 April 1949		20 October 1949
[redacted], Georg A.	AIR	AMCC	20 January 1950		9 July 1951
[redacted], Georg E.	NAVY	ExCvd	9 April 1949		27 April 1950
[redacted], Walter	AIR	AMCC	25 October 1949		22 October 1951
[redacted], Max	OSRD		26 May 1949		16 December 1949
[redacted], Hermann J.	OSRD		27 May 1949		21 February 1950
[redacted], Fritz	ARMY	CIC	19 May 1949		
[redacted], Kurt L. K.	AIR	USAF	6 May 1949		5 July 1950
[redacted], Max O.	NAVY	Baker	7 March 1949		7 July 1950
[redacted], Gustav Paul Gerhard	AIR	AMCC	7 February 1949		23 February 1950
[redacted], Willy F.	AIR	AMCC	26 October 1949		8 January 1952
[redacted], Adolf F.	ARMY	MED	16 May 1949		
[redacted], Wilhelm A.	ARMY	MED	21 March 1949		10 December 1951
[redacted], Arthur J. K.	ARMY	CIC	6 December 1949		4 April 1950
[redacted], Rolf K. V.	NAVY	ExCvd	8 August 1949		20 April 1950
[redacted], Robert K.	ARMY	CIC	27 April 1949		13 December 1949
[redacted], Gustav A.	ARMY	CIC	16 March 1949		14 December 1949
[redacted], Heinrich J.	OSRD		8 May 1950		7 November 1951
[redacted], Werner K.	ARMY	CIC	19 May 1949		8 December 1949
[redacted], Helmut W. A. A.	ARMY	CIC	12 August 1949		24 February 1950
[redacted], Ernst K.	AIR	AMCC	21 February 1949		10 March 1950
[redacted], Hermann K.	NAVY	ExCvd	28 March 1949		16 February 1950
[redacted], Edgar V.	NAVY	Baker	6 July 1949		5 December 1949
[redacted], Reinhard K.	NAVY	Baker	3 October 1949		23 February 1950
[redacted], Wolfgang S.	NAVY	Bethesda	27 January 1949		25 October 1951
[redacted], Ernst	ARMY	CIC	15 February 1950		29 August 1950
[redacted]	ARMY	CIC	20 May 1949		8 September 1950 8 May 1950
[redacted], Fritz K.	NAVY	CNR	4 April 1950		4 December 1951 10 December 1951

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NAME	SPONSOR AT THE TIME SPECIALIST ACHIEVED RESIDENT ALIEN STATUS: DEPARTMENT	AGENCY	SPECIALIST ADMITTED AS RESIDENT ALIEN	DEPENDENTS	DEPENDENT(S) ADMITTED AS RESIDENT ALIEN(S)
[illegible], Richard	NAVY	BuOrd	20 December 1948	[redacted]	11 July 1950
LENOVIC, Kurt	ARMY	SID	4 April 1949		28 May 50
[illegible], Karl	ARMY	[illegible]	14 December 1949		
LEPESCHKIN, Wladimir W.	NAVY	BuMed	21 February 1949		3 December 1951
LERRS, Hermann W. E.	NAVY	BuShips	20 February 1950		4 December 1951
LINDENBERG, Richard E. W.	AIR	TAU	21 September 1949		25 September 1950
[illegible], Hans J.	ARMY	ORD	6 December 1949		11 July 1950
[illegible], Kurt A.	ARMY	Ord	2 May 1949		3 February 1950
LIPPISCH, Alexander M.	NAVY	BuAer	7 April 1949		15 September 1950 29 September 1950
von LOHNEYSEN, Otto H.	ARMY	ORD	8 September 1949		6 April 1950 15 July 1950
LUFT, Ulrich C.	AIR	TAU	2 February 1949		24 October 1950
[illegible], Robert	NAVY	BuAer	1 August 1949		23 February 1950
[illegible], Georg E.	NAVY	BuMed	25 October 1948		9 December 1949
[illegible], Wilhelm E. H.	NAVY	ONR	7 February 1950		12 December 1951
MAIER, Karl W.	ARMY	ORD	9 May 1950		10 December 1951
[illegible], Carl-Heinz F.	ARMY	ORD	12 August 1949		20 February 1950
MANTEUFFEL, Erich W.	ARMY	ORD	13 July 1949		27 July 1950
[illegible], Frank L. G.	NAVY	BuOrd	25 April 1949		10 March 1950
[illegible], Heinrich E.	AIR	ARDC	25 October 1949		8 January 1952
MAUS, Hans E.	ARMY	ORD	24 February 1949		18 October 1949
MAYER, Hans F.	OCMM		16 February 1950		
MAYER, Ludwig J.	AIR	ARDC	27 February 1950		
[illegible], Helmut E.	ARMY	ORD	10 May 1949		15 December 1949
[illegible], Hermann E. A.	NAVY	BuShips	4 January 1950		7 July 1950
[illegible], Josef E.	ARMY	ORD	31 August 1949		16 February 1950
MILDE, Hans W.	ARMY	ORD	18 March 1949		25 October 1949
[illegible], Heinz E. A.	ARMY	ORD	19 April 1949		16 November 1949
[illegible], Rudolf F. F.	ARMY	ORD	10 October 1949		12 July 1950 26 July 1950
[illegible], Heinz F. A.	AIR	~~[illegible]~~ ARDC	25 April 1949		
[illegible], William A.	ARMY	ORD	26 July 1949		27 May 1950
[illegible], Joachim W.	ARMY	ORD	14 October 1948		17 February 1950
MUELLER, Fritz K. H.	ARMY	ORD	16 December 1948		17 February 1950
MUELLER, Hans F.	OCMM		20 May 1949		15 December 1949
[illegible], Erwin O. A.	AIR	ARDC	16 May 1949		22 October 1951
[illegible], Johann E.	AIR	ARDC	6 October 1948		1 December 1949
[illegible], Robert	OCMM		3 October 1949		17 October 1951
[illegible], Erich W.	ARMY	ORD	17 March 1949		10 November 1949
[illegible], Franz J.	AIR	ARDC	25 October 1948		8 November 1951 Presently unknown
[illegible], Kurt E. E.	ARMY	ORD	2 May 1949		24 April 1950
[illegible], Wolfgang O.	NAVY	BuOrd	20 October 1948		21 February 1950
NOELL, Werner E. O. H.	AIR	TAU	23 March 1949		6 April 1951 24 January 1952
NOVAK, Max E.	ARMY	ORD	14 March 1949		2 November 1949
[illegible], Werner T. von der	OCMM		7 March 1949		21 February 1950
[illegible], Fritz	NAVY	ONR	9 February 1950		16 November 1950
OFFELT, Walter E.	ARMY	ORD	26 April 1949		19 July 1950
[illegible], Leopold F. E.	ARMY	ORD	14 July 1949		4 May 1950

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SECURITY INFORMATION

NAME	SPONSOR AT THE TIME SPECIALIST ACHIEVED RESIDENT ALIEN STATUS: DEPARTMENT	SPONSOR AT THE TIME SPECIALIST ACHIEVED RESIDENT ALIEN STATUS: AGENCY	SPECIALIST ADMITTED AS RESIDENT ALIEN	DEPENDENTS	DEPENDENT(S) ADMITTED AS RESIDENT ALIEN(S)
[illegible], Robert K. Dr.	ARMY	CMD	14 July 1949		16 February 1950
[illegible], Hans E.	ARMY	CMD	11 February 1949		3 November 1949
[illegible], Albert C.	AIR	AMC	7 November 1949		7 January 1952
[illegible], Kurt P. E.	ARMY	CMD	27 March 1949		15 November 1949
[illegible], Hans G.	ARMY	CMD	21 July 1949		4 May 1950
[illegible], Max H.	NAVY	BuOrd	29 June 1948		17 September 1951
[illegible], Erhard E.	OSRD		4 April 1949		
[illegible], Josef P.	AIR	TAC	6 May 1949		29 March 1950
[illegible], Karl	AIR	AMC	7 November 1949		
[illegible], Theodor A.	ARMY	CMD	17 March 1949		4 November 1949
[illegible], Johannes E.	AIR	TAC	8 February 1949		20 May 1951
					Entered U.S. with visa 29 June 1951
[illegible], Heinrich	AIR	AMC	4 October 1948		26 October 1949
[illegible], Wolfgang J.	ARMY	CMD	16 February 1950		23 October 1951
[illegible], Ludwig G.	OSRD		22 February 1949		5 December 1949
[illegible], Rheinhard F. E.	ARMY	CMD	16 December 1948		13 July 1950
[illegible], Gerhard H. E.	ARMY	CMD	24 February 1949		8 September 1949
[illegible], Kurt E.	AIR	TAC	17 August 1949		27 February 1950
[illegible], Walther E. E.	OSRD		6 February 1950		8 November 1951
[illegible], Leona F.	NAVY	Baker	1 December 1949		
[illegible], Franz G.	AIR	AMC	8 May 1949		15 October 1951
[illegible], Friedrich O.	NAVY	Baker	4 April 1949		20 July 1950
[illegible], Alfred	OSRD		6 April 1950		
[illegible], Heinrich V.	AIR	TAC	19 July 1949		21 September 1950
[illegible], Herbert M.	AIR	AMC	21 February 1949		12 July 1950
[illegible], Werner E.	ARMY	CMD	18 March 1949		7 December 1949
[illegible], Ludwig	ARMY	CMD	25 February 1949		15 August 1950
[illegible], Heinrich G.	ARMY	CMD	27 March 1949		15 December 1949
					13 January 1950
[illegible], Ludwig W.	OSRD		5 December 1949		14 September 1950
[illegible], Herbert E.	NAVY	BuOrd	16 February 1950		9 April 1951
[illegible], Arthur L. E.	ARMY	CMD	14 April 1949		7 December 1949
[illegible], Franz X.	AIR	AMC	13 February 1950		22 October 1951
[illegible], Martin W. E.	AIR	AMC	23 September 1949		5 December 1951
[illegible], Eugen L.	AIR	AMC	9 November 1948		27 February 1950
[illegible], Hermann J.	NAVY	Baker	1 February 1950		22 July 1950
[illegible], Howard W.	AIR	TAC	14 September 1950		
[illegible], Otto A.	NAVY	ONR	27 January 1949		7 September 1950
[illegible], Hans	OSRD		20 June 1949		31 March 1950
[illegible], Heinz L.	ARMY	CMD	25 February 1949		18 October 1949
[illegible], Hermann von	NAVY	BuAer	26 July 1949		2 February 1950
[illegible], Klaus H. E.	ARMY	CMD	6 June 1949		1 May 1950
[illegible], Martin	ARMY	CMD	24 February 1949		8 September 1949
[illegible], Heinz H.	NAVY	ONR	24 February 1950		9 September 1950
[illegible], Rudolf E.	ARMY	CMD	14 April 1949		12 January 1950
[illegible], Helmut W. E.	ARMY	CMD	14 October 1948		25 July 1950
[illegible], Helmut E.	ARMY	CMD	16 November 1949		27 October 1951
[illegible], Ingeborg	AIR	TAC	14 October 1948		27 February 1950
[illegible], Heinz E.	AIR	AMC	7 April 1948		21 February 1950
[illegible], Albert E.	ARMY	CMD	26 November 1948		15 February 1950
[illegible], William A.	ARMY	CMD	14 March 1949		10 January 1950
[illegible], Karl E.	NAVY	Baker	6 May 1950		
[illegible], Ludwig K. P.	OSRD		9 May 1949		4 January 1950
[illegible], Friedrich W.	ARMY	CMD	18 March 1949		16 August 1950
[illegible], Otto G.	NAVY	Baker	2 May 1949		12 July 1950
[illegible], Gerhard K. E.	ARMY	SIG	28 March 1949		5 January 1950
[illegible], Walter E.	ARMY	CMD	14 October 1948		

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NAME	SPONSOR AT THE TIME SPECIALIST ACHIEVED RESIDENT ALIEN STATUS: DEPARTMENT	SPONSOR AT THE TIME SPECIALIST ACHIEVED RESIDENT ALIEN STATUS: AGENCY	SPECIALIST ADMITTED AS RESIDENT ALIEN	DEPENDENTS	DEPENDENT(S) ADMITTED AS RESIDENT ALIEN(S)
[illegible], Henry V. L.	AIR	AMC	27 September 1949		19 December 1950
[illegible], Ernst E.	ARMY	CMD	8 June 1949		14 July 1950
[illegible], Karl	ARMY	CMD	11 April 1949		
[illegible], Werner	ARMY	CMD	18 March 1949		10 July 1950
[illegible], Ernst A.	NAVY	Baker	7 March 1949		6 February 1950
[illegible], Wilhelm E.	CORR		7 October 1948		20 March 1950
[illegible], Dietrich E. G. G.	AIR	AMC	10 January 1949		27 February 1950
[illegible], Karl	NAVY	Baker	25 April 1949		11 July 1950
[illegible], Alexander	ARMY	ERC	27 September 1948		11 July 1949
[illegible], Hans G.	NAVY	BuOrd	31 January 1949		24 February 1950
[illegible], Christoph E.	AIR	AMC	9 September 1950		6 November 1950
[illegible], Arnold E. P.	ARMY	CMD	6 September 1949		24 August 1950
[illegible], Ernst A.	ARMY	CMD	14 October 1948		14 February 1950
[illegible], Wolfgang E.	ARMY	CMD	11 April 1949		17 February 1950
[illegible], Heinz (Reinhold) G.	ARMY	CMD	31 March 1949		9 May 1950
[illegible], Edmund J.	NAVY	BuOrd	25 April 1949		24 February 1950
[illegible], Heinz E.	AIR	AMC	27 February 1950		2 October 1951
[illegible], Adolf J.	AIR	AMC	31 March 1949		7 November 1950
[illegible], Robertus	AIR	TAF	6 May 1949		
[illegible], Rudolf K. E. F.	NAVY	Baker	20 February 1950		
[illegible], Bernhard E.	ARMY	CMD	14 March 1949		15 November 1949
[illegible], Adolf E.	ARMY	CMD	7 December 1949		11 July 1950
[illegible], Werner G.	ARMY	CMD	16 November 1949		15 February 1950
[illegible], Henry	CORR		3 April 1950		15 October 1951
[illegible], Juergen	AIR	TAF	15 February 1952		15 February 1952
[illegible], Adolf	CORR		20 June 1949		
[illegible], Johann G.	ARMY	CMD	12 April 1949		5 October 1949
[illegible], Arthur	ARMY	CMD	19 April 1949		14 December 1949
[illegible], Ludwig E.	CORR		14 November 1949		
[illegible], Fritz A.	ARMY	CMD	12 August 1949		14 December 1949
[illegible], Karl	AIR	AMC	9 March 1949		21 March 1950
[illegible], Werner E.	ARMY	CMD	12 April 1949		15 December 1949
[illegible], Theodor E. G.	ARMY	CMD	13 April 1949		16 February 1950
[illegible], Hendrik A.	CORR		15 May 1949		
[illegible], Carl F.	ARMY	CMD	14 July 1949		
[illegible], Herbert A.	NAVY	Baker	11 October 1948		
[illegible]-[illegible], Theodor J.	ARMY	CMC	17 January 1950		5 April 1950
[illegible], Emil J.	AIR	AMC	14 March 1949		23 November 1951
[illegible], Peter P.	NAVY	BuOrd	1 November 1948		17 July 1950
[illegible], Hermann E.	ARMY	CMD	13 April 1949		6 January 1950
[illegible], Georg P.	NAVY	BuShips	23 November 1949		14 December 1949
[illegible], Werner E.	ARMY	ERC	10 May 1949		
[illegible], Friedrich S.	AIR	AMC	6 December 1948		3 January 1950
[illegible], Hildegard	AIR	TAF	20 April 1949		20 January 1950 21 February 1950
[illegible], Bruno E.	AIR	AMC	28 October 1949		
[illegible]			14 February 1949		28 March 1951
[illegible], Herman	AIR	AMC	17 January 1949		20 January 1950
[illegible], Ernst E.	NAVY	BuOrd	28 March 1949		10 January 1950
[illegible], Eva E. (Mrs. Ernst)	NAVY	BuOrd	28 March 1949		
[illegible], Albin E.	ARMY	CMD	19 July 1949		6 May 1950
[illegible], Julius E.	NAVY	BuShips	17 June 1949		15 December 1949
[illegible], Hugo E.	ARMY	CMD	14 September 1949		9 April 1951 23 August 1949 21 February 1950
[illegible], Ralf T. E.	AIR	AMC	31 December 1951		31 December 1951

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NAME	SPONSOR AT THE TIME SPECIALIST ACHIEVED RESIDENT ALIEN STATUS: DEPARTMENT	SPONSOR AT THE TIME SPECIALIST ACHIEVED RESIDENT ALIEN STATUS: AGENCY	SPECIALIST ADMITTED AS RESIDENT ALIEN	DEPENDENTS	DEPENDENT(S) ADMITTED AS RESIDENT ALIEN(S)
[redacted], Albert F.	ARMY	ORD	13 April 1949	[redacted]	16 November 1949
[redacted], Philipp H.	NAVY	BuOrd	9 September 1948		
[redacted], Hans E.	AIR	ARDC	8 December 1949		1 June 1951
[redacted], Hans E.	ARMY	SIG	23 May 1949		14 December 1949
[redacted], Theodor H.	AIR	ARDC	8 June 1949		7 November 1950
[redacted], Helmut M.	ARMY	ORD	2 May 1949		14 December 1949
[redacted], Sepp J.	AIR	ARDC	27 September 1949		7 November 1951

SECTION III

NOTE: Residential address of all dependents are same as that of Principal with the following exceptions:

DEPENDENT	PRINCIPAL	CUSTODIAN	RESIDENTIAL ADDRESS
[redacted]	[redacted], Dietrich T.	CO, SCEL, Fort Monmouth, New Jersey	[redacted]
[redacted]	[redacted], Oskar	CO, ATIC, Wright-Patterson AFB, Dayton, Ohio	[redacted]
[redacted]	[redacted], Willibald J. H.	Air Provost Marshall Rep., Chicago Plants Unit, 209 West Jackson Blvd., Chicago 6, Ill.	[redacted]
[redacted]	[redacted], Eugen	CO, ATIC, Wright-Patterson AFB, Dayton, Ohio	[redacted]
[redacted]	[redacted] von GRAIN, Hans J.	CO, ATIC, Wright-Patterson AFB, Dayton, Ohio	[redacted]
[redacted]	[redacted], Werner	CO, ATIC, Wright-Patterson AFB, Dayton, Ohio	[redacted]
[redacted]	[redacted], Werner	CO, ATIC, Wright-Patterson AFB, Dayton, Ohio	
[redacted]	[redacted], Kraft A. F.	CO, Sixth Army, Presidio of San Francisco, Calif.	
[redacted]	[redacted], Ferdinand M. M.	CO, ATIC, Wright-Patterson AFB, Dayton, Ohio	

SECTION IV

ABBREVIATIONS USED IN ROSTER

- A -

AF: Air Force.
AFB: Air Force Base.
AIR: Department of the Air Force.
AMC: Air Material Command.
AMS: Army Medical Service.
ARDC: Air Research and Development Command.
ARMY: Department of the Army.
ASAT: Air Science and Tactics.
ATIC: Air Technical Intelligence Center.
ASU: Army Service Unit.

- B -

BOQ: Bachelor Officers Quarters.
BRL: Ballistic Research Laboratories.
BuAer: Bureau of Aeronautics.
BuMed: Bureau of Medicine.
BuOrd: Bureau of Ordnance.
BuShips: Bureau of Ships.
BuYDs: Bureau of Yards and Docks.

- C -

Chf: Chief.
CIC: Counter Intelligence Corps.
CML: Chemical Corps.
Cml C: Chemical Corps.
CO: Commanding Officer.
COMM: Department of Commerce.
CG: Commanding General.

19945
19292

CIOS

Investigation of chemical warfare Installations in the Munsterlager area Including Raubkammer"

See Mengele page 27

* = interviewed by CIOS team

Ambros pg 44 *
Klenck pg 44
Vogel pg 40

19946

INVES[illegible] RAUBKAMMER

Dr. Abe' Heeres Gasschutz Laboratorium Spandau

1) pg 30 CIOS "Investigation of Chemical Warfare Installations in the Munsterlagger Area Including Raubkammer"

Name INDEX # 40 to CIOS "Investigation of Chemical Warfare Installations in the Munsterlagger Area"

Dr. Ambros, Otto

Dr. Heinz Artelt

Baurat Dr. Athen
ARMY

Lt. Bauer

? Major Bauer

Hpt. Karl Baumann

Atsrat Beck

FL. Ing. Beckert

Kapt. z. See Bentlage

* Ob. Reg. Baurat Dr. Beyer von

Reg. Baurat Dr. Bitzken

*
Prof. Dr. Blome
ARMY

Oberstleutnant Bode (Heer)

? — Haupt Böhm

Bolke Heeres Gasschutz Laboratorium Spandau

Prof. Doctor Borchers
Heeres Versuchstelle Raubkammer Bei Munster

Oberst von Borstell

LUFTWAFFE

19947
~~19294~~

Dr. Boschmann — Heeres Gasschutz Laboratorium Spandau

O. B. Bottger — Heeres Gasschutz Laboratorium Spandau

H.A. Dr. Gerhard Böttger — Heeres Gasschutz Laboratorium Spandau

Dr. Bottman — Heeres Gasschutz Laboratorium Spandau

Reg. Baurat Dr. Braeunig

*

Dienststelle Prof. Brandt

Dr. Brudy

Oberstleutnant Büchler
ARMY

Stabsartz Dr. Budde

General der Infantrerie Buhle

Dr. Bull

Dr. Carls — Heeres Gasschutz Laboratorium Spandau

Major Clement

Oberst Dipl. Ing. Crohn

Reg. Chemie Rat Dr. Daehlmann

Oberst Dipl. Ing. de Bouche

Major Dederschek

Reg. Chemie Rat. Dr. Graf Degenfeld

Oberst Dielitz
Heeres Gasschutz Laboratorium Spandau
ARMY

19948
~~19295~~

O. [illegible] B. R. Dietz

Reg. Dr. Ing. Dithmar

Ob Baurat Dr. Donath

Dr. Dörken Heeres Gasschutz Laboratorium Spandau

Reg. Rat. Dr. Drinks

Min. Rat. Dr. Dwilling

Min. Rat. Dr. Ehmann

Dr. Ender Heeres Gasschutz Laboratorium Spandau

Oberst Engelter

Ob. Reg. Chemie Rat. Dr. Ensfellner
LUFTWAFFE

R.B.R. Dr. Erwin Fahrenholtz
Heeres Versuchstelle Raubkammer Bei Munster

~~Min. Rat. Prof. Dr. Eschenbach~~
ARMY

Major Fechner

Dr. Heinz Feigs Heeres Gasschutz Laboratorium Spandau

Dr. Walther Fensch Heeres Gasschutz Laboratorium Spandau

Min. Rat. Dr. Fischer
ARMY

Dr. Alfred Flugel

Prof. Flury

19949
~~19296~~

FL. Haupting. Dr. Frank

OB Ing. Franke
Wa. Prüf. 9

ORBR Dr. V. Müllenheim Franzke
Wa. Prüf. 9

Dr. Fusting — Heeres Gasschutz Laboratorium Spandau

Oberret. Baurat Dr. Gaertner

Direktor Dr. von Gagern
ARMY

BerstDipl. Ing. Gaul

Reg. B. Dr. Gebhardt

Oberst (W) Geissler

Oberst. Geist
ARMY

Dr. Gemeinhardt
ARMY

Oberinspektor Gerloff

Gen. Major Dipl. Ing Zimmermann Gertreter

Oberst-Vet. Geweniger

Ober-Teg. Baurat Dr. Glupe

Oberstleutnant Goellner

Dr. Grassow — Heeres Gasschutz Laboratorium Spandau

O. Amt. Gritzka

FL. Stabsing Grüner

19950
~~19297~~

Kerv. Kapt. Grupe.

Guderian, (General der Panzertruppe)
ARMY

ABR Dr. Guggolz

Gunzel Heeres Gasschutz Laboratorium Spandau

Prof. Dr. Haase

Obberinspektor Hahn

Hahnel Heeres Gasschutz Laboratorium Spandau

Oberstleutnant von Harsdorf

Oberstleutnant Heimann

Inspektor Heise

Adjutant Major Heitefuss

Reg. Bau Rat. Dr. Hennings

Gen. Major Dipl. Ing. Hernici

Sdf. Dr. Herold
Wa. Prüf. 9

Dr. Herrmann Heeres Gasschutz Laboratorium Spandau

Dipl. Ing. Hess

O. B. Dr. Hildebrand Heeres Gasschutz Laboratorium Spandau

Kerv. Kapt. Dr. Hirasch

Oberst. Dr. Hirsch
Wa. Pruf. 9

19951
~~19298~~

pg 7 & 13 CIOS 'Investigation of Chemical Warfare Installations in

Dr. Hoffmann

Dr. Holm ---- Heeres Gasschutz Laboratorium Spandau

O. B. Dr. Holtzapfel ---- Heeres Casschutz Laboratorium Spandau

Oberst Dipl Ing. Holzheuer

Oberst. Dipl. Ing. Huck

Reg. Baurat Dr. Ide

General der Pioniere Jacob

ORBR Dr. Janssen

Gen. Leutnant Dipl. Ing. John

Gen. Major von Junck

Professor Jung ---- Heeres Casschutz Laboratorium Spandau

Oberst Justrow

RBR Dr. Kaiser

Dr. Kappes

Dr. Käsel ---- Heeres Gasschutz Laboratiorium Sapndau

Oberleutnant Kassebarth

Dr. Killinger

Oberstleutnant Kirchner

Oberst Dipl. Ing. Kittel

ARMY

1) pg 38 CIOS "Investigation of Chemical Warfare Installations in the Munsterlagger Area Including Raubkammer"
Infantry weapons.

pg 42 same - Panzer defence

19952
19299

Dr. Ing. Klenk

*

Prof. Dr. Kliewe, Heinrich

Ob'tn. Klingbeil

Stabsveterinar Knebel

Min. Dir. Dr. Knipfer

Dr. Hans Kobs Heeres Gasschutz Laboratorium Spandau

O. B. Dr. Koch

O. B. Dr. Kock Heeres Gasschutz Laboratorium Spandau

Dr. Kölliker, Rudolph Heeres Gasschutz Laboratorium Spandau

Prof. Min. Rat. Kölzer

Dr. Körbler

Reg. Rat. Dr. Kornemann

Min. Rat. Prof. Dr. Koschmieder

Prof. Dr. Krauch

Baurat Dr. Kraus

Oberstleutnant Dr. Ing. Kröber

Reg. Rat. Prof. Dr. Krull

Oberstabartz Dr. Kruse

R. Kuhk (R.B.)

Min. Rat. Dipl. Ing. Küssner

ARMY

1) pg 39 CIOS "Investigation of Chemical Warfare Installations in the Munsterlagger Area Including Raubkammer"

Erection of fourts and gas defence of fortifications

19953

19300

Min. Rat. Dr. Laugner

Gen. Leutnant Laule

Major Lauscher

General d. Art. Leeb

Min. Rat. Dr. Leinweber

Dr. Leopold Heeres Gasschutz Laboratorium Spandau

Oberst Dipl. Ing. Letis (Ö)

Ministerialrat Dr. V. D. Linde

Min. Dri. Lindner

Oberst Dipl. Ing. Lorentz

Flieger Stabs Ing. Dr. Löwa

Oberzahlm Löwenstädt

Baurat Dr. Lucke

Dr. Luchsinger

Oberst Lukaseder (Ö)

Dr. Mai Heeres Gasschutz Laboratorium Spandau

Dr. Marin (O.B.) Heeres Gasschutz Laboratorium Spandau

Min. R. Prof. Marks

Gen. Ing. Marquardt
Luftwaffe

1) pg 47 CIOS "Investigation of Chemical Warfare Installations in the Munsterlagger AREa Including Raubkammer"
War gas and smoke. Oberkommando der Luftwaffe / technische Luftruestung / Fliegerische Entwicklung.

19954
~~19301~~

Fl. Haupting. Dr. Marthaler

Oberstleutnant Matt

Dr. Karl Mehls — Heeres Gasschutz Laboratorium Spandau

Dr. Meiner — Heeres Gasschutz Laboratorium Spandau

Adjutant Mengele

Prof. Menzel

Dr. Metzener — Heeres Gasschutz Laboratorium Spandau

Kapt. z. See Dipl Ing. Meusemann
NAVY, GERMAN

Stabsveterinar Meyer

Min. Rat. Dr. Mielenz (see also Milenz)

RBR Dr. Mieller

Min. Rat. Milenz (also see 'Mielenz')

Reg. Rat. Dr. Moll

Min. Rat. Moyn

Ober. Teg. Rat. Dr. Ulrich Mueller

FL. Stabsing. Dr. Muttone

Dr. Nedopil

Dr. Niemann

Dr. Niggemeier — Heeres Gasschutz Laboratorium Spandau

') pg 34 CIOS "Investigation of Chemical Warfare Installations in the Munsterlagger Area" Including Raubkammer" Semi-Technical Scale Plant "...quality required for interrogation"

19955
~~19302~~

ORB? Dr. Nobbe

Oberstleutnant Dipl. Ing. Nowotny (Ö)

Generalleutnant Ochsner

Min. Rat. Dr. Oelshausen (Obelshausen)

Oberstleutnant Dipl. Ing. Otto

Prof. Picker

Dr. Pinnow

Major Pistor
Heeres Versuchsstelle Ruabkammer Bei Munster

Prof. Dr. Planck

Direcktor Plett

Nin. Dir. Dipl. Ing. Pollert

Flieger Stabs Ing. Dr. Preiss

Fl. Stabs. Mg. Dr. Pritzkow

Major Prohaska

Oberstabartz Dr. Prüsener

Prof. Quasebart

O.B. Dr. Reetz

Wa. prüf. 9

?

Dr. Reimer

Oberstabstartz Dr. Reinecke

Ob. Baurat Dr. Reinknecht

ARMY

1) pg 41 CIOS "Investigation of Chemical Warfare Installations in

19956
~~19903~~

Dr. Remarski

Dr. Richter
Heeres Versuchstelle Raubkammer Bei Munster

*
Gen. Stabs-Vet. Prof. Dr. Richters

Lt. Ritter

Dr. Roch

Dr. Roedig

Dip. Ing. Rogge

Oberschirrm Ropers

Oberstarzt Prof. Dr. Rose (see other Prof. Rose card)

Prof. Dr. Rose

Gen. Major Kipl. Ing. Rossmann

Major Dr. Rudiger

Dr. Rugsicke

Dr. Schaeffler Heeres Gasschutz Laboratorium Spandau

Major Scheiner

Staatsrat Schieber

Flieger Stabs Ing. Dipl. Ing. Schiedler
Schiedier

Dr. Schlinker Heeres Gasschutz Laboratorium Spandau

1) Page 29 CIOS "Investigations of Chemical Warfare Installations in the Munsterlagger Area Including Raubkammer"
Analytical Chemical

19957
~~19304~~

Dr. Schlüter, Rudolf Heeres Gasschutz Laboratorium Spand-

RBR Dr. Strauss. Ing. Schmid.

Min. Rat. Dr. Schmidt

Oberst Liet. Dip. Eng. Schmidt

Baurat Dr. Siegfried Schmidt

Dipl. Ing. Schmieto
ARMY

Ing. Schneidewind

Reg. Rat. Dr. Schoenwaldt

Direktor Dr. Ing. Scholler

Dr. Rudolf Schönemann Heeres Gasschutz Laboratorium Spandau

R B R Dr. Schreiner

Oberst Dr. Ing. Schubert
ARMY

Gen. Bet. Dr. Schulz

ARMY
1) pg 36 "CIOS " Investigation of Chemical Warfare Installations

C. B. Dr Schultz-Overberg Heeres Gasschutz Laboratorium Spandau

*Min. Dir. Prof. Dr. Schumann

ARMY

Dr. Schusteritz Heeres Gasschutz Laboratorium Spandau

Obergruppenführer Dr. Schwab

B. Schweckendiek Heeres Gasschutz Laboratorium Spandau
1) pg 29 CIOS "Investigation of Chemical Warfare Installations in the Munsterlagger Area Including Raubkammer"
Phus. Measurements - Smoke *Interviewed

19958
19305

Forstmeister Dr. Schwerdtfeger

Oberstartz Dr. Sextel — Heeres Gasschutz Laboratorium Spanda

Oberst. Von. Sicherer

Dr. Siemens — Heeres Gasschutz Laboratorium Spandau

Obersteutnant Dr. Ing. Singer.

Oberst von Dechend Sodemann

Ministerium Speer

Dr. Sperling — Heeres Gasschutz Laboratorium Spandau

Dr. Stadler — Heeres Gasschutz Laboratorium Spandau

Oberst Dipl Ing. Stammbach

*Min. Rat. Dr. Stantien

Flieger Ob. Ing. Stein

Ob. Teg. Chemie Rat Dr. Stobwasser

Dr. Otmar Strasser — Heeres Gasschutz Laboratorium Spandau

Insp. Striebel

Gen. Leutnaut Stubenrauch

O. B. Dr. Stuhldreer — Heeres Gasschutz Laboratorium Spandau

Min. Rat. Dr. Taeglich

1) pg 45 CIOS "Investigation of Chemical Warfare Installations in the Munsterlagger Area Including Raubkammer" Reichswirtschaftsministerium. Factory and transport safety questions.

19959
~~19306~~

Dr. Tanne Heeres Gasschutz Laboratorium Spandau

Oberst. Dipl Ing. Teutsch

Ob. Ing. Thiel

Min. Rat. Dr. Thiele

Prof. Dr. Thiessen

Freg. Kapt. Dr. Tobias

Georg Trautmann

Reg. Chemie Rat. Dr. Tübben

Dr. Turrel

Dr. Rudolf Ulm Heeres Gasschutz Laboratorium Spandau

Chemiker Dr. Vogel

Oberleutnant Vogel

Dr. Heinz Vogt Heeres Gasschutz Laboratorium Spandau

Gen. Major Dipl. Ing. Waeger

ORBR Prof. Wagner

*

Professor Dr. Waldmann

Min. Rat. Weinberg

O.R.B.R. Weinzierl
Heeres Versuchstelle Ruabkammer Bei Munster

Prof. Wimmer

1) pg 53 CIOS 'Investigation of Chemical Warfare Installations in the Munsterlagger Area Including Räubkammer "
"Personality required for interrogation"
work in Toxicology at Strasburg University

19960
~~19307~~

Dr. Winkler

Dr. Winkler Heeres Gasschutz Laboratorium Spandau

Prof. Fritz Wirth

Oberstarzt Prof. Dr. Wolfgang Wirth

Oberstleut Wobit

Oberst Dipl. Ing. Wöhlermann

Dr. Wolf (?) Heeres Gasschutz Laboratorium Spandau F. 1.

Dr. Johannes Wolf Heeres Gasschutz Laboratorium Spandau F.2.

Min. Rat. Dr. Wuelfken

Dr. Wurster

Oberleutnant Zabel

Ungeft Zachow

Dr. Zeumer (O.B.) Heeres Gasschutz Laboratiorium Spandau

FL. Stabsing Zuschrott

Erprobungstelle der Luftwaffe

a) pg 33 CIOS "Investigation of Chemical Warfare Installations in the Munsterlagger Area Including Raubkammer" Maintenance of S.C.I. and i/c workshops

pg 48 same - full title Flieger Stabs. Ing. Dr. Zuschrott Erprobungsstelle der Luftwaffe Munster-Nord. Work analogous to Army experimental station at Raubkammer.

pg 53 same - "Personality required for interrogation"

19961
19308

Chemical Warfare
I. G. FARBENINDUSTRIE A-G.
Office Building, Frankfurt/Main
by Irving H. Jones, U.S. Bureau of Mines

OACSI Files

Kuhn

Otto Ambros
DR. Bachem
Oberingenieur Bielfinger
DR. Blumbach
DR. von Boch
Helmuth Borkwardt
DR. Danz
Paul Denicker
Gerhardt Ehlers
Walter Flotho
Gunther Gorr
Hans Hanke
Gerhardt Hartmann
Professor Hoerlein
DR. Hoyer
DR. Kaup
Wilhelm Kleinhans
Hans Koenig
DR. Kranz
von der Linde
Oskar Loehr
DR. Erich Noack
Oberingenieur Schmahl
Schnitzler
? - Gerhard Schrader - see pg 4 sect II OACSI Project 4693 Custodian of Foreign Country Documents II
DR. Stadler
Ernest A. Struss
• DR. Tolkmitt
DR. Ulrich
• Herr Vegel
Dr. Wurzschmidt

19962
~~19389~~

Himmler, flanked by Duerrfeld and other I.G. representatives, in his March 1941 inspection of the Auschwitz plant. Courtesy of the YIVO Institute for Jewish Research.

Auschwitz, the extermination center where four million human beings were destroyed in accordance with the "Final Solution of the Jewish Question," was chosen by I.G. as the site for the plant for its unlimited reservoir of death camp laborers. Courtesy of the YIVO Institute for Jewish Research.

Otto Ambros, expert on poison gas and synthetic rul the I.G. managing board, sentenced to imprisonmen slavery and mass murder.

Heinrich Buetefisch, chemist and member of the I.G. tenced to imprisonment for six years for slavery and

F. PART TIME SERVICE WITH ORGANIZATIONS / F. Mitgliedschaft oder Nebendienst in anderen Organisationen

117. With the exception of those you have specifically mentioned in Sections D and E above, list: a. Any part time, unpaid or honorary position of authority or trust you have held as a representative of any Reich Ministry or the office of the Four Year Plan or similar central control agency; b. Any office, rank or post of authority you have held with any economic self-administration organization such as the Reich Food Estate, the Bauernschaften, the Central Marketing Associations, the Reichswirtschaftskammer, the Gauwirtschaftskammern, the Reichsgruppen, the Wirtschaftsgruppen, the Verkehrsgruppen, the Reichsvereinigungen, the Hauptausschüsse, the Industrierings and similar organizations, as well as their subordinate or affiliated organizations and field offices; c. Any service of any kind you have rendered in any military, paramilitary, police, law enforcement, protection, intelligence or civil defense organization such as Organisation Todt, Technische Nothilfe, Stoßtruppen, Werkscharen, Bahnschutz, Postschutz, Funkschutz, Werkschutz, Land- und Stadtwacht, Abwehr, SD, Gestapo and similar organizations.

117. Unter Auslassung der bereits in Abschnitten D und E beantworteten Punkte führen Sie an:

a) Jedwedes Nebenamt, einflußreiches unbezahltes oder Ehrenamt oder Vertrauensstellung, welche Sie als Vertreter eines Reichsministeriums oder der Leitstelle für den Vierjahresplan oder ähnlichen Wirtschaftsüberwachungsstellen innehatten.

b) Amt, Rang oder einflußreiche Stellung jedweder Art, welche Sie bei öffentlich-rechtlichen Selbstverwaltungskörperschaften innehatten, wie z. B. dem Reichsnährstand, den Bauernschaften, den Hauptvereinigungen, den Reichswirtschaftskammern, den Gauwirtschaftskammern, Reichsgruppen, Wirtschaftsgruppen, Industrieringen oder ähnlichen Körperschaften, sowie bei deren untergeordneten und angeschlossenen Körperschaften und Gebietsstellen.

c) Jeglichen Dienst in militärischen, militärähnlichen, polizeilichen, Gesetzvollzugs-, Schutz-, Aufklärungs- oder Luftschutzdiensten, wie z. B. der Organisation Todt, der Technischen Nothilfe, den Stoßtrupps, Werkscharen, dem Bahnschutz, Postschutz, Funkschutz, Werkschutz, der Land- und Stadtwacht, Abwehr, des SD, der Gestapo und ähnlichen Organisationen.

From von	*To* bis	*Name and type of organization* Name und Art der Organisation	*Highest office or rank you held* Höchstes Amt oder Rang erreicht	*Date of your Appointment* Antrittsdatum	*Duties* Pflichtenkreis
		none			

G. WRITINGS AND SPEECHES / G. Veröffentlichungen und Reden

118. List on a separate sheet the titles and publishers of all publications from 1923 to the present which were written in whole or in part, or compiled or edited by you, and all public addresses made by you, giving subject, date, and circulation or audience if they were sponsored by any organization, give its name. If no speeches or publications write "none" in this space.

118. Geben Sie auf einem Extrabogen die Titel und Verleger aller von Ihnen seit 1923 bis zur Gegenwart ganz oder teilweise geschriebenen, zusammengestellten oder herausgegebenen Veröffentlichungen und alle von Ihnen gehaltenen öffentlichen Ansprachen und Vorlesungen, mit Angabe des Themas, Datums, der Auflage oder Zuhörerschaft. Falls Sie unter Obhut einer Organisation standen, geben Sie deren Namen an. Falls keine Reden, Ansprachen oder Veröffentlichungen, setzen Sie das Wort „keine" ein. none

H. INCOME AND ASSETS / H. Einkommen und Vermögen

119. Show the sources and amount of your annual income from January 1, 1931 to date. If records are not available give approximate amounts.

119. Herkunft und Beträge des jährlichen Einkommens vom 1. Januar 1931 bis zur Gegenwart. In Ermangelung von Belegen sind ungefähre Beträge anzugeben.

Year Jahr	*Sources of Income* — Einkommensquelle	*Amount* Betrag
1931		
1932		
1933		
1934		
1935	} Tech. Büro, Berlin	2500.-
1936		3.200.-
1937		4200.-
1938		3
1939	} I. G. Farben	3
1940		8,200.-
1941		9800.-
1942		11200.-
1943		12300.-
1944		
1945		

120. List any land or buildings owned by you or any immediate members of your family, giving locations, dates of acquisition, from whom acquired, nature and description of buildings, the number of hectares and the use to which the property is commonly put. — 121. Have you or any immediate members of your family ever acquired property which had been seized from others for political, religious or racial reasons or expropriated from others in the course of occupation of foreign countries or in furtherance of the settling of Germans or Volksdeutsche in countries occupied by Germany? — 122. If so, give particulars, including dates and locations, and the names and whereabouts of the original title holders. — 123. Have you ever acted as an administrator or trustee of Jewish property in furtherance of Aryanization decrees or ordinances? — 124. If so, give particulars.

120. Ihnen oder unmittelbaren Angehörigen Ihrer Familie gehöriger Grundstücks- oder Hausbesitz. Erwerbsdatum, von wem erworben, Art der Häuser, Grundstücksgrößen in Hektaren und die übliche Verwendung des Besitzes sind anzugeben.

none

19964
1934

9

w.

Wenn Sie die erbetenen Vordrück zu mir baldigst zustellen könn-ten.

Mit bestem Dank im voraus, und

Heil Hitler.

Maria Schönbein

X
10

Irene Schoenbein

Westerland-Sylt, den 30.11.38.
Richthofenstr. 9

Eingang 2 XII 1938

An
SS Rasse- und Siedlungshauptamt

2. 12 38.

Im Auftrage meines Bräutigams, Dr. Josef Mengele
Frankfurt a/M
Paul Ehrlichstr.30,
der zur Zeit seinen Militärdienst macht, möchte ich Sie bitten mir doch möglichst bald, die vor etwa einem Monat eingeforderten Formulare für einen Ahnennachweis zwecks Verlobungsgenehmigung zu senden. Wegen der Abwesenheit meines Verlobten bitte an meine obenstehende Adresse. Für baldige Erledigung wäre ich Ihnen sehr dankbar.

Heil Hitler.

Irene Schoenbein

2. Dez. 1938

19966
19313

Irene Schönbein

Westerland-Sylt 4
Richthofenstr. 9 8
den 7.12.38

An die
SS Pflegestelle
bei der
SS Standarte
Frankfurt/Main

9.12.38
Sch.

Betrifft: Verlobungs- u. Heiratsgesuch
des Dr. Josef Mengele
Frkft. a/M. Kaulbachstr. 30

Der Chef des Rasse- u. Siedlungshauptamtes der SS teilt mir unter dem 5. dieses Monats mit, daß mein Schreiben vom 30.11. zuständigkeitshalber an Sie weitergeleitet worden sei.
Da unsere Verlobung in Kürze geplant ist (mein Verlobter ist zur Zeit beim Militär) wäre ich Ihnen sehr verbunden,

19967
19314

27. Kempfle Creszentia, born Ochsenbrunn 3/12/1776 died Günzburg 12/12/1852.

Greatgrandparents: 12. Hupfauer Josef, born Bubesheim 1/15/1805 and died same 4/18/1884 was farmer. 13. Wieland Walburga vorn Bubesheim 5/5/1810 died same 8/11/1882.

Grandfather Hupfauer Franz Josef born Bubesheim 6/8/1849 and died Günzburg 10/6/1914

Mother 3. Hupfauer Walburga born Echlishausen 12/12/1880.

24 58-63 Great-great-great grandparents 58. Weaver

28-31 Great-great grandparents: 28. Bux Franz born Krumbach 10/7/1773 died same 1/29/1843 was milling master. 29. Mayr Maria Crescentia born Oberrohr 4/2/1778 and died Krumbach 3/24/1843. 30. Neher Joahn Eng born Zwirtemberg 7/21/1767 died same 10/7/1816 was farmer. 31. Katzenmeier Elizabeth born in Fleischwangen in Saulgau 11/19/1778 and died in Unterahnau 12/15/1850.

Greatgrandparents: 14. Bux Ignatz born Krumbach 3/4/1804 died in Babenhausen 12/10/1858 was city miller. 15. Neher Maria Anna born Zwirtemberg 4/10/1814 and died Babehausen 12/7/1853.

Grandmother 7. Bux Theresia born Babenhausen 2/5/1850 and died Günzburg 6/25/1897.

25 Substantiation for missing information and notes:

6/7 Original Certificate of Marriage is at the SS personal dossier of the applicant (Proof of Descent).

19968
~~19315~~

Sip.III ---/38 B/L.

Berlin SW.68, den 5.Dez.1938.
Hedemannstraße 22-24

Urschriftlich

an die SS-Pflegestelle bei der 2.SS-Standarte
Frankfurt/Main

zur weiteren Bearbeitung übersandt.
Übgabenachricht ist erteilt.

Der Chef des Sippenamtes
im Rass.-Hauptamt SS
i.A.:
SS-Untersturmführer u.Referent.

9. Miehler Thekla, etc.

Grandfather 4. Mengele Alois born in Lutzingen 9/16/1843 and died in Höchstädt on the Danube 6/7/1917. Rooftile factory owner.

Father 2. Mengele Karl born Höchstädt on the Danube, 3/20/1884, factory owner,

22 40-47 are Great-great-great grandparents

20-23 are Great-great grandparents: 20. Mair Joannes born Sonderheim died Höchstädt 12/13/1803, was Catholic and profession was a driver.

21. Stuhler Thekla born in Höchstädt 2/7/1759

22. Häussler Franz Xaver born in Höchstädt 11/23/1782 died same town 6/18/1846, was catholic and a wage-earner.

23. Weber Katharina, born in Deisenhofen 10/1/1776 and died in Höchstädt 11/29/1853.

10. and 11. Greatgrandparents: Mayer Leonardus, born Höchstädt ~~XXXXXXXX~~ 11/6/1798 and died same town 3/10/1868 was Carpenter.

Häussler Maria Katharina, born in Höchstädt 8/31/1812 died same town 12/4/1874.

5. Grandmother Mayr Theresia: born in Höchstädt 5/20/1846 and died same town 1/8/1928.

1. Mengele Josef born Günzburg on the Danube 3/16/1911

23 48-55 Great-great-great grandparents.

24-27 Great-great grandparents: 24. Hupfauer Johann Nepomuk, born Bubesheim 5/15/1776 and died same 5/16/1841 Was a Farmer. 25. Held Magdalene born Bubesheim 7/26/1780, died same 11/17/1805. 26. Wieland Basilius born Bubesheim 6/14/1761 and died same 5/6/1844 was farmer

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Acting EPA chief let Dow edit dioxin study

WASHINGTON (UPI) — The man named to temporarily replace Anne M. Burford as head of the Environmental Protection Agency allowed the Dow Chemical Co. to alter a 1981 report that blamed the firm for dioxin contamination of Michigan rivers, it was reported today.

The original draft of the report, written in EPA's Chicago office, was turned over to Dow for editing by John Hernandez, the acting agency administrator, NBC News said in its program "Overnight."

A Dow spokesman told NBC it was not unusual for the agency to give the company a document "for scientific peer review."

"Dow Chemical of Midland, Mich., ... has been the primary contributor to contamination of the Tittabawassee and the Saginaw rivers and Lake Huron," the original study reportedly said.

But Chicago EPA officials told NBC that Hernandez, then a deputy adminstrator, allowed Dow to remove the sections blaming the company for the dioxin pollution.

"We were under the gun by Dow to change the report," the network quoted an unidentified EPA official in Chicago as saying.

"The decision (to allow Dow to edit the report) was reached and executed by headquarters without asking us about it," the agency's regional administrator in Chicago told NBC.

Asked what he thought about that decision, he said, "You're putting me on the spot. ... "Let's just say I stand by the original report."

Hernandez was named to replace Burford when she resigned under fire last week until a permanent replacement could be found.

☐ **Environmentalists urge that work at Dow be suspended pending study of dioxin threat. Page A14.**

John Hernandez

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Three panels to probe editing of Dow report

3-16-83

☐ Related article, Page A2.

From Journal Washington Bureau, UPI reports

WASHINGTON — At least three panels are poised to look into charges that John Hernandez, currently the acting head of the Environmental Protection Agency, personally ordered a 1981 report changed to delete a statement blaming Dow Chemical Co. for high dioxin levels near Dow's Midland plant.

Scheuer

Hernandez himself issued a statement Tuesday saying he had shared the report with Dow. He said that, in hindsight, he should have circulated the report more widely to seek a broader spectrum of comment.

In a press conference Tuesday, Rep. James H. Scheuer, D-N.Y., said he had evidence that Hernandez, then EPA deputy administrator, ordered deletion of a sentence in a draft report on Great Lakes dioxin contamination. It said Dow's Midland plant "represented the major source, if not the only source, of dioxin contamination found in the Tittabawassee and Saginaw rivers and Saginaw Bay."

SCHEUER, chairman of a House Science and Technology subcommittee that has been investigating possible EPA interference with scientific studies of environmental problems, said he will conduct a hearing next Wednesday into the incident. He said the hearing will look into whether any "impropriety, illegality or criminality" was involved.

Scheuer released copies of EPA's draft report, which blamed Dow for high dioxin levels in the Midland area, and the final report, which omitted that reference. He also released copies of what were purported to be the hand-written notes of a Chicago EPA official compiled during a telephone conference call with Dow representatives who had reviewed the draft report.

"(Dow is) critical of EPA's conclusions," the notes said.

Scheuer did not document his charge that Hernandez "personally ordered" deletion of the sentence blaming Dow for the dioxin. But he said evidence of Hernandez' role would be furnished at next week's hearing.

HERNANDEZ ISSUED a statement later in the day admitting he instructed EPA's dioxin work group to share a copy of the draft report with Dow Chemical. He said he did so because a draft of the study already had appeared in a Canadian newspaper, and the study could have been obtained through a Freedom of Information Act request.

The report contained information that had been generated by Dow, Hernandez said, adding that he told Dow to send its reponse to the EPA regional office in Chicago.

"At the time of these events, I believed that it was important to have agency documents reviewed by knowledgable scientists (including Dow's)," he said. "I still believe in that approach.

"However, upon reflection, I believe it might have been better to have circulated the draft report for comment more widely."

A copy was sent to Michigan Gov. William G. Milliken.

DOW OFFICIALS have confirmed that they reviewed the report, but they said it was part of the peer review process that is routine for scientific reports.

However, Scheuer said Hernandez provided the report to Dow before the peer review process, which he called an "unprecedented intervention" in EPA internal affairs.

The investigations and oversight subcommittee of the House Public Works and Transportation Committee, headed by Rep. Elliott H. Levitas, D-Ga., was scheduled to question Hernandez about this and other alleged improprieties at a hearing today. Rep. Donald Albosta, D-Mich., who represents the Midland area, is a member of the subcommittee.

Rep. John D. Dingell, D-Mich., chairman of the House Energy and Commerce oversight and investigations subcommittee, has scheduled a hearing Friday on the same issue.

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EPA head denies ordering kills in Dow report

3-17-83

By ROBERT LEWIS
Journal Washington Bureau

WASHINGTON — John W. Hernandez Jr., the acting head of the Environmental Protection Agency, has denied under oath that he ordered deletion of passages in an EPA report on the Dow Chemical Co. The report blamed Dow for dioxin contamination in two Midland-area rivers and Saginaw Bay.


Hernandez

"I asked them (EPA scientists) to consider Dow's comments but no more than that," Hernandez said. "In terms of saying, 'You must do these things,' absolutely not."

Hernandez spent more than six hours on a congressional witness stand Wednesday defending the embattled agency against charges that it has coddled polluters, used the Superfund toxic waste cleanup program for political purposes and shown deference to industry.

Rep. James H. Scheuer, D-N.Y., stood by his charge that Hernandez had ordered deletion of the passages, saying Hernandez was making "a distinction without a difference."

He may not have given explicit orders to kill the language, Scheuer's office said, "but when the No. 2 man in the agency grabs the regional director by the lapels, calls his draft report 'sorry science,' and says he will be hearing from Dow, the effect is the same."

HERNANDEZ'S testimony also was at variance with Dow on another key point — who initiated contact. Dow's Washington spokesman, Richard Long, said Hernandez invited the company to review the 1981 report and comment on it.

But Hernandez said Wednesday that Dow had asked him for the document following publication in the Toronto Globe and Mail of a news story based on a leaked copy of the report. He said he acted in the belief the report would have to be released if a request were received under the Freedom of Information Act.

Pressed by Michigan Rep. Donald J. Albosta, D-St. Charles, to explain why other companies or consumer and environmental groups also were not given a chance to review the document, Hernandez admitted it was a mistake to show it only to Dow. It also was sent to then-Michigan Gov. William G. Milliken, who had requested it.

But he rejected a characterization that he used "bad judgment" in the incident, which took place less than a month after he joined EPA as deputy administrator under recently resigned Anne McGill Burford.

The White House, meanwhile, reported that EPA's inspector general was investigating Hernandez's role. Larry Speakes, President Reagan's press secretary, said if any wrongdoing is unearthed, the case would be referred to the Justice Department for possible prosecution.

The passages that Dow objected to, and that were deleted from the final report, linked dioxin to cancer and birth defects and identified Dow's Midland plant as the source of high dioxin levels in the Tittabawassee and Saginaw rivers and Saginaw Bay. A recommendation against eating fish from the rivers also was deleted.

DOW CONTENDS that dioxin, a byproduct of herbicide manufacturing, escapes into the environment through normal combustion and is found in widely scattered areas.

Hernandez said allegations regarding Dow and the health effects of dioxin exposure "were not proven in the report," which was compiled by EPA's Chicago regional office.

"I was concerned about the accuracy of the report and the ability of its authors to draw conclusions," he said. He said he discussed the report with Dr. Donald Barnes, head of an EPA dioxin study group, but did not tell him what to delete.

EPA officials in Chicago told the Associated Press that the deletions were ordered by Barnes' study group.

Albosta, whose district takes in Dow's Midland plant, questioned whether EPA was looking out for the health of people living near the Dow plant.

"The Environmental Protection Agency's record and its integrity have gone down the drain," he said.

Albosta appeared surprised when Hernandez sa[illegible]e was unaware that Do[illegible] to give EPA infor[illegible]s of dioxin and [illegible]m its plant.

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House member accuses EPA of rigging data

The Washington Post

WASHINGTON — A House subcommittee chairman Thursday accused the Environmental Protection Agency of trying to manipulate scientific data to cut the cost of cleaning up hazardous waste sites while increasing the public's exposure to cancer-causing chemicals.

The attack on the EPA's cancer policy, one of several new allegations that surfaced Thursday, came as White House officials pressed their search for a new EPA administrator. President Reagan, after soliciting advice from five EPA career managers at a White House luncheon Wednesday, said he hopes to find a qualified candidate soon and to put the recent controversy behind him.

It also was learned Thursday that EPA Assistant Administrator John A. Todhunter, whose office awarded a non-competitive contract to a former employer, received twice as much money from the firm as he originally reported and that two of the payments were made while Todhunter was working at the EPA. Todhunter said this was simply a reporting error.

And in Alabama, state officials sued the EPA on charges the agency agreed illegally to issue a permit to allow the nation's largest waste disposal firm to truck polychlorinated biphenyls (PCBs) and other hazardous waste into the Mobile area.

AT THURSDAY'S hearing of a House Energy and Commerce subcommittee, Chairman James J. Florio, D-N.J., said: "The EPA has engaged in a deliberate attempt to rig the scientific information in an attempt to redefine one of the nation's most serious environmental problems out of existence."

Florio complained that EPA has given a "new evaluation" to highly toxic trichloroethylene, which is seeping out of Price's Pit, an abandoned New Jersey landfill, and threatening to contaminate the supply of drinking water for Atlantic City, less than a mile away.

"This new method EPA used ... increased the acceptable level (of exposure) 172 times," Florio said. An internal memo suggesting the change, sent to Acting EPA Administrator John W. Hernandez Jr. last fall, said it could limit the scope of cleanup efforts at the site.

Asked about the change, Hernandez said, "I'm a total blank ... I don't know what (method) was used at Price's landfill." Other EPA officials said the agency had taken emergency steps to monitor the contamination.

ON ANOTHER issue, EPA inspector general Charles Dempsey is investigating Todhunter's role in a $40,000 award by his office to Todhunter's former employer, Andrulis Research Corp. of Bethesda, Md.

The EPA's general counsel, Robert M. Perry, said the award would be proper provided Todhunter was not personally involved, but a spokesman said Todhunter never signed a formal letter of recusal, or disqualification. Instead, the spokesman said, Todhunter orally told his staff he would not participate in matters involving Andrulis.

Meanwhile, in Mobile, Ala., state Attorney General Charles Graddick said he has "substantial evidence" that EPA officials illegally agreed to issue a permit for a hazardous waste facility near Mobile that would be run by Chemical Waste Management Inc.

Graddick, who filed a lawsuit Wednesday to block the permit, said Denver attorney James W. Sanderson, a former part-time EPA adviser who represents the firm, "cut a deal" to get the agency's approval of the facility even before the firm had applied for a federal permit.

A spokesman for Chemical Waste Management called the charge "absurd" and the lawsuit "totally inappropriate."

3-15-83

Health group asks all states to sue EPA

WASHINGTON (UPI) — The American Public Health Association disclosed today it is making an unprecedented plea to governors of all 50 states, urging them to file suit against EPA to force a nationwide toxic waste cleanup.

Association president Anthony Robbins wrote letters to each of the governors this week, warning them that toxic chemical dumps pose "an imminent danger to public health."

His group is the major organization representing U.S. health professionals working for state and local governments. Its 50,000 members include physicians, nurses, social workers and specialists in environmental and occupational health fields.

"Public health is in jeopardy because the Environmental Protection Agency is in disarray," said Robbins, who is a physician. "When federal agencies are immobilized, each state and its governor must find a way to mobilize."

Robbins' letter comes following the worst controversy ever at EPA, stemming from growing allegations of mismanagement, conflicts-of-interest and political favoritism. Much of the dispute focuses on EPA's handling of the $1.6-billion Superfund hazardous waste cleanup program.

"The governors must not tolerate further delay in the cleanup of toxic waste hazards and should act now in order to alleviate the imminent danger to public health," the association said.

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by saying.

"A clean environment cuts across ideological lines, including this administration. We will continue efforts to protect and improve our environment."

In addition to his post in the Nixon and Ford administrations, Peterson, 67, served at the federal level as one of 12 members of a commission appointed in 1979 by President Carter to study the Three Mile Island nuclear accident. He holds a doctorate in chemistry and worked for DuPont for 26 years.

"HE (MR. REAGAN) believes regulations cost money and jobs," said Peterson. "Nothing could be further from the truth. This is job blackmail. A clean environment is good for the economy and promotes jobs.

"The major problem is the people who are hired to safeguard the environment — to determine and identify culprits — are now being told by (their) management to reverse their positions.

"A lot of us aren't going to be around to see the ultimate damage we are doing to the environment, but that doesn't mean we shouldn't be interested in doing something about it. And that includes President Reagan."

Peterson said environmentalists had not met with Mr. Reagan since he took office but had sat down with White House Counselor Edwin Meese last year. Peterson described the meeting as "insulting" and said Meese chastised them for "misinterpreting" and "misrepresenting" administration views. There have been no further meetings.

PETERSON referred to speculation that William Ruckelshaus might be reappointed head of the EPA and said such a move would be one of "several steps" which should be taken to head the agency in the right direction.

The EPA official talked to Levitas, chairman of the House Public Co.

Here are parts cut from EPA study

Environmental Protection Agency officials in Chicago said that under pressure from EPA officials in Washington they removed five conclusions from a draft report on dioxin discharges by Dow Chemical Co. of Midland. Here is the material that was in the May 1981, draft report but deleted from the final July 1981 report:

- Major environmental contamination with PCDDs and PCDFs (chlorine-based chemical substances) particularly with 2,3,7,8-TCDD isomer (dioxin) is due to the release of commercial products containing these contaminants and secondarily from the combustion of chlorophenolic or similar compounds (i.e., PCBs).
- Other combustion sources, such as automobiles and coal fired power plants, appear to be insignificant sources of PCDDs and PCDFs.
- Dow Chemical of Midland, Michigan, has extensively contaminated their facility with PCDDs and PCDFs and has been the primary contributor to contamination of the Tittabawassee and Saginaw Rivers and Lake Huron.
- The differential contamination of biological samples from the Great Lakes, being largely confined to Lake Huron and Ontario, suggests that industrial contamination is responsible.
- The consumption of fish from the Tittabawassee River, the Saginaw River, Saginaw Bay, and possibly other sites in the Great Lakes should be prohibited.

Political tabs were kept on EPA

Washington Post News Service

WASHINGTON — Former Environmental Protection Agency Administrator Anne Burford sent the White House weekly political assessments of proposed agency actions during the 1982 election campaign.

The assessments described in detail how interest groups were expected to react to EPA proposals, ranging from relaxing restrictions on lead levels in gasoline to exempting chemicals from agency review. Mrs. Burford, then Anne Gorsuch, resigned under fire March 9 amid growing accusations of criminal conduct, conflict of interest, political favoritism and mismanagement at the agency.

THE "ISSUE ALERTS" warned the White House that some proposals would be viewed as "a 'whitewash' for the chemical industry," be "attacked by Congressman (Toby) Moffett (of Connecticut) and environmental groups" or bring "strong support from the lead manufacturers."

Rep. James H. Scheuer, D-N.Y., chairman of a House subcommittee investigating the EPA, said the alerts "peel some of the outer skin from what has become the rapidly rotting onion of this administration's environmental policy. These alerts contradict many of the White House explanations and denials," in which administration officials have said they generally took a hands-off approach to major regulatory decisions at EPA.

SCHEUER SAID THE White House told him the alerts were distributed to several high-level White House aides, including presidential counselor Edwin Meese III, communications director David Gergen, political aide Edward Rollins and domestic policy assistant Richard Darman.

In a message last April, Burford described "an extremely controversial regulation" to relax limits on lead in gasoline, which scientists had warned "would send blood lead levels back up again" after a national decline.

Burford also suggested to a New Mexico refiner that it would not be prosecuted for failing to meet the current EPA lead standard. "I did advise that I could not see us driving someone out of business while we were considering changing the very rule they might be charged with violating," she told the White House.

THROUGH A spokesman, Todhunter, who earlier was accused of failing to report payments he received from a former employer, denied [illegible] order. Ms. Burford, who has left the agency, refused to discuss the matter.

Scripps-Howard News Service reported that an EPA official who was once corporate lawyer for the Adolph Coors Co. was [illegible] a 1982 EPA decision lifting a ban that had stopped Coors from dumping liquid toxic waste in a Denver landfill.

The official, Thornton Whitfield, former EPA special assistant for hazardous wastes, was later demoted for other reasons.

From News wire services.

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DOW


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Mike Stone
DID YOU READ THIS, WALTER?.. THE GOVERNMENT WILL BUY OUR HOUSE AT PRE-DIOXIN PRICES...

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DOW DIOXIN PROBE

DFP
4-29-83

The long, long road to finding a polluter

"It shall be unlawful for any persons directly or indirectly to discharge into the waters of the state any substance which is or may become injurious to the public health, safety or welfare; or which is or may become injurious to . . . livestock, wild animals, birds, fish, aquatic life, or plants . . . or whereby the value of fish and game is or may be destroyed or impaired."
— Michigan Public Acts of 1929, as amended.

By DAVID ASHENFELTER
and DAVID EVERETT
Free Press Staff Writers

As early as 1978, members of the Michigan Department of Natural Resources' technical staff were urging their superiors to take legal action against Dow Chemical Co. to halt dioxin contamination in the Tittabawassee River, state records show.

But decision-makers at DNR headquarters in Lansing repeatedly rejected the requests, fearing they lacked enough evidence to prove that the Midland chemical company was to blame.

State records show that by late 1980, top agency officials were having so much trouble gathering evidence against Dow that they wanted to let the federal government handle any possible legal action.

NOW, NEARLY five years after Dow Chemical disclosed dioxin contamination near its sprawling Midland complex, state officials say they think they can prove that Dow is the source of dioxin pollution in the Tittabawassee River. Such proof could be the basis of a lawsuit against the company to stop the pollution.

Why did it take five years?

To try to answer that question, the Free Press spent three weeks examining more than 2,700 pages of documents — many obtained under the Michigan Freedom of Information Act — and interviewing dozens of state and federal officials, environmentalists and Dow executives who were involved in the controversy.

See **DOW**, Page 10A

The dioxin dilemma: a five-year odyssey. Page 15A.

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The long road to finding a dioxin polluter

DOW, from Page 1A

The investigation revealed that Michigan's "dioxin problem" is nearing its fifth anniversary because of at least a dozen factors, including:

- The formidable legal and scientific expertise of Dow Chemical.
- The general lack of knowledge about dioxin and its possible dangers.
- Conflict and indecision in the Department of Natural Resources.
- A lack of money, manpower and equipment to evaluate dioxin.

DIOXIN, an unwanted byproduct in the manufacture of herbicides and other chemical mixtures, causes cancer and liver problems in laboratory animals. The type of dioxin of most concern to regulators is tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD), perhaps the most deadly synthetic substance known. As a poison, it is 5,000 times more potent than arsenic.

But no one really knows what years of trace contamination from TCDD does to the environment or to humans.

Some environmentalists maintain that any level of the pollutant is a hazard. Dow — a company with a good environmental record in some areas — says studies show that the tiny levels of dioxin in the Tittabawassee are not dangerous.

THE DNR, along with the U.S. Environmental Protection Agency, has spent the time since 1978 working with that conflicting information.

It was a long and painful process, admits department Director Howard Tanner, conceding in an interview last week that "five years does seem a bit long" to deal with the issue. "If the pieces had fallen into place, we would have had an enforcement action (against Dow)," he said.

But Tanner, who is leaving his post in June, believes the state did the best it could under the circumstances.

"Not a lot was known about dioxin," he said. "You pay the penalty for being on new ground."

Tanner says he believes that whatever information is found, the public has been protected by a state Public Health Department warning against eating fish from rivers near Midland. Also, dioxin levels have probably fallen in recent years because of changes in Dow's production methods, Tanner said.

> "We're not going to insist on a dead-body count to move, but you don't just want to be jumping at every chemical that has an exotic name."
>
> — *David Buzzelli*

DOW SAYS the dioxin problem has been overblown.

"The existence of dioxin in the environment is not as hazardous as many people believe," Ronald Kagel, the company's environmental quality director, said last month. People would have to spend years eating hundreds of pounds of fish before any adverse health effects were even possible, other company officials say.

David Buzzelli, manager of Dow's Agricultural Chemicals Technology Center, said recently that legal action against Dow or any other source of dioxin would be wrong until scientific proof of the chemical's danger is found.

It's also unfair to concentrate on Dow, when the company's data show dioxin may be virtually everywhere, Buzzelli said.

Some state officials argue proof of human health problems is not necessarily needed.

"We're not going to insist on a dead-body count to move, but you don't just want to be jumping at every chemical that has an exotic name," Assistant Attorney General Stewart Freeman said.

THE STATE'S problems with legal action against Dow began soon after the company's 1978 disclosure of dioxin contamination around its plant.

The cash-strapped DNR, wrestling with other pollution cases, didn't have a laboratory able to analyze the contaminant. And it couldn't afford extensive fish studies because private labs were charging $1,000 per sample.

Though the DNR and the EPA conducted some studies confirming the presence of TCDD in fish around Midland, Dow's role could not be pinpointed. Both agencies tried to get the company to release more information about its pollution, but Dow resisted, saying the state and federal governments did not have authority to make such requests.

THE STATE'S problems snowballed in November 1978, when Dow scientists, after conducting a four-month, $1.8 million research project, announced that dioxin was produced by combustion: power plants, car mufflers — even charcoal grills. The study was called "Trace Chemistries of Fire."

"You've got to stand in awe of what they achieved (by the study)," recalls DNR environmental chemist Larry Fink, whose small but vocal Lansing environmental group has criticized the state's handling of the dioxin issue. "In one fell swoop, the company dealt a death blow to the federal Clean Water Act's goal of zero (pollution) discharge. How can you make Dow Chemical stop discharging dioxin if it's everywhere?"

Gary Guenther, the department's deputy director for environmental protection, said the state has never accepted Dow's theory. "But we had no way to verify our own doubts. There was really no other source we knew of in the country that had done as much research as Dow."

DOW OFFICIALS say "Trace Chemistries" is a valid scientific study. And "I don't think we ever said *all* the dioxin was from combustion," said Ron Yocum, a science and technology director for Dow.

The DNR, unable to disprove "Trace Chemistries," tried to get the company to reveal more information through the government's water pollution permit program. However, the efforts slowed as the agency, pressured by environmentalists and by Dow, kept changing pollution limits.

Dow's political and legal expertise was also a consideration for officials debating action against the company.

Critics say the department was intimidated by Dow, and DNR officials admit they respect the company's international reputation for scientific expertise. But the state responded to the company's suggestions only when they were legitimate, officials say.

JACK BAILS, chief of the department's enforcement division, said it often takes years to gather evidence for legal action in an environmental case.

"You don't generate that kind of information in a year and a half," Bails said. "You got to remember you're dealing with a doggone competent company, and it just takes some damned time and inertia to get the public's attention."

The continued quest for information about Dow and dioxin was also complicated by the state's financial problems.

At least three statewide fish-monitoring programs requested by the DNR since 1978 were never financed, and the latest state budget proposed by Gov. Blanchard does not include a similar $444,000 proposal. Blanchard has criticized the department for failing to deal decisively with dioxin.

Wayne Schmidt, staff ecologist for the Michigan United Conservation Clubs, expressed anger over the recent frenzy to gather information about Dow and dioxin. "Why has it taken so long to go after the information?" Schmidt asked. "For whatever reasons, everyone's been sitting on their hands, and, meanwhile, the stuff just keeps washing down into Saginaw Bay."

Monday: State officials changed their minds several times in 1981 and 1982 in trying formulate a new water pollution permit for Dow Chemical Co. The resulting permit has been challenged from all sides, and Dow continues to operate on an expired 1974 permit.

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Dow's dioxin experts may not be telling the whole truth

By HELEN FOGEL
Free Press Staff Writer

Dow Chemical Co. scientists probably know more about dioxin than any group of scientists in the world.

They were among the first to recognize dioxin's toxicity, in the 1960s.

They pioneered tests to detect and analyze the chemical as it appears in minute amounts in the environment.

The techniques they developed to isolate dioxin for a controversial 1978 research project are recognized among scientists throughout the world as a standard against which all other such work may be measured.

Robert Bumb, former director of Dow's research project: "We now think dioxins have been with us since the advent of fire. The only thing that's different is our new-found ability to detect them in the environment."

BUT WHILE many scientists acknowledge Dow's command of dioxin data, some believe the giant chemical company has used that expertise to confuse rather than clarify the environmental controversy surrounding the chemical.

A case in point, they say, is the 1978 study begun by the company after Dow scientists detected dioxin in Tittabawassee River fish in 1977. The Tittabawassee is a discharge point for Dow wastewater.

The state Department of Public Health issued an advisory against eating fish from the river after the discovery. And Dow officials, concerned that the company might be cited for the discharge by the Department of Natural Resources and the Environmental Protection Agency, launched what a Dow news release described as a "crash research program to find the source" of dioxin.

AFTER FOUR MONTHS, Dow announced the results. Dioxins, they said, are all around us — in the air, the soil, the water. They are there now and may always have been there as a result of a natural phenomenon — fire.

Dow researchers found that dioxin is a naturally occurring product of combustion in sources as diverse as municipal and industrial incinerators, automobile engines, coal-fired power plants, cigarets, wood-burning stoves and fireplaces. Dow scientists even found dioxins in the ashes of backyard charcoal grills.

"Chlorinated dioxins appear to be ubiquitous," said a distinguished panel of Dow researchers in "Trace Chemistries of Fire: A Source of Chlorinated Dioxins," published Oct. 24, 1980, in Science, the journal of the American Association for the Advancement of Science.

IN A *PRESS RELEASE* announcing the research results, Robert Bumb, director of the project, who now heads Dow's Dutch affiliate, said, "We now think dioxins have been with us since the advent of fire. The only thing that's different is our new-found ability to detect them in the environment."

For a while, the study knocked Michigan's environmental watchdogs at the DNR for a loop. If dioxin was everywhere, how could Dow be singled out as a source?

"What it did was raise serious questions about whether dioxin could come from a wide variety of sources, so we would have to verify what contamination was Dow's. The basic problem was the state didn't have enough resources to do that verification," said Gary Guenther, the DNR's deputy director in charge of environmental protection.

THE DEPARTMENT and the EPA have since renewed efforts either to pinpoint or to clear Dow as the major source of dioxin pollution in the Midland area.

But as recently as last month, Bumb, testifying before a congressional subcommittee, cited "Trace Chemistries . . . " as evidence that dioxin contamination in Michigan and elsewhere came chiefly from general combustion sources.

Dr. Samuel Epstein, a noted Dow critic and an environmental activist from the University of Illinois Department of Environmental Health, has characterized the study as "nonsense." In a telephone interview, Epstein charged that Dow "deliberately manipulated and distorted" research findings to forestall regulation of chemical manufacturing.

Other scientists acknowledge in general the reliability of the Dow study; indeed, much of Dow's research has been supported by studies done in other parts of the world. Parts of Dow's study have been confirmed by scientists in the Netherlands and Sweden and at the Brehm Laboratory at Wright State College in Ohio.

BUT WHILE FEW who have studied the problem challenge the overall accuracy of Dow's research, many scientists dispute specific points, and even more dispute the uses Dow has made of its findings.

Dr. Douglas Hallett of Environment Canada, the Canadian equivalent of the EPA, described the study as "laudable . . . excellent work," but he noted that the major contamination locations or "hot spots" for the most lethal form of dioxin were in areas next to chemical manufacturing plants. That chemical — 2,3,7,8-TCDD — is one of 75 types of dioxin, but is the compound referred to as dioxin by most non-scientists.

According to Hallett, most scientists agree that the specific dioxin compound found in Tittabawassee fish and in Great Lakes herring gull eggs, water, soil and silt does not occur naturally and is a byproduct of manufacturing or burning trichloraphenol herbicides. One such trichlorophenol (2,4,5-T) was a component of Dow's Agent Orange herbicide, used widely in Vietnam.

HALLETT'S ARGUMENT is underscored by the work of Dr. Christopher Rappe, an internationally recognized dioxin authority from Sweden's University of Umea.

In an interview with the industry journal Chemical Week, Rappe contended that evidence of dioxin contamination in the Midland area pointed straight at Dow. "There is absolutely no other source for TCDD contamination in the Midland area other than Dow's manufacturing and combustion processes," he said.

Like Rappe, many scientists agree that in order to make TCDDs one must have man-made chemicals — chlorinated phenols such as 2,4,5-T — as building blocks. Burning material that contains the building blocks will also produce TCDD, they say.

MOST SCIENTISTS agree that types of dioxin other than TCDD may be produced in general combustion processes.

But at least one study has called into question parts of Dow's combustion data. Dr. Michael Gross, a University of Nebraska chemist, was unable to find dioxin in the fly ash of coal-fired power plants, as Dow reported their scientists had. He also questioned whether even the experts at Dow could detect dioxin in cigaret smoke in the minute amounts it would occur or could be collected.

"I certainly couldn't comment on their motivations for doing the (1978) study," he said in a telephone interview last week. But he praised the Dow study for pointing out the dangers of municipal incinerators, frequently inefficient and poorly maintained, which he said create substantial dioxin contamination.

Gross said the Dow study was "fair warning to people who advocate uncontrolled combustion."

What can dioxin do to you? No one really knows for sure

Dioxin is the common name for a class of 75 chemicals that more precisely are called chlorinated dibenzo-p-dioxins. However, non-scientists commonly use the term dioxin to refer to only one of the compounds, 2,3,7,8-tetrachlorodibenzo-p-dioxin or TCDD. It is an organic compound made up of hydrogen, carbon, chlorine and oxygen.

Each of the 75 dioxin compounds has its own properties and effects, and only TCDD has been examined comprehensively for its toxic effects.

Laboratory tests with rats show TCDD to be 5,000 times more lethal than arsenic. It is toxic to lab animals in very small doses.

But it is not yet clear to scientists how the human body handles the poison or what the full effect of TCDD is on humans. It is known that exposure frequently causes a serious temporary skin disorder known as chloracne and, in some people, has caused temporary mood and personality changes.

Nobody manufactures TCDD or other dioxins intentionally. The chemicals are byproducts of the manufacture of some pesticides and herbicides. They may also be created when plastics, chemicals or chemically treated wood products are burned at low temperatures. At temperatures above 1,200 to 1,400 degrees celsius, dioxins are destroyed.

Scientists also agree that dioxin isomers (compounds) other than TCDD are sometimes produced when wood and charcoal are burned and may be found in cigaret smoke and automotive exhaust.

DETROIT NEWS—Sunday, Mar. 20, 1983

Reagan finds environment hostile

Ecologist lambastes president

Continued from Page 1A

concerns.

PETERSON described the Reagan administration's relationship with alleged industrial polluters — such as Dow Chemical's reported editing of Environmental Protection Agency (EPA) dioxin reports — as a "disgraceful performance" which is "awakening the whole country to what has been going on."

"He (Mr. Reagan) believes environmental regulations on industry are harmful to the economy and should be removed," said Peterson.

"We (environmentaliats) have seen this around the country, but now with the Michigan dioxin report the entire country is getting a look at it."

Peterson said longtime environmentalist targets such as Interior Secretary James Watt and recently resigned EPA chief Anne Burford, were just "symbols" of the "real problem — the president and his ideology."

ANSON FRANKLIN, assistant White House press secretary, responded to Peterson's charges by saying:

"A clean environment cuts

AP PHOTO

NOT ME! — John Hernandez Jr. (right) gestures while talking to Rep. Elliott Levitas, D-Ga., last week during a visit to Capitol Hill. The EPA official talked to Levitas, chairman of the House Public Works Committee, after Rep. James Scheuer, D-NY., accused Hernandez of ordering changes in the EPA report on Dow Chemical Co.

New EPA chief may go next

Continued from Page 1A

that while he gave a draft of the report only to Dow he should have sent the study "out to the world." But he denied ordering or pressuring anyone to soften the study's conclusions.

THAT ARGUMENT was challenged Friday in dramatic testimony by officials from EPA's Midwest office in Chicago, who worked on the dioxin report. Valdas Adamkus, head of the Chicago office, told the subcommittee he received "marching orders" from Hernandez to alter the report.

The chief author of the dioxin study, Dr. Milton Clark, said it was "entirely inappropriate" for Hernandez to let Dow comment directly on the draft report. Dow officials argued their review was done under "normal procedures."

Another Chicago official, Karl E. Bremer, testified that Todhunter had ordered him to delete part of the report dealing with dioxin's possible link to miscarriages.

Bremer said the order was relayed to him by Todhunter's assistant, Marilyn C. Bracken.

WASHINGTON POST
April 5, 1984

Aerial Herbicide Sprays Halted by Forest Service

By Ward Sinclair
Washington Post Staff Writer

Hard hit by a string of adverse court rulings in the West and a federal judge's threat to jail Agriculture Secretary John R. Block, the U.S. Forest Service has decided to suspend the aerial application of herbicides on thousands of acres of federal forest land around the country.

Forest Service chief R. Max Peterson announced this week that his agency will abandon aerial spraying of the powerful chemicals until it can "resolve the questions" raised by the series of court orders.

Unprecedented rulings in seven cases over the past year or so virtually have halted herbicide use in six western states where the Forest Service and the Interior Department's Bureau of Land Management oversee publicly owned forests.

A BLM spokesman said yesterday that the agency did not intend to follow the Forest Service lead, since most of its herbicide use is in Oregon, where it is already under a court's suspension order until further health studies are conducted.

The suits, brought by environmentalists, have contended that the federal agencies must assess the threat of damage to human health and the environment before they continue the widespread use of weed- and brush-killing products such as 2,4-D, Roundup and Atrazine.

Although Agriculture and Interior have maintained that the Environmental Protection Agency's approval of the herbicides was sufficient proof of their safety, the courts have held that under the National Environmental Policy Act the agencies must make "worst case" analyses of the chemicals' impact.

In one of these cases, brought by the Northwest Coalition for Alternatives to Pesticides (NCAP) of Eugene, Ore., U.S. District Judge James Burns in Portland complained that the federal agencies had dragged their feet in complying with the environmental policy law.

JOHN R. BLOCK
... threatened with prison term

Last month, Burns blocked the Forest Service from using herbicides in any of its forestry operations in Oregon and Washington and warned that both Block and Interior Secretary William P. Clark could be jailed if their agencies did not promptly follow his orders.

Peterson's announcement this week said that the court rulings were based on procedural requirements of NEPA, rather than any findings "that it is unsafe to use herbicides which had been approved by the EPA."

Peterson said that ground application of the weed- and brush-killers would continue on Forest Service lands outside of Oregon and Washington. An agency spokesman said that about a fourth of the service's herbicide application is done aerially—last year, on about 68,000 acres.

NCAP director Norma Grier took issue yesterday with Peterson's contention that his agency was caught in a procedural tangle. "The real issue here is safety," Grier said.

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WITH GREAT EXPOSURE...

National television, news and prime-time entertainment programs will be used to launch "Dow Lets You Do Great Things" this fall. Color ads in major newsweekly magazines will also carry the Dow message. The chart below shows the dates, times, shows and magazines that have been chosen. On "Launch Day," September 29, and on the following Sunday, October 6, you'll notice that we're using an all network strategy. This is to maximize the number of people exposed to the campaign on these evenings. On these two nights, almost half of all adults 18 years and older will be viewing our message... over 90 million people! "Dow Lets You Do Great Things" will continue in 1986... with more national exposure on network news shows and more advertisements in major national magazines... look for us there!

PRIME TIME

Tootsie, ABC, Sunday, Sept. 29, 9 PM
NFL Monday Night Football, ABC, Sept. 30 & Oct. 7, 9 PM
MacGyver, ABC, Sunday, Oct. 6, 8 PM
Amazing Stories, NBC, Sunday, Sept. 29, 8 PM
Alfred Hitchcock Presents, NBC, Sunday, Oct. 6, 8:30 PM
Murder, She Wrote, CBS, Sunday, Sept. 29 & Oct. 6, 8 PM

NEWSPAPER/MAGAZINES

USA TODAY, Monday, September 30
Time, Monday, October 7 & November 4
Newsweek, Monday, October 14 & November 25
U.S. News & World Report, Monday, October 21 & November 11
Business Week, Monday, October 28 & November 18

LEGEND OF NETWORKS

ABC/CBS/NBC	● ABC
● ABC/CBS	■ CBS
■ CBS/NBC	► NBC
◄ NBC/ABC	

	SEPT.		OCTOBER																								NOVEMBER																			
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This Week With David Brinkley								●							●								●						■																●
NEWSPAPER/MAGAZINES		✓							✓							✓	✓							✓							✓	✓						✓								

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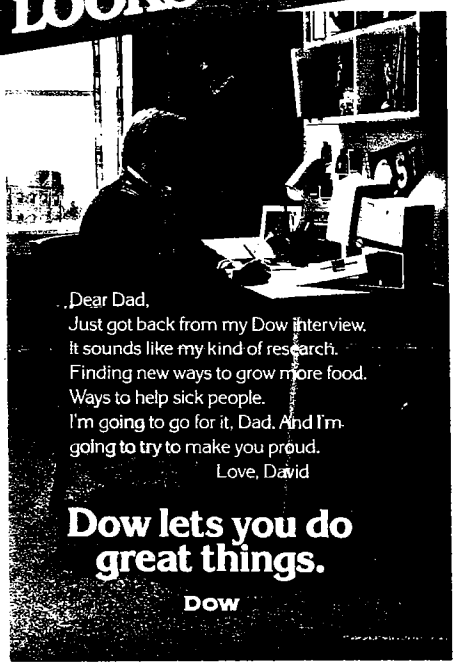
A GREAT CAMPAIGN...

"Very soon, America will be learning that Dow lets you do great things."

"Great things have always been the hallmark of people at Dow. That's why we've decided to get out there and let other people share our pride and enthusiasm in the new 'Dow Lets You Do Great Things' advertising. It's an important part of our effort to help people reach a better understanding about our company. Many of them really don't know what a great company Dow is. A company that makes great things possible... like food for the hungry, medicines for the sick... and research designed to improve the lives of people everywhere. Everyone... from the people who work at Dow... to our customers and shareholders... to the millions who benefit directly or indirectly from our efforts — should know about the greatness of our people and the contributions they make to society. I'm proud of our record and proud of the part we all play in those great things."

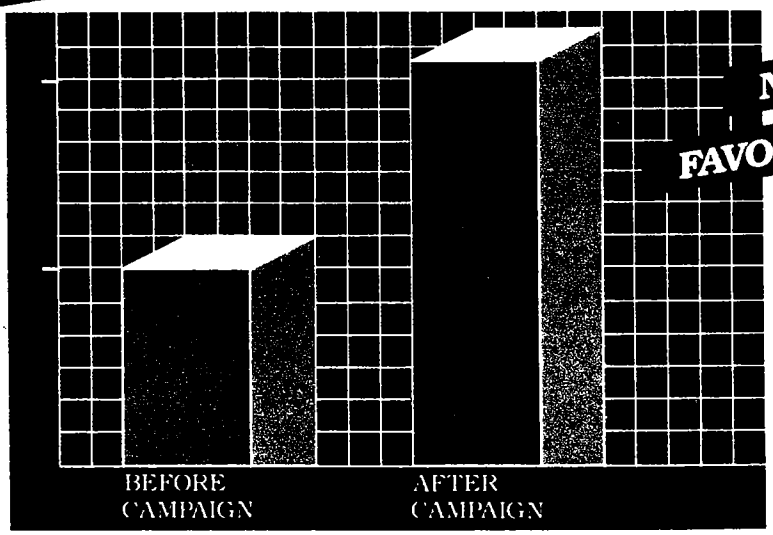
THAT LOOKS GREAT...

High impact... emotional... and most of all, memorable — that's how you would describe the "Dow Lets You Do Great Things" campaign. Three different thirty-second commercials make up the television portion of the campaign ...with two, full-page color ads modeled after them. The commercials focus on a single, important element that tells how we think and feel at Dow, and do it in a highly emotional and attention-getting way. For example, one of the commercials captures the idealism of a young college graduate as she contemplates the meaning and impact of her new career at Dow. In another, a young man proudly writes to his father about the freedom to explore and do his best as a professional scientist at Dow. By using the technique of "overhearing" the person's thoughts, each commercial makes a powerful statement about the great things happening at Dow.



PRODUCING GREAT RESULTS...

The campaign ran in five Dow plant cities this spring and produced outstanding results. In Cincinnati, in-depth measurements of public attitude were taken in March before the two-month test began. By June, people's net favorable impressions of Dow had more than doubled. An unprecedented showing after little more than six weeks of advertising! On a national scale, that would translate to literally millions of people gaining a new, more favorable impression of our company.



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Dow, others pay less i

By JIM LUTHER

WASHINGTON (AP) — More than half of 250 large and profitable corporations surveyed — including the Dow Chemical Co. — paid a smaller portion of their earnings in federal income taxes last year than did the average American family, a new report concludes.

Citizens for Tax Justice, a Washington-based, liberal-oriented research group, said 128 of the 250 firms paid no U.S. income tax in at least one of the last three years while accumulating profits totaling $56.7 billion.

Many companies actually paid less than zero, meaning they used legal tax breaks to wipe out all their tax liability and get a refund of taxes paid in earlier years.

Among the companies paying less than zero on their domestic profits were General Electric, Boeing, Dow Chemical and Weyerhaeuser.

Dow financial communications manager Thayne R. Hansen said today that refunds on corporate income taxes are "not unusual" in periods of economic recession.

"When your income is down refunds may exceed your tax," since credits are given for capital improvements and foreign tax payments, Hansen said. "It's all part of the system we have to encourage companies to employ people, build plants."

A net income-tax refund is particularly common in "capital intensive" industries such as chemicals, Hansen said.

Hansen noted that a review of only Dow's income tax payment does not reflect other taxes such as property, Social Security and foreign taxes paid by the firm.

About 50 percent of Dow's sales are now made in foreign countries and subject to foreign rather than U.S. tax, he said.

Eighty-eight percent of the 250 companies were listed by Forbes magazine as among the 500 most profitable in 1983. Each made a profit in each of the last three years.

Citizens for Tax Justice said that in addition to General Electric, six firms — Boeing, Dow Chemical, Tenneco, Santa Fe Southern Pacific, Weyerhaeuser and DuPont — each paid no tax over the three years and received more than $100 million in net tax refunds. Seventeen companies paid zero or less tax in each of th three years.

If the 250 companies surveyed by the group had paic the full 46 percent rate in 1981 through 1983, the federal treasury would have received an extra $91.4 billion.

"American business is no longer paying its fair share of the tax load," Robert McIntyre, federal tax director for the organization, said in releasing the report Friday. He noted that while corporate taxes accounted for nearly one-quarter of federal tax collections in the 1950s and

ncome tax than families

1960s, the share dropped to 6.2 percent last year.

"Americans are wondering why the federal government is incurring the largest deficits in history even while they are paying the highest taxes ever, and this study documents one important answer: the demise of the corporate income tax," McIntyre said.

The deep recession several years ago was partially responsible for the decline in corporate tax collections. However, McIntyre said, the big tax writeoffs for business that were a key part of the 1981 tax cut "opened up massive new possibilities for legalized corporate tax avoidance."

According to the report, 130 companies, whose profits totaled $45 billion last year paid a lower effective tax rate than the 12 percent paid by the average American family. If the earnings and taxes paid by those companies were combined, they would have paid an average of 3 cents in taxes for each $10 of profits in 1983.

Federal law taxes corporate income above $100,000 at a 46 percent rate. But businesses, like individuals, are able to cut their taxes with deductions and credits. For corporations, the biggest tax break is depreciation — recovering the cost of equipment through the tax system — which was boosted significantly by the 1981 law.

Citizens for Tax Justice said General Electric was the largest single gainer from the 1981 tax cut, which was Congress.

"GE earned $6.5 billion in pre-tax domestic profits over the three years, paid not one cent in federal income taxes and claimed tax refunds of $283 million in taxes paid before Reagan took office," the study group found.

The report said the basic information on profits and taxes payable was obtained from the companies. The organization calculated effective tax rates and, in some cases, made adjustments to account for special circumstances, such as the sale of some tax benefits to other profitable firms.

The tax figures calculated by the organization may be misleading in some cases because of a firm's overseas operations and foreign tax payments.

At the other end of the scale, 12 corporations averaged paying tax of at least 40 percent. At the top of the list was Whirlpool Corp., which paid 45.6 percent over the three years.

Others with relatively high tax rates for the three years included VF Corp., 45 percent; Raytheon Co., 44.8 percent; Ralston Purina Co., 42.4 percent; Foster Wheeler Corp., 42 percent; INTERCO, 41.7 percent; SuperValu Stores, 41.5 percent, and K mart, 41.4 percent.

The 250 companies that responded to the survey earned $102.2 billion in profits last year and paid 14.6

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Friday Oct 12 1984

The State News, East Lansing, Michigan

NRC report says no waste in Dow wells

By DENNIS PFAFF
United Press International

LANSING — State researchers have found no evidence that Dow Chemical Co. has been using its numerous brine wells to dispose of waste from its giant Midland complex, the Natural Resources Commission was told Thursday.

Except for what was described as some "anomalies" in the findings, Department of Natural Resources official Allen Crabtree presented the NRC with a mostly clean bill of health regarding the Dow wells.

Crabtree said concerns about the wells — from which Dow extracts brine containing bromine — were raised when the DNR began looking into reports of leaks, spills and maintenance problems. Dow operates more than 100 wells and 150 miles of pipelines in its extraction system, he said.

"One of the persistent stories was that they were using this system for waste disposal," said Crabtree, assistant chief of the DNR's geological survey division. He said Dow eventually agreed to allow samples from the wells to be tested by state and federal Environmental Protection Agency officials.

ALTHOUGH CRABTREE said Dow had about a two-day warning before the samples were taken, he said the warning period will be reduced to about two hours on further sampling. Researchers tested for the presence of 129 specific substances, he said.

Crabtree's report was based on the findings of the state tests. He said the EPA's findings have not yet been made.

He said there were only two compounds that raised concerns. One was a finding of an abnormally high amount of benzene in one well used to put brine back into the underlying rock formations stripped of their bromine content. The other centered on a finding of small amounts of methylene chloride, which is not a naturally occurring substance.

Crabtree speculated that the benzene, which is found in nature, came from other wells which contained higher amounts of the substance than those which were tested by officials. Methylene chloride, he said, is a solvent that is virtually ubiquitous in modern society.

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Life Is In The Balance

Weighing the Questions of Risk and Benefit in Today's World

Life Is In The Balance

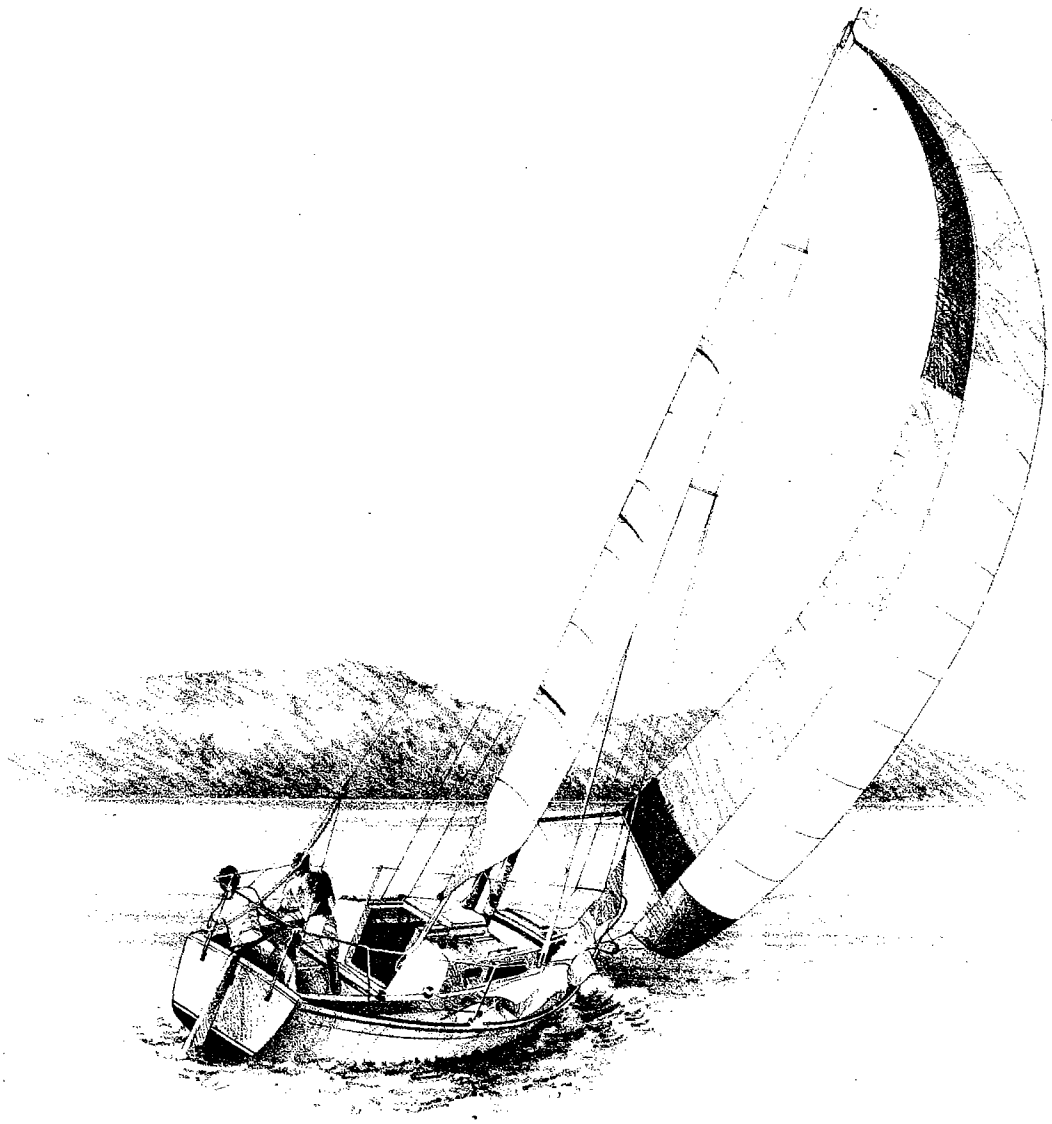
Weighing the Questions of Risk and Benefit in Today's World

by
Elyse M. Rogers

Security is mostly a superstition. It does not exist in nature, nor do the children of men as a whole experience it. Avoidance of danger is no safer in the long run than outright exposure. Life is either a daring adventure, or nothing.

Helen Keller
THE OPEN DOOR 1902

Life Is In The Balance



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Living in this part of the 20th century is both exhilarating and disquieting. It's exhilarating to jet halfway around the world in a few hours, cook food in a microwave oven in minutes, and look forward to 73 full years of life. At the same time, it's disquieting to read the newspapers or watch television. A jetliner crashes in India. Malnutrition is a world-wide problem. Natural energy sources are being depleted. Familiar chemicals are suspected of being carcinogenic (capable of causing cancer).

We are better informed, better educated and healthier than ever before in the history of mankind, yet many people suffer from an almost overwhelming anxiety about both today and the future. Is the world really a better place in the 1980s than it was 50 years ago, or is mankind slowly destroying this planet by pollution and indifference?

The fears that plague us are very real, but most of us wonder, at least occasionally, if some of the dangers we are warned about really exist. We are confused not only by the emotional articles and interviews we read and hear, but by the facts as well. One noted scientist says that saccharin is a threat to health and should be banned; another of equal repute says that saccharin, in normal consumption, is safer than many of the foods we eat daily, and in fact may promote better health by reducing our intake of calories.

One of the major uncertainties involved with the facts and fears of living today is the problem of risk. If we find out that a substance *could* conceivably be dangerous or cause damage, do we want to risk the use of it? We enjoy the benefits of technology, but when there is risk involved in those benefits, do we need or want that technology after all?

The question as to whether technology — and indeed progress itself — is worth the price is frequently debated today. In order to address this problem in an orderly, sensible way, scientists and others have been urging that we devise a system that can help us put the emotional aspect of the problem in proper perspective. "Do you want cancer at the breakfast table?" a headline asks us. We answer, predictably, a terrified and emphatic "no!" But if we learn later that the substance under question has a very, very limited chance of *possibly* causing cancer, and we know it is tasty and satisfying, the answer might change.

Looking not only at the risks involved in a substance or process, but at the benefits we might obtain, is important, particularly in today's anxious world. This careful process, called "risk/benefit analysis" has the support of much of the scientific community. However, searching for the proper ratio of risk to benefit is not an isolated project; once undertaken, the search leads into all sorts of related areas. Areas such as freedom, safety, life-style, government, politics, business and progress all become involved in this complex quest for some answers to the "acceptable risk" question.

Unfortunately, there are no easy answers or absolute solutions, although an objective examination of the issues is sorely needed. We must get facts and figures and then make some decisions about how we face today and plan for tomorrow. We must do this now, because the well-being of our world, and even the continuation of life as we know it, may well lie in the balance.

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Daily Risk/Benefit Decisions

Risk is certainly not a new word or idea. The concept of risk has been with us for centuries.

Every one of us takes risks every day — small risks, medium risks, and big, significant risks. We "risk" our money by buying a raffle ticket because the opportunity to win a car for just a dollar is too good to miss. Or we agree to risk our well-being on major surgery, because if the surgery is successful we will be cured of a hernia, cataracts or even cancer.

Most of the risk-taking we do is almost instinctive. We aren't even aware of the thought process, most of the time. We walk the streets in a questionable part of town, travel by jumbo jet, leave our front doors unlocked, swim in the ocean, and use a rickety chair instead of getting the ladder. We make an assumption that the benefit of the walk, or the swiftness of the plane ride, is worth the risk involved. Sometimes we take less thoughtful risks in unusual situations. A passerby may risk his life in the icy waters of a river to reach a drowning child, or a teenager may smoke marijuana because he doesn't want to risk being called "chicken" by his friends.

Voluntary versus Involuntary Risks

Most risks we assume are ones we decide to assume — or "voluntary" risks. Risks that we accept with much less enthusiasm are those we're *forced* to take — or "involuntary" risks. Some involuntary risks we accept without question, but many we do not. Military conscription once was widely accepted in the United States as part of an individual's responsibility to his country. Today, many rebel at being forced to take such a risk when they disagree with the political or ideological reasons involved, or simply with the principle of conscription.

Risks in which we have some control over the outcome have another advantage in that they don't "seem" as fearful. This feeling of control can be prevalent, however, even when it's not supported by facts. Take driving a car, for example. Traveling by airplane is statistically safer, yet we all know people who jump happily into a car, but refuse to fly. "When I'm up there, the pilot's in charge," one businessman said. "Driving a car, I'm master of my fate." It's true that we "feel" more in command when we're at the wheel, and there are many risky situations where the skill of the driver does influence the outcome; but if a huge truck is out of control and bearing down on us on a narrow road, or if our car's brakes fail, fate is more master than the driver.

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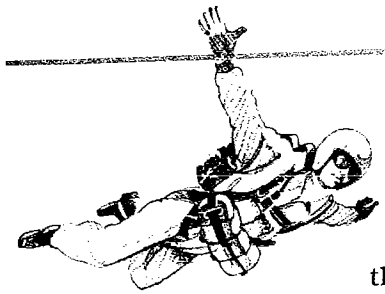
The Technique of Risk/ Benefit Analysis

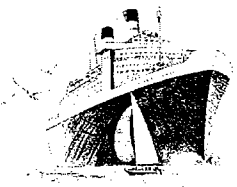


There are actually some risks we pursue willingly, even though they may be the most hazardous of all. Dangerous sports such as motorcycle racing and sky-diving are becoming increasingly popular. People who enthusiastically engage in such risks argue that it is the risk that makes such sports exciting and challenging — that without the risk the thrill would not be as great.

The many different types of risk, and the circumstances of those risks, make easy solutions impossible. Each one of us has ambivalent feelings and anxieties, and the problem is not limited to the individual. Risk issues are gaining significance on a national and worldwide basis as well. How we perceive risks and control them affects not only individual liberty and life-style, but the present and future life-style of our entire planet.

More than emotion and good will are needed if we are to make some important decisions about risk-taking and priority setting for the future. The new scientific process of risk/benefit analysis is gaining acceptance in both business and government circles. It's a system we should examine and understand.

At the core of any system of risk/benefit evaluation must be the definition of risk itself. Everyday risks of life involve a practical type of evaluation or analysis; however, when there are complicated and larger questions concerning risk, such as ones regarding nuclear power or the use of experimental medicines, we need thoughtful, scientific analysis in order to make good decisions for both today and tomorrow.



A clear and simple definition of risk is given by Kaplan and Garrick, two scientists who authored an article in the first issue of *RISK ANALYSIS: AN INTERNATIONAL JOURNAL*, in March, 1981. They define risk as "the probability of loss or injury." To differentiate risk from hazard, they interpret hazard as a "source of danger," or something that exists and may bring about risk. For example, the ocean exists as a hazard; we only incur risk when we try to cross it. And the degree of risk varies according to the manner of crossing. Aboard the Queen Elizabeth II the risk would be small; in a rowboat the risk would be great.

Another aspect of risk is that it is often relative to the observer. Kaplan and Garrick illustrate this with the example of a case in Los Angeles in which someone had placed a rattlesnake in a man's mailbox. If the man had been asked if putting his hand into his own mailbox were risky, he would have said, "certainly not," not expecting a snake inside. Those who knew the snake was there would have viewed it as very risky indeed.

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Why the Need for Risk Assessment?

Evaluation of risk is needed in the following situations:

A When a new risk is created. This occurs when a new product or process is introduced; e.g., when we unleashed nuclear energy.

B When the degree of existing risk changes. This happens when something that was rare becomes common. For example, before the age of commercial air travel, far fewer people risked airplane crashes.

C When a new perception of risk occurs. This is the most frequent reason why risk assessment is needed today. There are four major areas of new risk assessment:

- More severe risks have been eliminated.

Since we've conquered smallpox, pneumonia and many other threats to aging, we are able to concentrate on lesser magnitudes of risk, such as cancer and heart disease.

- Measurement ability has improved.

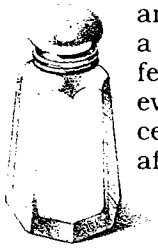
In the not-so-distant past our ability to measure substances was limited; a measurement of one part per thousand (1 PPTh) was considered precise. Today we have the technical expertise to measure quantities as minute as one part per billion (1 PPB) or even one part per trillion (1 PPT). One second in 31,710 years is an amazing example of 1 PPT. As a result of this measurement capability, substances that we didn't even *know* were present in the air, the body, or other substances, can now be measured.

- Risks are more publicized.

Newspaper and television coverage of risks are increasingly frequent, and are often accompanied by sensational or frightening editorializing. In addition, coverage is immediate and "live." Since many of us have an irrational but very deep fear of cancer, any substance or process that is even distantly linked to cancer is often dramatized by the media, because it is "good copy."

- Individual risks or risks that affect certain groups are better known.

Even if we, personally, are not affected, risks may gain in importance when they affect a percentage of the population. For example, some people have a problem when they ingest too much salt, and most prepared foods contain salt in substantial amounts. Even though salt is not a problem for all of society, it affects a considerable group, and even unaffected citizens are concerned because they fear it might affect them someday too.



Besides understanding what risk is and isn't, it's important to analyze the amount of risk involved. Three questions are important in this process:

1 What can happen or go wrong?
2 How likely is it that it will happen?
3 If it does happen, what will be the consequences?

After deciding what can go wrong, scientists often turn to mathematics to help with the second point — that of probability. To indicate how a formula can be used, let's go to our discussion of hazard and risk. If the ocean is a hazard, then the Queen Elizabeth II is a safeguard that would make the hazard less risky. A formula might be written this way:

$$\text{risk} = \frac{\text{hazard}}{\text{safeguards}}$$

The formula shows the obvious relationships and clarifies the point; but, as you might imagine, more complicated formulas are required for more complex problems of risk. Physicists Cohen and Lee in an article for an English public health journal suggested the following formula to their scientific colleagues for designating the mortality rate associated with a particular risk:

$$E(M,Q) = E_x(M,Q) - E(M,Q)$$

One would have to know the values and definitions of each of the letters before being able to work with the formula, but that can be left to the experts. The illustration is merely to give some idea of the complexity involved.

Examining a risk as completely and unemotionally as possible, using the three questions in the analysis process, is an important way to obtain helpful data. When this is done by several individuals or groups, and then consolidated or compared, it provides vital information for those who must make decisions regarding risk.

Assessing Benefits

Benefits are often more difficult to identify than risks. To add to the problem many benefits are emotional or subjective and vary according to the person involved. Still, there are some measurable benefits in almost any risk-taking process, and they must be identified:

1 The saving of lives.

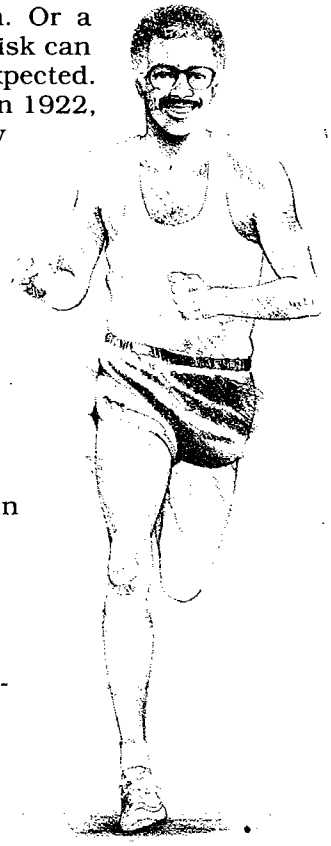
This is the most dramatic and significant benefit, and often the easiest to measure. Routine immunizations against diphtheria and polio involve risk but save many lives.

2 The saving of money.

This is a basic benefit, but is often overlooked because many people feel uncomfortable discussing finances when risk is involved. But we do judge the economics of risk very frequently. For instance, it has been proved that fire detectors in the home will save lives, yet many people don't install them because of their cost.

3 Better health.

The benefit of better health is one that everyone applauds. Obviously surgery involves some risk of death, but the benefit can be enormous in added years of health. Or a new drug which involves unknown risk can be of great benefit if it performs as expected. The first diabetic who took insulin in 1922, a 14-year-old Toronto boy, potentially risked a great deal, but the benefit to mankind was even greater.



4 New technology will emerge.

Scientists have historically taken risks to provide new technology. In our space program we risk crew and staff because we feel we will gain technical know-how that will help the progress of the world.

5 Emotional satisfaction.

There can be emotional satisfaction in risk-taking. Supposedly, sky divers experience an adrenalin "high," and Russian roulette participants must get some kind of weird emotional reward for their risk. But there can be less obvious and perhaps more important emotional satisfactions. The heart attack victim who finally risks jogging and frees himself from the grip of fear that often immobilizes victims has received a real emotional benefit from risk.

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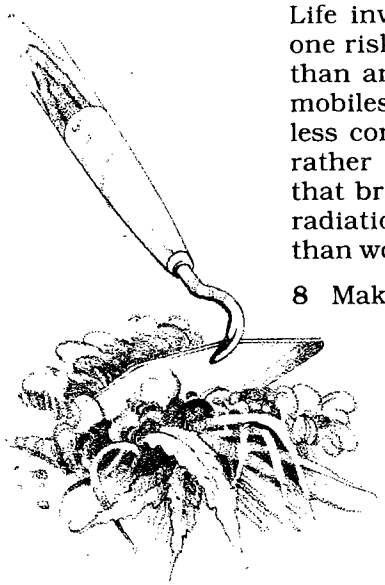
6 Solves problems.

Sometimes a risk is taken to solve a problem. For instance, a person who has a weight problem may find diet drinks beneficial and consider the risk of saccharin a minor one. Even the two-pack-a-day smoker may accept the risk of smoking because it solves his problem of "nerves."

7 It is preferable to the alternative.

Life involves choices, and we often choose one risk because we feel it's more beneficial than another. For instance, we drive automobiles because walking is also risky and less convenient, or we live in brick houses rather than wood houses, despite the fact that brick exposes us to additional natural radiation even though it is less flammable than wood.



8 Makes life easier.

The risks of technology were eagerly embraced in the 1800s because machines provided some relief from the tedious, hard labor of life. Men didn't enjoy working from sunup to sundown delivering ice and hoeing weeds, nor did women enjoy scrubbing clothes by hand and cooking over wood stoves. The industrial age freed people from back-breaking jobs, even though machines posed new hazards.

9 Makes life more pleasant.

Sometimes the benefit is pure pleasure. A normal blanket provides adequate warmth at night, and yet many risk electric blankets because they provide the pleasure of warmth without weight.

Listing all possible risks and benefits helps to provide an objective frame of reference and workable data. When such lists are compiled by knowledgeable people from different areas, they can be useful tools.

The process of risk/benefit analysis which includes enumerating the risks and benefits and estimating the probabilities is a very important one. But the point of good analysis is to provide facts for wise decision-making. In other words, we must use good analysis to reach some conclusions.

Much of the "weighing" in the past has been rather matter of fact, what we might today call common sense. It was known that aspirin in large quantities could be dangerous but it eased headaches and lessened the inflammation and pain of arthritis. There were risks to the drug, but the benefits outweighed the risks.

Today the scientific and political debate on new drugs is very intense. The limited number of drugs that gain approval are often those with overwhelming benefits — such as antibiotics.

In judging or weighing risks versus benefits, it's not in the black and white areas where we find most of the difficulty. For instance, most would agree that antibiotics are good, and addicting narcotics sold over-the-counter are bad. The problem arises in gray areas — where the risks and benefits appear to be equal, or deal with less important aspects of life. An example might be microwave ovens. Is the convenience of cooking with microwaves worth the risk of microwave leakage?

It is imperative that we not only devise as precise a system of risk/benefit analysis as we can, but that we remove the decisions and judgments of risk from the emotional arena. Thoughtful, objective decisions based on organized material are important to all of us.

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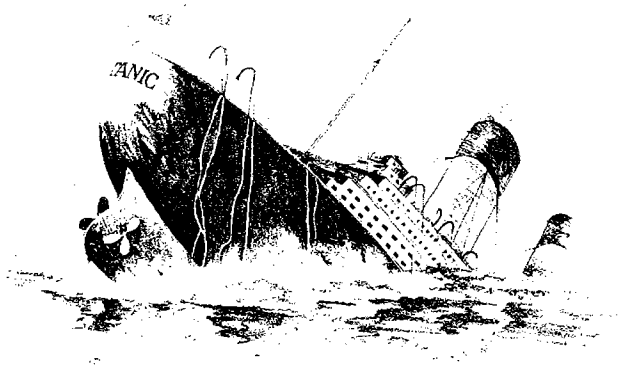
Risk Reduction

When risk is defined or evaluated, there is often an immediate clamor to eliminate that risk. No risk, or "zero risk," in every area of life, is the goal of some idealistic individuals. Since this may sound like a worthy goal, it is important to realize that many of the risks we face can be reduced but never eliminated. Going back to our risk/hazard formula will illustrate this point:

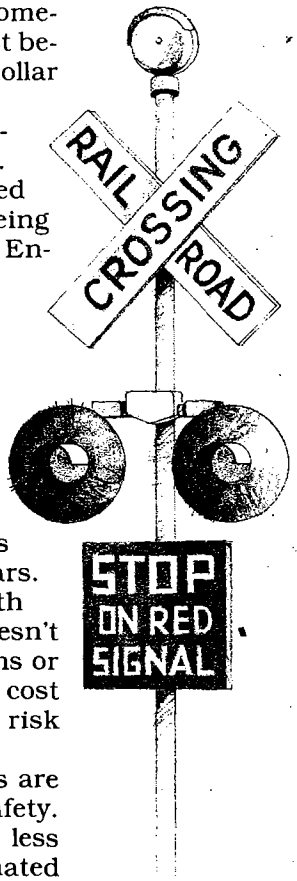
$$\text{risk} = \frac{\text{hazard}}{\text{safeguards}}$$

With safeguards we can significantly reduce the risk. Using ocean-crossing again as an example, our risk is diminished when we take an ocean liner, but the crossing never becomes risk free — as the unhappy passengers on the Titanic found out. Death, which is man's ultimate risk, cannot be eliminated; man is a mortal being. Something, sometime will kill us, whether it is old age, disease, an accident or some other force. There is one way that risk can be reduced to zero — and that's by eliminating the hazard. If we could get rid of the ocean there would obviously be no risk from crossing it. Or, if we could make man immortal, death would not be his ultimate risk.



The Cost of Risk Reduction

Probably the most important aspect of risk reduction is cost. Unfortunately, it is an aspect of risk reduction that is discussed reluctantly, for a variety of reasons. Sometimes people don't want to know the cost because they feel the issue is "above dollar value;" other times it is ignored because those who are examining the risk-reduction issue are not involved with the cost.



One area where society has addressed cost of risk-reduction, without people being acutely aware of it, is in highway safety. Engineers and scientists know quite a bit about accident prevention and what it would take to make our highways less deadly than they are. Two major highway modifications would go a long way toward making auto travel safer — eliminating blind curves and installing overpasses at railroad crossings. This may sound reasonable until we learn that the cost of railroad overpasses alone is estimated in the billions of dollars. Because the price is too high, we live with the railroad crossing risk. This doesn't mean that we approve of highway deaths or dangerous intersections, just that the cost of eliminating a particular degree of risk does not seem worth the price.

Many current risk-reduction efforts are in the area of pollution and worker safety. And here the problem becomes a little less clear, but no less expensive. The estimated cost of air pollution control in the decade between 1975 and 1984 is about $175 billion. The cost of water pollution control is expected to approach $500 billion. The question of pollution also reaches into business, where safe standards for air quality

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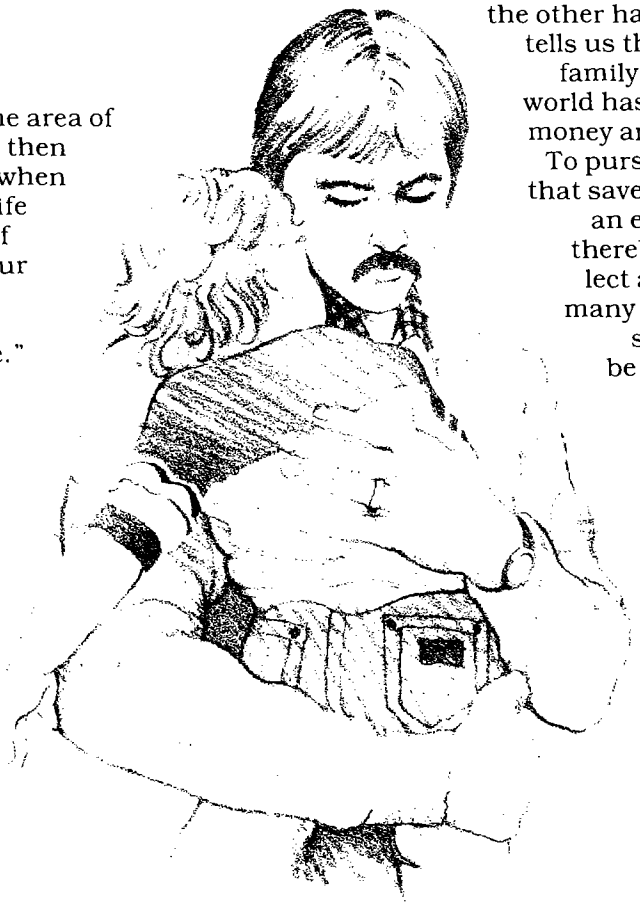
are often under question. One of the problems — the degree of risk reduction versus cost — came up recently in federal court. The Occupational Safety and Health Administration was attempting to reduce exposure to benzene from 10 PPM in the working environment to 1 PPM. Industry argued that 10 PPM was a reasonable and safe standard, and that to comply with the new standard would mean a cost of approximately $500 million and would only possibly avoid two cancer cases every six years. The court ruled in favor of industry, saying that government regulators must estimate the health benefits expected and weigh them against the cost of compliance.

But realistically we do, even though we don't define it that way. In our decisions about railroad overpasses, or smoke detectors in the home, we are inadvertently valuing human life. And despite the fact that there is very little discussion about it, the Federal Highway Administration ranks defects in highway design by the cost per life saved of removing the defect. It then encourages the states to make those improvements that will save the most lives.

Talking about the value of a human life is distasteful to most of us, and there are those who maintain it is not a valid subject for discussion. Certainly man should continue to hold life precious and do everything in his power to honor it. On the other hand, common sense tells us that an individual, a family, a government or a world has a finite amount of money and other resources. To pursue one worthy goal that saves only a few lives at an enormous cost, and thereby be forced to neglect another area where many more lives could be saved, would hardly be morally defensible.

If discussing costs in the area of risk/benefit is difficult, then it is almost impossible when we get into the area of life itself. The philosophy of the average person in our civilized world remains that "you can't put a value on the human life."



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The Hidden Costs of Risk Reduction

Many of the costs of risk reduction are obvious but some are not. We can see the increased price of a car when it includes seat belts, cushioned dashboards, emission control equipment, etc. But sometimes the cost is not as conspicuous, as when special equipment or processes are made mandatory by government regulating agencies, and a company is forced to charge more money for the product involved. This "passed on to the consumer" cost is sometimes called "market socialism," but simply means that the consumer may think government risk reduction measures are free when in reality they are not.

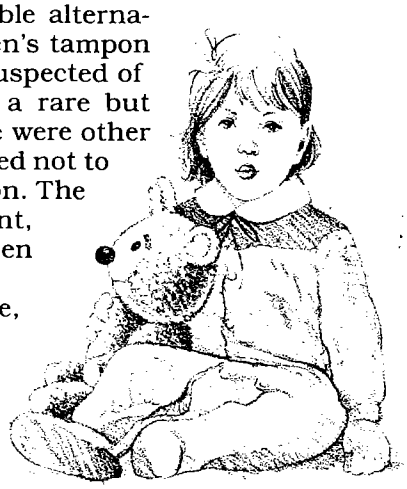
Another cost is that of competition in the global marketplace. If overly severe environmental or risk reduction measures are forced on industry, products will become so costly that they may lose out in world markets because other countries will not pay the increased cost. They will buy similar items with a lower price tag from countries that do not have the same strict requirements.

Lost jobs can be a very expensive hidden cost.

Other Aspects of Risk Reduction

Risk reduction might be accomplished by eliminating a product or service; however, society has decided that this is not suitable because it severely interferes with individual freedom. Prohibiting alcohol sales was attempted in the United States with the 18th Amendment, and, had it been effective, traffic deaths would be lower as would the incidence of cirrhosis of the liver.

Product or service elimination is sometimes successful if the product is not important or if there are other suitable alternatives. For instance, a new women's tampon was introduced that was later suspected of being an influencing factor in a rare but often-fatal illness. Because there were other tampons available, women decided not to take the risk with the new tampon. The decision might have been different, however, had the new tampon been the only one on the market.



Substitution is often possible, but there are risks with any product — including most substitutes. Often we flee from the problems of one product into the different problems of another. Take children's sleepware. Flame retardant sleepware was introduced because of the danger of fire with some fabrics, and it was purchased enthusiastically. Later, however, it was found that material treated to make it less flammable could possibly cause cancer. In another area, there is a movement to eliminate nuclear power, which may mean that we will be forced to produce additional electricity by burning coal. We already know, however, that the sulfur dioxide produced by burning coal is a serious air pollutant.

Risk Reduction — Who Decides?

If there is a decision that a risk should be reduced, who decides? We discussed briefly the idea of "zero risk" and why it is not practical, but the concept is one that still has support. One reason for the "zero risk" controversy is that the Delaney Clause, an amendment to the Food, Drug and Cosmetic Act, states that no substance may be added to foods if it has been shown to cause cancer when ingested by humans or animals. The original effect of the clause may have been desirable, but since the amendment was enacted our ability to measure substances has increased dramatically. Scientists also can now conduct exhaustive tests that use hundreds or even thousands of times the amount of a substance normally consumed by an individual. Many scientists predict that we will eventually be able to detect a trace of almost everything in something else. And historically, man has always had a greater ability for detection than removal.

Currently the government makes most of society's risk decisions. Government has established the regulatory agencies that make risk reduction decisions on many different aspects of day to day life. The question is whether or not the government should have the final say in all risk reduction. Or should it be up to the individual person to decide when he wishes to purchase potentially risky substances?

There is also the question of whether or not business and labor should have some say in the matter of risk reduction. Many feel it is unfair to demand that a company install extremely costly and sometimes questionably effective risk reduction programs which will force up the cost of its products, without allowing it some voice in the matter. And labor too has a stake in programs that could involve jobs. Business and labor comprise a large percentage of society and decisions that affect jobs and profits will impact large numbers in society.

Political Aspects of Risk

There are political aspects to the risk question and related government legislation. Every elected official knows, or finds out very soon after election, that it is not very prudent to take a strong stand on issues that constituents are emotional about.

During the debate on banning saccharin, many citizens were upset about the problem, and so it was turned over to the Congress. Many felt that it was the ideal time to amend the Delaney Clause to make it more reasonable and in tune with today's technology. Many congressmen privately agreed, but it proved too emotional an issue for most legislators. Representative James Martin of North Carolina expressed how most politicians feel about the very emotional area of cancer:

. . . [any politician] would be terrorized and quickly wilted by the simple suggestion that "your constituents deserve better than to be represented by someone who favored a little bit of cancer."

Few of us would argue that the question of risk in cancer and in other medical areas can be a difficult, emotional, and sometimes political issue.

Nature as the "Good Guy"

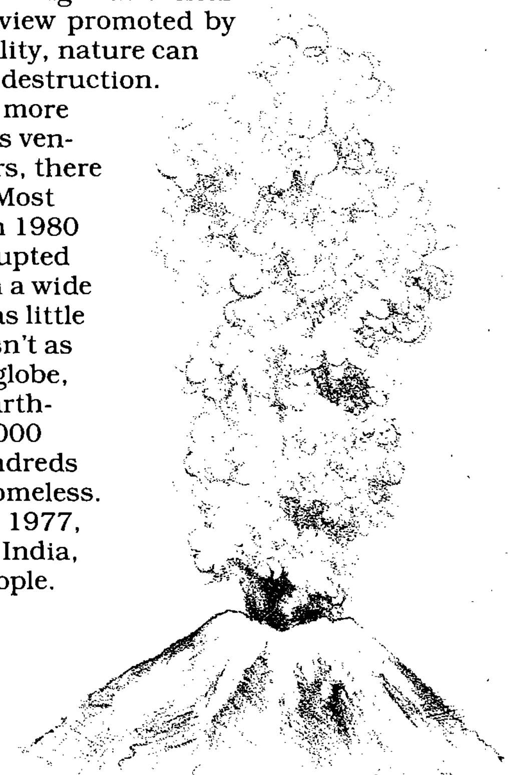
Somehow, when we view risks in life, we tend to view the "natural" risks with much less alarm than the man-made ones, as though man-made risks are more potent and terrible because they are "unnatural." A brief look at history might change our thinking a bit.

A "natural" disease, bubonic plague, wiped out 25 million Europeans in the 14th Century, and in 1982, "natural" factors in Third World countries made diarrhea the No. 1 killer. Six million children in the Third World die yearly of diarrhea. One and a half million preschoolers in India alone meet that fate. We've fought against those diseases and won in developed countries, by using man-made technology. Even the diseases that worry most Americans today, such as cancer, heart disease, and arthritis, are "natural," having been around for many, many years. Ironically, the major reason we have more cancer today is because we live longer and cancer is mainly a disease of older people.

Still, the "old germs" very often seem more comfortable than mysterious man-made substances. Radiation is one of those "new" substances that became fearful after scientists discovered uranium. But radiation is actually as old as the world itself, and just as natural; we just didn't know much about it. Radium, a natural element, was discovered in 1910 by Pierre and Marie Curie, but has probably been with us since the formation of the earth. It is the natural disintegration of uranium that produces radium; rivers, oceans and even rocks contain uranium.

In addition, there is and always has been radiation from cosmic rays that rain down on earth from outer space. Cosmic rays react with atoms in the air to produce various other rays that deliver both external radiation to us via the skin, and internal radiation via the food and water we consume. Some areas of the globe have substances that contain higher natural levels of radioactivity than others. Since the granite in France is highly radioactive, a person who lives in a granite house in France gets a yearly external dose of radioactivity from his walls that is approximately equal to the radiation from eight chest X-rays.

Perhaps our idea of nature as a benevolent force comes from our delight in a clear spring day or the happy view promoted by Walt Disney movies. In reality, nature can be cruel and terrible in its destruction. Even in recent years, with more protection against nature's vengeance than our forefathers, there are impressive examples. Most Americans were startled in 1980 when Mount St. Helens erupted and spewed destruction in a wide path. Fortunately there was little loss of life. But nature wasn't as kind to other areas of the globe, for in that same year an earthquake killed more than 3,000 people in Italy and left hundreds of thousands injured or homeless. Just a few years earlier, in 1977, a cyclone and flood struck India, killing 7,000 to 10,000 people.



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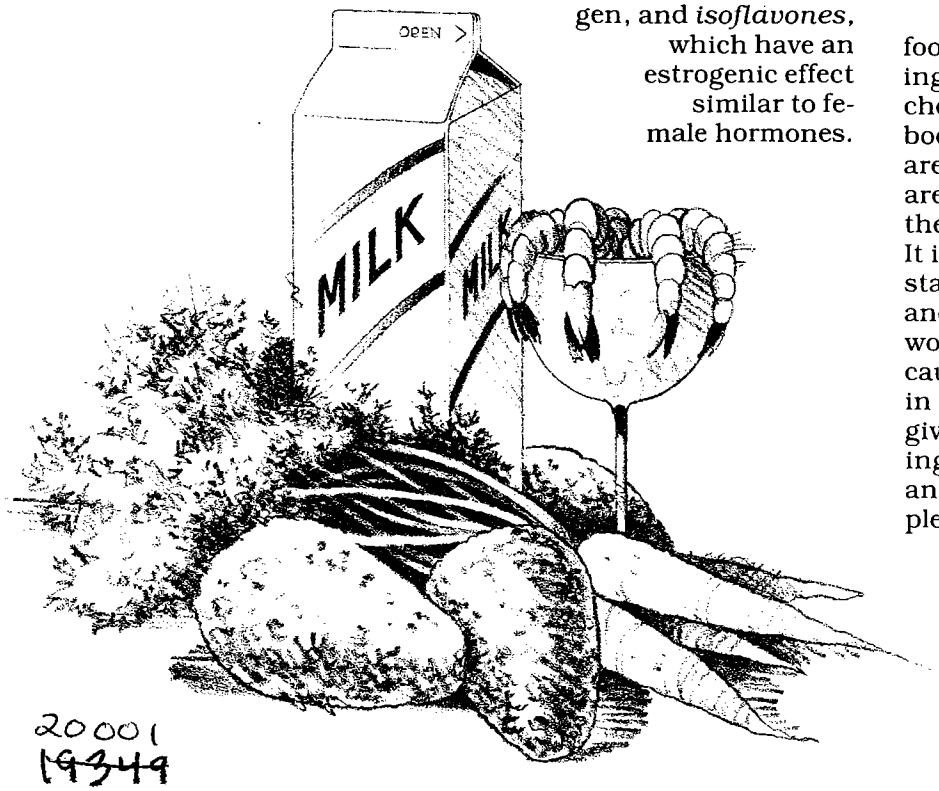
One of the particularly appealing "natural" areas today is food. For whatever reasons, we look on food that is grown in the backyard and picked "fresh" as superior and healthier than foods that are grown far away, stored and processed for our selection at the local supermarket. Vegetables freshly picked are indeed a treat, but they may or may not be safer, depending on how they are grown and harvested.

In addition, foods themselves contain a surprising array of substances that, if isolated in the test tube, would be frightening. Let's look at a sampling of some of our favorite foods:

Carrots. A food that we've frequently heard is "good for us," carrots may taste fine and provide bulk, but they also contain *carotatoxin*, a fairly potent nerve poison; *myristicin*, a hallucinogen, and *isoflavones*, which have an estrogenic effect similar to female hormones.



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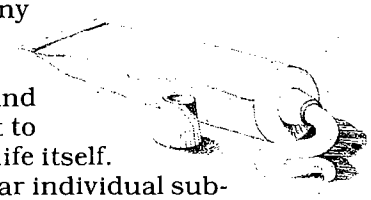
Avocados. These may be delicious in salads, but they have their own problems. Avocados contain a number of *pressor amines*, chemicals that raise blood pressure.

Milk. Although milk contains essential calcium and phosphorus needed to build and maintain strong bones, it also contains *galactose*, a component of milk-sugar. Galactose causes cataracts in test animals when given in increased dosages.

Shrimp. These tiny sea creatures have long been a delicious treat, but, alas, they contain significant amounts of several minerals, one of which is *arsenic*. Arsenic is well known as the villain of "who-done-it" stories, yet plump juicy shrimp contain 40-170 PPM of arsenic — vastly more than would be allowable if the naturally occurring mineral were subject to the same stringent standards we have for any chemicals we add to food.

The point of this exercise with "natural foods" is not to suggest that we all stop eating. We tolerate many chemicals in our body because they are in small doses and are often important to the very process of life itself. It isn't any particular individual substance, but the composite that is important, and the amount we consume. Most of us wouldn't dream of giving up peanuts because of the naturally occurring aflatoxins in the nuts, any more than we'd dream of giving up toothpastes that have cavity-fighting fluoride added artificially. Both natural and man-made chemicals can add to the pleasure and health of our lives.



No discussion about the problems of risk and benefit would be complete without a discussion of risk and cancer. Probably the greatest fear in our country today is of cancer. The very idea of cancer — the wild, uncontrolled growth of cells — is abhorrent. In addition, the fact that modern technology has put a man on the moon and wiped out polio and yet is not able to prevent or cure cancer is a disconcerting thought. Somehow, each year, the terror of cancer grows, even though the incidence of most types of cancer has gone down slightly. Lung cancer is the one cancer that is still rising.

There is no question that cancer is a serious health problem in the United States and in the world. It is estimated that almost 400,000 Americans will die from cancer this year, making it the second leading cause of death. We certainly need to be concerned about cancer, and rationally identify and assess any cancer-related risks.

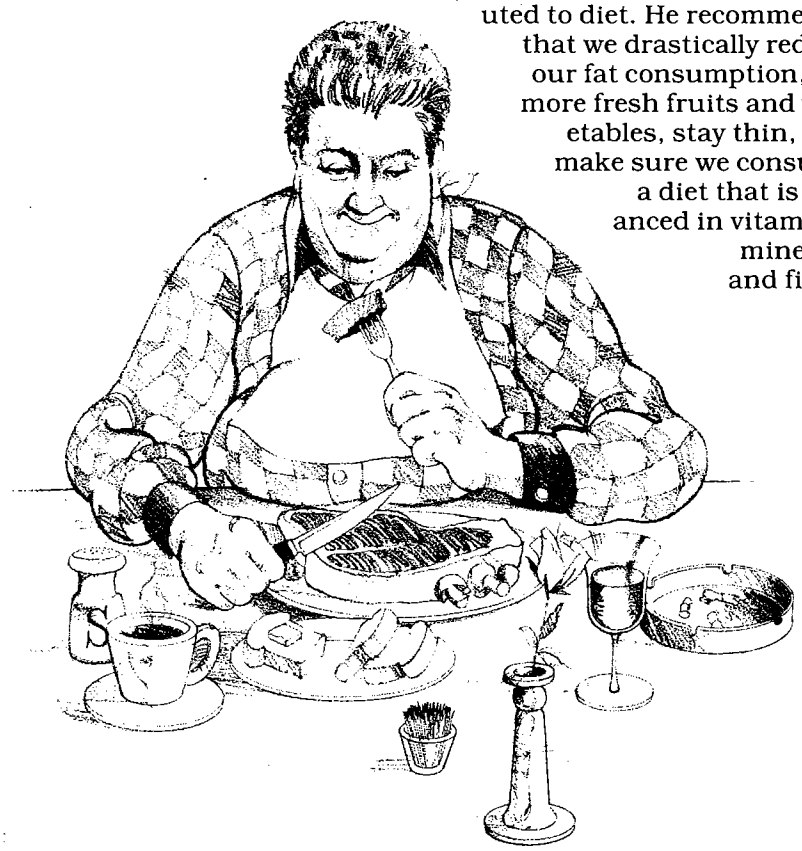
Some Facts on Cancer

We know less than we'd like about cancer, but we still know a surprising amount. Here are some of the things we do know:

- Cancer is not a new disease, but it has gained in importance as a cause of death since we've been able to control infectious diseases and infant mortality.
- Cancer is not a single disease but rather a group of diseases characterized by abnormal cellular growth.
- Cancer is a disease of the aging. Death rates rise dramatically after age 40. Until age 40, accidents cause more deaths than cancer.
- Cancer is more feared than any other disease. It is far more "dreaded" than heart disease, the No. 1 killer in the United States.
- Cancer rates and sites vary from country to country.
- Cancer incidence can be influenced by life-style and environmental factors.

We have learned a great deal about cancer causes in recent years too, and some of what we've learned has been a surprise. In the early part of this century smoking was considered a harmless but pleasurable habit. In fact, some thought it might be beneficial to the body. Today we know that the one area of cancer that's on the rise is lung cancer. Dr. Harry Demopoulos, associate professor of pathology at New York University Medical Center, says, "There are about 1,000 people a day that die of cancer in this country. Three hundred fifty of them, or 35 percent, are going to die today from having smoked high-tar cigarettes and having consumed excessive quantities of distilled liquor...."

Most of us have learned about the risks of smoking and alcohol, but there are other, newer life-style factors that are less well known. One of the major ones is diet — particularly the high meat diet that many Americans consume. A diet high in red meat and low in fiber is not only suspected in cancers of the digestive tract, such as of the colon, but in breast and other cancers as well. Dr. Arthur Upton, director of the National Cancer Institute, suggests that 45 percent of cancer can be attributed to diet. He recommends that we drastically reduce our fat consumption, eat more fresh fruits and vegetables, stay thin, and make sure we consume a diet that is balanced in vitamins, minerals and fiber.



We have known for a long time that cancer patterns vary from country to country. Although total cancer rates are about the same in developed countries, the types of cancer vary around the globe. For instance, cancer of the liver is the most common cancer among men in Mozambique, but is rare in Europe and the United States. The highest rate of lung cancer is in Great Britain, while Japan has the dubious honor of being No. 1 in stomach cancer. Skin cancer is most prevalent in sunny climates. It has also been found that regional differences are not usually permanent. When Japanese citizens move to the United States and adopt American diets, they reduce their risk of stomach cancer but increase their risk of colon cancer.

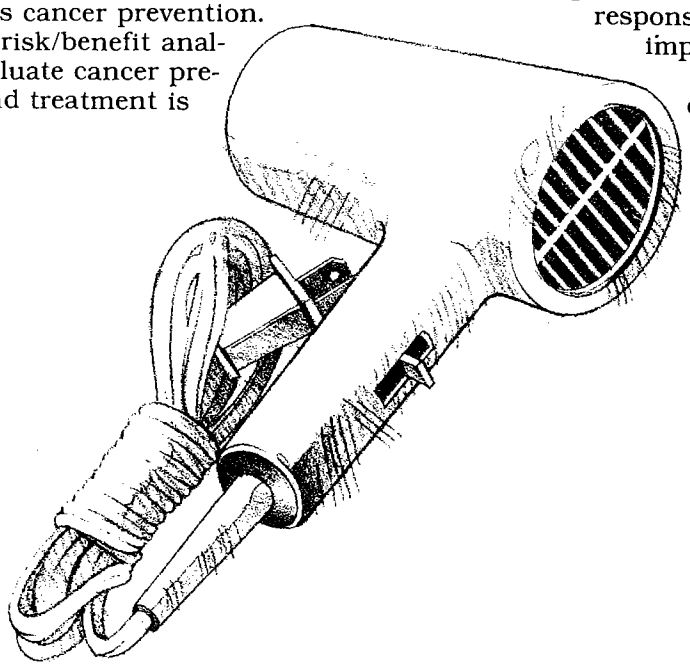
Environmental factors and their influence on cancer risk are probably the major area of concern today. Dr. John Higginson, former director of cancer research for the United Nations World Health Organization (WHO), estimates that as high as 90 percent of all cancers may be related to the environment. To most Americans, "environment" means the air and water around us, and so Dr. Higginson's words sound like an ominous warning. But to Dr. Higginson and other scientists, the environment has a much broader meaning: It is defined as all those factors that impact on us from outside ourselves — everything not genetically predetermined. In other words, "environmental factors" include our social habits of smoking and drinking, our diet, our exercise, as well as the air we breathe and the water we drink.

Our fear of air and water pollution has increased dramatically at a time when our

streams are cleaner and our air far purer than ever before. This does not mean that we shouldn't continue our concern about the purity of the world we live in, but it does mean that we should keep all cancer-causing factors in perspective. At a cancer symposium in June 1979, conducted by the New York Academy of Sciences and the American Health Foundation (with the cooperation of the American Cancer Society and WHO's International Agency for Research on Cancer), Dr. Cuyler Hammond of the American Cancer Society reported that almost zero percent (something like .000001 percent) of cancer is caused by air pollution. Water pollution was in the same category. Other factors such as nuclear power plant accidents, asbestos in hair dryers, asbestos in school rooms and saccharin and cyclamates are also listed in this close-to-zero category. Yet public concern with those factors is astounding, and that concern influences our national policy towards cancer prevention.

Using risk/benefit analysis to evaluate cancer prevention and treatment is gaining in acceptance. To spend large sums of money to reduce a very small risk, while allowing larger risks to exist because we don't understand that they are larger, or because we let emotions govern the facts, doesn't make sense. That money can be unwisely spent is illustrated by the case in New York City in which almost half a million dollars was spent redoing all the ceilings in a school after the news that asbestos in the air could cause cancer. Someone had sampled classroom air and found it contained asbestos. Only after asbestos ceilings were replaced did they find that the asbestos level in the air remained the same and was actually the same as the *outside air a block away!* Asbestos is a material that is found all over the place. Its natural occurrence means that some level is always found in the atmosphere; it would be impossible to eliminate it entirely.

Appropriate action against cancer risk is important; however, emotional, panicky responses waste money and prevent important resources from being directed into appropriate cancer-prevention channels.



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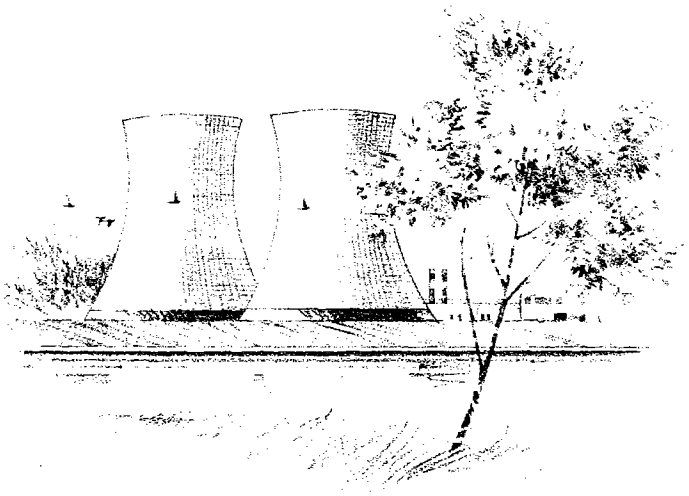
After World War II was over and the horror and awe of the atom bomb was fading into history, the excitement over atom-splitting technology was high. "Just think," people were saying to one another, "some day we may be able to heat our homes and power our appliances with atomic energy." Yes, indeed, it seemed as though the age of miracle technology had arrived.

Today, that miracle is tainted. It isn't that nuclear energy can't heat our homes or power our dishwashers, and not that it can't do it relatively inexpensively; it's the technical and emotional question of whether or not we really want or need nuclear power.

There are some potential problems with nuclear power that bother even the most enthusiastic nuclear scientists. Probably by far the most serious concern is what to do with radioactive wastes. Such wastes are not like the ashes from a wood or coal fire, but are radioactive materials that have what scientists call a "half-life" of hundreds and perhaps thousands of years. The burial grounds for these wastes have so far been at the bottom of the ocean, but the question arises as to whether we can continue that kind of disposal without causing eventual damage.



The Dread Factor

The half-life of radioactive wastes is an important concern, but it is not what upsets most citizens. It is the possibility of an accident in a nuclear power plant, with the dreaded nuclear explosion, that is the ultimate fear. Such fear belongs in the "what if" category since the safety of nuclear generating plants over their 20-year history has been impressive. In fact, the safety record of nuclear power plants is amazing by almost any standards — no known accident has occurred that has resulted in loss of life or serious illness. Still, the dread remains. Even though we are statistically safer living near a nuclear power plant than driving a car, somehow we feel different about the two risks. Part of the difference is due to the fact that driving is a "voluntary" risk, and nuclear power an "involuntary" one. But that's not the whole story. Scientists have found that among risks there is what they call a "dread" factor. Some illnesses or accidents are more dreaded than others. Although heart disease is our nation's No. 1 killer, cancer is much more dreaded. Such dread may not be rational, but it exists.

Despite this "dread" factor that causes anti-nuclear power rallies and allows minor accidents to make headlines, studies show that most Americans still favor nuclear power. A survey of 800 respondents, conducted in 1979, shortly after the Three Mile

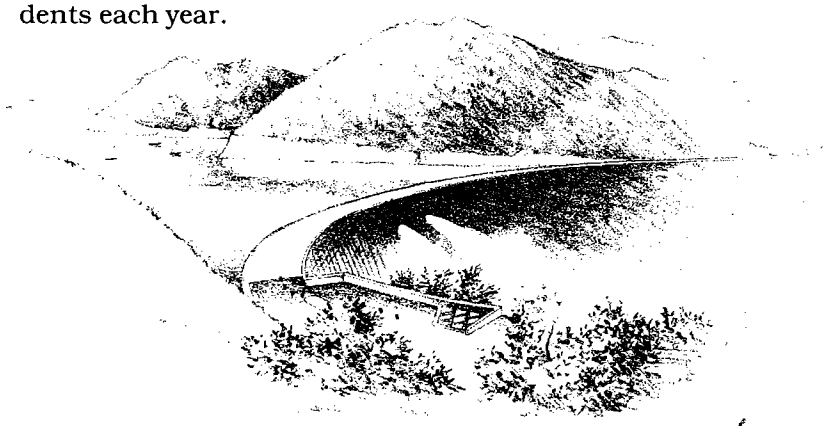
Island incident, showed that 47 percent of the group favored the construction of more nuclear power plants, compared to 40 percent that opposed construction. When the same group was asked about closing existing nuclear power plants, however, there was a much more realistic and supportive attitude. Only 13 percent agreed that we should close all existing nuclear power plants in America, while 81 percent opposed such closings. In another poll, conducted by Gallup in April 1979, at least 63 percent felt it was at least somewhat important to continue construction of nuclear plants, but this same percentage opposed construction on sites "close to home." This, however, is not a new problem. Society has always needed garbage dumps and pig farms, and yet few people want them nearby. It has become known as the NIMBY syndrome — "not in my back yard."

It is interesting to review some of the facts and fears that emerged from the Three Mile Island nuclear accident. Despite all the concern over the accident, there were no deaths, and there was no detectable leak of radiation that would likely cause eventual illness. The accident was an unfortunate mixture of both human and technical error. But what is most important is that the safety systems *did* work. When President Carter visited the reactor plant, officials pointed out that he was exposed to less radioactivity than he would have received getting X-rays in a dentist's office.

Despite the fact that the safety system worked and no one was injured, the television and newspaper coverage of the Three Mile Island event was phenomenal. It was noted by two scholars that almost 40 percent of network news time in the week following the accident was devoted to Three Mile Island. News is usually pretty dull stuff, and newscasters and reporters wait for that unique, dramatic event that will provide excitement and drama. Which is why a single grisly murder often makes the newspaper headlines while a devastating flood that kills hundreds in a far-off land can be buried on the back page.

Alternate Energy Risks

Risks exist even if we give up nuclear power. We would then have to find substitute methods of energy production, and most, unfortunately, are riskier than nuclear power. The air pollution produced by a coal-burning plant is 300 times that of a nuclear power plant. Even hydroelectric plants that many people find appealing because "water power is clean and safe" have problems. Every year at least one dam in the world collapses, and almost all hydroelectric generators are connected to dams. The potential for death in California from dam failures is estimated at 250,000 people, and the statistical probability of a dam collapse is far greater than that of a nuclear power explosion growing out of power generation. Even natural gas, one of America's most popular energy sources, kills about 500 residents each year.



The idea that somehow life today is more dangerous, more difficult and more hazardous has gripped many of us despite the fact that we are statistically healthier, live longer and enjoy more leisure time than ever before in the history of mankind. We have learned how to measure, probe and publicize minute information about ourselves and our environment, yet we often have difficulty putting it all into perspective. Just because we have the capacity to measure substances in concentrations as miniscule as 1 PPT doesn't mean that the world is more contaminated — it merely means that we have the ability to know it's there. As Shakespeare said sometime back around the beginning of the 17th century:

But no perfection is so absolute
That some impurity doth not pollute

We must ask ourselves, "Was the water purer, the food safer, the environment cleaner when we didn't know what was in it?" Or is it simply true, as one scientist has said, that we all enjoy the confidence that comes from innocence?

Learning to perceive risks correctly is important to the average citizen because there are so many factors that make proper perception difficult. We previously mentioned voluntary and involuntary risks, and they remain important considerations. Also, personal anxiety plays a part. One citizen may have more anxiety about one certain risk, and it may not matter to him, personally, that the risk is not really a substantial one. But if he is helping to make decisions on an issue of risk for the entire nation, he should separate his private fears from actual, statistical risk. He must also learn to recognize the "dread" factor in risk decisions as well as the tendency among most of us to fear most those risks that we don't understand.

Other Risk Comparisons

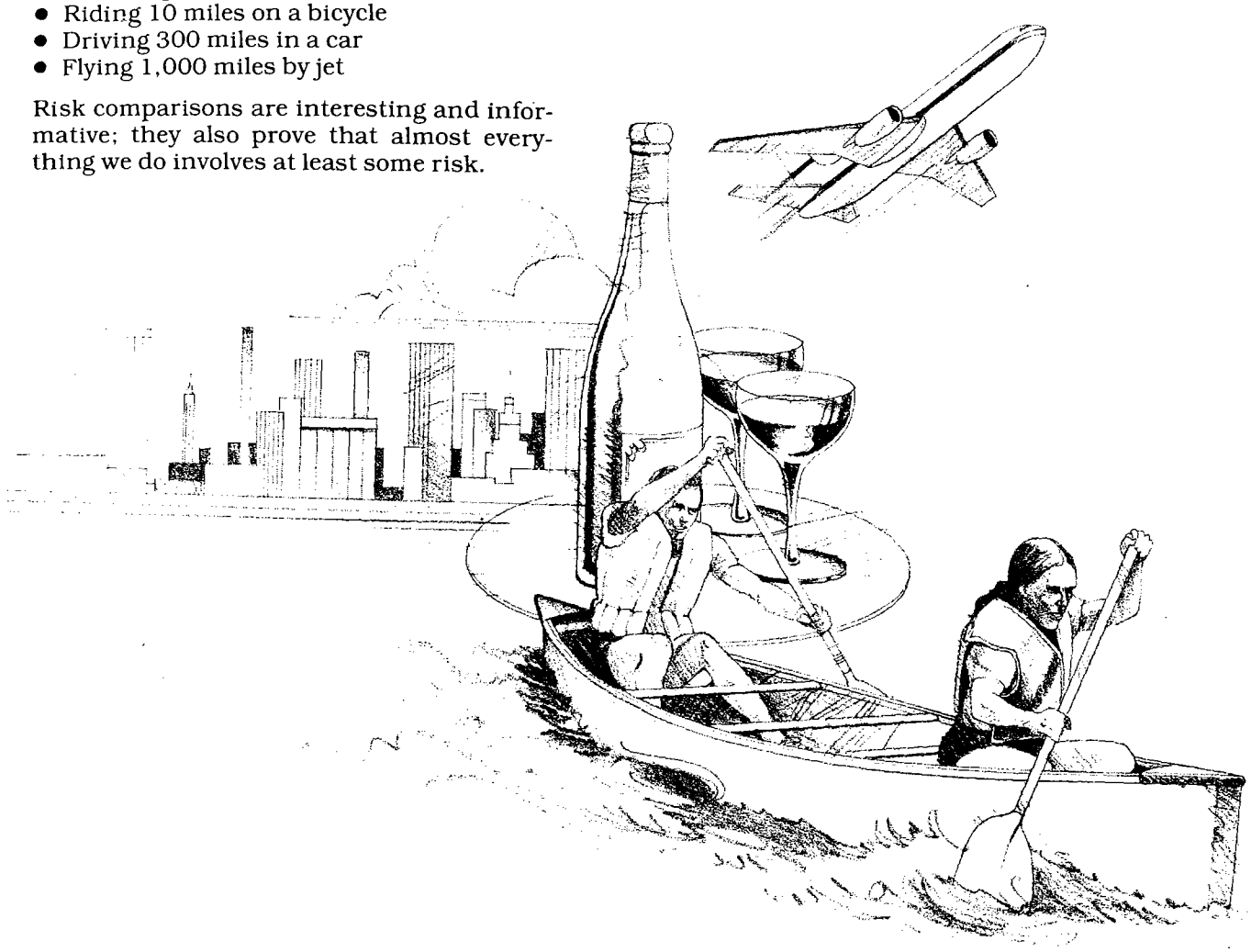
One way to rate risks and provide some comparisons of those risks is to portray them in "days of life expectancy lost." Dr. Richard Wilson, who is professor of physics at Harvard University, has devised a mathematical formula that measures risks in terms of the minutes and seconds of life lost. Taking the average person of 30 who has a life-span in the United States of approximately 73 years, Wilson says that statistical person cuts time from his life in the following ways:

Smoking one cigarette	minus 12 minutes
Drinking a diet soft drink	minus 9 seconds (estimated)
Driving without a seat belt	minus 6 seconds (for every trip)
Being an unmarried male	minus 1800 days
Being male rather than female	minus 2700 days

We can also view risks by figuring which risks are equal. For example, the following items all pose an equal risk of increasing the likelihood of death by one chance in a million:

- Drinking half a liter of wine
- Spending three hours in a coal mine
- Living two days in New York
- Traveling six minutes by canoe
- Riding 10 miles on a bicycle
- Driving 300 miles in a car
- Flying 1,000 miles by jet

Risk comparisons are interesting and informative; they also prove that almost everything we do involves at least some risk.



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The question of risk is closely related to our perception of faith in the future. As Theodore Roosevelt was fond of asking, do we look with pride, or view with alarm?

Human beings have been around for centuries and have survived as a species against almost insurmountable odds. In point of fact, man is a rather rugged, adaptable creature. And exactly why and how he is such a survivor is not totally understood. Why does one person spontaneously recover from cancer? Why does another have a carefree life and live to be 80, while his brother succumbs at 50 even though he's played it safe?

It's not only the human body that remains mysterious. Nature is still a puzzle in many ways. We can't predict earthquakes or floods or severe winters. We've learned how to keep from polluting our lakes and seas only to find that Mother Nature does it with alewives or red tides. Still, our world continues to spin in its orbit, warm itself, grow plants and food and present us with glowing sunrises and sunsets.

Technology as the "Bad Guy"

Some people blame technology for today's problems, while forgetting that it has cured many. Children don't die of whooping cough or diphtheria, and people don't have to work 12-14 hours a day just to grow enough food for their own survival. Even chemicals that receive negative publicity nowadays have been saviors of mankind. Probably no other substance has saved more lives than DDT, through control of malaria-bearing mosquitoes.

Rejecting technology, rejecting progress and going back to nature has a certain appeal when life is changing and moving so rapidly. Yet, if we look at the countries with the highest, most advanced technology, they are the ones with the longest life expectancy, highest literacy rates and best quality of life. In industrialized Sweden the life expectancy is 74 years; in the Third World country of the Ivory Coast, it's less than 35 years.

Living is, and always has been, a risky business. But that risk is not without benefits — some easy to see and some not so easy. As Marvin Stone wrote in a recent *U.S. News and World Report* editorial:

"Can people be forgetting that it is the willingness to climb mountains that gives one the view? And that the view can't be shared, but must be earned with sweat, work and risk?"

Judicious risk-taking is part of the balance that makes life worth living. We can't deny our children that legacy of hope and challenge by deciding for them that life should be cushioned against all risk. They should have some choice in their own tomorrow — a choice to risk sorrow and learn from it, and above all, the right to risk failure for success and joy!

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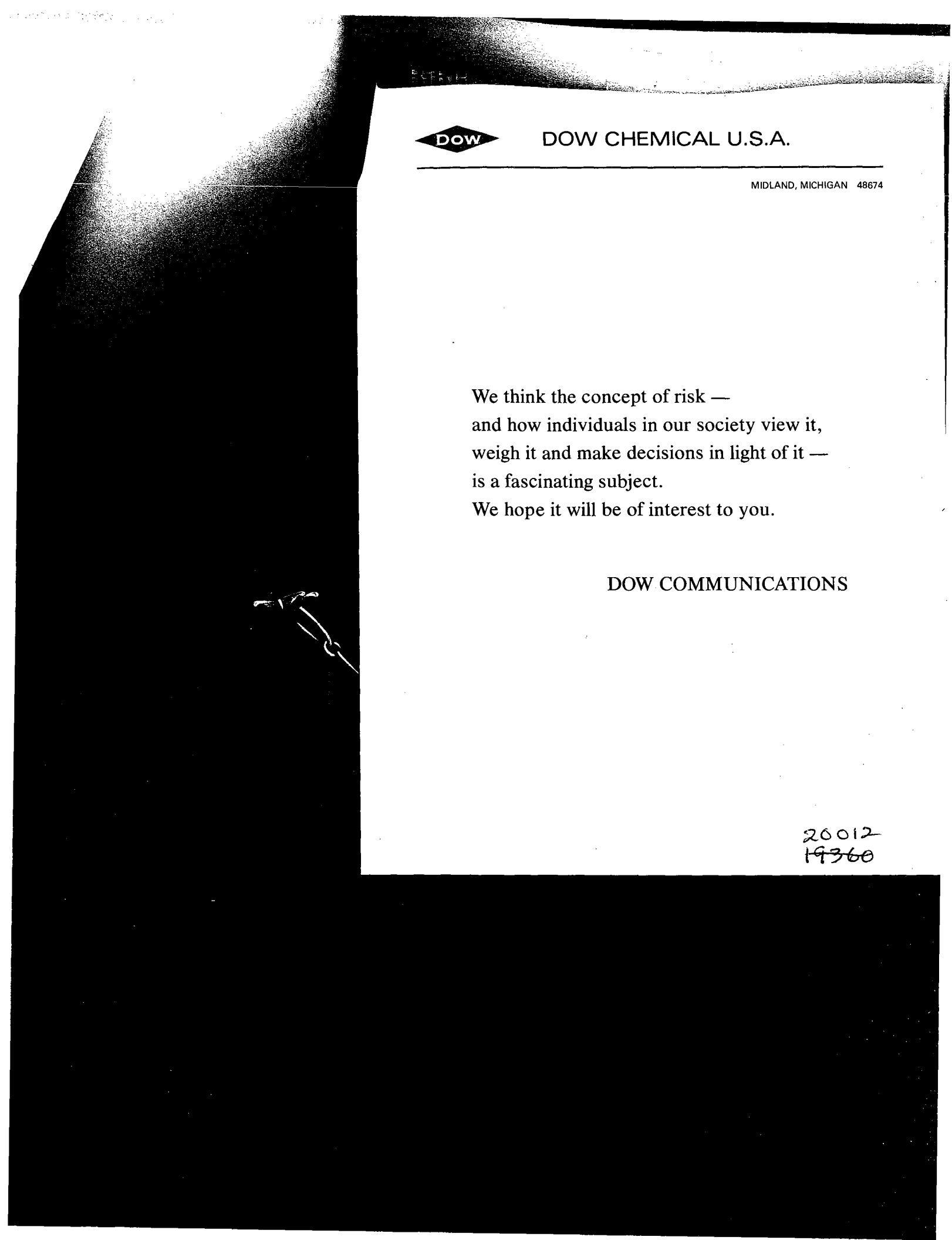

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We think the concept of risk —
and how individuals in our society view it,
weigh it and make decisions in light of it —
is a fascinating subject.
We hope it will be of interest to you.

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