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IN THE CIRCUIT COURT
TWENTIETH JUDICIAL CIRCUIT OF ILLINOIS
ST. CLAIR COUNTY

FRANCES E. KEMNER, et al.,)
)
Plaintiffs,)
)
vs.)
)
MONSANTO COMPANY,)
)
Defendant.)

Cause No. 80-L-974



DEFENDANT MONSANTO COMPANY'S OFFER OF PROOF
REGARDING THE TESTIMONY OF DR. RAYMOND R. SUSKIND

Introduction

A major theme of the plaintiffs' punitive damage case is that Defendant Monsanto Company, has attempted to influence the world's perception of the toxicity of 2,3,7,8-TCDD, referred to herein as "dioxin", by spreading false information regarding the health status of their plant workers. They allege that Dr. Raymond R. Suskind, a noted dermatologist, occupational medicine specialist with the University of Cincinnati, and authority on dioxin toxicity, who has studied Monsanto's workers since 1949, has played a significant role in assisting Monsanto in an alleged attempt to "cover up" the toxicity of dioxin. Dr. Suskind's credibility is on trial, and by virtue of plaintiffs' accusations that of Monsanto Company as well. This Offer of Proof sets forth testimony of Dr. Suskind absolutely essential to Monsanto's ability to respond to plaintiffs' charges.

During cross-examination Dr. Suskind was openly accused of having a memory which could not be trusted, of failing to

report health effects he found in Monsanto's workers when asked by the West Virginia Compensation Commission, and of publishing studies intended to downplay the actual human health effects of dioxin. As a result of the extreme and unfair limitations placed upon his testimony and this Court's subsequent ban on his further testimony, Dr. Suskind never had the opportunity to respond to these charges, and to demonstrate that his recollection was totally accurate.

The importance of Dr. Suskind's testimony to plaintiffs' punitive damage case is illustrated by the manner and length (18 days) of cross-examination of Dr. Suskind after a reasonably concise direct exam (2-1/2 days), and the extensive use of Dr. Suskind's testimony in the cross examination of Dr. James Webster, Monsanto's chief examining expert. Plaintiffs' counsel spent days cross-examining Dr. James Webster, Monsanto's final medical expert, with the unclarified, and at times unduly and erroneously restricted, testimony of Dr. Suskind.

In addition, misinformation offered by plaintiffs' counsel which was corrected and clarified by Dr. Suskind during his direct examination (which clarification was left unchallenged by plaintiffs' counsel despite 18 days of cross examination) relating to the number of workers reported by Dr. Suskind in his 184 health study as having cancer was used, nevertheless, in it's incorrect and unclarified state to cross examine Dr. Webster. (Tr. 6/8/87). This Offer of Proof demonstrates that Dr. Suskind's redirect examination is critical to Monsanto's

defense and that plaintiffs' counsel knowingly misrepresented facts in the course of his cross-examination of both Dr. Suskind and Dr. Webster. The loss of Dr. Suskind's redirect testimony not only left unrebutted misleading and false information, but enabled plaintiffs' counsel to use this misinformation in his cross-examination of Dr. Webster.

Dr. Suskind is without question one of the world's leading authorities on dioxin exposure and human health effects. His work on this subject spans the period from 1949 to the present day. Dr. Suskind's position that these plaintiffs, in the absence of chloracne, have not been exposed to levels of dioxin of any toxicological significance, cuts to the heart of plaintiffs' case. His studies also provide compelling proof that plaintiffs' "experts" either do not understand the realities of dioxin exposure or are intentionally fabricating testimony. Understandably, plaintiffs' counsel made Dr. Suskind a major focus of plaintiffs' attack on Monsanto's position on dioxin toxicity. Monsanto's position is consistent with, and in part a result of, the studies performed by Dr. Suskind on Monsanto employees. Plaintiffs assert that Dr. Suskind falsified a number of studies on Monsanto workers to assist Monsanto in its alleged effort to cover up dioxin health effects. If plaintiffs cannot effectively discredit Dr. Suskind, then a major element of their punitive damage case will fail, as well as their causation case.

Prior to the commencement of the trial, Dr. Suskind had not planned to testify in this case since he was not involved in

the examination of plaintiffs. However, plaintiffs' expert in chief, Dr. Bertram Carnow, made several improper accusations regarding the validity of the studies performed by Dr. Suskind. In addition, by misrepresentation, plaintiffs' counsel elicited testimony from certain Monsanto employees which raised further questions regarding the integrity of Dr. Suskind and his work (Trs. 7/9/85, pp. 11-107; 7/10/85, pp. 7-70; and 3/29/85, pp. 114-164). Dr. Suskind agreed to testify, once he became aware of the charges directed against him and his work.

Dr. Suskind's direct testimony commenced on February 10, 1986 and lasted until the morning of February 18, 1986. In total his direct testimony took less than three full court days. Dr. Suskind's cross-examination commenced on February 18, 1986 and ended on April 4, 1986 when Dr. Suskind, at age 72, was physically no longer able to continue his testimony in Belleville. His physical infirmity was documented by the affidavit of his treating physician, Dr. Vilter, which revealed the existence of premature auricular contractions, uniquely elevated blood pressure and hand tremor. Dr. Richard Vilter is a very distinguished internist who is past-president of the American College of Physicians. Dr. Vilter advised that rest was necessary, and that to continue Dr. Suskind's testimony without rest would be life-threatening.

On April 8, 1986, plaintiffs' counsel acknowledged as much during argument. During that same argument, plaintiffs requested that the Court bar any further testimony of Dr.

Suskind. The Court took plaintiffs' motion under advisement. Plaintiffs had the equivalent of eighteen full court days of cross-examination during the period from February 18, 1986 until April 4, 1986.

At no time has defendant been in a position to compel Dr. Suskind's return to the stand, despite its desire to respond to the misrepresentations of the plaintiffs. Dr. Suskind resides in Ohio, not Illinois. He is not a party to this action despite the efforts of plaintiffs' counsel to put him on trial. Dr. Suskind acted upon the sound medical advice of his physician. Monsanto could not compel him to act contrary to the advice of Dr. Suskind's physician. It availed itself of the only remaining option, at the most appropriate time. On September 18, 1986, Monsanto Company filed a notice to take the evidence deposition of Dr. Suskind in Cincinnati, Ohio. Dr. Suskind's condition, in the opinion of his physician, had improved during the preceding five months, and Dr. Suskind was given medical clearance by Dr. Vilter to complete his testimony if conducted in a medically supervised setting.

Plaintiffs filed a motion on September 23, 1986, to quash Monsanto Company's Notice of Evidence Deposition. Following further briefing and oral argument, the Court on November 10, 1986, not only granted plaintiffs' Motion to Quash Dr. Suskind's Evidence Deposition, but in addition barred further testimony by Dr. Suskind "in any manner or form and refused to advise the jury of the reasons for Dr. Suskind's absence." Additionally, the tension in the courtroom just prior to Dr.

Suskind's absence was such, that to refuse to allow Monsanto to explain the circumstances of his absence to the jury will undoubtedly impact Dr. Suskind's credibility and severely prejudice Monsanto's defense. This offer of proof by Dr. Suskind contains powerful and important testimony, excluded by the Court's Order of November 10, 1986.

DR. SUSKIND'S OFFER OF PROOF

A. Chloracne as the Marker of Dioxin Exposure

Given the lapse of over one year since the abrupt termination of Dr. Suskind's testimony, it is important to understand the context for his redirect testimony.

Prior to October 1, 1981, the Council on Scientific Affairs for the American Medical Association appointed an Advisory Panel on Toxic Substances to review all existing information and prepare a report for physicians on the adverse effects and signs of TCDD exposure. Dr. Suskind was one of the seven Panel members chosen by the Council to prepare the report.

The report was issued on October 1, 1981, and subsequently revised on October 18, 1983. The report, in its "Summary" section, states:

One of the more pronounced biological effects of TCDD, as well as a number of other chlorinated aromatic compounds, is a tendency to cause chloracne in certain animals and man. This particular skin disease is, in fact, regarded as the clinical marker for TCDD exposure. Systemic disorders in man from exposures to TCDD are unlikely to occur in the absence of chloracne. Such symptoms as impaired liver function, nephropathy, GI irritation,

myopathy and neuropathy, including depression and irritation of the central nervous system, have been reported after exposure to large amounts of TCDD; however, these symptoms have not been progressive, and they have always cleared with time (the nephropathy and myopathy have not been proven).

An October 1, 1984, AMA "Update" reconfirmed that, "Chloracne is the marker for biologically effective exposure in humans, and it may persist for as long as 30 years."

The findings of the Advisory Panel appointed by the American Medical Association are consistent with Dr. Suskind's own opinion, that in the absence of chloracne there will be no adverse effects from exposure, and that as Dr. Suskind has stated, the symptoms, other than chloracne, are not progressive following exposure and do clear with time.

By the admission of their own experts, none of the plaintiffs ever developed chloracne following the Sturgeon spill. However, on May 1, 1987, plaintiffs' counsel incorrectly stated that Dr. Suskind had concluded that these plaintiffs could have chloracne. In fact, that statement is false as would have been demonstrated during Dr. Suskind's redirect testimony. Based on the conclusions of the American Medical Association and Dr. Suskind, plaintiffs' "exposure", if at all, was inconsequential from a health standpoint. The jury has never heard the conclusions of the American Medical Association regarding chloracne as the marker of dioxin toxicity. Plaintiffs objected to the introduction of the AMA reports as not authoritative, and the court sustained their

objection. If Dr. Suskind had been allowed to testify, Monsanto would have reoffered this article along with other information to establish the scientific community's acceptance of chloracne as the marker of toxicity. Plaintiffs went to great lengths during Dr. Suskind's cross-examination to disprove the "hallmark" thesis.

Plaintiffs' counsel cross-examined Dr. Suskind regarding a number of studies which ostensibly reported "health effects" in humans absent a finding of chloracne following exposure to dioxin. In most instances, Dr. Suskind was not allowed to give his interpretation of the article; whether or not he agreed with the comments made by the author, or whether it actually contradicted the hallmark thesis. Dr. Suskind was asked to read sentences from the article without explanation, or to see if a certain word or phrase was within the text of the article. In addition the Court did not allow Dr. Suskind to comment or to explain what he was asked to read. This tactic by plaintiffs' counsel grossly distorted the information contained in the article and made it appear that the author contradicted Dr. Suskind's position. Dr. Suskind's redirect testimony, as shown in this offer of proof, would have exposed the distortion and set the record straight. Set forth below are illustrative examples of the misuse of testimony and the literature during Dr. Suskind's cross-examination, to which Dr. Suskind never had an opportunity to respond.

Dr. Suskind was asked to assume that Dr. Dost, a toxicologist and another Monsanto expert witness, testified

that the unpublished study by Dr. Kligman of prisoners, treated with a dioxin containing material, showed a dioxin-caused "effect" on white blood cell count in the absence of chloracne. This study is extremely important since it is the only deliberate experiment using dioxin performed on humans. If Dr. Suskind had been allowed to go beyond Dr. Dost's testimony selectively shown by plaintiffs' counsel, he would have stated that the prisoners' white blood cell counts were not indicative of TCDD-caused "human effects" because the laboratory findings were all within the standard reference range. One cannot conclude that the Kligman prisoner study shows that you can have laboratory effects or clinical effects from exposure to TCDD in the absence of chloracne. In addition, Dr. Suskind would testify that you have to draw a distinction between isolated lab findings and human clinical effects. Even if a single laboratory finding is slightly out of range it is not indicative of an adverse clinical effect. Dr. Suskind would have testified to this fact in responding to Plaintiffs' Exhibit 1445 if he had an opportunity to respond to the Dost statement. Despite the mischaracterization of the article by plaintiffs, the Kligman study does not disprove the fact that chloracne is the marker of dioxin intoxication. The article actually supports the proposition.

As mentioned, plaintiffs' counsel repeatedly attempted to imply that the world's literature did not support Dr. Suskind's opinion that chloracne is the hallmark of dioxin intoxication. Had Dr. Suskind been allowed to explain his testimony, or to

testify on redirect, he would have testified that the articles mentioned by plaintiffs' counsel either support his position regarding chloracne or are unrelated to it. Dr. Suskind would have testified that in the Moses Study of the Nitro workers, chloracne, was in fact, used as the hallmark of exposure. By using chloracne as the determinant of exposure, Dr. Moses and Dr. Selikoff of the Mount Sinai Hospital were demonstrating their belief in the position that without chloracne, there is no biologically substantial or significant exposure. In addition, the authors' use of chloracne supports the position that one would not see clinical health effects in the absence of chloracne.

During the course of Dr. Suskind's cross-examination, plaintiffs' counsel stated that Dr. Bleiberg, another scientist, conducted a study of Diamond Alkali workers which showed disease of the liver, characterized by porphyria, in the absence of chloracne. (Plaintiffs' Exhibit 1445). If Dr. Suskind had been allowed to address this study by Dr. Bleiberg, he would have testified that the liver-related disease (porphyria cutanea tarda [PCT]) which Bleiberg reported was not related to dioxin exposure. These workers were exposed to a known PCT-causing material (hexachlorobenzene [HCB]). Subsequent researchers, including Dr. Kimbrough of the Centers for Disease Control, have reported that HCB was responsible for the PCT in the study. The fact that some workers had PCT without chloracne is consistent with HCB and not dioxin being the cause of the liver disease (PCT). Dr. Suskind was not

allowed to explain that the individuals studied by Dr. Bleiberg were exposed to a mixture of chemicals (including HCB) which makes it very difficult to attribute any particular clinical effect to any specific chemical or chemical contaminant. It is important, because of the personal nature of the attack, that Dr. Suskind be permitted to respond to plaintiffs' misuse of the Bleiberg report in attempting to discredit the hallmark thesis.

In addition to the Bleiberg study, Dr. Suskind was also cross-examined regarding whether or not the Singer/Moses Study (Plaintiffs' Exhibit 1642), a study of 2,4,5-T and 2,4-D production workers in Arkansas, showed neurological deficits in the absence of chloracne. If Dr. Suskind had been allowed to give his opinion and explain his testimony, he would have testified that he had serious concern regarding the Singer/Moses Study since, unlike Moses' study of Monsanto's Nitro plant workers, no qualified dermatologist examined the Arkansas workers for chloracne. Furthermore, the reported neurological deficits were determined by nerve conduction velocity measurements performed in a field setting on only 62% of the exposed with a very small number of controls (unexposed) (55 vs. 25). Dr. Suskind would have testified that the nerve conduction results are of limited statistical significance. In addition, there is a question as to whether or not there was even 2,3,7,8-TCDD in the material to which the workers were exposed. The primary chemical to which they were exposed was 2,4-D herbicide. The evidence at trial, despite the

misrepresentations of plaintiffs' counsel, is that analysis of 2,4-D has never disclosed the presence of 2,3,7,8-TCDD. Although Singer/Moses reported dioxin in the waste materials in Arkansas, there is no indication that it was 2,3,7,8-TCDD. Dr. Suskind acknowledged that the authors reported nerve conduction velocity deficits being present although there was only infrequent chloracne. However, had Dr. Suskind been allowed to explain his testimony, he would have told the jury that 2,4-D itself is known to cause neurological deficits of the type found by the authors in the Singer/Moses Study. Dr. Suskind would have reminded the jury that Dr. Dost testified that 2,4-D is known to cause peripheral neuropathy in animals. In light of the questionable health effects that were found in the Arkansas workers and the presence of 2,4-D and its known link to the effects reported in the study, Dr. Suskind would have testified that this study does not contradict his position that chloracne is the hallmark of dioxin exposure.

Plaintiffs' counsel also cross-examined Dr. Suskind regarding a study by Dr. Schechter relating to the Binghamton Office Building Fire (Plaintiffs' Exhibit 1436). Plaintiffs' counsel suggested that this study showed effects from dioxin exposure in the absence of chloracne. If Dr. Suskind had been allowed to explain his testimony, he would have advised the jury that the Binghamton Office Building fire involved a number of chlorinated hydrocarbons at levels far in excess of those found for dioxin, and that these chemicals are known to cause the type of effects noted by the author in Plaintiffs' Exhibit

1436. For example, the soot from the fire contained polychlorinated biphenyls at levels 1000 times greater than the dioxins. In addition, there were significant quantities of chlorinated benzenes and other toxic materials. The authors reported that the fire involved such known toxic materials as chlorinated dibenzo-furans and biphenylenes in quantities far in excess of those measured for dioxin. In addition, the paper states that tests of a biopsy from the liver of one of the subjects failed to identify the presence of 2,3,7,8-TCDD; instead, only hepta and octa dioxin congeners were reported. Dr. Suskind would have testified, had he been allowed, that in the face of this chemical mixture, it would be improper to attribute any clinical effects to dioxin exposure, particularly in the absence of chloracne.

Plaintiffs' counsel also indicated that the Ward Study of Coalite employees (England) (Plaintiffs' Exhibit 1651) demonstrates clinical and laboratory effects in the absence of chloracne. The significance of the Ward study is difficult to ascertain since the results were neither peer reviewed nor published in final form. Had Dr. Suskind been allowed to testify, he would have testified that the Ward document is unsubstantiated hearsay and that, although the author reports reduced levels of IgD in group B, Dr. Suskind would not have labeled this a clinical health effect since the IgD levels were still within the standard reference range. Also important is that IgD has no known function in the immune system and, therefore, the significance of the IgD levels in group B is

unknown. Of further importance is that Dr. Ward found no differences between the three groups studied, including the unexposed group, for total lymphocytes, T-cells and B-cells. Dr. Ward acknowledged that the people placed in group B were those who "conceivably" had contact with TCDD, but "nobody knew" (Plaintiffs' Exhibit 1651, p. A-4). Had Dr. Suskind not been ordered by the Court to assume that there was TCDD exposure to those in group B, and that the IgD levels were abnormal, Dr. Suskind would have testified that this study does not demonstrate any abnormal health effects in group B, which fact makes the absence of chloracne supportive of Dr. Suskind's position. Furthermore, Dr. Suskind would testify that the AMA's Advisory Panel on Toxic Substances had the Ward study reviewed by an expert immunologist, Dr. Sell, who concluded that there were no immunologic differences between the three groups of workers; i.e., 1) those exposed to TCDD and with chloracne (group A); 2) those potentially exposed and without chloracne (group B); and 3) those who were unexposed (group C). On redirect, Dr. Suskind would correct this distortion by the plaintiffs.

Plaintiffs' counsel also cross-examined Dr. Suskind about two articles regarding an incident in Czechoslovakia which were authored by Dr. Jirasek (Plaintiffs' Exhibits 1644 and 1666). Plaintiffs' counsel stated that these demonstrated the existence of effects in the absence of chloracne. Dr. Jirasek studied a group of Czech workers over a period of time. In the 1974 study (Plaintiffs' Exhibit 1666), the author stated that

it was difficult to determine why some workers had extensive chloracne without any symptoms or findings and other workers had acute porphyria and serious findings in the absence of chloracne. Dr. Suskind was not allowed to point out that these workers, as in the Bleiberg study, were also exposed to HCB, something mentioned by Dr. Jirasek but not fully discussed. In addition, 76 of the 80 people exposed had chloracne. Dr. Suskind would testify that this study actually supports the chloracne as the marker position. The absence of chloracne in only four people out of 80 confirms the hallmark theory rather than contradicts it.

Had Dr. Suskind been allowed to give his opinion regarding whether or not the Hanify Study (Plaintiffs' Exhibit 1652) and the Ranch Hand Morbidity Study (Plaintiffs' Exhibit 246) were evidence of clinical effects in the absence of chloracne, he would have stated that neither study is inconsistent with his view that you will not have clinical effects in the absence of chloracne.

Dr. Suskind would have testified that in the Hanify Study, the one association (club foot) that was found in the study was based upon certain theoretical assumptions which the authors point out. The authors also point out that if a different assumption is used, the above association disappears. The authors found no association for all birth malformations in general, including spina bifida. The authors point out that even for club foot the causal relationship is not established. Finally, Dr. Suskind would have pointed out that the authors

did not actually examine the people studied to determine if they had any skin effects. Dr. Suskind would testify that subsequent studies of residents living in areas which were sprayed with 2,4,5-T did not show a similar association as reported by Hanify.

In the case of the Ranch Hand Study, which was a U.S. Air Force School of Aerospace Medicine study of U.S. Air Force personnel involved with the application of Agent Orange in Vietnam, Dr. Suskind would testify that there was clearly no evidence of an increased frequency of abnormal clinical findings as compared to the matched controls. The study concludes that the exposed personnel are healthy with no statistically significant noteworthy adverse health effects associated with their exposure. Overall, the authors' concluded that the Ranch Handers were in good health for their age. In Dr. Suskind's opinion, the report of a greater frequency of birth marks is not evidence of clinical effects in this instance. Since the medical investigators who performed the Ranch Hand Study found no evidence of chloracne, the Study actually supports the chloracne hallmark thesis, rather than disputes it.

In 1979, a group of scientists, analyzed the incidence of facial clefts in Arkansas children living in areas in which 2,4,5-T had been sprayed since 1943 (Plaintiffs' Exhibit 1654). No children were examined in the study, only birth and hospital records were reviewed. Plaintiffs' counsel forced Dr. Suskind to assume on cross-examination that Plaintiffs' Exhibit

1654 showed an increased incidence of facial cleft in those exposed in the 2,4,5-T sprayed area in the absence of any report of maternal chloracne. Had Dr. Suskind been given an opportunity to read the last sentence from the authors' summary of the study, he would have informed the jury that the authors themselves concluded that the general increase in facial cleft that they found was "attributable to better case finding rather than maternal exposure to 2,4,5-T." In addition, since no examinations occurred, there is no way the authors would know whether or not the mothers had chloracne. The authors admitted on page 383 of the study, as Dr. Suskind would have testified, that they have no knowledge of which participants were actually exposed and which were not since they did not conduct any histories or interviews. Dr. Suskind would have testified that Plaintiffs' Exhibit 1654 does not dispute his position that chloracne is the hallmark of biologically significant dioxin exposure.

Plaintiffs' counsel also cross-examined Dr. Suskind on the "Spontaneous Abortions and Birth Defects" section of a chapter entitled "Adverse Health Effects in Human Populations Exposed to TCDD in Seveso: An Update," written by D. F. Merlo in the book "Dioxins in the Environment." Merlo reviewed a number of studies dealing with a release of dioxin (TCDD) in Seveso, Italy. Plaintiffs attempted to show that chloracne was not found in the women of the town, even though there was a substantial increase in spontaneous abortions, and that this was suggestive of clinical effects in the absence of

chloracne. Dr. Suskind attempted to explain what Merlo was discussing in this section but plaintiffs' counsel cut him off. If allowed to testify, Dr. Suskind would have pointed out, as he tried to state in his testimony which the jury was instructed to disregard as non-responsive, that the reported "rise" in abortion rates in the more highly contaminated area was a rate which was obtained without benefit of baseline values prior to the release of chemicals at Seveso so that there is no basis for comparison. In fact, the rate may not have increased at all.

Plaintiffs' counsel also quoted from the Merlo chapter that "this rise in the abortion rate among exposed women was observed despite the fact that more than 90 pregnant women from these areas obtained a clinical abortion." If allowed to comment on this statement, Dr. Suskind would point out that spontaneous abortions can be the result of various things including drug intake, stress, fear and over exercise. Dr. Suskind would further explain that it can be inferred that women in the Seveso area were frightened as is apparent by the large number of women obtaining clinical abortions. This fear in and of itself could have caused the spontaneous abortions, although such fear would be misplaced since birth defects and spontaneous abortions in humans are not caused by exposure to TCDD.

Plaintiffs' counsel referred Dr. Suskind to the section in the Merlo study that indicates a diagnosis of liver disease in 5 clean-up workers was suspected to be of toxic origin. Again,

Dr. Suskind would point out on redirect that the findings and diagnoses are presented in list form only in Merlo's article, and indeed important information for evaluating this group is totally lacking, thus preventing any conclusions from being made. For example, the manner in which liver disease of chemical origin (work-related) is differentiated from cirrhosis (alcohol-related) is not described. This is of particular importance since this is a population in which daily consumption of alcohol, in the form of urine, is substantial and its effects on the liver significant. The absence or presence of chloracne in these workers cannot be fully evaluated without more information on the nature of the disease and the exposure history of the workers.

Plaintiffs' counsel also questioned Dr. Suskind regarding that part of Merlo's article which discusses neurological abnormalities in plant workers at Seveso. If given the opportunity to testify, Dr. Suskind would point out that no conclusions regarding dioxin health effects can be drawn from Merlo's statements since no control group was used and, as the author points out, "because alcohol consumption and/or history of diabetes was not determined."

Plaintiffs' counsel also referred Dr. Suskind to the "Mortality Study and Cancer Registry" section of Merlo's article. If allowed to testify, Dr. Suskind would say that no conclusions can be drawn from this section concerning cancer, since the text itself indicates, although it was not read to the jury, that "no conclusions can be drawn from the cancer

data because of the recognized latency period for cancer induction and the fact that in this instance the risk-assessment base used only one risk marker (TCDD in the soil)."

If Dr. Suskind had been allowed to testify fully, he would have explained that the Merlo material does not disprove his position on chloracne as the marker. As a matter of fact, Merlo himself states in the chapter (p. 244) that he prefers using chloracne rates as a risk marker.

Plaintiffs' counsel examined Dr. Suskind with a different study of the Seveso population (Plaintiffs' Exhibit 1807), a neurological report by Filippini et al. on people who were in the highly contaminated area of Seveso. If allowed to testify, Dr. Suskind would point out that plaintiffs' counsel, while reading the first part of the article, which refers to the reported effects of dioxin in humans, failed to read the sentence which discussed the association between chloracne and increased liver enzymes and abnormal lipid levels. In fact, plaintiffs' counsel read almost all of the first page of the article except for the sentence which related to chloracne. Dr. Suskind would point out that this article also states that chloracne is a good indicator of exposure to dioxin. Dr. Suskind would also testify that it is hard to reach any conclusions based upon the "findings" of the study, since the protocol does not allow for the distinction between those exposed to TCDD with no other neuropathic risk factors and those with a combination of risk factors. There is no clear

differentiation between electrophysiologically determined neuropathy, clinically determined neuropathy and the presence of both. The authors report in their table that peripheral neuropathy was found but none of this was acute peripheral neuropathy. Dr. Suskind would testify that the table given by the authors is unclear and gives no information from which sound conclusions can be drawn. Overall, the article supports rather than disproves that chloracne is a marker of intoxication.

In addition to the AMA, such well recognized and international authorities as Dr. K. D. Crow and Dr. J. S. Taylor have repeatedly stated that chloracne is the clinical marker of dioxin exposure and intoxication. In response to plaintiffs' cross-examination, Dr. Suskind would have identified those experts in the field and the wealth of scientific literature which supports the marker position.

Plaintiffs' counsel spent three weeks attempting to disprove that chloracne is the marker of biologically significant dioxin exposure. Obviously if the jury accepts Dr. Suskind's position that chloracne is the marker of significant dioxin exposure plaintiffs' causation case fails, since by their own admission none of them had chloracne. By cutting off Dr. Suskind's testimony, plaintiffs have misrepresented the importance of several studies and may have convinced the jury that Dr. Suskind's position is not generally recognized and accepted by the scientific community. Monsanto has been deprived of a major element of its defense by not being able to

put on Dr. Suskind's response. The deliberate distortion of studies by plaintiffs' counsel is typical of the pattern of distortion unmasked during redirect of Dr. Webster, Monsanto's chief examining expert. Dr. Suskind's redirect testimony would have revealed substantive distortion as a result of improper statements and allegations by plaintiffs' counsel.

B. Following Dioxin Exposure Clinical Effects
Have Always Cleared with Time

A major medical issue in this case is whether or not the effects of dioxin, following an exposure manifested by both skin and other systemic disorders, persists once the exposure stops. Dr. Suskind and other experts, including the American Medical Association (see Summary quote herein at pp. 6-7), believe that human health effects' clear with time following cessation of exposure, and that the only persistent effect of exposure is chloracne. This position, on this very important subject, is accepted by Monsanto Company and is a major element of its defense in this case. Obviously plaintiffs do not want the jury to believe that contact with dioxin does not cause long term serious health effects other than chloracne. Dr. Suskind's redirect testimony would have reviewed the basis for his conclusion in responding to the accusations of plaintiffs.

In 1949, Dr. Suskind performed examinations on four workers at Monsanto's Nitro, West Virginia, Plant ("Nitro Plant") who developed certain symptoms and complaints following exposure to a number of chemicals including dioxin, during a runaway reaction in a 2,4,5-T manufacturing unit. Dr. Suskind, as well

as others from the Kettering Laboratory, conducted additional examinations of these and other employees in 1950 and again in 1953. A number of these Nitro Plant workers filed compensation claims after their symptoms developed. In 1979, Dr. Suskind examined 436 current or former Nitro Plant workers to determine if there were any long term effects from exposure to dioxin. He prepared a written report which was published in 1984 in the Journal of the American Medical Association. Dr. Suskind is the only physician to have followed workers for thirty years and his testimony is critical on the issue of long term human health effects from dioxin exposure.

Dr. Suskind was accused of covering up the fact that the nonchloracne "effects" he saw in 1949 and 1953 in the Nitro Plant workers, actually persisted long after their initial exposure and were very serious in nature (immune system damage, cancer, heart ailments, etc.) Plaintiffs' counsel alleged that the complaints of the Nitro workers continued from 1949 until at least 1979, and that Dr. Suskind had lied when he said that they had cleared. Plaintiffs' counsel attempted a word game which basically equated a "complaint" with a "symptom/finding". Material distinctions exist between these various terms, particularly as used in scientific reports of the type prepared by Dr. Suskind. Dr. Suskind was never given the opportunity to expose this semantic jibberish on cross-examination so as to properly explain the basis for the statements he made regarding clearance of symptoms.

Dr. Suskind wanted the jury to understand his distinction between a complaint and a symptom/finding. In fact, plaintiffs' counsel often interchanged these words to give the jury the impression that Dr. Suskind was changing his testimony when in fact he was not. Had Dr. Suskind been allowed to complete his testimony, he would have testified that as used in the context of his reports a "complaint" does not become a "symptom/finding" until after the physician has had an opportunity to determine whether or not there is an objective basis for the complaint. A complaint basically comes from the patient. However, the existence of a symptom or finding is determined by the informed evaluation of the physician taking into consideration all information, including laboratory tests, physical examination, medical history, etc. A complaint may rise to the level of a symptom or finding but only after further study. Dr. Suskind found that findings or symptoms did clear with time except for some cases of chloracne.

Plaintiffs' counsel would not allow Dr. Suskind to distinguish between a "complaint" and a "symptom/finding" because he wanted to base his arguments on the workers' complaints and not what the physicians determined to be significant. In addition, Dr. Suskind was prevented from taking into consideration the degree or extent of a complaint for purposes of explaining his terminology that "the symptoms cleared with time." Dr. Suskind, had he been allowed to testify, would have stated that a physician has to be concerned with the degree and significance of a complaint so that the

study does not get caught up in what basically are normal, everyday problems. It is important that the physician consider the significance of the complaint so as to not dilute effects or potential effects when conducting a health study. If minor complaints or unsupported complaints are investigated, it will not lead to an accurate determination of causation. The physician has to try and ascertain what problems or findings or complaints of significance exist which differ from the unexposed population (control group). That is the essence of conducting an epidemiological study, to look for differences of significance. To a large extent, Dr. Suskind would have testified that on cross-examination he was not allowed to mention or assess the significance of the "complaints" that were used by plaintiffs' counsel to dispute Dr. Suskind's position that "symptoms cleared with time." In addition, Dr. Suskind knew that these workers had not complained about a number of these items that were mentioned in the 1953 examination in subsequent plant medical exams. Dr. Suskind had looked at these records and knew that plaintiffs' counsel was falsely suggesting that the complaints continued unbroken and had not cleared with time when in fact employees in subsequent examinations following the 1953 exam had denied having these very complaints. This amounted to a gross distortion of a key point relating to the issue of causation. Monsanto was denied the opportunity to bring this out by Dr. Suskind's further testimony.

Completion of Dr. Suskind's testimony on redirect would be important to Monsanto's efforts to negate the prejudice of plaintiffs' misleading exhibits created during Dr. Suskind's cross examination.

Plaintiffs attempted to show two things to counter the "clearance" position of Dr. Suskind and Monsanto:

1. Plaintiffs asserted that in most of those examined in 1953 the complaints had persisted from 1949; and
2. Plaintiffs asserted that those examined in 1953 and again in 1979 had complaints which persisted for that entire twenty-six year period.

Prior to a discussion of these two assertions, Dr. Suskind would have first attacked plaintiffs' nonscientific use of the workers' complaints, as discussed earlier, and their deceitful effort to confuse the necessary distinction made by Dr. Suskind between a complaint and a symptom or finding.

In terms of Dr. Suskind's examinations of the Nitro Plant workers, plaintiffs' counsel on cross-examination attempted to use the complaints of the workers in 1953 to show that these were "effects" which persisted for four years after their exposure in 1949 following the runaway reaction inside the Nitro Plant. Plaintiffs' counsel prepared a chart (Plaintiffs' Exhibit 1730) and placed the names of 27 of the 36 workers under the statement of Dr. Suskind that, "in a few cases, workers continued to complain of aches and pains of the lower extremities and back, nervousness, excessive fatigue and dyspnea." Dr. Suskind was never given the opportunity to

define the distinction between a complaint which rises to the level of a symptom and one that does not. His interpretation of the workers' overall health is necessary to understand the proper context of his statement.

Dr. Suskind was not allowed during cross-examination to discuss the severity of the complaints, whether or not he felt the individuals were telling the truth at the time that they reported the complaints, whether or not the complaints rose to the significance of a physician finding/symptom, and whether or not the complaints were related to other causes than their exposure. Plaintiffs' counsel had the Court order Dr. Suskind to acknowledge that any type of complaint, whether it was diminishing or not, of a minor nature or not, related or unrelated to their exposure, real or imagined, had to be scored against Dr. Suskind's statement as quoted at the top of Plaintiffs' Exhibit 1730. Dr. Suskind was ordered by the court to accept plaintiffs' counsel's method of scoring, which ignored all of the above factors and gave the false appearance that Dr. Suskind had not told the truth regarding the nature and extent of the complaints, symptoms, and findings. Plaintiffs' counsel concluded that 27 of the workers "continued" to complain in 1953. Dr. Suskind was not allowed during cross-examination to identify the elements that he used to arrive at the conclusion that their complaints in all but a few cases cleared with time. On redirect Dr. Suskind would have exposed the impropriety of the assumptions forced upon him.

In 1973 and again in 1978, Dr. Suskind made the statement in presentations at international conferences that "in very few cases did workers continue to complain of mild pains, nervousness and fatigue." Plaintiffs' counsel confronted Dr. Suskind with this statement and the results of plaintiffs "score" as exhibited on Plaintiffs' Exhibit 1730. He accused Dr. Suskind of attempting to mislead the world about the extent of the complaints reported during his 1953 examinations. Had Dr. Suskind been allowed to explain the basis for his statements in 1973 and 1978, he would have testified that the "complaints" reported in 1953 were substantially reduced and less severe than the complaints they had following their exposure to the runaway reaction. In fact, most of the employees described their present complaints as subsiding or nonexistent. Also, he would have testified, based on the physicians' examinations and analysis, that the symptoms and findings of these workers had diminished appreciably from 1949 to 1953. Furthermore, Dr. Suskind would have testified that during the period 1953 until 1973, most if not all of these workers had denied having any of these complaints during their periodic plant physicals, as indicated in their plant medical files. A gross distortion occurred as a result of the restrictions placed upon Dr. Suskind's testimony which remains to this day.

If Dr. Suskind had been allowed to address the charge that he had attempted to cover up the duration of the complaints of the workers examined in 1953, he would have testified that his

1984 article in the Journal of the American Medical Association (Plaintiffs' Exhibit 1467), sets forth in a peer reviewed (more authoritative) format, Dr. Suskind's position regarding clearance of the workers' findings and symptoms. On page 2372 of the Journal of the American Medical Association of May 11, 1984, Volume 251, Dr. Suskind describes his observations following his 1949 and 1953 examinations: .

"Those employees involved in the clean-up of the building and the repair of equipment experienced acute symptoms characterized by skin, eye, and respiratory tract irritation, headache, dizziness, and nausea. These symptoms subsided within one to two weeks and were followed by an acneiform eruption, severe muscle pain, affecting the extremities, thorax, and shoulders, fatigue, nervousness and irritability, dyspnea, complaint of decreased libido, and intolerance to cold. An examination of the workers in 1949 revealed a severe and generalized acneiform eruption (chloracne), hepatic enlargement, peripheral neuritis, delayed prothrombin time, and increased total serum lipid levels. By 1953, those symptoms and findings referable to the nervous system and liver had subsided. The chloracne, although much improved, persisted."

Plaintiffs' counsel's allegation that Dr. Suskind did not accurately report to the "scientific community" his observations following his 1949 and 1953 examinations is clearly false. Plaintiffs' counsel studiously avoided Dr. Suskind's 1984 published report to prevent the jury from seeing Dr. Suskind's full explanation. Plaintiffs' counsel limited Dr. Suskind's testimony to portions of scientific presentations made prior to Dr. Suskind's 1979 examinations of the Nitro Plant workers which resulted in the statement quoted above.

Clearly Dr. Suskind's 1984 report makes the distinction that Dr. Suskind was attempting to make in his cross-examination regarding the significance of complaints versus symptoms/findings. In his 1984 paper, Dr. Suskind says that the symptoms of muscle pain, shoulder pain, fatigue, nervousness, and the findings of the nervous system and liver had subsided by 1953. This is consistent with Dr. Suskind's attempts to testify that his statement regarding cleared with time has to do with the fact that the symptoms had reduced in severity by the time he had examined the employees in 1953. Had Dr. Suskind been allowed to clarify his cross-examination testimony, he would have pointed to this explanation in his 1984 paper (Plaintiffs' Exhibit 1467). Also, Dr. Suskind would have testified that by 1953 a number of these 27 who continued to have complaints were, as Dr. Suskind classified them in 1953, chronic "complainers." By 1953, a number of these individuals had already filed Workmen's Compensation actions against Monsanto Company with recovery contingent upon connecting their complaints to their occupational exposure.

The "scoring" by plaintiffs' counsel in Plaintiffs' Exhibit 1730 was grossly misleading and ignores the physician's interpretation including the significance of the complaints, the findings that were made in the course of the examination, the truthfulness of the patient, the possible psychological explanation for the complaints, the existence of other explanations for the complaints not related to their exposure, the reduced severity of the complaint, and finally the impact

of the compensation claims on the "reality" of the complaints. Had Dr. Suskind been allowed to testify and clarify and consider all of the elements, he would have been able to substantiate the statements that were made in his 1973, 1978, and 1984 reports that these symptoms cleared with time.

In addition to focusing on the workers' complaints during the 1953 examinations (Plaintiffs' Exhibit 1730), plaintiffs also argue that the 1979 re-examination of eleven workers examined in 1953 demonstrate that their "complaints" did not clear with time. Dr. Suskind's testimony on this issue would also correct the impression created during cross-examination, when plaintiffs' counsel concocted an exhibit (Plaintiffs' Exhibit 1734) which he claimed demonstrated that the 11 individuals who were examined in 1953 and again in 1979 had the same complaints continuously for that 26-year period. As a result, plaintiffs' counsel attempted to force Dr. Suskind to state a falsehood: that Dr. Suskind was again attempting to mislead the world when he said that these complaints cleared with time. This exhibit suffers from the same shortcomings as expressed above in discussing Plaintiffs' Exhibit 1730. It represents another misuse of the patient's complaints in concocting a laymen's health study by Plaintiffs' counsel. It also suffers in that it purposely misrepresents the constancy of the complaints.

On March 10, 1986, plaintiffs' counsel, prior to examining Dr. Suskind regarding the complaints of the 11 workers contained in Plaintiffs' Exhibit 1734, stated to Dr. Suskind

that he was providing him all of the records that he had received pertaining to each of the eleven individuals. In fact, this was not true. He and his expert, Dr. Carnow, had been provided numerous plant medical records which he did not provide to Dr. Suskind during the course of cross-examination. The Court forced Dr. Suskind to answer the questions regarding whether the complaints cleared with time from 1953 to 1979 based solely on records of exams done by Dr. Suskind in 1949, 50, and 53 and examinations which took place in 1979. A substantial body of medical evidence from the period 1954 to 1978 was excluded, along with records predating the Suskind exams and the 1949 incident.

On March 10, 1986, Dr. Suskind clearly pointed out during cross-examination regarding Mr. Farley that when he conducted his 1979 examinations that he had access to plant medical records which Mr. Carr had not provided to him. If Dr. Suskind had been allowed to clarify his cross-examination on this point, he would have explained that statements in the plant medical records pertaining to the eleven individuals listed on Plaintiffs' Exhibit 1734 clearly contradict the assertion of plaintiffs' counsel that their complaints were continuous from 1953 until 1979. The fact that a worker had complained of headaches in 1953 and again in 1979 does not mean without further evaluation and investigation that the cause of these headaches was the same. The worker may have sustained a blow to the head during the intervening period. Below is a person-by-person response that Dr. Suskind would have given

which not only disproves plaintiffs' counsel's argument but reveals the deliberate effort by counsel to hide the truth from the jury. Although substantial detail is recited in this section, Dr. Suskind would have been able to handle this quickly at trial, if he had been allowed, since he was familiar with these records already.

CHARLES ARTHUR

Mr. Charles Arthur was examined by Dr. Suskind in 1953 and again in 1979. On Plaintiffs' Exhibit 1734, Dr. Suskind would have testified beginning with Charles Arthur that Plaintiffs' Exhibit 1734 is misleading in that it represents that Charles Arthur had continuous complaints of pain, fatigue and central nervous system problems from 1953 to 1979 all relating to his exposure. The impression left with the jury is that the complaints did not "clear with time" as stated by Dr. Suskind. If Dr. Suskind had been allowed to testify, he would have stated that Mr. Arthur attributed the muscle pain and nervousness that he indicated he had in 1979 to the back operations and nerve injury that he had prior to the 1949 incident and not to chemical exposure. Dr. Suskind was prevented from testifying that in the medical history taken as part of this man's 1979 examination, he reported that he broke his back loading coal in 1945 and, that he has had five back operations and attributes most, if not all, of his complaints to his back problems. If Dr. Suskind had been allowed to clarify this man's condition, he would have stated that Mr.

Arthur's nerve condition, nervousness and pains are unrelated to any exposure to chemicals and therefore Plaintiffs' Exhibit 1734 misrepresents the duration and cause of his 1953 complaints.

Furthermore, on page 18 of the 1979 questionnaire completed by Mr. Arthur during Dr. Suskind's examination, he indicated that his loss of libido, which Mr. Arthur attributed to his presence in the 2,4,5-T department, lasted only to 1951 and not thereafter. This information supports Dr. Suskind's statement that the symptoms cleared with time since Mr. Arthur's loss of libido cleared within a short time following his exposure. In short, Dr. Suskind would have testified that Mr. Arthur should not be included on Plaintiffs' 1734 since his complaints which plaintiffs' counsel related to TCDD exposure did not continue from 1953 to 1979. Plaintiffs' counsel continuously and obviously ignored highly relevant statements and information of the workers in his efforts to discredit Dr. Suskind. This same pattern persisted throughout Dr. Suskind's cross-examination regarding the complaints of these eleven workers.

CHARLES FARLEY

Plaintiffs' Exhibit 1734 represents that Charles Farley had continuous complaints of pain, fatigue, and central nervous system damage from 1953 to 1979. If Dr. Suskind had been allowed to testify about the entire record regarding Mr. Farley and had not been limited solely to the places pointed to by plaintiffs' counsel, he would have testified that Charles

Farley's complaints did clear with time in his opinion. A number of the so called "central nervous system complaints" contained in Plaintiffs' Exhibit 1734 under the 1979 category are complaints that first began several years after the 1949 incident. For example, Mr. Farley complained that he had sleeplessness but only since 1978, not 1953. In addition, Mr. Farley said that he had dizziness but only since 1976, not 1953. In 1953, Mr. Farley did not report dizziness to Dr. Suskind. In addition, in the plant medical records of May 18, 1971, Mr. Farley denied having dizziness. However, plaintiffs' counsel put a check mark for dizziness in the central nervous system column for 1979 as symptomatic of central nervous system damage that continued from 1949 until 1979. Dr. Suskind would have pointed out the fallacy and prejudice of "diagnosing" these common complaints as "central nervous system" problems. Plaintiffs' counsel classified headaches as related to central nervous system damage, and totally ignored more logical explanations, such as diet, stress, eye strain, etc.

Regarding muscle and joint pain reported in 1979, it should be noted that the plant medical records indicate that Mr. Farley suffered a pinched nerve in his shoulder on September 8, 1978 and that his 1979 pains were in fact due to the pinched nerve. Since this pain differs and can be distinguished from the pain that he professed to have in 1953, this pain could not have continued from 1953 through the present time. Furthermore, on the issue of pain, his plant medical records show that in 1972 he injured his back lifting at work, and that

in 1951 he strained his left shoulder. On May 18, 1971, Mr. Farley denied joint pain, denied leg cramps, and denied having pain in his chest or arms. Clearly whatever pain he had in 1953 which was attributable to exposure did not continue until 1979 as alleged in Plaintiffs' Exhibit 1734. In terms of nervousness, in 1979 on two occasions, Mr. Farley indicated that he was nervous. However, in 1971, 1974 and 1977 the plant medical records indicate that Mr. Farley denied nervousness. If Dr. Suskind had been allowed to testify, he would have testified that Mr. Farley's nervous condition did not continue from 1953 until 1979 and was in fact different from the condition he professed having in 1953.

In 1974, and following, Mr. Farley complained of ease of fatigue. Plaintiffs' Exhibit 1734 attempts to link up this complaint of fatigue with the complaint of fatigue that Mr. Farley had in 1953. In fact, however, in 1959, 1962, 1964 and 1971, during plant physicals, Dr. Suskind would have testified that Mr. Farley denied being fatigued. Dr. Suskind would testify therefore that Mr. Farley's complaint in 1953 of fatigue did in fact clear with time and was not continuous from 1953 until 1979. Furthermore, Dr. Suskind was forced to write on the exhibit kidney stones. Plaintiffs' counsel was trying to mislead the jury into believing that Mr. Farley had kidney stones which he attributed to his exposure at the Nitro Plant. In fact, if Dr. Suskind had been allowed to explain his testimony, he would testify that Mr. Farley had a family history of kidney stones and that Dr. Suskind did not believe

that his kidney stones were in any way a result of his exposure to chemicals at the Nitro Plant.

In addition, in May of 1978, Mr. Farley was hospitalized for pain primarily in the left shoulder, left hand, and occasionally in the right shoulder and right arm. Plaintiffs' Exhibit 1734 classifies this pain as being a continuation of the pain that Mr. Farley had in 1953. The hospital in 1978, following consultation with Mr. Farley's orthopedic surgeon, concluded that the pain in his arms and shoulders was due to disk disease in the C5/C6 region. Mr. Farley was placed in traction and put on analgesics and muscle relaxants. If Dr. Suskind would have been allowed to testify, Dr. Suskind would have pointed out that Mr. Farley's complaint of pain in 1979 was consistent with his complaint in 1978 which was diagnosed as being related to his disk disease. The disk disease was unrelated to his exposure.

WILLARD FORBES

Plaintiffs' Exhibit 1734 lists Willard Forbes as having continuous complaints of pain from 1953 to 1979, and a complaint of nervousness in 1979. If Dr. Suskind had been allowed to testify and consider in his testimony all of the records relating to Mr. Forbes, he would have testified that Mr. Forbes' complaints in 1953 did not in fact continue until 1979. Plaintiffs' counsel represented that Plaintiffs' Exhibit 1734 reflects pain that Mr. Forbes had in 1979, however, page 18 of the 1979 Suskind record indicates only a past history of

pain and no current history of any pain. Also during the 1979 examination by Dr. Suskind's team, Mr. Forbes made no present complaint of pain to the physician. In the Moses-Selikoff report of 1979 (union sponsored study), Mr. Forbes had no complaints of pain in the musculoskeletal area. Dr. Suskind would have testified, therefore, that Mr. Forbes' pain as alleged to have existed in 1953 did not in fact continue until 1979. In addition, Dr. Suskind would have testified that Mr. Forbes had a stroke in 1950 which caused some paralysis of his right side including his arm and leg and that in fact he was diabetic. This information must be considered in evaluating his 1979 complaint of muscle weakness and paresthesia. In 1981 and 1982, he denied muscle weakness and paresthesia to two of his attending physicians. In addition, the plant medical records show that in 1971 Mr. Forbes had absolutely no complaints. Dr. Suskind would have testified that Mr. Forbes was 70 years old in 1979 which probably explains in large part his loss of libido. If Dr. Suskind would have been allowed to testify about all the records regarding Mr. Forbes, he would have concluded that Mr. Forbes' complaints were not continuous from 1953 to 1979 and that Plaintiffs' Exhibit 1734 misrepresents the nature of Mr. Forbes' complaints.

Dr. Suskind was ordered by the Court to write down three health conditions for Mr. Forbes in the middle column of Plaintiffs' Exhibit 1734. Dr. Suskind would have testified that writing down the word "kidney" was improper because in fact it referred only to kidney stones and not a disease of the

kidney. In addition Dr. Suskind would have stated that Plaintiffs' Exhibit 1734 misrepresents the etiology of this man's heart condition because he has a family history of heart disease and a 15 year history of diabetes. Lastly Dr. Suskind was instructed by the Court to write down cancer of the skin. In fact, in 1979 two skin biopsies were taken. The lesion on Mr. Forbes' face was not cancer. It was a dermatofibroma. It should not have been recorded by plaintiffs' counsel as a cancer. The lesion on the sun exposed area of Mr. Forbes' arm was an actinic keratosis with a low grade squamous cell carcinoma. Dr. Suskind would testify that this condition was clearly related to sunlight exposure and common in light-skinned persons including those not exposed to 2,4,5-T, and was therefore not related to exposure to any of the chemicals at the Nitro Plant. Dr. Suskind would testify that Mr. Forbes' condition is misrepresented in Plaintiffs' Exhibit 1734 and that in fact his situation supports Dr. Suskind's position that the symptoms clear with time.

MAX GALLOWAY

Plaintiffs' Exhibit 1734 shows that Mr. Galloway had no complaints in 1953. However, it lists him as having occasional pain in 1979. Dr. Suskind would testify that Plaintiffs' Exhibit 1734 could be interpreted as saying that Mr. Galloway had some complaints in 1979 which relate back to 1953. Dr. Suskind would testify that the complaints which Mr. Galloway reported in 1979 did not start until 1973 based on Mr.

Galloway's own recollection, and therefore were not connected to the 1949 incident. Mr. Galloway's health status disproves plaintiffs' assertion that the non-skin effects of exposure persisted for over 25 years.

JONATHAN A. HURLEY

Plaintiffs' Exhibit 1734 indicates that Mr. Hurley complained of pain, fatigue and central nervous system problems in 1953 and that the pain and central nervous system problems were continuous to 1979. Dr. Suskind would testify that Mr. Hurley's pain and nervousness which existed in 1953 and was present in 1979 were not related to any exposure to chemicals back in 1949 or thereafter. Dr. Suskind would testify that Mr. Hurley's pain related to a herniated disk which was diagnosed in the same month as the 1949 incident. Shortly after 1949, several different physicians diagnosed Jonathan Hurley as having back problems associated with osteoarthritis and hypertrophic arthritis. Dr. Suskind would have testified that the pain Mr. Hurley was experiencing was related to his osteoarthritis and his herniated disk. Mr. Hurley was diagnosed as having atrophy of one leg which is additional evidence of serious disk disease.

In terms of the central nervous system category relating to Mr. Hurley, Dr. Suskind would have testified that Mr. Hurley reported having nervousness back in 1947 which was two years prior to production of 2,4,5-T at the Nitro facility. Since Mr. Hurley was diagnosed as having a disk problem in 1949, Dr.

Suskind would testify that his nervous condition, tingling, numbness, et al. was probably related to a developing disk problem prior to the 1949 incident and bore no relationship to chemical exposure. Dr. Suskind would also testify that Mr. Hurley lived to the age of 86 years and appeared to have suffered no long term effects from exposure to any chemicals at the Nitro Plant.

LONNIE HURLEY

Plaintiffs' Exhibit 1734 represents that Lonnie Hurley had complaints in 1953 relating to pain, fatigue, and the nervous system and that these were continuous to 1979. Plaintiffs make the argument that Dr. Suskind misrepresented the extent of the complaints ("health effects") when he stated that they cleared with time. If Dr. Suskind had been allowed to testify, based on all of the medical records, he would have stated that Mr. Hurley's complaints of mild fatigue and occasional leg pain did not persist from 1953 until 1979. Mr. Hurley himself, on pages 17 and 18 of the Suskind 1979 examination record, only identified one item which he attributed to the 1949 incident and that was nervousness. During the cross-examination of Dr. Suskind, plaintiffs' counsel would not allow Dr. Suskind to go to these pages which would have disputed that Mr. Hurley identified fatigue and so called central nervous system conditions as being related to the 1949 incident. Furthermore, Mr. Hurley's nervousness could be directly related to surgery on December 3, 1969, for a ruptured disk following an

accident. Following this back surgery, Mr. Hurley was diagnosed by a psychiatrist as having acute stress psychosis related to his surgery. Dr. Suskind would have testified that his nervousness in 1979 could very well be a result of his past surgery, and not from occupational exposure to dioxin. In addition, Mr. Hurley associated the pain that he had in 1979 in his legs as being related to the disk surgery.

In 1962, prior to his ruptured disk, plant medical records show that Mr. Hurley had absolutely no complaints. In particular, he denied having any leg pain. Dr. Suskind would testify that although Mr. Hurley indicated some fatigue in 1962, that in 1979 he did not relate any fatigue back to the 1949 incident. In conclusion, Dr. Suskind would testify that Mr. Hurley's 1953 complaints did not continue until 1979 and therefore Plaintiffs' Exhibit 1734 misrepresents the duration and source of his complaints.

DAVID F. MILAM

In 1953, Mr. Milam only complained of mild fatigue. As pointed out in Plaintiffs' Exhibit 1734, Mr. Milam did not have this complaint in 1979. Therefore, Plaintiffs' Exhibit 1734 according to Dr. Suskind, had he been allowed to testify on redirect, incorrectly represents that Mr. Milam had continuous complaints from 1953 to 1979. In addition, Dr. Suskind was forced to record on Plaintiffs' Exhibit 1734 that Mr. Milam had a heart condition. Dr. Suskind was not allowed to go to page 13 of his 1979 examination record and point out that Mr. Milam

had indicated that at least three of his brothers and sisters died of heart problems before age 60 which would be strong evidence of a pre-existing and significant genetic factor, and that his heart condition was unrelated to occupational exposure. In addition, Plaintiffs' Exhibit 1734 indicates that Mr. Milam had a nervous condition. However, his nervous condition did not begin until 1967, which Dr. Suskind would have testified indicates that it certainly did not continue from the 1949 incident to 1979. In fact, Dr. Suskind would have testified that none of his complaints in 1979 dated from the time of the 1949 incident. In addition, Dr. Suskind would testify that Mr. Milam's plant medical records indicate that he had absolutely no complaints for extensive periods of time between 1953 and 1979.

EMMET NULL

Plaintiffs' Exhibit 1734 indicates that Mr. Null, who was exposed accidentally one week before the examination in 1953, did not have any complaints at the time of his examination. However, in 1979 during the Suskind examination, Mr. Null stated that he had joint pain in the back which he believed dated back to the 1951 to 1953 time frame. However, in 1953 he did not complain about pain in the back. In response to the contention by plaintiffs' counsel that Mr. Null's pain did not clear with time based upon page 17 of the 1979 Suskind report, Mr. Null's medical records indicate that he had a family history of arthritis and that in 1970, Mr. Null lost two months

of time due to arthritis in his back. In addition, in 1972 Mr. Null indicated that he had no joint pain but that the only pain that he had was in the low back region. Dr. Suskind would testify, if he was allowed, that there was nothing in the record regarding Mr. Emmet Null which would indicate that he had any conditions caused by exposure to chemicals at the Nitro Plant which began in 1953 or earlier and continued until 1979. In addition he would testify that Plaintiffs' Exhibit 1734 misrepresents the state of Mr. Null's health for the period 1953 to 1979.

JOHN SELBY

Mr. Selby was examined in 1953 and again in 1979 by Dr. Suskind. Plaintiffs' Exhibit 1734 lists John Selby as having pain, fatigue and central nervous system problems in 1953 which continued to 1979. If Dr. Suskind had been allowed to testify, he would have stated that on cross-examination he was not allowed to look at his 1953 report in answering questions regarding Mr. Selby. In 1949, Mr. Selby said that he had nightmares and numbness. However, in 1953 Mr. Selby did not complain of these conditions, and stated that his fatigue and pains in the legs and chest were regressing. Plaintiffs' counsel intentionally kept Dr. Suskind from referring to this section of his 1953 report. To the extent that Plaintiffs' Exhibits 1734 lists these as nervous system problems, it is incorrect and Dr. Suskind would so testify.

In addition, Dr. Suskind would have testified that in 1958, plant medical records indicate that Mr. Selby had no complaints other than some chest pain complaints. In 1960, Mr. Selby had no complaints at all including no chest pain complaints. In 1965, Mr. Selby filled out a personal medical history and denied depression, which was one of the items which plaintiffs' counsel included in his 1953 category under the central nervous system section. Dr. Suskind would testify, therefore, that none of the so called central nervous system complaints were continuous from 1953 to 1979. Dr. Suskind would testify that in 1966, Mr. Selby had no complaints as indicated on plant medical records which Dr. Suskind was not allowed to consult during his cross-examination. In Dr. Suskind's 1953 report, he indicates that all of the present complaints of Mr. Selby were regressing as of the time of the 1953 examination. Dr. Suskind would testify that Plaintiffs' Exhibit 1734 incorrectly represents that Mr. Selby's 1953 complaints continued until 1979. Dr. Suskind would testify that in fact Mr. Selby's complaints did not continue from 1953 until 1979 and that the conditions relating to kidney, heart and ulcer were not caused by exposure to chemicals at the Nitro facility.

DON STOVER

Plaintiffs' Exhibit 1734 lists Donald Stover as having pain, fatigue, and central nervous system problems which continued from 1953 to 1979. Dr. Suskind would testify that Mr. Stover's complaints in 1953 were either not caused by

exposure to dioxin or did not continue until 1979. In 1953, Mr. Stover, contrary to what is listed on Plaintiffs' Exhibit 1734, had a substantially improved condition. Dr. Suskind would testify that at the time of Mr. Stover's examination in 1953 his fatigue had decreased noticeably and that he had not had pain in the legs for at least three weeks prior to the examination. Furthermore, his list of "present complaints" in the 1953 report did not list pain. Dr. Suskind would testify that the present complaints that Mr. Stover had at the time of the 1953 examination as listed on page 35 of Defendant's Exhibit 1701, were all described as mild or regressing. However, in 1979 Mr. Stover reported complaints of muscle weakness, depression, memory loss, fatigue, nervousness, and sleepiness as existing in 1951. Dr. Suskind would have testified that Mr. Stover, in light of the statements made in 1953 to Dr. Suskind, either had a "memory loss" or was reporting complaints he had in '51 prior to them clearing in 1953. In any event, Dr. Suskind would indicate that these symptoms that were not reported in 1953 obviously did not exist from 1953 until 1979 and therefore would not be contrary to Dr. Suskind's statement that symptoms clear with time.

Dr. Suskind would also testify that there are a number of inconsistencies in what Mr. Stover told Dr. Suskind versus what he told the Selikoff group during their 1979 examination. (Plaintiffs' Exhibit 1776). For example, Mr. Stover denied joint pain in 1979 to Dr. Suskind but stated to Dr. Selikoff that he had joint pain since 1953. In addition, Mr. Stover

told Dr. Suskind that he had sleeplessness in 1976 and was currently having nightmares. However, he told the Selikoff group that he had insomnia starting in 1952 and that he had no nightmare problems. In the course of filling out a Monsanto Medical Department form on May 1, 1973, Mr. Stover acknowledged that he smoked 10 cigars per day. However, he denied smoking cigars ever in 1979 during one of the exams and admitted being a heavy smoker during the other. In addition, plant records show that in 1957 and 1958, Mr. Stover denied having ease of fatigue or shortness of breath which Dr. Suskind would testify indicates that his complaint of fatigue in fact did not persist from 1953 to 1979. In addition during a May 1, 1973, plant examination, Mr. Stover denied having any pain or swelling in any of his joints, denied stiffness of his muscles and joints, denied having painful feet or back, denied having attacks of dizziness, and denied suffering from anxiety or tension. Mr. Stover's consistency and reliability are in serious doubt as a result of his conflicting statements. Dr. Suskind, had he been allowed to testify regarding the entire record for Mr. Stover, would state that the evidence is contrary to what is indicated on Plaintiffs' Exhibit 1734 and that Mr. Stover's symptoms did not persist from 1953 until 1979.

PAUL WILLARD

Plaintiffs' Exhibit 1734 lists Paul Willard as having pains, fatigue, and nervousness which continued from 1953 to 1979. Dr. Suskind would testify that Paul Willard was

diagnosed on three separate occasions by three separate physicians as being a chronic complainer, or as exaggerating his complaints. He would further testify that Paul Willard, during Dr. Suskind's examinations in 1953 and 1979, complained of matters which Dr. Suskind did not feel were real at the time of the examinations. Dr. Suskind would testify that in April 1953, at about the same time as Dr. Suskind's 1953 examination, Mr. Willard was examined by Dr. Nestmann. As Plaintiffs' Exhibit 1783 demonstrates, Dr. Nestmann diagnosed Mr. Willard as a "chronic complainer". On May 4, 1953, Dr. Nestmann, who had examined Mr. Willard on behalf of the state compensation commission, wrote a letter to the state compensation commission reporting the fact that Mr. Willard was a chronic complainer. In addition, Dr. Chandler, on June 6, 1959, examined Mr. Willard on behalf of the state compensation commission and reported that Mr. Willard tended to "exaggerate his complaints."

In 1979, Mr. Willard told Dr. Suskind that he had a heart attack that was confirmed by an outside physician. An EKG was performed on Mr. Willard at that time and no evidence of a prior heart attack was found. Dr. Suskind would have testified, if he had been allowed to use all of the records, that Mr. Willard was not ill as a result of exposure to any chemicals at the Nitro Plant. Relying on what Mr. Willard reported, as Plaintiffs' Exhibit 1734 does, gives an inaccurate picture of this man's physical condition. In addition, Dr. Suskind would testify that in 1979 he diagnosed Mr. Willard as

being psychoneurotic based upon a neuropsychiatric history which is pointed out on page 24 of Dr. Suskind's 1979 examination. Dr. Suskind would testify that Plaintiffs' Exhibit 1734 misrepresents the status and nature of Mr. Willard's actual condition. Dr. Suskind would testify that the information contained on Plaintiffs' Exhibit 1734 does not prove that Mr. Willard's real condition did not clear with time. Furthermore, Dr. Suskind would testify that Mr. Willard did not suffer any physical ailment which lasted from 1953 to 1979 as a result of exposure to chemicals at the Nitro Plant. Dr. Suskind would testify that his opinion regarding Mr. Willard was supported by two other independent examinations done on behalf of the State Workmen's Compensation Commission.

The key issue of whether long-term effects follow exposure to dioxin is addressed by Plaintiffs' Exhibits 1730 and 1734. These exhibits misrepresent the actual health conditions of the Nitro Plant workers and paint an inaccurate picture of the nature and duration of their complaints. If Dr. Suskind had not been unfairly limited in his replies, he would have convincingly demonstrated this fact to the jurors. The exclusion of Dr. Suskind's testimony was a necessary element of plaintiffs' effort to convince the jury that their present complaints (headaches, pains, etc.) are consistent with the long term "effects" of dioxin exposure.

C. Dr. Suskind's Statements to the West Virginia
Workmen's Compensation Commission

Plaintiffs allege that Dr. Suskind participated in a plan designed to prevent the West Virginia Compensation Commission from awarding permanent disability to a number of Nitro Plant employees in 1956. This basically irrelevant issue was, championed by plaintiffs' counsel in a major attack against Dr. Suskind's credibility and integrity. The subject was sufficiently important to plaintiffs' case that it occupied several hours of Dr. Webster's cross examination. To place this issue in context, it must be recalled that following the 1949 incident, a number of the plant employees filed disability claims seeking a determination of permanent disability. Temporary disability had already been paid on an uncontested basis. On the question of permanent disability, Dr. Suskind had several meetings with members of the Compensation Commission, and in 1956 gave sworn testimony at a Commission hearing involving the workers.

At this trial, Dr. Suskind was accused by plaintiffs' counsel of aiding Monsanto by failing to disclose certain important information during his testimony before the Commission. Plaintiffs' counsel alleges that these purported acts of "nondisclosure" were the beginning of a course of conduct by Monsanto and Dr. Suskind intended to cover up the health effects of dioxin exposure. If Dr. Suskind had been allowed to explain his answers or to give redirect testimony, he would have demonstrated that the Commission was fully

apprised of the very facts plaintiffs' counsel now alleges were hidden.

Each time when Dr. Suskind testified at this trial that the Commission knew and was told of particular facts, he was chastised by plaintiffs' counsel and told that his recollection could not be trusted (Tr. 3/6/86, pp. 48-49; 3/7/86, p. 199; 3/19/86, p. 97). Plaintiffs' counsel was dead wrong. In fact, there were numerous instances where Dr. Suskind's memory was proven to be accurate as the cross-examination progressed. However, because of the extreme length of cross-examination it is doubtful that the jury could recall Dr. Suskind's earlier remarks. Although the points themselves are not major, the insinuation of deceitful conduct made the need for rebuttal great.

On March 6, 1986, plaintiffs' counsel accused Dr. Suskind of not telling the Workmen's Compensation Commission that Dr. Suskind used a purified form of 2,4,5-T in his chloracne induction test in which the dioxin level was so low as to diminish any chance of chloracne following application. The Commission was erroneously led to believe, according to plaintiffs, that the 2,4,5-T herbicide did not produce chloracne. This is illustrated by the testimony on page 86 of the transcript of March 6, 1986, where Dr. Suskind was asked: "Doctor, you didn't tell them that the Halowax at 5% just like the 2,4,5-T at 5% does not produce chloracne, did you, sir?" Answer, "I can't find it in here." At that time, Mr. Carr was limiting Dr. Suskind's answer to the testimony given by Dr.

Suskind on November 29, 1956 before the Workmen's Compensation Commission. However, plaintiffs' counsel's limitation obscured the truth once again. In fact, Dr. Suskind had other meetings with the Workmen's Compensation Commission which plaintiffs' counsel would not allow Dr. Suskind to consider in responding to the above referenced question. Dr. Suskind attempted to direct the jury's attention to Plaintiffs' Exhibit 1754 which discussed a meeting with the Commission wherein Dr. Suskind disclosed and reviewed the very information plaintiffs' counsel accused him of concealing. During redirect examination, as shown herein, Dr. Suskind would testify that Plaintiffs' Exhibit 1754 recounts a meeting of November 17, 1955 with the Workmen's Compensation Commission where Dr. Suskind was present. Page 2 of Plaintiffs' Exhibit 1754 states that in the presence of the Commission,

"Dr. Suskind told briefly of the animal test done with 5% solution (sic) of various materials from the 2,4,5-T process and with Halowax 1014. He reported that there was no reaction or change in any of the animal studies or in human subjects exposed to the same 5% concentration."

This directly contradicts the improper speech made by plaintiffs' counsel that Dr. Suskind did not tell the Commission that the diluted (5%) solution caused neither a reaction from the 2,4,5-T nor from the Halowax 1014. Plaintiffs' counsel knew that this information was contained in Plaintiffs' Exhibit 1754. In fact, Dr. Suskind would testify that he reported to the Commission months before the formal hearing about the experiment regarding the diluted solutions.

After misrepresenting what Dr. Suskind told the Workmen's Compensation Commission regarding his experimental work on humans and animals, plaintiffs' counsel repeated his accusation that Dr. Suskind concealed from the Compensation Commission that the 2,4,5-T he was using in his experiments was purified. Had Dr. Suskind been allowed to testify, he would have advised the jury that he did tell the Commission that the 2,4,5-T he used was purified material as set out in Plaintiffs' Exhibit 1754 on November 17, 1955, months before the hearing. In addition, he also advised the Commission during his testimony that the 2,4,5-T he was using in his experiments was purified in the laboratory and not typical of process 2,4,5-T, in that the contaminants had been removed. One of the contaminants of 2,4,5-T was later identified as dioxin. Dr. Suskind was attempting to determine by his experiments whether the contaminants or the 2,4,5-T itself was the cause of the chloracne in the workers. In the transcript of his testimony before the Workmen's Compensation Commission of November 29, 1956, Dr. Suskind advised the Commission (page 33) that the 2,4,5-T used in his human and animal experiments was not 2,4,5-T from the Monsanto operation (process) but the specific pure compound 2,4,5-T. Dr. Suskind was not allowed to point to page 33 of his testimony before the Commission during the course of his cross-examination by plaintiffs' counsel in responding to the untrue charge that he did not advise the Commission that the 2,4,5-T he used was purified.

In addition, Dr. Suskind was not allowed to read from pages 51 and 52 of his testimony before the Commission, where he identified the specific chemical 2,4,5-T as not being an acnegen. In fact, the question he was asked on page 51 is limited to 2,4,5-T and not to anything else. If permitted to complete his testimony, Dr. Suskind would say that on March 6, 1986, plaintiffs' counsel falsely stated that the Commission had no further information than what was in the transcript of his testimony of November 29, 1956. On that very same day, plaintiffs' counsel introduced into evidence a letter (Plaintiffs' Exhibit 1754) which reports a meeting with the Commission in Charleston, West Virginia on November 17, 1955, over a year before Dr. Suskind's testimony before the Commission, at which time Dr. Suskind provided the Commission with extensive information regarding his work.

Plaintiffs' counsel also falsely accused Dr. Suskind of not reporting to the Commission that he conducted experiments on humans involving the inhalation of 2,4,5-T and Halowax which showed systemic damage including pneumonitis and some liver trouble. In fact no such experiments were conducted. Dr. Suskind, during cross-examination, advised plaintiffs' counsel that he did not report on this work because it was never completed and the experiments could only be done in animals. Tr. 3/6/86, p. 44. However, plaintiffs' counsel, with the assistance of the court, successfully blocked Dr. Suskind's effort to accurately describe the animal study. He unfairly restricted Dr. Suskind's response to Plaintiffs' Exhibit 1759,

stating that nowhere in this exhibit does it indicate that this experiment applied only to animals. It was grossly unfair and prejudicial for plaintiffs' counsel to suggest that experiments were performed on human beings which showed severe effects, but that the results were concealed by Monsanto and Dr. Suskind. When Dr. Suskind attempted to rebut the false impression created by plaintiffs' counsel, he was cut off. Had Dr. Suskind been allowed to testify without the limits imposed by plaintiffs' counsel and the Court, he would have stated that Plaintiffs' Exhibit 1756, not 1759, points out that the experiment was conducted on animals not humans. However, Dr. Suskind was not allowed to refer to this document during the course of his cross-examination and any clarification has been banned by the Court.

Another instance of misleading cross-examination of Dr. Suskind centers on the charge that Monsanto concealed from the Workmen's Compensation Commission a doctor's conclusion that its workers were psychoneurotic. Prior to the Workmen's Compensation hearings, Monsanto had an internist by the name of Dr. Nestmann examine the workers who had filed claims. Dr. Nestmann found what he termed "psychoneurosis" to be prevalent in a number of the workers he tested on the basis of the Cornell Medical Index. Plaintiffs allege that this finding was intentionally kept from the Commission by Monsanto because of their desire that compensation be denied. Dr. Suskind testified that he believed that Dr. Nestmann had reported his finding of psychoneurosis to the Commission during testimony

before the Commission in 1956. At the time that Dr. Suskind made that statement, he was told by plaintiffs' counsel that the statement that Dr. Nestmann testified before the Commission was unsupported by any evidence. Tr. 3/7/86, pp. 199-206. In addition, during a speech by plaintiffs' counsel Dr. Suskind was incorrectly told that the Commission never heard about Dr. Nestmann's diagnosis of psychoneurosis within this group of employees. Tr. 3/6/86, pp. 174-179. Dr. Suskind was firm in his recollection that Dr. Nestmann had testified before the Commission and had discussed his findings of psychoneurosis.* Some time later, plaintiffs' counsel marked a copy of Dr. Nestmann's testimony before the Compensation Commission (Plaintiffs' Exhibit 1797), however, Dr. Suskind was not allowed to state that he was correct in his recollection that the Commission knew about Dr. Nestmann's diagnosis of psychoneurosis from his testimony. Monsanto and Dr. Suskind were prevented from proving that plaintiffs' counsel deliberately misrepresented evidence and misled the jury.

One of plaintiffs' claims in this trial is that exposure to dioxin causes one to become fearful or neurotic. They have compared dioxin exposure to battle fatigue. Plaintiffs are seeking to tie that claim to the Dr. Nestmann reports and establish: 1) that dioxin causes psychoneurosis; and, 2) that Monsanto was aware of this, but attempted to keep it hidden.

*This turned out to be another instance where Dr. Suskind's recollection proved to be accurate despite the contrary statements of plaintiffs' counsel. However, Monsanto was prevented from bringing this out during Dr. Suskind's redirect testimony.

If he had been allowed to read from Dr. Nestmann's testimony before the Commission and to give his own conclusions on the subject, Dr. Suskind would have proven that Dr. Nestmann told the Commission of the psychoneurosis he found and that it was not a result of exposure to dioxin.

Dr. Suskind would have testified that Dr. Nestmann attributed the psychoneurosis to "vicious" and irresponsible statements made to the workers by an examining physician, Dr. Halloran, regarding their increased susceptibility to a dreaded disease, multiple sclerosis (M.S.). Dr. Halloran was a local physician hired by claimants' counsel to examine the claimants and testify before the Commission. Dr. Halloran testified that he believed the plaintiffs were permanently disabled due to damage to their endocrine systems. Dr. Suskind would have stated that Dr. Halloran was the person identified by Dr. Nestmann as causing the "psychoneurosis" since Halloran irresponsibly advised the claimants that they would ultimately develop multiple sclerosis as a result of their exposure to chemicals at the plant.

Furthermore, Dr. Suskind would testify that in 1979 he examined the Nitro workers and did not find one case of multiple sclerosis in any of the exposed workers. Dr. Suskind would rebut the implication that this fear was caused by dioxin by citing Dr. Nestmann's testimony wherein he stated that he saw this same fear in West Virginia coal miners. Dr. Suskind would have testified that since Dr. Nestmann had seen the same neurosis in coal miners, that the neurosis was not in any way chemically related.

Dr. Suskind would have also testified that pursuant to Plaintiffs' Exhibit 1754, a review of Dr. Nestmann's use of the Cornell Medical Index was carried out by Dr. Donald Ross, a leading expert in the field and author of a definitive text on occupational psychiatry, Dr. Ross concluded that the use of the Index to diagnose psychoneurosis was inappropriate.

As a further rebuttal to the significance of this diagnosis to the Commission and any alleged concealments by Monsanto and others, Dr. Suskind would testify that Dr. Nestmann in 1953 examined one of the Nitro workers for the Compensation Commission and expressly advised the Commission in his report that the employee was psychoneurotic. In 1956, the Commission did not find that the psychoneurosis was a result of occupational exposure.

Plaintiffs' counsel prevented Dr. Suskind from telling the jury that the Compensation Commission had each employee examined by a team of three physicians who issued reports directly to the Commission. Furthermore, the employees hired their own physician, Dr. Halloran, who testified regarding their anxiety and tensions. Dr. Halloran testified that one of the twenty-three employees he examined was psychoneurotic. He categorized eleven as nervous, six as experiencing apprehension or anxiety, one as worried and two with other psychological problems. Each of these twenty-three employees testified at the compensation hearing on their own behalf. In addition, Dr. Suskind testified that Dr. Nestmann, during the hearings, specifically diagnosed Cecil B. Cunningham as having moderately

severe psychoneurosis not attributable to chemical exposure. Dr. Nestmann told the Compensation Commission that one of the most common findings in these employees, in addition to chloracne, was psychoneurosis (Plaintiffs' Exhibit 1747, pp. 27-28). While an accurate report and explanation of the Nestmann findings would be of benefit to Monsanto in this case, because of the handcuffing of Dr. Suskind's testimony, the jury may very well view the Nestmann matter as a Monsanto negative. If the jury believes that Monsanto and Dr. Suskind intentionally concealed dioxin health effects from the Compensation Commission the damage to Monsanto's position would be substantial. This issue of concealment goes to the very essence of plaintiffs' punitive damage case. Only by cutting off Dr. Suskind's testimony could plaintiffs even have a chance of pulling off this deception.

D. Other Allegations of Deception

Plaintiffs have attempted by their experts to convince the jury that dioxin attacks the central and peripheral nervous system. In their allegations, they have told the jury that actual nerve damage can result from exposure. The only actual finding of nerve damage in an exposed person was reported by Dr. Suskind in 1949. For several years, Dr. Suskind believed that the myelin sheath and nerve damage he found in one individual was ostensibly caused by dioxin.

In 1949 Dr. Suskind found that one of the workers he examined, Mr. Jonathan Hurley, had pain plus loss of sensation

in certain areas of the body. Although other workers had pain in 1949, none of them had a similar loss of sensation. A biopsy was performed on Mr. Hurley because of his unique loss of sensation, in addition, myelin sheath damage and nerve damage was found. Dr. Suskind's later work (1979 medical examination) disclosed Mr. Jonathan Hurley's disk problem which was previously discussed. Dr. Suskind now knows that Mr. Hurley's loss of sensation, nerve damage and myelin sheath damage was due to his disk disease and osteoarthritis, not chemical exposure. In fact, plant medical records show that Mr. Jonathan Hurley complained of nervousness two years before any exposure to 2,4,5-T and its contaminants at the Nitro Plant.

Despite all of the above, on March 24, 1986, plaintiffs' counsel told Dr. Suskind that he had established through Dr. Suskind's earlier testimony that none of the 36 workers examined in 1953 had any problems of psychoneurosis or nervousness according to Dr. Suskind's 1953 report before the 1949 runaway reaction. Plaintiffs' counsel stated that "...as far as the records we have in this case that we can see and look at in this courtroom, ...your review of these men's past histories indicate that none of them had any problem with nervousness before the exposure." Tr. 3/24/86, p. 4. Dr. Suskind told plaintiffs' counsel that he believed there was at least one report of nervousness before the 1949 incident. Dr. Suskind tried to testify that this was reported in a plant medical record not in his 1953 report since Mr. Hurley did not

tell Dr. Suskind in 1953. Plaintiffs' counsel kept referring Dr. Suskind to his 1953 report, and Dr. Suskind kept advising plaintiffs' counsel that it was not in his '53 report. Tr. 3/24/86, p. 4. Monsanto was denied the opportunity to address the deceit of plaintiffs' counsel through the witness most knowledgeable of the facts.

Dr. Suskind was also accused of attempting to hide the dioxin-caused nerve tissue destruction diagnosed in Mr. Jonathan Hurley in 1949 during cross-examination by plaintiffs' counsel. According to plaintiffs' counsel, Dr. Suskind up to 1978 reported that Mr. Hurley had nerve damage and myelin sheath degeneration associated with his exposure. Plaintiffs' counsel, in a speech, stated that after 1978 Suskind did not mention the nerve destruction because of the Agent Orange and Sturgeon cases. Tr. 2/18/86, pp. 177-179. Dr. Suskind was cut off when he attempted to respond to these charges.

On the important issue of whether nerve damage was caused by dioxin, Dr. Suskind would have testified that Mr. Hurley's nerve problems had another, more likely, cause than dioxin exposure. Dr. Suskind would testify that he discovered in 1979 that Mr. Hurley had osteoarthritis back in the early '50's and that on March 18, 1949, Mr. Hurley was diagnosed as having a disk problem which ultimately caused atrophy in his right leg. Dr. Suskind would have pointed out that this nerve degeneration and biopsy finding were consistent with this man's osteoarthritis of the spine and herniated disk which existed before the 2,4,5-T incident. Dr. Suskind was prevented during

cross-examination from revealing this overwhelming evidence of a pre-existing and otherwise explainable nervousness and nerve degeneration in Mr. Hurley.

E. The 1984 Suskind Morbidity Study

In 1979, Dr. Suskind requested that he conduct a major epidemiological study of the health of present and past Nitro Plant workers. A second study was commenced by Dr. Marion Moses of Mount Sinai Hospital at approximately the same time, sponsored in part by the union representing the Nitro Plant workers. Dr. Suskind examined over 436 people, those exposed to the 2,4,5-T manufacturing process and the 1949 runaway reaction as well as a nonexposed group, to determine if there were any differences from a health standpoint attributable to occupational exposure to dioxin. Both studies eventually reported in 1984 that they had found no long term health effects, other than chloracne, from exposure to dioxin. Plaintiffs attacked these studies on the basis that their control groups were allegedly inadequate. However, no alternate methodologies were suggested by plaintiffs' own experts as being more appropriate.

Dr. Suskind spent a significant portion of his direct testimony setting forth the impact of these studies on the world's understanding of dioxin toxicity to humans. Plaintiffs' counsel attempted through the testimony of less knowledgeable witnesses to attack the validity of the unexposed control group selected by Dr. Suskind for comparison purposes

with those considered occupationally exposed. The thrust of plaintiffs' counsel's argument was that the control group should have been selected from a group outside of the plant, although they also argued that people living near the plant were exposed as well. Plaintiffs took the position that exposure was not limited to those working with the materials but should include everyone associated in anyway with the Nitro Plant. Plaintiffs' counsel stated that Monsanto's Medical Director, Dr. George Roush, testified that there was no "uncontaminated" area of the entire plant.

Dr. Suskind would have stated that Dr. Roush's initial response was that plantwide exposure was only a "theoretical" hypothesis. Plaintiffs' counsel has previously defined "theoretical exposure" as meaning that a theory exists somewhere which if true could lead one to believe that exposure was possible. Dr. Suskind would testify that, for purposes of an epidemiological study, scientists would not invalidate a control group on the basis of a theoretical concept, when in fact there was little or no real evidence to support their being exposed. Also, it is important to select a group which mirrors the exposed group in all respects with the exception of actual exposure.

Dr. Suskind testified that he was more knowledgeable regarding potential exposure within the Nitro Plant than Dr. Roush, but he was never able to explain what this meant in terms of his study. Had Dr. Suskind been allowed to explain his statement he would have testified that the areas of

contamination within the plant were identifiable and limited. Dr. Suskind would have explained that the positive soil levels were in areas of past manufacture, storage or transport of the contaminated materials and areas previously identified as potential exposure sites. Most of the contamination was found either inside old buildings or underneath the surface. Based upon that knowledge, Dr. Suskind would have testified that his selection of a control group from inside the plant was a sound decision, based upon the best principles of epidemiology.

Since none of the Sturgeon plaintiffs ever got any of the spilled material on themselves, plaintiffs and their experts have had to rely on inhalation as their primary route of exposure. They theorize that dioxin attaches to particles of dust on the surface of soil and goes everywhere. As a result, they challenged Dr. Suskind's decision to use a control group (unexposed comparison) selected from employees who worked in departments not involved in 2,4,5-T production. Had Dr. Suskind been allowed to address this exposure-by-inhalation argument, he would have testified that the U.S. Department of Health, Centers for Disease Control, gives no weight of significance to this theory when calculating potential exposure. In fact, most experts agree that sunlight destroys dioxin attached to soil within 1 centimeter of the soil surface. Tr. 10/30/85, p. 57 (Dr. Zabik). The routes of exposure considered significant are skin contact with the chemical (as during production or use) and ingestion of or dermal contact with subsurface soil. Dr. Suskind was never

given the opportunity to place in context the finding of dioxin in the soil at the Nitro Plant, its location and depth, and the effect of encapsulation by asphalt and rock.

Plaintiffs' second attempt to show the invalidity of Dr. Suskind's 1984 study was to allege that Dr. Suskind would have found dioxin-caused "effects" if he had studied the death certificates of those who had been examined in 1953 but were not alive at the time of his 1979 study. Plaintiffs' Exhibit 1748 purports to list the causes of deaths of those individuals who were examined in 1953 by Dr. Suskind and who were not alive at the time of Dr. Suskind's 1979 health study. If Dr. Suskind had been allowed, he would have testified that the life expectancy calculations set forth in Plaintiffs' Exhibit 1748 were both unreliable and unscientific and included basic errors of addition (see Kyle entry).

Plaintiffs' attorney in Plaintiffs' Exhibit 1748 attempted to show that 13 deceased former employees of Monsanto died at a much earlier age than predicted by a life expectancy table. The life expectancy table used by the plaintiffs' attorney was accepted by the Court despite the attorney's unwillingness to identify the source. It appeared to be from an unscientific publication, like an almanac, with no identifiable date. If Dr. Suskind had been allowed to address the improper use of this table he would have pointed out that: 1) the source of the life expectancy table requires identification to determine acceptability and accuracy; and, 2) a proper study if it could be done, would compare the actual number of deaths (13) to the

total number of deaths expected in a group of this size (36), taking into consideration all people examined in 1953. Plaintiffs' Exhibit 1748 ignores those employees who lived longer than expected. Dr. Suskind would have demonstrated the mistakes inherent in this exhibit. In addition, the cohort of 36, even if properly assembled, is too small to base a statistical study.

The table published by the Public Health Service in the 1950's (Plaintiffs' Exhibit 1747) was based upon an average future lifetime for persons living in the United States and failed to take into account any unique circumstances that might exist in the state of West Virginia, and more particularly, in the county where these workers lived. There is undisputed evidence in this case which demonstrates that the entire state of West Virginia has a higher than normal incidence of heart disease, indeed substantially higher than the U.S. average. This is particularly important since nine of the thirteen deaths on Plaintiffs' Exhibit 1748 are associated with the heart. Dr. Suskind would have testified that Plaintiffs' Exhibit 1747 misrepresents the life expectancy for this particular group of former Nitro Plant workers. In addition, Dr. Suskind would testify, had he been allowed, that it was improper from a scientific standpoint for him to be forced to assume that this table was applicable to these individuals. He would further testify that the calculated life expectancy for these individuals in Plaintiffs' Exhibit 1748 fails to account for those risk factors which are more prevalent in the state of West Virginia.

In summary, Dr. Suskind would testify that Plaintiffs' Exhibit 1748 constitutes statistical nonsense and is a blatant attempt to mislead the jury to believe that 13 of the 36 examined in 1953 died prematurely as a result of their work at Monsanto.

F. Monsanto as a Responsible Manufacturer and Employer

Plaintiffs have attempted to portray Monsanto Company as being indifferent, if not willfully negligent, regarding the well-being of its employees. Numerous questions have been asked of witnesses relating to Monsanto's alleged financial incentive in not telling its employees of "occupational hazards." Plaintiffs attempted to prove through Dr. Suskind's testimony that Monsanto chose to continue to produce a "harmful" product rather than incur clean up costs. Plaintiffs incorrectly stated that other manufacturers removed the contaminant in 2,4,5-T, but Monsanto allegedly preferred to continue to expose already ill employees. All of the events which form the basis of plaintiffs' argument, allegedly took place at the Nitro Plant some twenty years or so before the manufacture at the Krummrich plant of the material which spilled at Sturgeon.

Plaintiffs contend that in the mid-50's a number of 2,4,5-T manufacturers developed alternate manufacturing processes which "eliminated" the chloracne causing contaminant. They allege that Monsanto, for financial reasons, elected not to eliminate the harmful contaminant.

Dr. Suskind is one of the few experts in the world who has personal knowledge of the clinical experiences in plants throughout the world which made 2,4,5-T. Plaintiffs' counsel attempted to obtain testimony from Dr. Suskind that other manufacturers eliminated the harmful contaminant while Monsanto did not. Plaintiffs showed Dr. Suskind a number of articles from the mid to late fifties and early sixties which report that process modifications had eliminated the chloracne causing contaminant. When Dr. Suskind attempted to comment from his personal experience he was cut off and told to limit his answer to what the author was reporting. Tr. 3/25/86 (p.m.), pp. 19-20. Dr. Suskind knew that these reports were premature and that chloracne persisted in these plants. Dr. Suskind, of all the experts in this case, is the one best able to respond based upon his personal clinical experience. Without Dr. Suskind's redirect testimony, plaintiffs' counsel will continue to falsely accuse Monsanto of being dilatory, as compared to other manufacturers, in protecting its employees.

Plaintiffs introduced a document into evidence which made the claim that in 1955 Diamond Alkali eliminated the chloracne-causing material. Because of Dr. Suskind's knowledge of clinical experiences in plants throughout the world which made 2,4,5-T, he knew that Diamond Alkali, in fact, had not eliminated the chloracnegen nor had other manufacturers in this country or in Europe. On redirect Dr. Suskind would have testified to that fact. In addition, Dr. Suskind would testify that in 1964, Bleiberg reported in the Archives of Dermatology

(Plaintiffs' Exhibit 1445) that 29 persons at the Diamond Alkali plant in New Jersey had chloracne with a number of the new cases developing well after the contaminants were allegedly removed from their process. This shows that the accusations by plaintiffs are false.

In addition, plaintiffs' counsel introduced a document which claimed that BASF, another 2,4,5-T producer, developed a process in 1956 which eliminated the chloracnegen (Plaintiffs' Exhibit 1459). Dr. Suskind knew that BASF still had new cases of chloracne after 1956 among their workers. However, Dr. Suskind was not given the opportunity to tell what he knew to be the truth. Instead, he was asked only if the article did not state that the chloracnegen was eliminated. Tr. 3/7/86, p. 7.

Plaintiffs incorrectly asserted in statements to the jury that Dow Chemical was able to eliminate the chloracnegen from their 2,4,5-T process in the fifties, as well. However, Dr. Suskind knew that Dow continued to have new cases of chloracne well into the 1960's. In addition, an article published by a Dow Chemical scientist (Defendant's Exhibit 89) reports that Dow continued to have new cases of chloracne in 1963 and 1964. Plaintiffs' counsel was aware of this article and what it reported nearly two years before he cross-examined Dr. Suskind on this topic. Monsanto was denied Dr. Suskind's clarification which would have exposed the fallacy of plaintiffs' accusations.

Plaintiffs introduced a 1961 article (Plaintiffs' Exhibit 1800) which stated that German manufacturers had developed a process to "avoid" the formation of dioxins. The authors reported that the new process didn't "appear" to produce any symptoms of intoxication in the workers. Dr. Suskind attempted to testify that chloracne, including new cases, continued to persist in these German plants and that the authors, Bauer et al., published their article before sufficient time had elapsed after the installation of the new process to observe chloracne.

In all of the examples (documents) cited by the plaintiffs, the reports of the "elimination" of the acnegen were issued shortly after the process change was instituted. However, later reports acknowledged that the acnegen was not eliminated. Dr. Suskind never had the opportunity to testify regarding these later reports. In fact, Monsanto stopped producing 2,4,5-T in 1969, which was about the same time chloracne became an infrequent occurrence in the plants identified by the plaintiffs. However, the jury may believe that other manufacturers found ways to eliminate the harmful contaminants, while Monsanto, for financial reasons, chose to continue to injure its employees. Without Dr. Suskind's testimony based upon his knowledge and experience, Monsanto cannot present a complete and accurate record of the facts.

Plaintiffs attempted to secure testimony from Dr. Suskind that Monsanto not only failed to clean up its process, but continued to expose its employees to the same health

threatening conditions in the 2,4,5-T department once they developed chloracne. In fact, Dr. Suskind was aware, because of his numerous studies of the workers and his institute's study of Monsanto's manufacturing process, that a number of changes had been implemented in the 1950's and 60's to reduce or minimize exposure. Defendant's Exhibit 1701, which is Dr. Suskind's 1953 report, points out that people who developed severe chloracne were removed from the process to allow their condition to clear. In fact, Dr. Suskind would have testified that when Ival McLanahan was removed from the 2,4,5-T process area and assigned elsewhere, that his symptoms, including his chloracne, did in fact clear with time. In addition to removal from the work area, Monsanto instituted new hygiene practices among the 2,4,5-T employees to reduce exposure. Dr. Suskind would testify that these steps were recommended by the Kettering Laboratory engineers following an industrial hygiene survey.

Furthermore, Monsanto implemented a number of process recommendations, including changes in ventilation, in order to reduce the amount of dust and chemicals in the air within building 51, where 2,4,5-TCP was manufactured. Dr. Suskind, if he had been allowed to testify fully, would have refuted the statement by plaintiffs' counsel that Monsanto continued to expose its employees to the same conditions as existed shortly after the 1949 incident.

Plaintiffs' counsel pointed out that in 1953, the Kettering Laboratory engineers did a survey of the Nitro Plant to

determine routes and levels of exposure to employees in the 2,4,5-T production departments (Plaintiffs' Exhibit 1701). A follow-up survey was done in 1956 by the same group which issued another report which is Plaintiffs' Exhibit 1759. During Dr. Suskind's cross-examination, plaintiffs' counsel read one sentence from the report which he claimed indicated that Monsanto Company did next to nothing to attempt to reduce exposure to the contaminants in the 2,4,5-T process area.

If Dr. Suskind had been allowed to explain and clarify his testimony, he would testify that paragraph 2 of the report indicates that a number of changes in the operation and some improvements in ventilation had been implemented by Monsanto Company since the initial survey. In terms of Building 51, the changes recommended in the 1953 report had been implemented and, as a result, had reduced exposure to the chloracne producing materials in that building. Dr. Suskind would have testified that the 1956 survey was confined to operations in building 34 where exposure to the toxic agent was less significant. Dr. Suskind would have testified that several important changes had been made to the process within building 51. For example, the filter press, an important source of exposure, was eliminated and a settling tank replaced it which reduced exposure to the material. The 1956 report discussed building 34 since important changes had already been made to building 51. If Dr. Suskind had been allowed to testify, he would have pointed out to the jury that plaintiffs' counsel was misrepresenting the nature and scope of the 1956 report in

order to lead the jury to believe that Monsanto had not implemented any changes to any of the departments. Plaintiffs' counsel only read certain portions of the report having to do with Building 34 and did not at all address the improvements that had been made in Building 51. Dr. Suskind's testimony would have rebutted serious and erroneous charges of employee neglect and injury, potentially avoiding very severe jury reaction. However, this testimony was never heard by the jury.

CONCLUSION

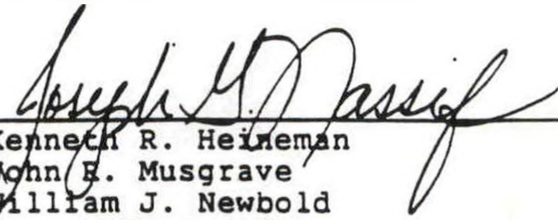
Plaintiffs' counsel was well aware of the damage that Dr. Suskind's redirect examination would have inflicted on his case, and moved immediately after Dr. Suskind's health became a concern to bar him from further testimony, including further live testimony in Belleville, Illinois. After the Court barred Dr. Suskind's further testimony, plaintiffs' counsel made statements on two occasions, the second in violation of the Court's order in limine, intended to raise questions in the minds of the jurors regarding the departure of Dr. Suskind from the stand. (See Defendant Monsanto Company's Motion for Mistrial, or in the Alternative for an Instruction, and for Sanctions, filed June 1, 1987). Clearly counsel intended to capitalize on Dr. Suskind's misfortune.

The implication of his unexplained departure, as emphasized by plaintiffs' counsel, particularly in light of the very serious charges made during the course of cross-examination,

makes the denial of Dr. Suskind's responsive testimony a due process issue. The absence of such testimony cannot be reconciled with proper principles of fairness.

Respectfully submitted,

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AFFIDAVIT

COMES NOW Raymond R. Suskind, M.D., and being first duly sworn deposes and states that he has read the foregoing Offer of Proof; that the statements attributed to him in said Offer of Proof set forth facts and opinions of which he has personal knowledge; and that said Offer of Proof accurately sets forth the facts and opinions to which he would testify if he were permitted to testify in this case.

Raymond R. Suskind M.D.

STATE OF OHIO)

COUNTY OF Hamilton) SS

Subscribed and sworn to before me this 15 day
of July, 1987.

IvaDean Lair-Adolph
Notary Public

My Commission Expires:

April 30, 1992

IvaDean Lair-Adolph #113581
Notary Public, State of Ohio
My Commission Expires April 30, 1992