

1 IN THE CIRCUIT COURT OF THE TWENTIETH JUDICIAL CIRCUIT

2 ST. CLAIR COUNTY, ILLINOIS

3 FRANCES E. KEMNER, ET AL.,

4 Plaintiff,

5 vs.

Case No. 80-L-970

6 MONSANTO COMPANY,

7 Defendant.

8
9
10 REPORT OF PROCEEDINGS

11 July 26, 1985

12
13
14 Before the HONORABLE RICHARD P. GOLDENHERSH, Circuit Judge

15
16 **APPEARANCES:**

17 Mr. Rex Carr and Mr. Jerome Seigfreid, Attorneys at
18 Law, on Behalf of the Plaintiffs; and

19 Mr. Kenneth Heineman and Mr. Joseph Nassif on
20 Behalf of the Defendant, Monsanto Company.

21
22
23 Kathleen Watson Brunsmann
24 Official Court Reporter

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Called on behalf of the Plaintiffs:

DR. GEORGE ROUSH

Cross Examination

(By Mr. Carr)..... 2

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1 BE IT REMEMBERED AND CERTIFIED, that heretofore,
2 on to-wit: July 26, 1985, the matter as hereinbefore set
3 forth came on for hearing before the Honorable Richard P.
4 Goldenhersh, Circuit Judge in and for the Twentieth Judicial
5 Circuit, and the following was had of record, to-wit:
6
7

8 GEORGE ROUSH,
9 having previously been called as a witness under
10 Section 2-1102, having previously been sworn,
11 continued cross examination as follows:)
12

13 RECROSS EXAMINATION (Continued)

14 BY MR. CARR:

15 THE COURT: Okay. Mr. Carr, you were question-
16 ing. You may proceed.
17

18 (Plaintiff's Exhibit Number 1520 and 1521 were
19 marked for identification by the court reporter.)
20

21 Q (By Mr. Carr) Doctor, I'll hand you what's
22 been marked Plaintiff's Exhibit 1520, which is a letter to
23 Harry Gilmer, dated February 12, 1979, written by Mr.
24 Metcalf; and Plaintiff's Exhibit 1521, which is a memo

1 dealing with a telephone conversation Mr. Metcalf had with
2 Mr. Gilmer, dated February 13, 1979. I ask you if you
3 recognize those.

4 A Yes, sir.

5 MR. CARR: I offer those exhibits into evidence.

6 MR. HEINEMAN: As I understand, 1520 is the
7 letter?

8 THE COURT: Right.

9 MR. HEINEMAN: 1521 is the memo?

10 THE COURT: Right.

11 MR. HEINEMAN: No objection, your Honor.

12 THE COURT: Both are admitted without objection.

13 MR. CARR: And for the record, so there won't
14 be any confusion, 1520 has been previously used by Mr.
15 Heineman and marked as Monsanto's Exhibit 867; 1521 has
16 been previously used by Mr. Heineman and has been marked
17 as Monsanto's Exhibit 875.

18 THE COURT: So noted.

19 Q (By Mr. Carr) Doctor, you recognize these two
20 exhibits as exhibits that Mr. Heineman had interrogated you
21 about?

22 A Yes, sir. Yes, sir.

23 Q And you read portions of these exhibits to the
24 jury?

1 A Yes, sir.

2 Q Now, the exhibit marked 1520, that is dated
3 February the 12th, 1979. The second paragraph tells Mr.
4 Gilmer that you at Monsanto were not able to distinguish the
5 isomer or isomers involved. Do you see that, sir?

6 A Yes, sir.

7 Q But it doesn't tell Mr. Gilmer that your
8 chemist estimated, however, that 90 percent of the tetra
9 isomers was, in fact, 2,3,7,8, does it, sir?

10 MR. HEINEMAN: Objection, your Honor. That's
11 contrary to Dr. Kaley's testimony.

12 THE COURT: Objection is overruled.

13 THE WITNESS: No, it does not.

14 Q (By Mr. Carr) Doctor, the next page of that
15 exhibit, third paragraph, says that Mr. Metcalf was asked
16 by Mr. Gilmer to explain why Monsanto wouldn't expect it
17 to be there, that is the 2,3,7,8 isomer, in significant
18 amounts. And he goes on to explain that. And then in the
19 second to last paragraph he says, "It follows, then, that
20 the 2,3,7,8 tetrachloro dioxin, if present at all, would be
21 only a small fraction of the total tetrachloro dioxins."
22 Do you see that, sir?

23 A Yes, sir.

24 Q And you know, however, that 90 percent of 37 is

1 not a small fraction, is it, sir? It's a major fraction
2 and just about as big as you can get, is it not, sir?

3 A If we base it on what he said here.

4 Q Yes. If you base it on the knowledge that you
5 had, if this exhibit correctly states the facts. And by
6 this exhibit, I mean 1142 correctly states the facts, and
7 the extent of Monsanto's knowledge at that time; isn't
8 that correct, sir?

9 A Yes, sir.

10 Q And you do know that subsequently you had this
11 material examined by Rappe of Sweden, and that he said that
12 there was 45 parts per billion of 2,3,7,8 TCDD. You do
13 recall that, don't you, sir?

14 A No, sir, I don't recall that. I recall the
15 memo that you're referring to, or the letter. I recall
16 the numbers.

17 Q Well, do you know that Monsanto sent it to
18 Professor Christopher Rappe for analysis?

19 A Yes, sir.

20 Q Do you know that Professor Christopher Rappe
21 analyzed it?

22 A Yes, sir.

23 Q And do you know that he reported to Monsanto
24 that it was 45 parts per billion 2,3,7,8 TCDD?

1 A It's not the way I recall it.

2 Q How do you recall it, sir?

3 A There are a number of -- as I recall, there are
4 a number of analyses that were done on that sample, and
5 there were two of them at 45 parts per billion, and one of
6 them was supposed to have been spiked, so that the one
7 spiked and without the spiked both came out at 45 parts per
8 billion. And the reason they spiked it, so they can tell
9 it --

10 Q Excuse me. Dr. Roush, did Professor Rappe tell
11 you that?

12 A No, sir. That's the way --

13 Q Did you read Professor Rappe's evidence deposi-
14 tion that was taken in this case?

15 A No, sir.

16 Q Did anybody tell you what Professor Rappe swore
17 to under oath?

18 A No, sir. No, sir.

19 Q Then what you're giving us is what Mr. Heineman
20 or somebody that way told you?

21 A I can't -- I read it, and I discussed it, and I
22 can't tell which I'm reflecting now.

23 Q You can't tell whether you're reflecting what
24 Mr. Heineman told you --

1 A No, sir.

2 Q -- or what you read?

3 A I can't be sure unless I saw it again.

4 Q Well, you do know now that Professor Rappe
5 testified in this case?

6 A Yes, sir.

7 Q And he analyzed the sample and that it was 45
8 parts per billion 2,3,7,8, and you do know that your Counsel
9 has admitted to this jury that there was 2,3,7,8 TCDD in
10 the tank car? You know that, don't you, sir?

11 A Yes, sir.

12 Q All right. Now -- and you know Plaintiff's
13 Exhibit 188, a Rappe Exhibit, shows that this tank car had
14 45 parts per billion 2,3,7,8 TCDD in it; do you know that
15 too?

16 A No, sir.

17 Q You haven't seen Plaintiff's Exhibit 188?

18 A No, sir.

19 Q Which was a report made by Professor Rappe.

20 A I can't relate it to a number that you're
21 saying.

22 Q I'm sorry. You wouldn't be, or course you
23 wouldn't. I'm sorry. You have seen the charts and the
24 memos prepared by Professor Rappe in which he describes the

1 Contents as having 45 parts per billion 2,3,7,8 TCDD.

2 A I saw one document. I don't know if that's the
3 only one or not.

4 Q Well, whatever it is. You also know that 45
5 parts per billion 2,3,7,8 is a lot more than just a small
6 fraction of the total tetrachloro-dibenzo-p-dioxins in that
7 tank car, don't you, sir, of that tetras?

8 A If that's correct, yes.

9 Q If that's correct. Now, Doctor, the next
10 exhibit, 1521, in the -- which is a memo that Mr. Metcalf
11 made of a conversation he had with Harry Gilmer the day
12 following the writing of the letter that we just referred
13 to --

14 A Yes, sir.

15 Q He now tells him that he doubts seriously that
16 the 2,3,7,8 isomer could even be as much as 16 percent of
17 the 37 parts per billion, doesn't he, sir?

18 A Yes, sir.

19 Q And then he says he doubts it could be that high
20 if it were present at all.

21 A Yes, sir.

22 Q Didn't he, sir? Now, Doctor, that again is not
23 telling the EPA to assume that this is 2,3,7,8 TCDD in the
24 tank car, is it, sir?

1 A No, sir.

2 Q As a matter of fact, it is attempting to persuade
3 them that the opposite is the case, isn't it, sir?

4 A Yes, sir.

5 Q Yes. And, Doctor, would you say that that is
6 proper to try to persuade the EPA that there is no 2,3,7,8
7 TCDD in the tank car, if it's there, it's just a very
8 small fraction of the 37, when you have a chemist who has
9 made a report, made a memo here where he says he estimates
10 that it's 90 percent 2,3,7,8 in that -- of that 37, 40 parts
11 per billion of tetras?

12 A If that's correct, yes.

13 Q You think it's --

14 A If that's correct, then it's improper to say
15 only a small part is.

16 Q Yes, indeed it is. And it would be misleading,
17 would it not, Doctor?

18 A What's misleading?

19 Q If you tell anybody that there's only going to
20 be no 2,3,7,8 present in the tank car, or if it's present
21 it's going to be a very small fraction of 37 parts per
22 billion. Isn't that misleading, sir?

23 A No, sir.

24 Q Doctor, if you have reason to believe from this

1 document that you have 36 parts per billion of 2,3,7,8
2 TCDD in that tank car, or 31 parts per billion 2,3,7,8 TCDD
3 in that tank car, isn't it misleading to tell the EPA that
4 you think -- you doubt seriously that it's present at all,
5 and that if it is present, it's only a very small fraction
6 of 37?

7 A No, sir.

8 Q Don't you believe that's misleading?

9 A No, sir.

10 Q Doctor, it's not telling them what you know to
11 be the case, is it, sir?

12 A No, sir.

13 Q Then if you don't tell them what you believe to
14 be the case, and you tell them the opposite of what you
15 believe to be the case, isn't that misleading? Isn't that
16 leading someone to believe something that you don't think
17 is true?

18 A I'm not sure what the question is.

19 Q Doctor, the question is simply, if I tell you
20 that the value of my automobile is a thousand dollars, when
21 I had an appraiser tell me that he thinks it couldn't get
22 \$250 on the open market, a man that's skilled in appraising
23 automobiles, a man that has been selling them for years, and
24 I just came from him, and he just told me that, and I come

1 to You and say this car is worth a thousand dollars, I
2 think it's worth a thousand dollars, am I not misleading you,
3 sir?

4 A Yes, sir.

5 Q Yes. And if you have a chemist who has told
6 you in this memo that he estimates that it's 90 percent
7 2,3,7,8 TCDD, isn't it misleading for you to tell the EPA
8 that you don't think it could be 2,3,7,8 TCDD?

9 A Yes.

10 MR. HEINEMAN: Objection, Doctor. Your Honor,
11 objection. It assumes that Mr. Kaley told this witness
12 or anyone other than Dr. Mieure about what was in that memo.
13 It also assumes, or it misrepresents what Dr. Kaley testified
14 in court about in respect to that memo. I object to it.

15 THE COURT: Overruled on both objections.
16 Please answer the question, Doctor.

17 THE WITNESS: If Mr. Metcalf had that informa-
18 tion when he wrote this memo --

19 Q (By Mr. Carr) Yes.

20 A -- then it would have been improper. But
21 there's still --

22 Q And wouldn't it be misleading?

23 A Yes, sir. The only problem with this is that
24 in that Rockefeller meeting that we discussed, when they

1 talked about the risk of dioxin, we talked about before.
2 in that document, the EPA in 1983 said that the route to mak-
3 ing 2,3,7,8 come from the tetrachloro-dibenzo route, and
4 not from the phenol route, so that the EPA as of last year
5 is still saying that you don't get to 2,3,7,8 by going the
6 phenol route.

7 Q Now why do you reckon they're saying that,
8 Doctor? Do you reckon they're saying that because they're
9 relying on things that chemical companies have told them?

10 A No, sir. No, sir.

11 Q Now, Doctor, you know, and Monsanto knows, and
12 has known since 1957, that you get 2,3,7,8 by a number of
13 means.

14 MR. HEINEMAN: Objection.

15 Q (By Mr. Carr) You know that, don't you?

16 MR. HEINEMAN: I didn't get the date. Since
17 1957?

18 THE COURT: '57 is when he said.

19 MR. CARR: Yes, when the man from the Univer-
20 sity of Iowa, according to Dr. Wilson, talked about various
21 ways that 2,3,7,8 isomer could be formed. The evidence is
22 in this case already, Counsel.

23 Q (By Mr. Carr) And when you've known since 1975
24 or '76 that your own chemist, Steve Vogel, says you can get

1 2,3,7,8 by adding caustic to the stillpot, and you know all
2 these things, sir, and the EPA doesn't know it, and your
3 chemist having this knowledge, isn't that misleading, sir?

4 MR. HEINEMAN: Objection to the statement of what
5 the prior evidence shows. It's incorrect. The Vogel Report
6 talks about higher chlorinated dioxin.

7 THE COURT: The objection is overruled. It's
8 not an improper statement.

9 THE WITNESS: I can't tell you why the EPA
10 makes the statement it made.

11 Q (by Mr. Carr) Doctor, that isn't my question.
12 My question is you at Monsanto, you had a memo prepared by
13 Dr. Kaley, when he analyzed the reserve sample from this
14 tank car. This is the memo that he put out. He's identified
15 it as his memo.

16 A Yes, sir.

17 Q Somebody else changed it. Somebody else wrote
18 something else on it. But the original memo that he
19 prepared was this one, according to his sworn testimony in
20 this court. All right? And Steve Vogel has also testified
21 in this court, and there have been other chemists testify
22 that, yes, they took the caustic away and the 2,3,7,8
23 wasn't being formed. Now all this was knowledge that
24 Monsanto had in '76, '77, '79, and the spring of '79 when you

1 quit using caustic. You didn't get -- you still got some
2 2,3,7,8, but not near as much. Now all that is information
3 that you know, and the chlorinated phenol, and you sit here
4 and say, and know that the EPA believes it can't come from
5 chlorinated phenols, based upon a 1983 report that they
6 had. You know at Monsanto, you know the EPA doesn't have
7 the full facts, don't you, sir?

8 A No, sir.

9 Q If they believe that you cannot get dioxin from
10 chlorinated phenols, you know that's not a fact, don't you,
11 sir?

12 A No, sir.

13 Q You don't know that that's not a fact?

14 A They said you don't get the 2,3,7,8, you get
15 dioxin, but you don't get 2,3,7,8.

16 Q And, Doctor, you know that you do get 2,3,7,8
17 TCDD from chlorinating phenols, don't you, sir?

18 A In some cases, yes.

19 Q Yes. But the EPA doesn't know that, do they,
20 sir? Based upon what you've said.

21 A I don't know.

22 Q You just got through saying it, Doctor.

23 A I don't know what EPA knows.

24 Q You just got through saying what they knew. You

1 just got through sitting here ten seconds ago and saying
2 the EPA still believes that it comes from benzine and not
3 from phenols.

4 A Yes, sir.

5 Q Didn't you, sir?

6 A Yes, sir. Yes, sir, that's right.

7 Q Now, Doctor, that's the extent of the EPA's
8 knowledge. They don't have the same knowledge about the
9 chemistry and about the chemicals that Monsanto has. They
10 are asking you in these letters, in these memos, in these
11 calls, they're asking you, "Give us your expertise." And
12 what do you do? You tell them, "Hey, it can't be made by
13 that process, and if it were in some part of the 2,4,5, the
14 most it would be, it would be about 16 percent, and it
15 wouldn't be a major fraction at all." And you have your
16 own senior chemist, who just six days before, had prepared,
17 or four days before had prepared this memo, Plaintiff's
18 Exhibit 1142, in which he estimates that 90 percent of
19 what's in there, the 2,3,7,8 isomer. Don't you consider
20 that under those circumstances, Dr. Roush, it's misleading
21 to the EPA?

22 A If that's the truth.

23 Q Yes. Doctor, I'll now hand you what's been
24 marked -- before I do that. I have other exhibits prepared

1 that I forgot to use. Could I have 1520-A and 1521-A
2 please.

3
4 (Plaintiff's Exhibits 1520-A and 1521-A were
5 marked for identification by the court reporter.)
6

7 Q (By Mr. Carr) Doctor, you recognize 1520-A as
8 being a blow-up of page two of the February 12th letter to
9 Harry Gilmer by Mr. Metcalf?

10 A Yes, sir.

11 Q And do you recognize 1521-A as being the blow-up
12 of the February -- the first page of the February 13th
13 memo made by Mr. Metcalf?

14 A Yes, sir.

15 MR. CARR: I offer 1520-A and 1521-A into
16 evidence, if it please the court.

17 MR. HEINEMAN: No objection, Judge.

18 THE COURT: Both are admitted without objection.
19 Thank you.

20 MR. CARR: Your Honor, I'd like now to offer
21 Plaintiff's Exhibit 1482 into evidence. It's been previous-
22 ly identified. Mr. Heineman suggested that I should offer
23 it into evidence, and at that time I didn't wish to do so.
24 But now I do offer Plaintiff's Exhibit 1482 into evidence.

1 THE COURT: Okay. Any objection to 1482?

2 MR. HEINEMAN: No objection, Judge.

3 THE COURT: Admitted without objection.

4 MR. HEINEMAN: May I ask what's being passed to
5 the jury, your Honor?

6 MR. CARR: 1482.

7 MR. HEINEMAN: The entire document?

8 MR. CARR: Yes.

9 Q (By Mr. Carr) Doctor, I'd first like to direct
10 your attention to the question that I have discussed with
11 you on direct examination that Mr. Heineman discussed with
12 you on his clarification examination, that would be question
13 number 13. That would be on the second page. Do you
14 recall, sir?

15 That I discussed this question with you relative
16 to the fact that TCDD is considered to be a promoter
17 of cancer. Do you recall that, sir?

18 A Yes, sir.

19 Q Do you also recall that you and Mr. Heineman
20 discussed a McCardle Laboratory Study that you say showed
21 that dioxin is not a promoter of cancer? Do you recall
22 that, sir?

23 A Yes, sir.

24 Q Now, Dr. Roush, the exact opposite is what was

1 shown in that McCardle Study, that is Marcie Strauss'
2 statement here was shown to be true and the case, rather
3 than your statement that TCDD is not a promoter of cancer;
4 isn't that a fact, sir?

5 A I don't think that's right.

6 MR. CARR: Would you mark that as an exhibit,
7 please.

8
9 (Plaintiff's Exhibit 1522 was marked
10 for identification by the court reporter.)
11

12 Q (By Mr. Carr) Handing you now Plaintiff's
13 Exhibit 1522, and ask you if you recognize that as a memo
14 made by one of your -- I think a toxicologist, Mr. Long,
15 Timothy Long, on behalf of Monsanto, referring to this
16 dioxin seminar put on by the McCardle Laboratory --

17 A Yes, sir.

18 Q -- that you discussed about.

19 A Yes, sir.

20 Q And this was what you and Mr. Heineman discussed,
21 wasn't it, sir?

22 A This --

23 MR. HEINEMAN: This seminar?

24 THE WITNESS: This seminar no, sir.

1 Q (By Mr. Carr) This McCardle finding.

2 A But not the same thing.

3 Q Doctor, if you will turn to the third paragraph,
4 if you go down to the third paragraph, the last sentence --

5 A Yes, sir.

6 Q -- they show that this work that was done in
7 1983, and this is an exact quote, is it not, quote, Using
8 this in vivo system, they were able to demonstrate that
9 TCDD is a tumor promoter but not an initiator. Do you see
10 that, sir?

11 A No, sir, I'm not with you.

12 Q Third paragraph, last sentence, first page.

13 A Yes, sir.

14 Q Now, Long tells you that the McCardle people,
15 doing an inbred study with these mice, demonstrated that
16 TCDD is a tumor promoter; is he not telling you that, sir?

17 A Yes, sir.

18 Q And is not that, sir, support for Marcie Strauss'
19 statements that TCDD, Nitro workers would be at increased
20 risk of developing cancer from one or more of other cancer
21 causing chemicals?

22 A No, sir.

23 Q That doesn't support it, sir?

24 A Yes, it supports it. Yes, sir.

1 Q Yes. That's what I asked you.

2 A I'm sorry.

3 Q So there is scientific support for what she
4 has said here, isn't there, sir?

5 A Yes, sir.

6 Q And you had a copy, the copy of this memo,
7 you are one of the recipients of this memo, you knew that at
8 the time you were testifying, when Mr. Heineman was asking
9 these questions, you knew the existence of this statement,
10 did you not, sir?

11 A Yes, sir.

12 Q And you knew of the existence of that statement
13 at the time I was asking you about Mrs. Strauss' statement,
14 or Miss Strauss' statement, and you said that she believes
15 it for herself, but not for Monsanto.

16 A Yes, sir.

17 Q Well, Monsanto does believe it.

18 A No, sir.

19 Q Isn't this prepared by Monsanto?

20 A Yes, sir.

21 Q And isn't this a statement that TCDD is a
22 promoter of cancer?

23 A No, sir.

24 Q Doctor, doesn't this -- didn't you just say that

1 this document supports the proposition that TCDD is a
2 promoter of cancer?

3 A Yes, sir.

4 Q Isn't that just what I asked you, sir?

5 A Yes, sir.

6 Q Then Miss Strauss is supported by this statement,
7 this statement is in Monsanto's possession, and you had
8 knowledge of this statement, did you not?

9 A Yes, sir.

10 Q When you were testifying, when Mr. Heineman
11 was asking you these questions about it.

12 A Yes, sir.

13 Q And you didn't mention this, did you, sir?

14 A No, sir.

15 Q Doctor, if some of these other questions posed
16 by Miss Strauss here, you -- she doesn't detail what the
17 criticisms of epidemiology studies might be, but the
18 epidemiology studies are those that are considered the
19 morbidity studies conducted by Suskind for the Nitro workers
20 or the Krummrich workers; isn't that correct, sir?

21 A That's part of it.

22 Q What other epidemiology studies have you had,
23 sir?

24 A The mortality studies. On the mortality studies.

1 Q On the mortality studies. All right. Those
2 conducted by Zack in the TCP accident workers, and the
3 other workers thereafter.

4 A Yes, sir.

5 Q And, Doctor, she also -- and we ask you -- I
6 ask you about this statement of hers, "A higher percentage
7 of bladder cancers in the PAB workers who were also
8 exposed to dioxin," and she also posed why higher lung
9 cancer rates in those people exposed to dioxin, and what
10 answer did you give to that question, Dr. Roush? Why are
11 there higher lung cancer rates in people exposed to dioxin?

12 A Because they're also in unexposed workers.

13 Q Doctor, even that doesn't wash. Your mortality
14 tables show that there are higher rates in your -- if you
15 will look at the comparison. You've got all those lung
16 cancers in your -- and we went through the Table 10 and 11
17 on that. You saw three lung cancers in your unexposed,
18 in your so-called unexposed group, and ten in your exposed
19 group in your mortality studies. Do you recall that, sir?

20 A Yes, sir.

21 Q And we went through the long process of me
22 convincing you that ten is higher than three, didn't we, sir?

23 A Yes, sir.

24 Q So there is higher lung cancer rates in those

1 people exposed to dioxin; isn't there, sir?

2 A No, sir.

3 Q What makes you say there's not, sir?

4 A Because they're not statistically different.

5 Q Three is not statistically different than ten?

6 A It depends on the denominator.

7 Q The denominator was higher in the unexposed
8 group than it was in the exposed group, wasn't it, Dr. Roush?

9 A But it wasn't statistically --

10 Q Excuse me, Doctor, you say it depends on the
11 denominator?

12 A Yes, sir.

13 Q Now I'm establishing with you in the company
14 denominator there were more people in the unexposed group.

15 A Yes, sir.

16 Q So if it depends upon the denominator, then it
17 also proves that lung cancer rates are also higher in the
18 exposed group.

19 A If the statistics are there.

20 Q If it depends upon the denominator the rates
21 are higher in the exposed group, isn't it, sir?

22 A I have to see the data.

23 Q Doctor, do you need to see the Table 10
24 where there's three -- or Table 11 where there's three in the

1 unexposed group? We went through that.

2 A Yes, sir.

3 Q And the unexposed group is larger than the
4 exposed group. We went through that, didn't we, sir?

5 A Yes, sir.

6 Q So the denominator is higher for the unexposed
7 group than it is for the exposed group, isn't it, sir?

8 A I think that's right. But I'd like to see that
9 Table.

10 Q And, Doctor, here is the Table 11, which has
11 the four cancers in it that have been exposed to TCDD that
12 we took out, and put in the other Table, in Table 10. Do
13 you recall that, sir?

14 A Yes, sir.

15 Q Now you want to look at that Table any closer?

16 A Yes, sir -- no, sir, that's fine.

17 Q And there are -- there are, we counted one,
18 two, three -- counted three lung cancers, did we not, sir?

19 A Yes, sir.

20 Q In the unexposed group.

21 A Yes, sir.

22 Q And we take those four that were in that Table
23 and put them here. There were four, five, six, seven,
24 eight, nine, ten lung cancers in that group, don't we, sir?

1 A No, sir, you can't add those. You can't add
2 those to this group.

3 Q Doctor, those four were exposed, were they
4 not, sir?

5 A Yes, sir.

6 Q And they have lung cancer, don't they, sir?

7 A Yes, sir.

8 Q These are exposed, aren't they, sir?

9 A Yes, sir.

10 Q So you can add the two exposed groups, can't
11 you, sir? How many lung cancers were there, Doctor, from
12 people that were exposed to TCDD?

13 A In the exposed group there were ten.

14 Q Yes. And how many were there in the unexposed
15 group, Doctor?

16 A How many -- I didn't recall.

17 Q Three.

18 A Three.

19 Q Ten is higher than three, isn't it, Doctor?

20 A Yes, sir.

21 Q The unexposed group is larger than the exposed
22 group, isn't it, Doctor, the denominator?

23 A No, sir.

24 Q No?

1 A I don't know, because you're mixing groups.

2 Q No, Doctor, I'm not mixing groups.

3 A Yes, you are.

4 Q We've got the groups, we've got one exposed
5 group and we've got one unexposed group. However you look
6 at it the unexposed group is larger than the exposed group.
7 It was 207 or 107 for the unexposed group, and 58 or 60,
8 something like that, for the exposed group. Don't you
9 recall that, Doctor?

10 A Yes, sir.

11 Q Now, Doctor, the denominator for the unexposed
12 group is larger than the exposed group. Isn't it, sir?

13 A Yes, sir.

14 Q Then, Doctor, it depends upon the denominator
15 as you said. The lung cancer rate is higher in the exposed
16 group than it is for the unexposed group, isn't it, sir?

17 A Yes, sir.

18 Q Yes. Now, Doctor, why? Doctor, why do you have
19 higher lung cancer rates in those people exposed to dioxin?

20 A Because it can occur by chance.

21 Q Well, what you're saying then, chance would
22 cause it, sir?

23 A Statistics would say that could happen the next
24 time by chance alone.

1 Q Doctor, if all of these things can be explained
2 by chance, why do you go to the trouble of preparing these
3 tables? Why did you pay thousands, perhaps millions of
4 dollars to have these studies to try to show that it's safe
5 to work with dioxin, and then when we come in and show the
6 falsity of your tables and where you padded the figures, and
7 changed the figures, you then say, "Well, it could all happen
8 by chance." Why did you go through the farce of having
9 these mortality studies, Dr. Roush, if you can explain away
10 the results by chance?

11 A What's the question?

12 Q Why did you go through the farce of having these
13 studies if all of the results of these studies can be ex-
14 plained away by chance, Dr. Roush?

15 A We used standard epidemiologic procedures in those
16 studies.

17 Q And they can all be explained away by chance,
18 and you knew that when you started, so why go through it,
19 Doctor? Your cohorts are very, very small, aren't they, sir?

20 A Yes, sir.

21 Q So you knew when you started this that your
22 cohorts were very, very small?

23 A Yes, sir.

24 Q And you know a chance of proving something

1 statistically because you've got such small cohorts, next
2 to nil. You knew that too, didn't you, sir?

3 A No, sir. No, sir.

4 Q What would you have to have, a hundred lung
5 cancers --

6 A No, sir.

7 Q -- in the exposed group and one in the unexposed
8 group before you would say it was statistically significant?
9 What would you have to have?

10 MR. HEINEMAN: Objection, your Honor. Would
11 he let him answer the question, or does he have to have 80
12 questions in a row?

13 THE COURT: Doctor, you may answer.

14 THE WITNESS: The three bladder cancers was
15 sufficient to show that there was an excess. The three
16 bladder cancers showed that there were 800 times expected,
17 800 percent that was expected. So it's three tumors was
18 enough to show it.

19 Q (By Mr. Carr) Well, then you're going by the
20 table of what's expected. Then even on your Table of the
21 six, Doctor, if that's your criteria, Zack-Gaffey said the
22 lung cancer rate was higher even for your six, didn't they,
23 sir?

24 A I don't recall. I'd have to see the table.

1 Q Could you get out the Gaffey Report. It's --
2 I think it's 1465, or thereabouts.

3 According to this, Plaintiff's Exhibit 1465-A,
4 with the 10 deaths, it's 143 percent higher than expected,
5 isn't it, sir?

6 A I don't think that table is right.

7 Q I understand that, Doctor. You've said that
8 already.

9 A Yes, sir.

10 Q But according to this, it's -- 10 deaths is
11 143 percent higher, isn't it, sir?

12 A Yes, sir.

13 Q I think it's Exhibit 281 is probably the study
14 itself. These tables were all taken from 281. Doctor,
15 if you will look at the lung cancer rates in Table 9 of
16 Exhibit 281, your own people say it's 159, don't they, sir?

17 A Yes, sir.

18 Q That's statistically significant then, isn't it?

19 A No, sir.

20 Q Doctor, didn't you just get through saying --
21 now you're shifting again, huh?

22 A No, sir.

23 Q Doctor, does your table -- does your exhibit
24 there, 281, Table 9, does Zack-Gaffey find a higher than

1 expected rate?

2 A Well, yes, sir.

3 Q Yes, indeed. Now, Doctor, I'll ask you the
4 question again. These are words used by your people, not
5 by me --

6 A Yes, sir.

7 Q -- why higher lung cancer rates in those people
8 exposed to dioxin?

9 A We have an excess, but it's not statistically
10 significant.

11 Q Doctor, my question to you is why higher lung
12 cancer rates? Strauss says they're higher rates, Zack-
13 Gaffey says there are higher lung cancer rates.

14 A Yes, sir.

15 Q My question is, sir, why higher lung cancer
16 rates in those people exposed to dioxin?

17 A Because the difference can happen by chance.

18 Q Then we're back to chance again?

19 A Yes, sir. That's -- that's what epidemiology is.

20 Q Doctor, eliminate chance, what else could cause
21 higher lung cancer rates in people exposed to dioxin?

22 MR. HEINEMAN: Objection, your Honor. The
23 Doctor's answer is that it happens by chance. Now he's
24 being asked to eliminate that chance.

1 MR. CARR: No. He's giving us a possible answer
2 for the one possible answer for the lung cancer rates being
3 higher in people exposed to dioxin.

4 Q (By Mr. Carr) Aren't you, Doctor?

5 A Yes, sir.

6 Q Yes. Now what are some other possible explana-
7 tions for the lung cancer rates being higher in those people
8 exposed to dioxin?

9 A Lifestyle.

10 Q Lifestyle?

11 A Yes, sir.

12 Q By lifestyle, you mean smoking cigarettes?

13 A Yes, sir.

14 Q Doctor, the people that were in the unexposed
15 group were smokers of cigarettes as well?

16 A Yes, sir.

17 Q So that is the same element.

18 A Yes, sir.

19 Q Now what else could cause higher lung cancer
20 rates in people exposed to dioxin?

21 A This study --

22 Q What else, Doctor?

23 A Chance.

24 Q You already said chance.

1 A Nothing else.

2 Q Doctor, what about the finding of Dr. Poland
3 and others at the McCardle Institute, and other studies,
4 and that is shown in this exhibit that I handed you earlier,
5 that they demonstrated that TCDD is a tumor promoter? What
6 about that as a possible explanation for lung cancer rates
7 being higher to people exposed to dioxin? Do you think that
8 might fit, Doctor?

9 A It's possible.

10 Q Yes, indeed it is. Doctor, why wouldn't you
11 say that?

12 A Because --

13 Q Why do you insist --

14 MR. HEINEMAN: Objection, your Honor. He didn't
15 let him answer the first question.

16 Q (By Mr. Carr) All right. I agree. Why do you
17 say that, Doctor?

18 A Because we're talking about a difference of one
19 cancer between the difference -- the difference between the
20 observed and the exposed. We expected seven cancers --
21 6.8 cancers in the unexposed, and we expected four cancers
22 in the exposed group, and there's a difference of one
23 cancer between those two --

24 Q Oh, but Doctor, you know already, you've got

1 four too many in the unexposed group in that table. We
2 already took those out. Do you remember that, sir?

3 A No, sir.

4 Q Didn't we take those out, Doctor?

5 A No, sir.

6 Q Well, look here, Doctor, see those four. We
7 took those out. They were exposed, weren't they, sir? Do
8 you recall that, Doctor?

9 A Yes, sir.

10 Q So we did take them out, didn't we?

11 A Yes, sir.

12 Q So now look at your table again. Deducting
13 the four, Doctor, from the unexposed group.

14 A You can't do that.

15 Q No, Doctor, what you can't do is put people that
16 have been exposed to dioxin and put them in a table and say
17 that they haven't been exposed. You can't count those lung
18 cancers in people not exposed to TCDD. But that's exactly
19 what your study has been trying to do; isn't that correct,
20 Doctor?

21 A No, sir. No, sir.

22 Q Aren't those four lung cancers included in
23 that eight, Doctor?

24 A Yes, sir.

1 Q IF You take those away, you get four, don't
2 you, sir?

3 A But you can't do that.

4 Q You can't take those four away. You have to
5 take those four away. Must you not, Doctor?

6 A If you take that away, you've got to change
7 these.

8 Q Surely, no question about that. You change
9 those. You have to take those away, don't you, Doctor?
10 You cannot have a scientific fact established upon a false-
11 hood, can you, Doctor?

12 A This is not a falsehood.

13 Q The four were exposed to dioxin, weren't they,
14 Doctor?

15 A Yes, sir.

16 Q IT's a falsehood to say that they were not
17 exposed, isn't it, Doctor?

18 A They defined what --

19 Q Doctor, it's a falsehood to say they were not
20 exposed, isn't it, sir?

21 MR. HEINEMAN: Objection.

22 THE COURT: Objection is overruled. Not respon-
23 sive.

24 THE WITNESS: I'm sorry, would you repeat the

1 question?

2 Q (By Mr. Carr) Is it a falsehood to say that
3 those people were not exposed to 2,3,7,8 TCDD?

4 A No, sir.

5 Q Doctor, you know they were part of the hundred
6 and twenty-two that were in the accident in 1949. You know
7 they were working in that production department. You know
8 that.

9 A Yes, sir.

10 Q So it's false to say -- and they were exposed
11 to TCDD there, were they not, sir?

12 A Yes, sir.

13 Q So it's false to say they weren't exposed when
14 you know they were exposed.

15 MR. HEINEMAN: Objection. That table says
16 2,4,5-T, not 2,3,7,8. We've gone over this for five days.

17 THE COURT: Objection is overruled. Answer
18 the question, Doctor.

19 THE WITNESS: Your study is different than this
20 study.

21 Q (By Mr. Carr) Doctor, my question is simple.
22 It's a falsehood to say that these four people who were in
23 that TCP accident were not exposed to 2,3,7,8 TCDD, isn't
24 it, sir?

1 A IF that's the question.

2 Q That is the question. So please answer the
3 question, sir.

4 A No, sir.

5 Q Were they exposed to 2,3,7,8 TCDD in the
6 accident?

7 A Yes, sir.

8 Q The truth is they're exposed, isn't it, sir?

9 A Yes, sir.

10 Q It's false to say they weren't exposed to TCDD,
11 isn't it, sir?

12 A Yes, sir.

13 Q All right. Thank you, Doctor.

14 Now, Doctor, the next question: "Did you have
15 any workers who did not develop chloracne after working in
16 the 2,4,5-T department for three to six months?"

17 A I don't know.

18 Q Doctor, you've seen the Moses-Selikoff Study.
19 You've seen the chart. We passed it to the jury. Were the
20 people that were in that department, for the Nitro people, 50
21 percent didn't develop chloracne, in the moderate exposed
22 group, 24 percent in the heavily exposed group.

23 MR. HEINEMAN: Objection.

24 Q (by Mr. Carr) So you do know there's people

1 working in that department that did not develop chloracne,
2 don't you, sir?

3 MR. HEINEMAN: Objection, your Honor. The
4 chart says it's by recall, not by medical records.

5 THE COURT: Objection is overruled.

6 Q (By Mr. Carr) You do remember seeing the Moses-
7 Selikoff Study?

8 A Yes, sir.

9 Q Monsanto's Exhibit. You put it in evidence.

10 A Yes, sir.

11 Q That chart did say that, didn't it, sir?

12 A No, sir.

13 Q It didn't say that?

14 A No, sir.

15 Q It didn't say that 49 percent of the people
16 had moderate exposure, never did have chloracne?

17 A No, sir.

18 Q Dr. Roush, don't you recall you testified to
19 that under oath yesterday?

20 A Yes, sir.

21 Q And you said that yesterday, didn't you, sir?

22 A What did I say?

23 Q That that chart said that 49 percent of the
24 people who had moderate exposure to TCDD never did get

1 chloracne. That's what you said yesterday.

2 A No, sir.

3 Q You didn't say that yesterday?

4 A No, sir.

5 MR. CARR: Your Honor, would you instruct the
6 witness that he did say that yesterday.

7 MR. HEINEMAN: Your Honor, may I object to the
8 request for an instruction on the grounds that Mr. Carr did
9 not let this witness read the paragraph that refers to the
10 chart, and the subscript under the chart where they talk
11 about the difference between what the worker says by recall
12 as opposed to what the figures actually show. And that's
13 what I object to. I think Mr. Carr is trying to mislead
14 this witness. I object to it.

15 THE COURT: Objection is overruled. That's not
16 misleading. You have an opportunity to go into that. It
17 goes to the weight. This is a question of something which
18 he, in fact, did so testify to yesterday. Your objection
19 is overruled.

20 Doctor, I am instructing you to assume that you
21 did so testify yesterday, which, in fact, the record shows
22 you did.

23 Mr. Carr, you may proceed.

24 Q (By Mr. Roush) Dr. Roush, the answer to that

1 question, if the Moses-Selikoff graph is correct, and true,
2 assuming that it's correct and true, then you do have
3 workers that were in that department that did not get
4 chloracne, didn't you, sir?

5 A Yes, sir.

6 Q Now, Doctor, what about the next question? Why
7 doesn't Monsanto admit that people have died from dioxin
8 exposure, either in industrial accidents, or at Yusho?
9 You do know what Yusho is, don't you, Doctor?

10 A Yes, sir.

11 Q And there were a lot of deaths at Yusho,
12 weren't there, sir?

13 A No, sir.

14 Q There weren't?

15 A No, sir.

16 Q How many deaths were there?

17 A I don't think there were any deaths.

18 Q No deaths from the Japanese eating that poison
19 oil?

20 A No, sir.

21 Q Doctor, you haven't read the studies on that?

22 A Yes, sir. Yes, sir.

23 Q And no deaths were reported in your knowledge?

24 A No, sir.

1 Q What about industrial accidents?

2 A No, sir.

3 Q How about the case of the worker at BASF that
4 died of pancreatitis after being exposed to dioxin?

5 A Unrelated.

6 Q Doctor, why do you say it's unrelated? He was
7 in an industrial accident, wasn't he?

8 A Yes, sir.

9 Q And the coroner, the pathologist said he died
10 from dioxin, didn't he, sir?

11 A No, sir.

12 Q He didn't say that?

13 A No, sir.

14 Q Doctor, I remind you you're under oath.

15 A Yes, sir.

16 Q That's exactly what the record said. Now you
17 may dispute -- you don't believe that that's the truth, that
18 he died from that, but that's what the official records
19 Cause of Death said, isn't it, sir?

20 A I don't think so.

21 Q You don't think so?

22 A No, sir.

23 Q I don't have that immediately handy, but apparent-
24 ly Mrs. Strauss -- is it Miss or Mrs.?

1 A Miss Strauss.

2 Q And is she a doctor or not? PhD or not?

3 A No, she's an epidemiologist.

4 Q Well, you can be a PhD --

5 A She's not a PhD.

6 Q All right. Is she a Master's?

7 A Yes, sir.

8 Q Do you know the source of her information --

9 A No, sir.

10 Q -- in posing that question?

11 A No, sir.

12 Q What about the next one, Doctor, "Since dioxin
13 and benzene are carcinogens, and you did have leukemia and
14 a soft tissue sarcoma, how do you know these cancers are not
15 work related?"

16 A Because we only had one case.

17 Q Well, Doctor, if you've got one case, and you
18 had more than that, but even one case can be caused by
19 the chemicals to which you're exposed, can't it, sir?

20 A No, sir.

21 Q Doctor, why can't one case be caused by -- be
22 caused by these chemicals, dioxin? Is there something about
23 dioxin that makes you believe it cannot cause cancer,
24 considering the fact that it causes cancer in all the

1 laboratory animals?

2 A There have been a number of epidemiologic
3 studies that have been done that have been done that have
4 not demonstrated dioxin to be a carcinogen in man.

5 Q Doctor, what these studies haven't done, because
6 the cohorts are so small in human beings, that in each case
7 they have said yes, these are cancers, and these people
8 were exposed to this substance, but because the cohorts are
9 so small we can't say definitively or with scientific cer-
10 tainty that it was caused. But none of them are saying that
11 it wasn't caused, Doctor. Do you understand that? Don't
12 you, sir? All these studies no one has said that these
13 cancers were not caused by the dioxin. All they've ever
14 said is that because the cohorts are so small, they can't
15 prove that they were caused by dioxin. Isn't that correct,
16 sir?

17 A No, sir. That isn't --

18 Q That isn't correct?

19 A No, sir.

20 Q What's wrong with that statement?

21 A If cancer is seen in the exposed group, are the
22 same or less in the unexposed --

23 Q Doctor --

24 A -- then there's no evidence of cancer.

1 Q Doctor, you're talking about something else
2 again. Please address your remarks to the question that I
3 asked you.

4 A Yes, sir.

5 MR. HEINEMAN: Objection, your Honor. The
6 answer was directly responsive to the question.

7 THE COURT: Not in the least responsive. The
8 objection is overruled.

9 THE WITNESS: Yes, sir.

10 Q (By Mr. Carr) Doctor, the fact that these
11 studies --

12 A Yes, sir.

13 Q -- although Hardell and others, Honcher and
14 others have said that it is evidence that the sarcomas are
15 caused by exposure to dioxin, others have said the cohort
16 is too small, that that can be a definite yes answer; isn't
17 that correct, sir?

18 A No, sir.

19 Q That isn't correct?

20 A No, sir.

21 Q What's wrong with that?

22 A The study by Hardell were studies of case
23 control studies that suggested that by going back and asking
24 those people who had soft tissue sarcomas, had they been

1 exposed to 2,4,5-T and other herbicides. And these two
2 case control studies said that there was an excess of soft
3 tissue sarcomas.

4 Q All right. So I was right up to that point?

5 A Yes, sir.

6 Q Okay.

7 A A study in Finland, that was a study of exactly
8 the same group, same case control type study, came to a
9 conclusion that there was no association. There was also
10 the study in New Zealand that duplicated the study of
11 Hardell, but even more so. The level of exposure in Sweden
12 was for only a few months out of the year, because they
13 have such short growing season. In New Zealand the exposure
14 time was almost the whole year around. So the exposure was
15 much higher, and in New Zealand study found no association.
16 Then in addition, when you talk about the Honcher study,
17 the Honcher study was based upon taking the data from the
18 four epidemiologic studies by Monsanto, and Dow and finding
19 excess soft tissue sarcomas in there because it was related
20 to two or three soft tissue sarcomas. They then followed
21 that up, and added four more soft tissue sarcomas, and then
22 said you've got an excess of, what is it, 36 times, or some
23 number.

24 Q That's correct.

1 A All right. They subsequently went at the data
2 to find out what was the cause of death --

3 Q The data was given to them by Monsanto. Do you
4 recall that, Doctor? Then go on in your explanation.

5 A What data was given to them?

6 Q The data was given to NIOSH by Monsanto. Do
7 you recall that you testified to that earlier?

8 A Yes, sir.

9 Q Go ahead.

10 A They had the seven soft tissue sarcomas,
11 apparently coming from these four studies. They subsequently
12 have found that two of those soft tissue sarcomas were not
13 soft tissue sarcomas.

14 Q Again, Doctor, that's based upon data given by
15 Monsanto?

16 A No, sir.

17 Q No?

18 A No, sir.

19 Q Based upon what data.

20 A The CDC on their own -- I take that back. NIOSH
21 on their own went out and got the death certificates on these
22 people, and then went out on their own and got the histology
23 on those.

24 Q Where do you get that, Doctor? Where's that been

1 published?

2 A That's in the -- that Rockefeller statement, as
3 well as other places.

4 Q The Rockefeller statement says that?

5 A Yes, sir.

6 Q Do you have that statement, Doctor?

7 A Yes, sir.

8 Q Would you mind bringing it in when you --

9 A Yes, sir.

10 Q -- when you find it?

11 A Yes, sir.

12 Q Aside from that, Doctor, that isn't addressing
13 my question. What you're saying is these studies, according
14 to your interpretation, have not firmly established that
15 these cancers were caused by dioxin. Now, my question is,
16 has there been any studies saying that they weren't caused
17 by dioxin? Have they ever been able to prove that they
18 weren't caused by dioxin? That's the question, Doctor.

19 A No, sir, I don't have anything.

20 Q That's what I asked you to start with, Doctor.
21 And on the New Zealand, aren't you aware of the fact that a
22 later -- a 1985 study came from New Zealand? Are you aware
23 of that fact, Doctor?

24 A No, sir.

1 Q That said there was a relationship. You're not
2 aware of that?

3 A No, sir.

4 Q I'll bring a copy back at noon for you.

5 A All right.

6 Q Now again, Doctor, is your answer to question
7 number five that they are not work related because no one
8 has yet been able to prove to your satisfaction that they
9 are work related?

10 A And others. Say the same thing that they're
11 not related.

12 Q Well, my question was no one has been able to
13 prove to your satisfaction that they're not work related.

14 A Yes, sir.

15 Q Now, Doctor, no one as I've asked you, no one has
16 proved that they are not work related either, have they, sir?

17 A No, sir.

18 Q So, therefore, they may be work related, and just
19 simply cannot be proven; isn't that correct, sir, because
20 the cohort is so small?

21 A No, sir.

22 Q That isn't correct?

23 A No, sir.

24 Q How can you prove that these cancers are caused --

1 this leukemia was caused by dioxin, Doctor?

2 A How can you prove it is?

3 Q Yes.

4 A By having an excess in leukemia in that group.

5 Q Doctor, you can have one case of leukemia caused
6 by a chemical, and never have an excess of leukemias. It's
7 all according to how many people are exposed. It's all
8 according to the size of your cohort.

9 A No, sir.

10 Q It isn't?

11 A No, sir.

12 Q Then, Doctor, why do you use cohorts? Why do
13 you use the p.m.r.? Why do you use the expected? It's
14 all tied in with the number of people that you're studying.

15 A Yes, sir.

16 Q If you study just five people, the odds of you
17 getting deaths from lung cancer, and leukemia and prostate
18 cancer, and bladder cancer would be thousands to one against,
19 wouldn't it, sir? If you're just studying five people.

20 A Yes, sir.

21 Q You can't get the wide range of diseases that
22 human beings are subject to if you just have a small popula-
23 tion, can you, sir?

24 A No, sir.

1 Q So the larger the study group, the more you are
2 able to say there is or is not a relationship; isn't that
3 correct, sir?

4 A Yes, sir.

5 Q So it does depend upon the size of the study
6 group, doesn't it, sir?

7 A Partially.

8 Q Yes. Now, Doctor, the next question there, do
9 "Do you believe that a healthier and safer work place and
10 the products of industry have contributed to this longevity
11 improvement."

12 A Yes, sir.

13 Q Do you also believe that diseases that we have
14 today are caused by chemical accidents?

15 A No, sir.

16 Q Doctor, you know of the -- from 1900 on the
17 number of deaths that have been caused by chemicals and,
18 for that matter drugs, unsafe drugs, you know that, don't
19 you, Doctor?

20 A No, sir.

21 Q Doctor, just one little example of a modern day
22 drug, the Thalidomide drug.

23 A Yes, sir.

24 Q Now there were, perhaps, no deaths, but there

1 were a lot of deformed babies from Thalidomide.

2 A Yes, sir.

3 Q That Thalidomide is a product of modern
4 civilization, isn't it, sir?

5 A Yes, sir.

6 Q And it was never in existence before the drug
7 or chemical industry made it, was it, sir?

8 A No, sir.

9 Q So, therefore, the chemical industry or the
10 drug industry made that Thalidomide which made these
11 deformed babies; isn't that correct, sir?

12 A Yes, sir. Yes, sir.

13 Q And that goes along with the chemical and drug
14 industry, doesn't it, sir?

15 A Yes, sir.

16 Q There are hazards that go with it.

17 A In some cases.

18 Q Yes. Now, Doctor, because an industry has
19 contributed to safety, it doesn't mean that they should not
20 be held responsible for their mistakes, does it, sir?

21 MR. HEINEMAN: Objection, your Honor. This
22 witness' impression of that statement is irrelevant to the
23 issues in this lawsuit.

24 MR. CARR: Well, your Honor, it may be. It's a

1 question, though. I didn't want to skip it. I wanted --

2 THE COURT: The objection is sustained.

3 MR. CARR: I'll agree that it is irrelevant
4 what this witness believes.

5 Q (By Mr. Carr) All right. What about question
6 number seven then, Doctor? Miss Strauss says affirmatively,
7 as I have suggested to you, that these people that were
8 terminated before 1955 were the people with the highest
9 exposure.

10 A Are you reading seven or eight? Talking about
11 seven or eight?

12 Q I'm sorry. I did skip it. Yes, Number seven.
13 Why weren't the TCD incident employees included in the Zack-
14 Gaffey study?

15 A Because they're different studies.

16 Q Well, Doctor, you can say that of every study
17 on earth. They are different studies. They're studying
18 the same thing. The subject is the same. Mortality
19 associated with dioxin. Exactly the same --

20 A Yes, sir.

21 Q -- subject.

22 A Yes, sir.

23 Q And people died that were exposed to the TCP
24 and people died after that and before that, didn't they, sir?

1 A Yes, sir.

2 Q So the question -- the fact that they were
3 different studies doesn't answer the question, does it, sir?
4 Why weren't they included?

5 A Because they were different studies.

6 Q Well, Doctor, I can see I'll not get anywhere
7 with that, if you repeat your same answer.

8 Doctor, the employees were included, some of the
9 employees were included in the Zack-Gaffey Study that were
10 in the TCP accident, weren't they, sir?

11 A Yes, sir.

12 Q And others were not?

13 A Yes, sir.

14 Q Why weren't they all included, Doctor? They
15 were all exposed to 2,3,7,8 TCDD.

16 A It was a study of 2,4,5-T exposure.

17 Q Doctor, we went through that before. The study
18 says TCP and 2,4,5-T or 2,4,5-T.

19 A Yes, sir.

20 Q It just doesn't say 2,4,5. So let's not get
21 in that culdesac again. All right?

22 A Yes, sir.

23 Q Now my question, Doctor, why weren't they
24 included?

1 A It wasn't the design of the study.

2 Q Well, I will agree with that, Doctor. It wasn't
3 the design of the study. But my question is why wasn't it
4 the design of the study?

5 A It could be.

6 Q Yes. My question is it could be. My question
7 was why wasn't it, Doctor. Let me suggest an answer. It
8 wasn't because if you did combine, if you did study every-
9 body that was exposed to dioxin, either in the production
10 or in the accident, or in the work place, that it would
11 have shown a high death rate, that it was your hope that
12 by separating these two studies it wouldn't show a high
13 death rate. Let me suggest that as an answer. Would you
14 comment on that, sir?

15 A Yes, sir. It wouldn't show it. If you combined
16 them, you do not get an excess death rate. You do not get
17 an excess cancer rate. If you do combine them as you suggest.

18 Q Doctor, has anyone combined them?

19 A I have.

20 Q That's that study you pushed the button in?

21 A Yes, sir.

22 Q You didn't do that, someone else did that,
23 Doctor.

24 A Yes, sir, you're right.

1 Q And, Doctor, Question Number 8. Why weren't the
2 people who were terminated before '55, why weren't they
3 included?

4 A We couldn't identify them.

5 Q Well, Doctor, you could identify a lot of them.

6 A You could identify those under TCP UNIT, yes.

7 Q You could have identified more than that. Easy
8 to find out who was working for you. You don't have to just
9 go to your computerized records, all kinds of records
10 showing who these people were.

11 A That is -- everything that can be done --

12 Q There are all kinds of ways to identify these
13 people.

14 MR. HEINEMAN: Objection, cut him off again.
15 Won't let him answer the question.

16 THE COURT: Objection is overruled.

17 THE WITNESS: If it's possible for this to be
18 done, it has been done. All of that information has been
19 given to NIOSH --

20 Q (By Mr. Carr) No, Doctor. You specifically --

21 MR. HEINEMAN: Objection, cut him off again,
22 Judge.

23 MR. CARR: I'm not asking him about NIOSH.

24 THE COURT: He was answering a question where

1 I had overruled your objection, first of all. I don't think
2 he had been cut off. Mr. Carr, go ahead.

3 Q (By Mr. Carr) We're not talking about the NIOSH
4 Study. We're talking about the Monsanto Study. Monsanto
5 specifically designed their morbidity study to exclude those
6 people who were terminated before 1955, knowing that those
7 people would be the sickest, knowing that those people had
8 the greatest exposure.

9 A No, sir.

10 Q The longest time exposure.

11 A No.

12 Q The highest exposure according to Marcie Strauss.

13 A No, sir.

14 Q You don't think it's true that these were the
15 people with the highest exposure?

16 A I don't know that.

17 Q Well, she says it is. She says that it is a
18 fact, and you don't know that it's not a fact.

19 A She doesn't know it's a fact.

20 Q She says it's a fact, does she not?

21 A That's what she says.

22 Q Yes. I see that it's 12:00, your Honor.

23 THE COURT: Okay. Ladies and gentlemen, we will
24 break for lunch at this time. We'll resume again at 1:00.

1 The admonishments that I normally give you at breaks apply
2 to this one also. The Court is in recess.

3
4 (Lunch recess.)

5
6 (The following proceedings were had in the
7 presence and hearing of the jury:)

8
9 THE COURT: Mr. Carr.

10 Q (By Mr. Carr) Doctor, with regard to Plaintiff's
11 Exhibit 1482, there are a number of statements in there by
12 Miss Strauss that -- to the effect that dioxin is harmful
13 and causes various troubles, and Monsanto hasn't done
14 anything about it. Now, if I were to ask you about each
15 of those statements by Mrs. Strauss -- Miss Strauss, is it
16 fair to say that you would disagree with each statement
17 where it has the effect of indicating that dioxin causes
18 cancer, promotes cancer, or has caused cancer in the Kanawha
19 Valley, or is an injurious substance? Is this a fair
20 statement? Or would you disagree with those statements in
21 here?

22 A I Don't know. I haven't gone through the
23 questions as you've asked them.

24 Q Doctor, I'm trying to save us sometime in this --

1 A I Understand.

2 Q -- regard. This has been in existence, this
3 exhibit has been in existence, in your possession, Miss
4 Strauss worked for you, and this has been in existence for
5 at least a year, if not longer, and you haven't attempted
6 to answer these questions?

7 A I haven't attempted to generalize them.

8 Q Well, Doctor, look at Question Number 10, has
9 Monsanto ever done anything to warn and compensate employees
10 who have this excess of CHD -- what is CHD, by the way?

11 A Coronary heart disease.

12 Q And she says there seems to be an excess of that
13 and she says that Monsanto, in effect, was trying to hide
14 that fact, and she asked did you ever do anything to try
15 to warn your employees. Would you agree that if there is
16 an excess of coronary heart disease in exposed employees?

17 A Yes, sir.

18 Q And would you agree that you were trying to
19 hide the fact?

20 A No, sir.

21 Q What did you do to make it apparent?

22 A We published the article in the Referee Journal.

23 Q And what article is that, Doctor?

24 A The -- both the Zack-Suskind and the Zack-